IN THE UNITED STATES DISTRICT COURT
FOR THE MIDDLE DISTRICT OF FLORIDA

UNITED STATES OF AMERICA, and FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION ,	)	
Plaintiffs,	)	Civil Action No. [_____]
v.	)	
CF INDUSTRIES, INC.,	)	
Defendant.	)	

CONSENT DECREE

WHEREAS, Plaintiffs, the United States of America (United States), on behalf of the United States Environmental Protection Agency (EPA), and the Florida Department of Environmental Protection (FDEP) (together the Plaintiffs), have filed a complaint alleging that Defendant, CF Industries, Inc., (CFI) has violated the Resource Conservation and Recovery Act (RCRA), 42 United States Code (U.S.C.) § 6901 et seq., and the Florida Resource Recovery and Management Act, § 403.702 et seq., Florida Statutes (F.S.), and the applicable regulations in 40 C.F.R. Parts 260-270, as adopted by reference in Chapter 62-730, Florida Administrative Code (F.A.C.); at its Plant City, Florida phosphoric acid and fertilizer manufacturing facility (Facility);

WHEREAS, the Complaint includes allegations, disputed by CFI, that CFI failed to characterize and illegally treated, stored and disposed of hazardous wastes from the production of sulfuric acid, diammonium phosphate (DAP) and monoammonium phosphate (MAP) fertilizer; wastes generated during cleaning of phosphoric acid plant and fertilizer plant equipment; and wastewaters generated from the scrubbers used to control air pollution from the

phosphoric acid plants. The Complaint also alleges, and CFI disputes, that CFI illegally placed hazardous wastes in a Phosphogypsum Stack System for managing phosphoric acid wastes exempt from hazardous waste regulation pursuant to the Bevill Exemption, 40 C.F.R. § 261.4(b)(7), thus violating Section 3005 of RCRA, 42 U.S.C. § 6925, and the applicable regulations in 40 C.F.R. Parts 260-270, as adopted by reference in Chapter 62-730, Florida Administrative Code (F.A.C.);

WHEREAS, the objective of the Parties in this Consent Decree is to establish injunctive relief whereby CFI shall modify certain operating practices with respect to its management of hazardous wastes and Bevill-Exempt wastes and implement environmental controls, remediation, and financial assurance as set forth herein, and to assess an appropriate penalty to resolve the allegations of the Complaint;

WHEREAS, CFI has conducted itself in good faith in its discussions with the Plaintiffs concerning the violations alleged in the Complaint, and has already implemented operational changes and corrective measures obviating the need for certain injunctive relief;

WHEREAS, by agreeing to entry of this Consent Decree, CFI makes no admission of law or fact with respect to the allegations in the Complaint and denies any non-compliance or violation of any law or regulation identified therein. For the purpose of avoiding litigation among the parties, however, CFI agrees to the requirements of this Consent Decree.

WHEREAS, the Parties recognize, and the Court by entering this Consent Decree finds, that this Consent Decree has been negotiated by the Parties in good faith and will avoid litigation among the Parties and that this Consent Decree is fair, reasonable, and in the public interest;

NOW, THEREFORE, before the taking of any testimony, without the adjudication or admission of any issue of fact or law except as provided in Section I, below, and with the consent of the Parties,

IT IS HEREBY ADJUDGED, ORDERED, AND DECREED as follows:

I. JURISDICTION AND VENUE

1. This Court has jurisdiction over the subject matter of this action and over the Parties, pursuant to Section 3008(a) of RCRA, 42 U.S.C. § 6928, and 28 U.S.C. §§ 1331, 1332, 1345, 1355 and 1367. Venue is proper in this judicial district pursuant to 28 U.S.C. §§ 1331, 1332, 1345, 1355, 1367, 1391(b) and (c), and 1395(a), and Section 3008(a) and (g) of RCRA, 42 U.S.C. § 6928(a) and (g), because CFI's phosphoric acid and ammoniated fertilizer Facility is located in the vicinity of Plant City, Florida, which is in this judicial district. For purposes of this Decree, or any action to enforce this Decree, EPA, FDEP, and CFI consent to the Court's jurisdiction over this Decree and any such action and over CFI and further consent to venue in this judicial district.

2. Pursuant to Section 3008(a)(2) of RCRA, 42 U.S.C. § 6928(a)(2), notice of the commencement of this action has been given to FDEP.

3. For purposes of this Consent Decree, CFI agrees that the Complaint states claims upon which relief may be granted pursuant to Sections 3004 and 3005 of RCRA, 42 U.S.C. § 6924 and 6925, and Sections 403.721, 403.722, and 403.727, F.S.

II. APPLICABILITY

4. The obligations of this Consent Decree apply to and are binding upon the United States, FDEP, and CFI and any successors, assigns, or other entities or persons otherwise bound

by law. Rights granted to EPA under this Consent Decree may be exercised by FDEP upon the written agreement of EPA and FDEP.

5. No transfer of ownership or operation of the Facility, whether in compliance with the procedures of this Paragraph or otherwise, shall relieve CFI of its obligation to ensure that the terms of the Decree are implemented, unless: (1) the transferee agrees in writing to undertake the obligations required by this Decree and to be substituted for CFI as a Party to the Decree and thus be bound by the terms thereof; and (2) the United States, after consultation with FDEP, consents in writing to relieve CFI of its obligations pursuant to Section XVII of this Consent Decree (Modification). At least thirty (30) Days prior to such transfer, or such other period agreed to by the Parties in writing, CFI shall provide a copy of this Consent Decree to the proposed transferee and shall simultaneously provide written notice of the prospective transfer, together with a copy of the proposed written agreement transferring obligations to the transferee, to EPA, FDEP, the United States Attorney for the Middle District of Florida, and the United States Department of Justice, in accordance with Section XIV of this Decree (Notices). The United States' determination whether to approve the transferee's substitution for CFI under this Consent Decree will take into account CFI's completion of all of the modifications to the Facility necessary to allow CFI to comply with the obligations of this Consent Decree and a demonstration that the transferee has the financial and technical capability to comply with this Consent Decree. The United States' decision to refuse to approve the substitution of the transferee for CFI shall be subject to dispute resolution pursuant to Section X (Dispute Resolution) of this Consent Decree, but any judicial review shall be conducted pursuant to Paragraph 70(a) of this Consent Decree. If Defendant does not prevail in such judicial review, Defendant shall pay all costs incurred by the United States in connection with such judicial

review, including attorney's fees. Any transfer of ownership or operation of the facility without complying with this Paragraph constitutes a violation of this Decree.

6. CFI shall provide a copy of this Consent Decree to all officers, employees, and agents whose duties might reasonably include compliance with any provision of this Decree, as well as to any contractor retained to perform Work required under this Consent Decree. CFI shall condition any such contract upon performance of the Work in conformity with the terms of this Consent Decree.

7. In any action to enforce this Consent Decree, CFI shall not raise as a defense the failure by any of its officers, directors, employees, agents, or contractors to take any actions necessary to comply with the provisions of this Consent Decree.

III. DEFINITIONS

8. Except as otherwise provided in this Consent Decree (including its Appendices), definitions for the terms presented herein shall be incorporated from the following statutes and their corresponding regulations: RCRA, as amended, 42 U.S.C. §§ 6901 et seq. and the Florida Resource Recovery and Management Act, Sections 403.702 et seq., F.S., and Chapter 62-780, F.A.C. In the case of a conflict between the federal and state definitions, federal definitions shall control. Whenever the terms set forth below are used in this Consent Decree, the following definitions shall apply:

a. Bevill-Exempt Wastes shall mean Phosphogypsum and Process Wastewater from phosphoric acid mineral processing, which are solid wastes excluded from hazardous waste regulation pursuant to 40 C.F.R. § 261.4(b)(7)(ii)(D) and/or (P);

b. Complaint shall mean the complaint filed by the United States and FDEP in this action;

c. Consent Decree or Decree shall mean this Decree and all Appendices identified in Section XXIII (Appendices) and attached hereto. In the event of any conflict between this Decree and any Appendix hereto, this Decree shall control;

d. Day shall mean a calendar day unless expressly stated to be a business day. In computing any period of time under this Consent Decree, where the last day would fall on a Saturday, Sunday, or federal or State of Florida holiday, the period shall run until the close of business of the next business day;

e. Defendant or CFI shall mean CF Industries, Incorporated;

f. Downstream Operations shall mean all Facility operations involving the storage, management, transport, treatment, disposal or further processing of the First Saleable Product, manufacturing operations that use the First Saleable Product as a feedstock, and fluorosilicic acid (FSA) production operations, unless designated as a Mixed-Use Unit or Grandfathered Unit in the Facility Report.

g. EPA shall mean the United States Environmental Protection Agency and any of its successor departments or agencies;

h. Effective Date is defined in Section XVI;

i. Facility shall mean CFI's manufacturing plant, Phosphogypsum Stack System, and all other contiguous or adjacent property owned and/or operated by CFI, that is located in the vicinity of Plant City, Florida at 10609 State Road 39 North, as delineated in Appendix 3, Site Map.

j. Facility Report shall mean the report dated January 7, 2010, and attached hereto as Appendix 4, prepared by EPA following an inspection of the CFI Facility, which identifies CFI's Upstream and Downstream Operations, its Mixed-Use Units, and Grandfathered Units;

k. FDEP shall mean the State of Florida Department of Environmental Protection and any of its successor departments or agencies;

l. Financial Assurance shall mean financial assurance for the benefit of EPA and FDEP in order to ensure coverage for Third-party Liability, Phosphogypsum Stack System Closure, Long Term Care, and, if required, Corrective Action, as set forth in Appendix 2 of the Consent Decree;

m. First Saleable Product shall mean:

1) Merchant Grade Acid ("MGA"), which is typically 52% to 54% (by weight) of P_20_5 but may vary slightly, manufactured from the direct reaction of phosphate rock and sulfuric acid, and containing less than one percent (1%) solids content, whether or not it is actually placed into commerce; or, if applicable,

2) any intermediate phosphoric acid product with a P_20_5 content less than or equal to MGA that is diverted from further processing into MGA in order to be placed into commerce, further concentrated above 54% P_20_5 (by weight), or used as a feedstock in manufacturing MAP/DAP, Superphosphoric Acid (SPA), Purified Acid, or other chemical manufacturing products;

n. Florida Phosphogypsum Rules shall mean Sections 376.30701, 403.087, 403.0876, 403.088, 403.0885, 403.121, 403.4154, and 403.4155, F.S., and the rules promulgated thereunder in Chapters 62-4, 62-520, 62-620, 62-672, 62-673, 62-777, and 62-780, F.A.C., pertaining to the operation and closure of phosphoric acid facilities within the State;

o. FSA shall mean fluorosilicic acid (H_2SiF_6);

p. Grandfathered Unit shall mean a pipe, tank and/or other production, storage, or transportation unit in Downstream Operations specifically identified in the Facility Report as not

feasibly segregable from Upstream Operations;

q. Interest shall mean the interest rate specified in 28 U.S.C. § 1961;

r. MAP/DAP shall mean monoammonium phosphate and/or diammonium phosphate;

s. Mixed-Use Unit shall mean a pollution control device, pipe, tank and/or other production, storage, or transportation unit specifically identified in the Facility Report as serving both Upstream Operations and Downstream Operations;

t. Non-Hazardous Aqueous Solution shall mean an aqueous solution used for cleaning pipes, tanks or other equipment that as a waste would not be a listed or characteristic hazardous waste, including without limitation fresh water, non-hazardous condensate, non-hazardous recycled water, and non-hazardous recovered groundwater;

u. Paragraph shall mean a portion of this Decree identified by an arabic numeral;

v. Parties shall mean the United States, FDEP and CFI;

w. Phosphogypsum shall mean calcium sulfate and byproducts produced by the reaction of sulfuric acid with phosphate rock to produce phosphoric acid. Phosphogypsum is a solid waste within the definition of Section 1004(27) of RCRA, 42 U.S.C. § 6903(27);

x. Phosphogypsum Stack shall mean any defined geographic area associated with a phosphoric acid production facility in which phosphogypsum is disposed of or stored, other than within a fully enclosed building, container or tank;

y. Phosphogypsum Stack System shall mean the defined geographic area associated with a phosphoric acid production facility in which Phosphogypsum and Process Wastewater is disposed of or stored, together with all pumps, piping, ditches, drainage, conveyances, water control structures, collection pools, cooling ponds, surge ponds, auxiliary holding ponds,

regional holding ponds, and any other collection or conveyance system associated with the transport of Phosphogypsum from the plant to the Phosphogypsum Stack, its management at the stack, and the Process Wastewater return to phosphoric acid production. This includes toe drain systems and ditches and other leachate collection systems, but does not include conveyances within the confines of the fertilizer production plant or emergency diversion impoundments used in emergency circumstances caused by rainfall events of high volume or duration for the temporary storage of Process Wastewater to avoid discharges to surface waters of the state;

z. Process Wastewater shall mean process wastewater from phosphoric acid production. The following wastestreams constitute process wastewater from phosphoric acid production: water from phosphoric acid production operations through concentration to the First Saleable Product; process wastewater generated from Upstream Operations that is used to transport Phosphogypsum to the Phosphogypsum Stack; Phosphogypsum Stack runoff; process wastewater generated from the uranium recovery step of phosphoric acid production; process wastewater generated from non-ammoniated animal feed production defluorination operations that qualify as mineral processing operations based on the definition of mineral processing that EPA finalized on September 1, 1989; and process wastewater generated from the superphosphate production process that involves the direct reaction of phosphate rock with dilute, not Merchant Grade, phosphoric acid [see 55 Fed. Reg. 2328, January 23, 1990];

aa. Purified Phosphoric Acid (PPA) shall mean a refined grade of phosphoric acid where contaminants have been removed from wet-process phosphoric acid through solvent extraction, chemical precipitation, filtration or other purification process to produce a purified phosphoric acid product suitable for food grade or other higher purity phosphoric acid applications;

bb. Section shall mean a portion of this Decree identified by a roman numeral;

cc. State shall mean the State of Florida;

dd. Superphosphoric Acid (SPA) shall mean liquid phosphoric acid (not a solid phosphate product such as granulated triple superphosphoric acid) generally with a P_20_5 content greater than 54%, resulting from the concentration of wet process acid that does not involve the direct reaction of phosphate ore in such concentration operations;

ee. Treatment shall mean any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of a waste so as to neutralize such waste or so as to recover energy or material resources from the waste, or so as to change or reduce a hazardous constituent of the waste or make it safer to transport, store, or dispose of, or amenable for recovery, amenable for storage, or reduced in volume;

ff. United States shall mean the United States of America, acting on behalf of EPA;

gg. Upstream Operations shall mean all phosphoric acid mineral processing operations resulting in the manufacture of the First Saleable Product; and

hh. Work shall mean any activity that CFI must perform to comply with the requirements of this Decree, including Appendices.

IV. CIVIL PENALTY

9. Within thirty (30) Days after the Effective Date of this Consent Decree, CFI shall pay the sum of $701,050.00 as a civil penalty, together with Interest accruing from the date on which the Consent Decree is lodged with the Court, at the rate specified in 28 U.S.C. § 1961 as of the date of lodging, in accordance with the following Paragraphs.

10. CFI shall pay $350,525.00 to the United States by FedWire Electronic Funds

Transfer (EFT) to the U.S. Department of Justice, in accordance with written instructions to be provided by the Financial Litigation Unit of the U.S. Attorney's Office for the Middle District of Florida, 400 N. Tampa Street, Suite 3200, Tampa, Florida, 33602 (813-274-6000) to CFI following lodging of the Consent Decree. At the time of payment, CFI shall send a copy of the EFT authorization form and the EFT transaction record, together with a transmittal letter, to the United States in accordance with Section XIV of this Decree (Notices); by email to acctsreceivable.CINWD@epa.gov; and by mail to:

EPA Cincinnati Finance Office
26 Martin Luther King Drive
Cincinnati, OH 45268

The transmittal letter shall state that the payment is for the civil penalty owed pursuant to the Consent Decree in United States et al. v. CF Indus., Inc., and shall reference the civil action number and DOJ case number 90-7-1-08388/5.

11. Within 30 Days after the Effective Date of this Consent Decree, CFI shall pay the sum of $350,525 as a civil penalty, to FDEP by EFT in accordance with instructions that will be provided by FDEP within ten (10) Days of the lodging of this Consent Decree. At the time of payment, CFI shall send a copy of the EFT authorization form and the EFT transaction record, together with a transmittal letter, to FDEP in accordance with Section XIV of this Consent Decree (Notices). The transmittal letter shall state that the payment is for a civil penalty owed pursuant to the Consent Decree in United States et al. v. CF Indus., Inc., and shall reference the FDEP OGC number 09-3352 and DOJ case number 90-7-1-08388/5.

12. CFI shall not deduct any penalties paid under this Decree pursuant to this Section or Section VIII (Stipulated Penalties) in calculating its federal or state or local income tax.

V. COMPLIANCE REQUIREMENTS

13. Compliance Projects and Schedule. CFI shall undertake the actions set forth in Appendix 5 (Best Management Practices (BMP) Plan) of this Consent Decree to reduce the amount of non-hazardous ammoniated wastes deposited in the Phosphogypsum Stack System. CFI also shall implement certain Facility changes (including Project 1 as described on pp. 19-21 and pp. 35-37 of Section IV of Appendix 4 (Facility Report)), pursuant to the Compliance Schedule attached to this Consent Decree as Appendix 8. CFI shall complete all projects by the project completion dates set forth in Appendix 8.

14. Hazardous Waste Determinations. CFI shall make a RCRA hazardous waste determination, pursuant to 40 C.F.R. § 262.11, of all non-Bevill-Exempt solid wastes that are not managed in accordance with Paragraphs 15-19, below, and, if the wastes are hazardous, CFI shall manage such wastes in compliance with RCRA Subtitle C.

15. Wastes from Downstream Operations. Unless otherwise authorized by this Paragraph or Paragraphs 16-19 below, CFI shall manage all hazardous wastes generated from Downstream Operations (including, without limitation, units that transport, store, treat, or manage the First Saleable Product (e.g., pipes, tanks, railcars); chemical manufacturing processes that use the First Saleable Product as a feedstock (e.g., MAP/DAP, SPA or PPA processes); FSA production processes; pollution control devices, waste storage, transport and treatment units, and spills and leaks from all such processes and units) in compliance with RCRA Subtitle C, regardless of the use of any Bevill-Exempt Wastes as influent to such Downstream Operations. For any wastes generated by units that will be modified, shut down, or replaced in connection with, or for any wastes that will be managed differently as a result of Projects 1 (as identified on pp. 19-21 and pp. 35-37 in Section IV of Appendix 4 (Facility

Report)), 2 and 3, as described in Appendix 8 (BMP and Project Implementation Schedule), this Paragraph shall become effective

upon completion of those Projects pursuant to the schedule in Appendix 8 (Compliance Schedule). Except as authorized by Section VI (Planned Phosphoric Acid Production Operations) and Section VIII (Authorized Future Installations) of Appendix 4 (Facility Report), if any Mixed-Use Units or Grandfathered Units are replaced or reconfigured after the date of the Facility Report such that they serve to manage, store or transport materials from Downstream Operations that are not identified in the Facility Report as being associated with those Units, they will be deemed to serve Downstream Operations, and any hazardous wastes generated from such units must be treated, managed, stored, transported, and disposed of in accordance with RCRA Subtitle C.

16. Wastes from Upstream Operations: Phosphoric Acid Scrubber Wastes. Wastes from air pollution control devices that are associated with Upstream Operations, or that are identified as Mixed-Use Units in the Facility Report, may be (a) input to Upstream Operations, or (b) treated, stored, managed, transported or disposed of together with Bevill-Exempt Wastes, provided that CFI deposits such wastes only in a Phosphogypsum Stack System subject to and in compliance with the requirements of Appendix 1, Attachment B (Groundwater and Zone of Discharge Requirements) and Attachment C (Phosphogypsum Stack System Construction and Operational Requirements) to this Consent Decree, and EPA has not made a determination that the Financial Assurance provided by Defendant no longer satisfies the requirements of this Consent Decree (Paragraph 26 and Appendix 2), pursuant to Paragraph 34 of Appendix 2.

17. Wastes from Upstream Operations: Cleaning Wastes. Wastes generated from the use of pond water from the Phosphogypsum Stack System, Process Wastewater, or a

Non-Hazardous Aqueous Solution to clean pipes, tanks, process equipment, or other storage or transport units that are: (i) associated with Upstream Operations; (ii) serve to manage, store, or transport Bevill-Exempt Wastes; or (iii) identified as Mixed-Use or Grandfathered Units in the Facility Report, may be (a) input to Upstream Operations, or (b) treated, stored, managed, transported and disposed of together with Bevill-Exempt Wastes, provided that CFI deposits such wastes only in a Phosphogypsum Stack System subject to and in compliance with the requirements of Appendix 1, Attachment B (Groundwater and Zone of Discharge Requirements) and Attachment C (Phosphogypsum Stack System Construction and Operational Requirements) to this Consent Decree, and EPA has not made a determination that the Financial Assurance provided by Defendant no longer satisfies the requirements of this Consent Decree (Paragraph 26 and Appendix 2), pursuant to Paragraph 34 of Appendix 2. Following the completion of Project 3 as set forth in Appendix 8 (Compliance Schedule), if CFI, in the cleaning of Upstream Operation units, uses sulfuric acid or any other chemical cleaning agent that, as a waste, would generate a hazardous waste when mixed with Bevill-Exempt Process Wastewater under the Bevill Mixture Rule, 40 C.F.R. § 261.3(a)(2)(i), then CFI shall make a RCRA hazardous waste determination of the cleaning wastes, pursuant to 40 C.F.R. § 262.11, and, if the wastes are hazardous, CFI shall manage such wastes in compliance with RCRA Subtitle C.

18. Wastes from Upstream Operations: Spills and Leaks. Spills and leaks of all grades of phosphoric acid product from Upstream Operations, Mixed-Use Units, and Grandfathered Units that are not subject to separate containment apart from Process Wastewater, as identified in Appendix 4 (Facility Report), shall be minimized and properly managed, tracked, and reported, in accordance with Appendix 5 (BMP Plan) for Phosphoric Acid Product Handling. This requirement shall also apply to leaks of sulfuric acid used as a feedstock within

the phosphoric acid plant battery limits that are not subject to separate containment. CFI shall notify EPA and FDEP, pursuant to Paragraph 40, in the event of a release of: (i) phosphoric acid product(s) identified in Appendix 4 (Facility Report), as measured pursuant to Appendix 5 (BMP Plan), that exceeds 5,000 gallons in a 24-four period; or (ii) sulfuric acid used as a feedstock within the phosphoric acid plant battery limits, as measured pursuant to the requirements of the BMP, that exceeds 1,000 gallons in a 24-hour period. Such notice(s) shall be in addition to any notices required by Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. § 9603, or Section 304 of the Emergency Planning and Community Right to Know Act, 42 U.S.C. § 11004. In the event of: (i) a release of phosphoric acid that exceeds 10,000 gallons in a 24-hour period on two (2) or more Days in a calendar quarter, or a release of sulfuric acid that exceeds 1,000 gallons in a 24-hour period on two (2) or more Days in a calendar quarter, where such releases are captured within a Phosphogypsum Stack System that complies with the requirements of Appendix 1, Attachment C, Section VI (Phosphogypsum Stack System Construction Requirements); or (ii) a release of phosphoric acid that exceeds 500 gallons in a 24-hour period on two (2) or more Days in a calendar quarter, or a release of sulfuric acid that exceeds 65 gallons in a 24-hour period on two (2) or more Days in a calendar quarter, where such releases are not captured within a Phosphogypsum Stack System that complies with the requirements of Appendix 1, Attachment C, Section VI (Phosphogypsum Stack System Construction Requirements), CFI within ten (10) days of the second such release shall submit to EPA for approval a plan for any necessary corrective action as a result of the releases, as well as proposed modifications to the BMP Plan to avoid, minimize, or contain future such releases.

19. Wastes from Treatment of Phosphogypsum Stack Wastes. Wastes generated from the treatment of materials in the Phosphogypsum Stack System that does not introduce hazardous

constituents or other contaminants into such materials may be (a) input to Upstream Operations, or (b) treated, stored, managed, transported and disposed of together with Bevill-Exempt Wastes, provided that CFI deposits such wastes only in a Phosphogypsum Stack System subject to and in compliance with the requirements of Appendix 1, Attachment B (Groundwater and Zone of Discharge Requirements) and Attachment C (Phosphogypsum Stack System Construction and Operational Requirements) to this Consent Decree, and EPA has not made a determination that the Financial Assurance provided by Defendant no longer satisfies the requirements of this Consent Decree (Paragraph 26 and Appendix 2), pursuant to Paragraph 34 of Appendix 2.

20. Sulfuric Acid Plant. CFI shall implement the Sulfuric Acid Plants Hazardous Waste Management Plan attached hereto as Appendix 6 and shall manage hazardous waste generated at the sulfuric acid plants in accordance with applicable law. CFI shall periodically submit to EPA for review and approval updates to the Sulfuric Acid Plants Hazardous Waste Management Plan.

21. Site Assessment and Corrective Action. Plaintiffs agree that CFI has already completed activities substantially equivalent to those specified in Appendix 1, Attachment A (Site Assessment, Reporting, and Corrective Measures), and which satisfy the requirements of that Attachment. Attachment A is included as part of this Consent Decree in order to advise the Court and the public of remedial activities already completed by CFI as part of its settlement with the United States and Florida.

22. Phosphogypsum Stack System. CFI shall comply with all requirements set forth in Appendix 1, Attachment B (Groundwater and Zone of Discharge Requirements), Attachment C (Phosphogypsum Stack System Construction and Operational Requirements), Attachment D (Closure of Phosphogypsum Stacks/Stack Systems), and Attachment E (Imminent and

Substantial Endangerment Diagnostic Requirements). While certain requirements of these Attachments are more stringent or detailed than the requirements of the Florida Phosphogypsum Rules, as further detailed in the following Paragraph, the majority of the Work required by the above-cited Attachments is also required under the Florida Phosphogypsum Rules.

23. EPA will consult periodically with FDEP regarding CFI's compliance with the Florida Phosphogypsum Rules. If EPA agrees that CFI is in compliance with the Florida Phosphogypsum Rules, using the definition of Bevill-Exempt Wastes set forth in this Consent Decree, such compliance shall be deemed to satisfy the Work requirements of Appendix 1, Attachments B, C, D and E, provided that CFI also complies with the following three (3) specific Work requirements of Appendix 1 that are more stringent or detailed than the Florida Phosphogypsum Rules:

> (a) The Stack Closure Plan shall be amended as needed to include the requirements of Rule 62-673.600(3), F.A.C., and a description of the physical configuration of the Phosphogypsum Stack System and process water inventory for the period of time that the most costly scenario for closure is determined as calculated in accordance with Appendix 2 (Financial Assurance);
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> (b) The Permanent Closure Plans incorporated in the closure operation permit application shall conform to the requirements in Rule 62-673.610(7), F.A.C., and must include: (1) a revised estimate of all costs associated with stack closing, long-term care and site-specific water management activities being undertaken under the Permanent Stack Closure Plan in accordance with Appendix 2 (Financial Assurance); and (2) a description of the proposed method of demonstrating financial responsibility for the long-term monitoring and maintenance in accordance with Appendix 2 (Financial Assurance);
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> (c) As of the fifth anniversary of the Effective Date of this Consent Decree, no Bevill-Exempt Wastes shall be placed in an unlined Phosphogypsum Stack System. Plaintiffs agree that the Facility's Phosphogypsum Stack System as it exists on the Effective Date of this Consent Decree is a lined system consistent with the requirements of Appendix 1, Attachment C (Phosphogypsum Stack System Construction and Operational Requirements). Plaintiffs further agree that the use of the alternative synthetic liner system in certain portions of the Facility's Phosphogypsum Stack System, including the area known as the "Notch," which

has been previously approved by the FDEP, is an acceptable alternative to the composite liner design requirement set forth in Attachment C, Section VI (Phosphogypsum Stack System Construction Requirements).

24. EPA reserves the right to fully and directly enforce all requirements of Appendix 1, Attachments B, C, D, and E, if it finds that CFI is not in compliance with the Florida Phosphogypsum Rules, or if the Florida Phosphogypsum Rules are modified and EPA determines that such modifications do not comport with the Work requirements of the above-cited Attachments. Any decision by EPA to directly enforce the Work requirements of this Consent Decree shall not be subject to judicial review, but shall be subject to dispute resolution (other than judicial review) pursuant to Section X (Dispute Resolution) of this Consent Decree, although CFI retains its right to invoke dispute resolution as set forth in Section X (Dispute Resolution) regarding any liability for stipulated penalties due to any asserted non-compliance with the Work requirements of this Consent Decree.

25. Plaintiffs agree that CFI has already met the requirements of (a) Section II (Assessment of Existing Perimeter Dikes) of Attachment C (Phosphogypsum Stack System Construction and Operational Requirements) by submitting to FDEP a report prepared by Ardaman & Associates, dated April 16, 2007, regarding the Assessment of Existing Earthen Perimeter Dikes and Process Water Conveyance and Containment Systems Relative to Requirements of Rule 62-672, Plant City Phosphate Complex, Hillsborough County, Florida, attached hereto as Appendix 7; and (b) Section I (General Requirements for the Stack Closure Plan) of Attachment D (Closure of Phosphogypsum Stacks/Stack Systems), by submitting a Stack Closure Plan to FDEP. Plaintiffs further agree that CFI has a zone of discharge authorized by FDEP before the Effective Date of this Consent Decree and that such zone of discharge shall continue to apply unless modified pursuant to Section II.B. of Attachment B.

26. Financial Assurance. CFI shall secure and maintain Financial Assurance for the benefit of EPA and FDEP pursuant to the requirements of Appendix 2 (Financial Assurance) of this Consent Decree, in order to ensure coverage for: (a) Third-party Liability; (b) Phosphogypsum Stack System Closure (including Long-Term Care) as required under Appendix 1, Attachment D; and, (c) Corrective Action, if required pursuant to Appendix 1, Attachment A. Nothing in this Paragraph shall be construed to waive or subordinate CFI's obligation to comply with Chapter 62-673, F.A.C., of the Florida Phosphogypsum Rules regarding financial assurance. CFI's inability to secure and/or maintain adequate Financial Assurance shall in no way excuse performance of the Work or any other requirement of this Consent Decree.

27. In addition to the financial assurance information included in the reports provided pursuant to Section VII (Reporting Requirements) of this Consent Decree, CFI, within fourteen (14) days of any request by EPA or FDEP, shall provide requested information or reports regarding the financial status of CFI, the financial mechanism(s) provided by CFI to meet its obligation for Financial Assurance, and the financial institution or guarantor providing the financial mechanism(s) to secure CFI's obligation.

28. Approval of Submissions. After review of any work plan, report, or other item that is required to be submitted, or revised and resubmitted, to EPA for approval pursuant to this Consent Decree, EPA, after consultation with FDEP, shall in writing: (a) approve the submission; (b) approve the submission upon specified conditions; (c) approve part of the submission and disapprove the remainder; or (d) disapprove the submission. In the event of disapproval of any portion of the submission, EPA shall include a statement of the reasons for such disapproval in its response. All work plans, reports and other items that are developed and

submitted to EPA for approval pursuant to this Consent Decree shall be complete and technically adequate.

29. If the submission is approved pursuant to Paragraph 28, CFI shall take all actions required by the plan, report, or other document, in accordance with the schedules and requirements of the plan, report, or other document, as approved. If the submission is conditionally approved or approved only in part, pursuant to Paragraph 28(b) or (c), CFI shall, upon written direction from EPA, take all actions required by the approved plan, report, or other item that EPA determines are technically severable from any disapproved portions, subject to CFI's right to dispute only the specified conditions or the disapproval of portions of the submission under Section X of this Decree (Dispute Resolution).

30. If the submission is disapproved in whole or in part pursuant to Paragraph 28(c) or 28(d), CFI shall, within sixty (60) Days or such other time as the Parties agree to in writing, correct all deficiencies and resubmit the plan, report, or other item, or disapproved portion thereof, for approval, in accordance with the preceding Paragraphs. If the resubmission is approved in whole or in part, CFI shall proceed in accordance with the preceding Paragraph.

31. Any stipulated penalties applicable to the original submission, as provided in Section VIII (Stipulated Penalties) of this Decree, shall accrue during the sixty (60)-Day period or other agreed period, but shall not be payable unless the resubmission is untimely or is disapproved in whole or in part; provided that, if the original submission was so deficient as to constitute a material breach of CFI's obligations under this Decree, the stipulated penalties applicable to the original submission shall be due and payable notwithstanding any subsequent resubmission.

32. If a resubmitted plan, report, or other item, or portion thereof, is disapproved in whole or in part, EPA, after consultation with FDEP may again require CFI to correct any deficiencies in accordance with the preceding Paragraphs, or may itself correct any deficiencies, subject to CFI's right to invoke dispute resolution under Section X (Dispute Resolution) and the right of EPA and FDEP to seek stipulated penalties as provided in the preceding Paragraphs. If the resubmission is approved or corrected in whole or in part, CFI shall proceed in accordance with Paragraph 28.

33. Correction of Non-Compliance. If CFI violates, or determines that it will violate, any requirement of Section V (Compliance Requirements) of this Consent Decree other than those set forth in Paragraph 26 (which are governed by Appendix 2 (Financial Assurance)), it shall: (a) comply with the reporting obligations of Section VII (Reporting Requirements) of this Consent Decree; (b) pay any penalties pursuant to Section VIII (Stipulated Penalties) of this Consent Decree unless waived pursuant to Paragraph 53 of this Consent Decree; and (c) if the violation has not been corrected prior to reporting to EPA, submit to EPA and subsequently implement a Correction Plan to rectify the violation. Nothing in this Paragraph shall be construed as EPA approval of CFI's correction efforts pursuant to this Paragraph or Appendix 2, or as limiting the rights reserved by Plaintiffs under Section XII (Effect of Settlement/Reservation of Rights), and EPA further reserves the right to require, upon written request, that a Correction Plan be submitted to EPA for approval in accordance with Paragraphs 28-32, above.

34. Permits. Where any compliance obligation under this Section requires CFI to obtain a federal, state, or local permit, or approval, CFI shall submit timely and complete applications and take all other actions necessary to obtain all such permits or approvals. CFI

may seek relief under the provisions of Section IX of this Consent Decree (Force Majeure) for any delay in the performance of any such obligation resulting from a failure to obtain, or a delay in obtaining, any permit or approval required to fulfill such obligation, if CFI has submitted timely and complete applications and has taken all other actions necessary to timely obtain all such permits or approvals.

35. Provided that CFI: (a) remains in compliance with Section V (Compliance Requirements) of this Consent Decree (including any modifications made pursuant to Section IX (Force Majeure) or Section XVII (Modification)); or (b) satisfactorily corrects any instances of non-compliance with Section V (Compliance Requirements) obligations pursuant to Paragraph 33 or prevails in dispute resolution pursuant to Section X (Dispute Resolution) of this Consent Decree, and is not subject to a Work Takeover pursuant to Section VI (Work Takeover) of this Consent Decree, it shall not be required to obtain a RCRA permit as a Treatment Storage and Disposal Facility under RCRA Subtitle C with respect to: (1) the treatment, storage, transport, management, and disposal of Bevill-Exempt Wastes that have been commingled with hazardous wastes prior to the lodging of this Consent Decree, as alleged in the Complaint; and (2) wastes that Paragraphs 15 through 19 allow to be input to Upstream Operations or managed together with Bevill-Exempt Wastes.

VI. WORK TAKEOVER

36. In the event EPA determines that CFI has: (a) ceased implementation of any portion of the Work; or (b) is seriously or repeatedly deficient or late in its performance of the Work; or (c) is implementing the Work in a manner that may cause an endangerment to human health or the environment, EPA, after consultation with FDEP, may issue a written notice (Work Takeover Notice) to CFI. Any Work Takeover Notice issued by EPA shall specify the grounds

upon which such notice was issued and shall provide CFI a period of thirty (30) Days within which to remedy the circumstances giving rise to EPA's issuance of such notice.

37. If, after expiration of the thirty (30)-Day period specified in Paragraph 36 of this Section, CFI has not remedied to EPA's satisfaction the circumstances giving rise to EPA's issuance of the relevant Work Takeover Notice, EPA may at any time thereafter assume and/or direct the performance of all or any portions of the Work as EPA deems necessary (Work Takeover). EPA shall notify CFI in writing (which writing may be electronic) if EPA determines that implementation of a Work Takeover is warranted under this Consent Decree.

38. In the event that CFI invokes dispute resolution with respect to EPA's Work Takeover, pursuant to Section X (Dispute Resolution) of the Consent Decree, EPA during the pendency of any such dispute may, in its unreviewable discretion, commence and continue a Work Takeover until the earlier of: (a) the date that CFI remedies, to EPA's satisfaction, the circumstances giving rise to original issuance of the Work Takeover Notice; or (b) the date that a final decision is rendered in accordance with Section X (Dispute Resolution) of the Consent Decree requiring EPA to terminate such Work Takeover.

39. After commencement and for the duration of any Work Takeover, CFI shall provide EPA with immediate access to and benefit of any Financial Assurance for such Work provided pursuant to Paragraph 26 and Appendix 2 (Financial Assurance) of this Consent Decree. If CFI refuses to provide the Financial Assurance, or the Work addressed by the Work Takeover is not covered by Financial Assurance, then any unreimbursed costs incurred by EPA in connection with the Work Takeover shall be considered a financial obligation owed by Defendant to the United States and collectible in an action to enforce this Consent Decree. Nothing in this Paragraph shall be construed to relieve CFI of its obligation to provide adequate

Financial Assurance pursuant to Appendix 2.

VII. REPORTING REQUIREMENTS

40. Within thirty (30) Days after the end of each calendar-quarter after lodging of this Consent Decree, until the quarter ending after the two (2)-year anniversary of the date of lodging, CFI shall submit to EPA and FDEP a report for the preceding calendar quarter (quarters shall end on March 31, June 30, September 30 and December 31 of each year) that shall include the status of any construction or compliance measures; completion of milestones; problems encountered or anticipated, together with implemented or proposed solutions; status of permit applications; operation and maintenance difficulties or concerns; status of Financial Assurance; reports to state agencies; and the log of spills and leaks tracked pursuant to the BMP. Thereafter, CFI shall submit such reports to Plaintiffs on a semi-annual basis until the quarter following the five (5)-year anniversary of the lodging of this Decree. Thereafter, CFI shall submit such reports annually until such time as CFI submits the Closure Application pursuant to Appendix 1, Attachment D (Closure of Phosphogypsum Stacks/ Stack Systems). CFI shall submit its next report within one-hundred twenty (120) Days after that time, on a date no more than thirty (30) Days after the end of the quarter following approval of the Closure Application. Thereafter, CFI shall again submit quarterly reports for a period of two (2) years. Thereafter CFI shall submit reports annually until the termination of this Decree pursuant to Section XVIII (Termination).

41. The reports shall also include a description of any violation of the requirements of this Consent Decree and an explanation of the likely cause of the violation and of the remedial steps taken, or to be taken, to prevent or minimize such violation. If CFI violates, or determines that it will violate, any requirement of this Consent Decree, CFI shall notify EPA and FDEP of such violation and its likely duration, in writing, within ten (10) working Days of the day CFI

first becomes aware of the violation, with an explanation of the likely cause of the violation and of the remedial steps taken, or to be taken, to prevent or minimize such violation. If the cause of a violation cannot be fully explained at the time the report is due, CFI shall so state in the report. CFI shall investigate the cause of the violation and shall then submit an amendment to the report, including a full explanation of the cause of the violation, within thirty (30) Days of the day CFI becomes aware of the cause of the violation. Nothing in this Paragraph or the following Paragraph relieves CFI of its obligation to provide the notice required by Section IX of this Consent Decree (Force Majeure).

42. Whenever any event affecting CFI's performance under this Decree, or the performance of its Facility, may pose an immediate threat to the public health or welfare or the environment, CFI shall notify EPA and FDEP as per Section XIV (Notices), as well as EPA Region 4 Emergency Response, orally or by electronic or facsimile transmission as soon as possible, but no later than twenty-four (24) hours after CFI first knew of the violation or event, and shall comply with the requirements of Appendix 1, Attachment E (Imminent and Substantial Endangerment Diagnostic Requirements). This notice requirement is in addition to the requirement to provide notice of a violation of this Consent Decree set forth in the preceding Paragraph.

43. All reports and reporting obligations shall be submitted to the persons designated in Section XIV of this Consent Decree (Notices).

44. Each report submitted by CFI under this Section shall be signed by a responsible corporate official of CFI (as defined in 40 C.F.R. § 270.11(a)) and shall include the following certification:

> I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

This certification requirement does not apply to emergency notifications where compliance would be impractical.

45. The reporting requirements of this Consent Decree do not relieve CFI of any reporting obligations required by RCRA or its implementing regulations, or by any other federal, state, or local law, regulation, permit, or other requirement.

46. Any information provided pursuant to this Consent Decree may be used by the Plaintiffs in any proceeding to enforce the provisions of this Consent Decree and as otherwise permitted by law.

VIII. STIPULATED PENALTIES

47. CFI shall be liable as of the Effective Date of this Consent Decree for stipulated penalties to the United States and FDEP for violations of this Consent Decree as specified below, unless excused under Section IX (Force Majeure). A violation includes failing to perform any obligation required by the terms of this Decree, including any work plan or schedule approved under this Decree, according to all applicable requirements of this Decree and within the specified time schedules established by or approved under this Decree.

48. If CFI fails to pay the civil penalty required to be paid under Section IV of this Decree (Civil Penalty) when due, CFI shall pay a stipulated penalty of $1,000 per day for each Day that the payment is late for the first ten (10) Days, together with Interest. Thereafter, CFI

shall pay $3,000 per day for each Day that the payment is late, with Interest. Late payment of the civil penalty shall be made in accordance with Section IV (Civil Penalty), Paragraph 10. Stipulated penalties shall be paid in accordance with Paragraphs 51, 52, 54 and 55, below. All transmittal correspondence shall state that any such payment is for late payment of the civil penalty due under this Decree, or for stipulated penalties for late payment, as applicable, and shall include the identifying information set forth in Paragraph 10, above.

49. Compliance Milestones

The following stipulated penalties shall accrue per violation per day for each violation of the requirements identified in Section V (Compliance Requirements):

Penalty Per Violation Per Day	Period of Noncompliance
$1,000	1st through 14th Day
$2,000	15th through 30th Day
$3,000	31st Day and beyond

50. Reporting Requirements. The following stipulated penalties shall accrue per violation per day for each violation of the requirements of Section VII of this Consent Decree (Reporting Requirements):

Penalty Per Violation Per Day	Period of Noncompliance
$750	1st through 14th Day
$1,000	15th through 30th Day
$2,000	31st Day and beyond

51. Subject to the provisions of Paragraph 31, above, stipulated penalties under this Section shall begin to accrue on the day after performance is due or on the day a violation occurs, whichever is applicable, and shall continue to accrue until performance is satisfactorily

completed or until the violation ceases. Stipulated penalties shall accrue simultaneously for separate violations of this Consent Decree.

52. CFI shall pay stipulated penalties to the United States and to FDEP within ten (10) Days of a written demand by either Plaintiff. CFI shall pay fifty percent (50%) of the total stipulated penalty amount due to the United States and fifty percent (50%) to FDEP. The Plaintiff making a demand for payment of a stipulated penalty shall simultaneously send a copy of the demand to the other Plaintiff.

53. The Plaintiffs, may, in the unreviewable exercise of their respective discretion, reduce or waive stipulated penalties otherwise due to that Plaintiff under this Consent Decree. The determination by one Plaintiff not to seek stipulated penalties, or to subsequently waive or reduce the amount it seeks, shall not preclude the other Plaintiff from seeking the full amount of the stipulated penalties owed.

54. Stipulated penalties shall continue to accrue as provided in Paragraph 51, during any Dispute Resolution, but need not be paid until the following:

a. If the dispute is resolved by agreement or by a decision of the United States or FDEP that is not subject to judicial review or appealed to the Court, CFI shall pay accrued penalties determined to be owing, together with Interest, to the United States or FDEP within thirty (30) Days of the effective date of the agreement or the receipt of the United States' or FDEP's decision or order.

b. If the dispute is appealed to the Court and the United States or FDEP prevails in whole or in part, CFI shall pay all accrued penalties determined by the Court to be owing, together with Interest, within sixty (60) Days of receiving the final appellate Court decision.

55. CFI shall pay stipulated penalties owing to the United States in the manner set

forth and with the confirmation notices required by Paragraph 10, except that the transmittal letter shall state that the payment is for stipulated penalties and shall state for which violation(s) the penalties are being paid. CFI shall pay stipulated penalties owing to FDEP in accordance with Paragraph 11, except that the transmittal letter shall state that the payment is for stipulated penalties and shall state for which violation(s) the penalties are being paid.

56. CFI shall not deduct Stipulated Penalties paid under this Section in calculating its state and federal income tax.

57. If CFI fails to pay stipulated penalties according to the terms of this Consent Decree, CFI shall be liable for Interest on such penalties, as provided for in 28 U.S.C.§ 1961, accruing as of the date payment became due. Nothing in this Paragraph shall be construed to limit the United States or FDEP from seeking any remedy otherwise provided by law for CFI's failure to pay any stipulated penalties.

58. Subject to the provisions of Section XII of this Consent Decree (Effect of Settlement/ Reservation of Rights), the stipulated penalties provided for in this Consent Decree shall be in addition to any other rights, remedies, or sanctions available to the United States or FDEP for CFI's violation of this Consent Decree or applicable law. Where a violation of this Consent Decree is also a violation of relevant statutory or regulatory requirements, CFI shall be allowed a credit for any stipulated penalties paid against any statutory penalties imposed for such violation.

IX. FORCE MAJEURE

59. Force majeure, for purposes of this Consent Decree, is defined as any event arising from causes beyond the control of CFI, of any entity controlled by CFI, or of CFI's contractors, that delays or prevents the performance of any obligation under this Consent Decree

despite CFI's best efforts to fulfill the obligation. The requirement that CFI exercise best efforts to fulfill the obligation includes using best efforts to anticipate any potential force majeure and best efforts to address the effects of any potential force majeure (1) as it is occurring and (2) following the potential force majeure such that the delay and any adverse effects of the delay are minimized to the greatest extent possible. Force Majeure does not include CFI's financial inability to perform any obligation under this Consent Decree

60. If any event occurs or has occurred that may delay the performance of any obligation under this Consent Decree, whether or not caused by a force majeure event, CFI shall provide notice orally or by electronic or facsimile transmission as soon as possible, as provided in Section XIV of this Consent Decree (Notices), but not later than seventy-two (72) hours after the time when CFI first knew that the event might cause a delay. Within ten (10) Days thereafter, CFI shall provide written notice to EPA and FDEP with an explanation and description of the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay; CFI's rationale for attributing such delay to a force majeure event if it intends to assert such a claim; and a statement as to whether, in the opinion of CFI, such event may cause or contribute to an endangerment to public health, welfare or the environment. CFI shall include with any notice all available documentation supporting the claim that the delay was attributable to a force majeure. CFI shall include with any notice all available documentation supporting its claim that the delay was attributable to a force majeure. CFI shall be deemed to know of any circumstance of which CFI, any entity controlled by CFI, or CFI's contractors knew or reasonably should have known. Failure to comply with the above requirements regarding an event shall preclude CFI from

asserting any claim of force majeure regarding that event, provided, however, that if EPA, despite the late notice, is able to assess to its satisfaction whether the event is a force majeure under Paragraph 59 and whether CFI has exercised its best efforts under Paragraph 60, EPA may, in its unreviewable discretion, excuse in writing CFI's failure to submit timely notices under this Paragraph.

61. If EPA, after consultation with FDEP, agrees that the delay or anticipated delay is attributable to a force majeure event, the time for performance of the obligations under this Consent Decree that are affected by the force majeure event will be extended by EPA, after consultation with FDEP, for such time as is necessary to complete those obligations. An extension of the time for performance of the obligations affected by the force majeure event shall not, of itself, extend the time for performance of any other obligation. If EPA, after consultation with FDEP, agrees that the delay is attributable to a force majeure event, EPA will notify CFI in writing of the length of the extension, if any, for performance of the obligations affected by the force majeure event.

62. If EPA ,after consultation with FDEP, does not agree that the delay or anticipated delay has been or will be caused by a force majeure event, EPA will notify CFI in writing of its decision.

63. If CFI elects to invoke the dispute resolution procedures set forth in Section X (Dispute Resolution), it shall do so no later than fifteen (15) days after receipt of EPA's notice. In any such proceeding, CFI shall have the burden of demonstrating by a preponderance of the evidence that the delay or anticipated delay has been or will be caused by a force majeure event, that the duration of the delay or the extension sought was or will be warranted under the circumstances, that best efforts were exercised to avoid and mitigate the effects of the delay, and

that CFI complied with the requirements of Paragraphs 59 and 60, above. If CFI carries this burden, the delay at issue shall be deemed not to be a violation by CFI of the affected obligation of this Consent Decree identified to EPA and the Court.

X. DISPUTE RESOLUTION

64. Unless otherwise expressly provided for in this Consent Decree, the dispute resolution procedures of this Section shall be the exclusive mechanism to resolve all disputes arising under or with respect to this Consent Decree. CFI's failure to seek resolution of a dispute under this Section shall preclude CFI from raising any such issue as a defense to an action by the United States or FDEP to enforce any obligation of CFI arising under this Decree.

65. Informal Dispute Resolution. Any dispute subject to Dispute Resolution under this Consent Decree shall first be the subject of informal negotiations, which may include any third-party assisted, non-binding alternative dispute resolution process agreeable to the Parties. CFI shall submit a written Notice of Dispute to both the United States and FDEP within twenty (20) Days after receiving written notice from EPA or FDEP of a decision that CFI disputes. The dispute shall be considered to have arisen on the date that both the United States and FDEP have received a written Notice of Dispute. Such Notice of Dispute shall state clearly the matter in dispute. The period of informal negotiations shall not exceed twenty (20) Days from the date that both Plaintiffs have received the Notice of Dispute, unless that period is modified by written agreement. If the Parties cannot resolve a dispute by informal negotiations, then the position of EPA, after consultation with FDEP, shall be considered binding, unless CFI invokes formal dispute resolution procedures as provided in the following Paragraph.

66. Formal Dispute Resolution. If CFI invokes formal dispute resolution pursuant to Paragraph 65, CFI shall, within thirty (30) Days after the conclusion of the informal negotiation

period, serve on the United States and FDEP a written Statement of Position regarding the matter in dispute. The Statement of Position shall include, but need not be limited to, any factual data, analysis, or opinion supporting CFI's position and any supporting documentation relied upon by CFI.

67. The United States, after consultation with FDEP, shall serve its Statement of Position within forty-five (45) Days of receipt of CFI's Statement of Position. The United States' Statement of Position shall include or clearly reference, but need not be limited to, any factual data, analysis, or opinion supporting that position and any supporting documentation relied upon by the United States. Where appropriate, EPA may allow submission of supplemental statements of position by the parties to the dispute. The United States' Statement of Position shall be binding on CFI, unless CFI files a motion for judicial review of the dispute in accordance with the following Paragraph.

68. CFI may seek judicial review of the dispute by filing with the Court and serving on the United States and FDEP, in accordance with Section XIV of this Consent Decree (Notices), a motion requesting judicial resolution of the dispute. The motion must be filed within twenty (20) Days of receipt of the United States' Statement of Position pursuant to the preceding Paragraph. The motion shall contain a written statement of CFI's position on the matter in dispute, including any supporting factual data, analysis, opinion, or documentation, and shall set forth the relief requested and any schedule within which the dispute must be resolved for orderly implementation of the Consent Decree.

69. The United States, after consultation with FDEP, shall respond to CFI's motion within the time period allowed by the Local Rules of this Court. CFI may file a reply memorandum, to the extent permitted by the Local Rules.

70. Standard of Review

a. Disputes Concerning Matters Accorded Record Review. In any dispute brought under this Section pertaining to the adequacy or appropriateness of plans, procedures to implement plans, schedules or any other items requiring approval by EPA under this Consent Decree; the adequacy of the performance of Work undertaken pursuant to this Consent Decree; and all other disputes that are accorded review on the administrative record under applicable principles of administrative law, EPA shall compile an administrative record of the dispute containing all Statements of Position, including supporting documentation and referenced data or information, and CFI shall have the burden of demonstrating, based on the administrative record, that the position of the United States is arbitrary and capricious or otherwise not in accordance with law.

b. In any other dispute brought under this Section, CFI shall bear the burden of demonstrating that its position complies with and furthers the objectives of this Consent Decree.

71. The invocation of dispute resolution procedures under this Section shall not, by itself, extend, postpone, or affect in any way any obligation of CFI under this Consent Decree, unless and until final resolution of the dispute so provides or unless ordered by the Court. Stipulated penalties with respect to the disputed matter shall continue to accrue from the first day of noncompliance, but payment shall be stayed pending resolution of the dispute as provided in Paragraph 54. If CFI does not prevail on the disputed issue, stipulated penalties shall be assessed and paid as provided in Section VIII (Stipulated Penalties).

XI. INFORMATION COLLECTION AND RETENTION

72. The United States, FDEP, and their representatives, including attorneys, contractors, and consultants, shall have the right of entry into the Plant City Facility, at all reasonable times, upon presentation of appropriate identification, to:

a. monitor the progress of activities required under this Consent Decree;

b. verify any data or information submitted to the United States or FDEP in accordance with the terms of this Consent Decree;

c. obtain samples and, upon request, splits of any samples taken by CFI or its representatives, contractors, or consultants;

d. obtain documentary evidence, including photographs and similar data;

e. assess CFI's compliance with this Consent Decree; and

f. conduct Work pursuant to Section VI (Work Takeover) of this Consent Decree.

73. Upon request, CFI shall provide EPA, FDEP or their authorized representatives splits of any samples taken by CFI. Upon request, EPA and FDEP shall provide CFI splits of any samples taken by EPA, FDEP, or their authorized representatives.

74. CFI shall retain, and shall require its contractors and agents to preserve, all non-identical copies of all documents, records, or other information (including documents, records, emails or other information in electronic form) in its or its contractors or agents possession or control, or that come into its or its contractors or agents possession or control, and that relate to CFI's performance of its obligations under this Consent Decree for a period of five (5) years after the creation of such documents, records or other information. This information-retention requirement shall apply regardless of any contrary corporate or

institutional policies or procedures. At any time during this information-retention period, upon request by the United States or FDEP, CFI shall provide copies of any documents, records, or other information required to be maintained under this Paragraph. CFI shall not dispose of materials following the expiration of its five (5) year retention period more often than once a year.

75. At the conclusion of the information-retention period provided in the preceding Paragraph, CFI shall notify the United States and FDEP at least ninety (90) Days prior to the destruction of any documents, records, or other information subject to the requirements of the preceding Paragraph and, upon request by the United States or FDEP, CFI shall deliver any such documents, records, or other information to EPA or FDEP. CFI may assert that certain documents, records, or other information are privileged under the attorney-client privilege or any other privilege recognized by federal law, provided that CFI shall not assert a legal privilege for any data, records or information (excluding legal advice) generated or received in connection with CFI's obligations pursuant to the requirements of this Consent Decree. If CFI asserts a privilege, it shall provide the following: (1) the title of the document, record, or information; (2) the date of the document, record, or information; (3) the name and title of each author of the document, record, or information; (4) the name and title of each addressee and recipient; (5) a description of the subject of the document, record, or information; and (6) the privilege asserted by CFI. If Plaintiffs and CFI disagree as to whether a particular document or record is privileged, CFI shall deliver such document or record to the United States or the FDEP unless it invokes dispute resolution pursuant to Section X (Dispute Resolution), in which case, CFI shall not have an obligation to deliver such document or record until a final determination is made,

pursuant to the procedures set forth in Section X (Dispute Resolution), that such document or record is not privileged.

76. CFI may also assert that information required to be provided under this Section is protected as Confidential Business Information (ACBI@) under 40 C.F.R. Part 2. As to any information that CFI seeks to protect as CBI, CFI shall follow the procedures set forth in 40 C.F.R. Part 2.

77. This Consent Decree in no way limits or affects any right of entry and inspection, or any right to obtain information, held by the United States or FDEP pursuant to applicable federal or state laws, regulations, or permits, nor does it limit or affect any duty or obligation of CFI to maintain documents, records, or other information imposed by applicable federal or state laws, regulations, or permits.

XII. EFFECT OF SETTLEMENT/RESERVATION OF RIGHTS

78. This Consent Decree resolves the civil claims of the United States and FDEP for the violations alleged in the Complaint filed in this action through the date of the lodging of the Consent Decree. Provided that CFI complies with this Consent Decree from the date of lodging of the Consent Decree through its Effective Date, these claims shall also be resolved through the Effective Date of this Consent Decree, as of the Effective Date. Provided that CFI complies with the Consent Decree from the Effective Date of this Consent Decree through the date of termination of this Consent Decree pursuant to Section XVIII (Termination), these claims shall be finally resolved as of the date the Consent Decree terminates.

79. This resolution of the United States' and FDEP's civil claims set forth in the Complaint is expressly conditioned upon complete and satisfactory performance of the requirements set forth herein. The United States and FDEP reserve all legal and equitable

remedies available to enforce the provisions of this Consent Decree, and CFI reserves all legal and equitable defenses available to it in the defense of any such enforcement. This Consent Decree shall not be construed to limit the rights of the United States or FDEP to obtain penalties or injunctive relief under the federal and state environmental statutes or their implementing regulations, or under other federal or state law regulations or permit conditions, including Section 3008(h) of RCRA, 42 U.S.C.§ 6928(h), except as expressly specified in Paragraph 78 with respect to the civil claims alleged in the Complaint. The United States and FDEP further retain all authority and reserve all rights to take any and all actions authorized by law to protect human health and the environment, including all legal and equitable remedies to address any imminent and substantial endangerment to the public health or welfare or the environment arising at, or posed by, CFI's Plant City Facility, whether related to the violations addressed in this Consent Decree or otherwise.

80. This Consent Decree is not a permit, or a modification of any permit, under any federal, State, or local law or regulation. CFI is responsible for achieving and maintaining complete compliance with all applicable federal, State, and local laws, regulations, and permits; and CFI's compliance with this Consent Decree shall be no defense to any action commenced pursuant to any such law, regulation, or permit, except as expressly specified in Paragraph 78 with respect to the civil claims alleged in the Complaint. The United States and FDEP do not, by their consent to the entry of this Consent Decree, warrant or aver in any manner that CFI's compliance with any aspect of this Consent Decree will result in compliance with provisions of RCRA, or with any other provision of federal, State, or local law, regulation, or permit.

81. This Consent Decree does not limit or affect the rights of CFI or of the United States or FDEP against any third parties, not a Party to this Consent Decree, nor does it limit the

rights of third parties, not a Party to this Consent Decree, against CFI, except as otherwise provided by law.

82. This Consent Decree shall not be construed to create rights or obligations in, or grant any cause of action to, any third party not party to this Consent Decree.

83. Nothing in the Complaint filed in this action or in this Consent Decree, including the execution and implementation of this Consent Decree, shall constitute an admission by Defendant of any of the allegations of the Complaint. The terms of this Consent Decree may not be used as evidence in any litigation between the Parties except pursuant to Section X (Dispute Resolution) or in an action to enforce this Consent Decree.

XIII. COSTS

84. The Parties shall bear their own costs of this action, including attorneys' fees, except that the United States and FDEP shall be entitled to access Financial Assurance pursuant to Paragraph 26 and Appendix 2 (Financial Assurance) of this Consent Decree, and to collect the costs (including attorneys' fees) incurred in any action necessary to collect any portion of the civil penalty or any stipulated penalties or other costs due under this Consent Decree but not paid by CFI.

XIV. NOTICES

85. Unless otherwise specified herein, whenever notifications, submissions, or communications are required by this Consent Decree in accordance with Section VII, Reporting Requirements, they shall be made electronically, unless otherwise requested by either FDEP and EPA, and addressed as follows:

To the United States:

Chief, Environmental Enforcement Section

Environment and Natural Resources Division
U.S. Department of Justice
Re: DOJ No. 90-7-1-08388/5

by email	by fax	by regular mail or post office express mail	by private overnight service
c/o Deborah.Reyher@usdoj.gov	(202) 514-4113 or 514-0097	Box 7611 Ben Franklin Station Washington, D.C. 20044-7611	601 D Street, NW., 2nd floor Washington, D.C. 20004

United States Attorney for the Middle District of FL
Middle District of FL
400 N. Tampa Street, Suite 3200
Tampa, FL 33602
Phone: (813) 274-6000
Fax : (813) 274-6358

and to EPA, below.

To EPA:

Bethany Russell and Joan RedleafDurbin
U.S. Environmental Protection Agency, Region 4
61 Forsyth Street, S.W.
Atlanta, GA 30303-8960
Phone: (404) 562-8542
Fax: (404) 562-8078
russell.bethany@epa.gov
redleaf-durbin.joan@epa.gov

Kathryn P. Caballero
Office of Civil Enforcement
Mail Code 2249A
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Ave., NW
Washington, D.C. 20460
Phone: (202) 564-1849
Fax: (202) 564-0019
caballero.kathryn@epa.gov

To FDEP:

Tim Bahr, Administrator
Hazardous Waste Regulation Section M.S. 4560

Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400
tim.bahr@dep.state.fl.us

James Dregne, Hazardous Waste Manager
Department of Environmental Protection
13051 North Telecom Parkway
Temple Terrace, FL 33637-0926
james.dregne@dep.state.fl.us

John A. Coates, P.E., Chief
Bureau of Mining and Minerals Regulation
FL DEP, Division of Water Resource Management
2051 East Dirac Drive
Tallahassee, FL 32312
john.coates@dep.state.fl.us

Sam Zamani, P.E., Program Administrator
Phosphate Management Section
FL DEP, Division of Water Resource Management
13051 North Telecom Parkway
Temple Terrace, FL 33637-0926
sam.zamani@dep.state.fl.us

-and with respect to notices pertaining to Financial Assurance:

Robert Stewart
USEPA - Region 4
Atlanta Federal Center - 11th Floor
61 Forsyth Street, SW
Atlanta, GA 30303-8960

Debbie Jourdan
Superfund & RCRA Records Program Manager
USEPA - Region 4
Atlanta Federal Center - 11th Floor
61 Forsyth Street, SW
Atlanta, GA 30303-8960

To CFI:

Herschel Morris
CF Industries, Inc.
Post Office Drawer L

Plant City, FL 33564-9007
Michael P. Petrovich, Esquire
Hopping Green & Sams, P.A.
123 South Calhoun Street
Tallahassee, FL 32301

Henry C. Eisenberg
Skadden Arps Slate Meagher & Flom
1440 New York Avenue, N.W.
Washington, D.C. 20005-2111

86. Any Party may, by written notice to the other Parties, change its designated notice recipient or notice address provided above.

87. Notices submitted pursuant to this Section shall be deemed submitted upon electronic transmission, unless otherwise provided in this Consent Decree or by mutual agreement of the Parties in writing.

XV. EFFECTIVE DATE

88. The Effective Date of this Consent Decree shall be the date upon which this Consent Decree is entered by the Court or a motion to enter the Consent Decree is granted, whichever occurs first, as recorded on the Court's docket; provided, however, that CFI hereby agrees that it shall be bound from the date of its execution of this Decree to perform obligations scheduled in this Consent Decree to occur prior to the Effective Date.

XVI. RETENTION OF JURISDICTION

89. The Court shall retain jurisdiction over this case until termination of this Consent Decree, pursuant to Section XVIII (Termination), for the purpose of resolving disputes arising under this Decree or entering orders modifying this Decree, pursuant to Sections X (Dispute Resolution) and XVII (Modification), or effectuating or enforcing compliance with the terms of this Decree.

XVII. MODIFICATION

90. Except as specifically provided for herein, there shall be no modifications or amendments of this Consent Decree without the written agreement of the Parties to this Consent Decree. Changes to provisions of this Consent Decree that expressly allow for change upon written agreement, and changes to the provisions of Appendices 1 through 8 hereto, or other modifications that do not constitute a material change to this Decree, may be made without approval by the Court upon written agreement between CFI and EPA, after consultation with FDEP, and upon execution shall become enforceable under this Consent Decree and shall be filed with the Court. Any other modifications agreed to by the Parties shall be effective only upon approval by the Court. A Party's refusal to agree to a modification of this Consent Decree shall not be subject to dispute resolution or judicial review.

91. In the event that a transferee of property under Section II of this Consent Decree should desire to become a party to this Consent Decree and subject to all its terms and provisions, it may do so upon written approval of the United States pursuant to Section II (Applicability) of this Consent Decree, in which event a supplemental signature page will be affixed to this Consent Decree and filed with the Court.

XVIII. TERMINATION

92. Periodic Review of Work Status. At least once every three (3) years, and more often if the Parties so agree, the Parties shall meet to review the status of the Work and to evaluate whether discrete portions of the Work have either been completed or may be accomplished and supervised under an EPA or FDEP administrative order or permit. Any agreement of the Parties shall be memorialized in a written modification to this Consent Decree pursuant to Section XVII (Modification) and shall not require judicial approval. If the Parties

agree that such modifications allow this Consent Decree to be terminated, the Parties shall submit, for the Court's approval, a joint stipulation terminating the Consent Decree. The Parties' inability to reach an agreement relating to modification or termination under this Paragraph shall not be subject to dispute resolution or judicial review.

93. Completion of Work. Within ninety (90) Days after CFI concludes that all Work required under this Consent Decree has been fully performed, CFI, if EPA and/or FDEP so requests, shall schedule and conduct an inspection of the facility to be attended by EPA, FDEP and CFI at a mutually agreeable time. Following the inspection, and correction of any problems or deficiencies noted by EPA, after consultation with FDEP, CFI shall submit one or more written reports by a third party registered professional engineer, in the relevant technical field, certifying compliance with Section V (Compliance Requirements) of this Consent Decree that the Work has been completed in full satisfaction of the requirements of this Consent Decree. The reports shall indicate the case name and civil action number, and shall be submitted, together with a request for Acknowledgment of Completion, in accordance with Paragraph 40, Section VII (Reporting Requirements) of this Consent Decree.

94. If, after review of the written report(s) and certification and consultation with FDEP, EPA determines that any portion of the Work has not been completed in accordance with this Consent Decree, EPA will notify CFI in writing of the activity(ies) and/or obligation(s) that must be undertaken to complete the Work. EPA will set forth in the notice a schedule for performance of the activity(ies) and/or obligation(s) required under the Consent Decree, or will require CFI to submit a schedule for EPA approval pursuant to Section V (Compliance Requirements) of this Consent Decree. CFI shall perform all activities described in the notice in accordance with the specifications and schedules established therein, subject to CFI's right to

invoke the dispute resolution procedures set forth in Section X (Dispute Resolution) of this Consent Decree.

95. If EPA concludes, based on the initial or any subsequent request for an Acknowledgment of Completion by CFI, and after reasonable opportunity for review and comment by FDEP, that the Work has been fully performed in accordance with this Consent Decree, EPA will so notify CFI in writing, which notice shall constitute the Acknowledgment of Completion.

96. Termination. After CFI has completed the requirements set forth in Paragraphs 92 and 93 of this Section, has obtained an Acknowledgment of Completion, has complied with all other requirements of this Consent Decree, and has paid the civil penalty and any accrued stipulated penalties as required by this Consent Decree, CFI may serve upon the United States and FDEP a Request for Termination, stating that CFI has satisfied those requirements, together with all necessary supporting documentation.

97. Following receipt by the United States and FDEP of CFI's Request for Termination, the Parties shall confer informally concerning the Request and any disagreement that the Parties may have as to whether CFI has satisfactorily complied with the requirements for termination of this Consent Decree. If the United States, after consultation with FDEP, agrees that the Decree may be terminated, the Parties shall submit, for the Court's approval, a joint stipulation terminating the Decree.

98. If the United States, after consultation with FDEP, does not agree that the Decree may be terminated, CFI may invoke Dispute Resolution under Section X of this Decree. However, all time periods and deadlines established under Section X (Dispute Resolution) shall be extended by sixty (60) Days, or more by the agreement of the Parties.

XIX. PUBLIC PARTICIPATION

99. This Consent Decree shall be lodged with the Court for a period of not less than thirty (30) Days for public notice and comment in accordance with 28 C.F.R. § 50.7. The United States reserves the right to withdraw or withhold its consent if the comments regarding the Consent Decree disclose facts or considerations indicating that the Consent Decree is inappropriate, improper, or inadequate. CFI consents to entry of this Consent Decree without further notice and agrees not to withdraw from or oppose entry of this Consent Decree by the Court or to challenge any provision of the Decree, unless the United States has notified CFI in writing that it no longer supports entry of the Decree.

XX. SIGNATORIES/SERVICE

100. Each undersigned representative of CFI, the Assistant Attorney General for the Environment and Natural Resources Division of the Department of Justice, or his designee, and the Secretary of the Florida Department of Environmental Protection certifies that he or she is fully authorized to enter into the terms and conditions of this Consent Decree and to execute and legally bind the Party he or she represents to this document.

101. This Consent Decree may be signed in counterparts, and its validity shall not be challenged on that basis. CFI agrees to accept service of process by mail with respect to all matters arising under or relating to this Consent Decree and to waive the formal service requirements set forth in Rules 4 and 5 of the Federal Rules of Civil Procedure and any applicable Local Rules of this Court including, but not limited to, service of a summons.

XXI. INTEGRATION

102. This Consent Decree and its Appendices constitute the final, complete, and exclusive agreement and understanding among the Parties with respect to the settlement

embodied in the Decree and supersede all prior agreements and understandings, whether oral or written, concerning the settlement embodied herein. Other than the Appendices, which are attached to and incorporated in this Decree, no other document, nor any representation, inducement, agreement, understanding, or promise, constitutes any part of this Decree or the settlement it represents, nor shall it be used in construing the terms of this Decree.

XXII. FINAL JUDGMENT

103. Upon approval and entry of this Consent Decree by the Court, this Consent Decree shall constitute a final judgment of the Court as to the United States, FDEP and CFI. The Court finds that there is no just reason for delay and therefore enters this judgment as a final judgment under Fed. R. Civ. P. 54 and 58.

XXIII. APPENDICES

104. The following Appendices are attached to and part of this Consent Decree:

Appendix 1 contains the following compliance requirements:

Attachment A (Site Assessment, Reporting, and Corrective Measures);

Attachment B (Groundwater and Zone of Discharge Requirements);

Attachment C (Phosphogypsum Stack System Construction and Operational Requirements);

Attachment D (Closure of Phosphogypsum Stacks/Stack Systems);

Attachment E (Imminent and Substantial Endangerment Diagnostic Requirements);

Attachment F (Definitions for Purpose of the Consent Decree);

Appendix 2 establishes Financial Assurance Requirements;

Appendix 3 is a Site Map of the CFI Facility;

Appendix 4 is the Facility Report;

Appendix 5 is CFI's current BMP Plan for Phosphoric Acid Product Handling and includes operational changes to reduce generation of MAP/DAP ammoniated wastes;

Appendix 6 is the Sulfuric Acid Plants Hazardous Waste Management Plan provided to EPA and FDEP on December 19, 2007;

Appendix 7 is a letter from CFI to FDEP, dated April 17, 2007, enclosing an April 16, 2007 Ardaman & Associates Assessment of Existing Perimeter Earthen Dikes at the Plant City Phosphate Complex; and

Appendix 8 is the Compliance Schedule (BMP and Project Implementation Schedule)

Dated and entered this __ day of _____, 2010.

_____
UNITED STATES DISTRICT JUDGE
MIDDLE DISTRICT OF FLORIDA

WE HEREBY CONSENT to the entry of the Consent Decree in United States et al. v. CF Industries, Inc., subject to the public notice requirements of 28 C.F.R. § 50.7.

FOR THE UNITED STATES OF AMERICA:

Date: 8/03/10

Robert G. Dreher
Acting Assistant Attorney General
Environment & Natural Resources Division
United States Department of Justice
950 Pennsylvania Avenue, NW
Washington, D.C. 20530

Date: 8/04/10

DEBORAH M. REYHER
Senior Counsel
Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
P.O. Box 7611
Ben Franklin Station
Washington, D.C. 20044
(202) 514-4113

WE HEREBY CONSENT to the entry of the Consent Decree in United States et al. v. CF Industries, Inc., subject to the public notice requirements of 28 C.F.R. § 50.7.

FOR THE UNITED STATES OF AMERICA:

A. BRIAN ALBRITTON
United States Attorney
for the Middle District of FL

KENNETH STEGEBY
Assistant United States Attorney
USAO No. 112
400 N. Tampa Street, Suite 3200
Tampa, FL 33602
Phone: (813) 274-6303
Facsimile: (813) 274-6198
Email: Kenneth.stegeby@usdoj.gov

WE HEREBY CONSENT to the entry of the Consent Decree in United States et al. v. CF Industries, Inc., subject to the public notice requirements of 28 C.F.R. § 50.7.

FOR THE UNITED STATES OF AMERICA:

DATE: 7/30/10

CYNTHIA GILES
Assistant Administrator
Office of Enforcement and Compliance Assurance
United States Environmental Protection Agency
Washington, D.C. 20460

DATE:

ADAM M. KUSHNER
Director, Office of Civil Enforcement
Office of Enforcement and Compliance Assurance
United States Environmental Protection Agency
Washington, D.C. 20460

Date: 6/29/2010

A. STANLEY MEIBURG
Acting Regional Administrator
U.S. Environmental Protection Agency, Region 4
61 Forsyth Street, S.W.
Atlanta, GA 30303-8960

Date: 6/29/10

JOAN REDLEAF DURBIN
Senior Attorney
U.S. Environmental Protection Agency, Region 4
SNAFC, 13th Floor
61 Forsyth Street, S.W.
Atlanta, GA 30303-8960

WE HEREBY CONSENT to the entry of the Consent Decree in United States et al. v. CF Industries, Inc., subject to the public notice requirements of 28 C.F.R. § 50.7.

FOR FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION:

DATE: 7/16/10

MIMI DREW
Deputy Secretary, Regulatory Programs
Florida Department of Environmental Protection
3900 Commonwealth Blvd., M.S. 15
Tallahassee, FL 32399-3000

FOR CF INDUSTRIES, INC.:

DATE: August 4, 2010

S.R. Wilson

STEPHEN R. WILSON
President and Chief Executive Officer
CF Industries, Inc.

APPENDIX 1

ATTACHMENT A: SITE ASSESSMENT, REPORTING, AND CORRECTIVE MEASURES

SAMPLING AND ANALYSIS WORKPLAN

1) The Defendant shall submit to the Implementing State Agency and/or EPA for approval an Outline for a Sampling and Analysis Workplan ("Outline"), for carrying out the required monitoring, testing, analysis, and reporting.

2) The Defendant shall submit to the Implementing State Agency and/or EPA a Sampling and Analysis Workplan ("Workplan"), unless Defendant has already submitted a Sampling and Analysis Workplan that has been approved by the Implementing State Agency and/or EPA and is consistent with this Attachment.

3) The Sampling and Analysis Workplan shall be designed to determine the presence, magnitude, extent, direction, and rate of movement of any hazardous waste, hazardous constituents, and/or constituents of concern ("COC") within and beyond the Facility boundary. COCs shall be limited to those contaminants that are reasonably likely to be found at the Facility. The Workplan shall document the procedures the Defendant shall use to assess sampling and analysis data that is generated and that relate to the purposes of this Attachment. The Workplan shall also document the procedures the Defendant shall use to conduct those activities necessary to: characterize the source(s) of contamination; characterize the potential pathways of contaminant migration; define the degree and extent of contamination; and identify actual or potential human and/or ecological receptors. The Defendant may implement the Work contained in the Workplan in a multi-phased approach. A specific schedule for expeditious implementation of all activities shall be included in the Workplan. At a minimum, the Workplan for assessment shall include the following *[All requirements below would be facility-specific]:*

   (a) A sediment and/or soil, as appropriate, sampling and analysis section to collect and analyze representative sediment and/or soil samples to determine the nature and extent of potential contamination, both vertically and horizontally. Areas of sampling shall include process areas, areas of historical spills and/or historical contamination, areas of waste management, other facility operation areas (to be defined), stormwater and non-process water ditches and ponds, and ditches associated with National Pollutant Discharge Elimination System ("NPDES") outfall(s). The Workplan must define the number, location, and depth of the samples, and the parameters for analysis. The number of samples shall be sufficient to produce a 95% confidence level that the results are representative of the environmental conditions found at each location.

   (b) A surface water (including run-off) sampling and analysis section to determine the nature and extent of any contaminated surface water flowing from the portions of the facility adjacent to and down-gradient from the unlined areas of facility

operations (to be defined). The Workplan shall define the number, location, and depth of samples, and the parameters for analysis.

(c) A groundwater sampling and analysis section to characterize the groundwater quality and the extent of any groundwater contamination, both vertically and horizontally, that may be migrating from Defendant's facility. This shall include unlined areas, and/or lined areas which do not meet the requirements of Attachment C, within the facility operations. The Workplan shall define the number, location, and depth of groundwater samples (either from existing wells included in the current groundwater monitoring program, temporary wells, or direct-push technology), and the parameters for analysis.

(d) Upon confirmation of the existence of hazardous waste, hazardous constituents and/or COCs in groundwater emanating from the facility beyond the "zone of discharge," a section addressing a potable well survey within a ½ mile radius of the facility including a schedule for sampling of each well, and the parameters for analysis. Upon confirmation of an exceedance of State-groundwater standards in any of the potable wells, the well survey will be extended by ½ mile radial increments in the appropriate direction depending on the results of the initial well survey.

(e) A survey that identifies any wetlands, creeks, or lakes within a one (1) mile radius down gradient and beyond the Defendant's property boundaries (not including public roadside ditches). This survey should also identify any such bodies of water that are used for public recreational purposes or may contain endangered species.

(f) A Project Management Plan.

(g) A Data Collection Quality Assurance Project Plan for new sampling and analysis.

(h) A Data Management Plan for new sampling and analysis.

(i) A Community Relations Plan (if appropriate).

(j) A timeline for Work detailed above and a schedule for the submission of progress reports, including a draft Sampling and Analysis Report, and a final Sampling and Analysis Report.

4) Concurrent with the submission of the Sampling and Analysis Workplan, the Defendant shall submit a Health and Safety Plan with respect to the Work to be performed.

5) Upon receipt of the Implementing State Agency's and/or EPA's approval of the Workplan, the Defendant shall implement the approved Workplan in accordance with the terms and schedules contained therein. Upon completion of the Agency-approved sampling activities proposed in the Workplan, the Defendant shall submit to the Implementing State Agency and/or EPA for approval a draft Sampling and Analysis Report, in accordance with the requirements and schedule contained in the approved Sampling and Analysis Workplan. Upon approval of the draft Sampling and Analysis Report by the Implementing State Agency and/or EPA, the Defendant shall submit a final Sampling and Analysis Report.

6) The Implementing State Agency and/or EPA acknowledge that the Defendant may have completed some of the tasks required by this Attachment and/or that the Defendant has available pertinent information and data required by this Attachment. This previous work may be used to meet some of the requirements of this Attachment, upon submission to and written approval by the Implementing State Agency and/or EPA.

7) The Defendant shall develop background levels for minerals, metals, and naturally occurring materials in order for results to be compared to determine what the appropriate clean-up/action level for a particular constituent of concern.

ADDITIONAL WORK

8) Based on Work performed under the Workplan described above, the Implementing State Agency and/or EPA may determine that additional monitoring, testing, analysis, and/or reporting is necessary to ascertain the nature and extent of any hazard to human health and the environment that may be presented by the presence or release of hazardous wastes and/or hazardous constituents at or from the facility. If the Implementing State Agency and/or EPA determine that such additional Work is necessary, the Implementing State Agency and/or EPA will notify the Defendant in writing and specify the basis for its determination that additional Work is necessary. Procedures for disputing this determination of additional Work are outlined in the Consent Decree.

MINIMUM QUALIFICATIONS FOR PERSONNEL

9) All Work performed by or for the Defendant pursuant to this Attachment shall be under the direction and supervision of an individual who has demonstrated expertise in hazardous waste site investigation. Before any Work is performed, the Defendant shall submit to the Implementing State Agency and/or EPA, in writing, the name, title, and qualifications of the supervisory personnel and of any contractors or subcontractors to be used in carrying out the terms of this Attachment. Additionally, the Defendant shall ensure that when a license is required, only licensed individuals shall be used to perform any Work required by this Attachment.

QUALITY ASSURANCE/QUALITY CONTROL

10) All new sampling and analysis conducted under this Attachment shall follow applicable EPA or State standards for sample analysis. The contact person(s), name(s), address(es), and telephone number(s) of the analytical laboratories the Defendant proposes to use must be specified in the applicable Workplan.

11) All Workplan(s) required under this Attachment shall include data quality objectives for each data collection activity to ensure that data of known and appropriate quality are obtained and that data are sufficient to support their intended use(s).

12) The Defendant shall monitor to ensure that high quality data are obtained by its consultant or contract laboratories. The Implementing State Agency and/or EPA may reject any data that does not meet the requirements of the approved Workplan or approved analytical methods and may require re-sampling and additional analysis.

13) The Defendant shall ensure that appropriate chain-of-custody procedures are specified in the Workplan. Such procedures shall include, but not be limited to: standardized field tracking reports to establish sample custody in the field prior to shipment, pre-pared sample labels containing all the information necessary for sample tracking; identification of responsible party at a laboratory who is authorized to sign for incoming field samples, obtain documents of shipment, and verify the data entered into the sample custody records; use of sample custody log consisting of serially numbered standard lab-tracking report sheets; and specification of laboratory sample custody procedures for sample handling, storage and dispersement for analysis.

14) The Implementing State Agency and/or EPA may conduct a performance and Quality Assurance/Quality Control ("QA/QC") audit of the laboratories chosen by the Defendant before, during, or after sample analyses. Upon request by the Implementing State Agency and/or EPA, the Defendant shall have its laboratory perform analyses of samples provided by the Implementing State Agency and/or EPA to demonstrate laboratory performance. If the audit reveals deficiencies in a laboratory's performance or QA/QC, re-sampling and additional analysis may be required.

SAMPLING AND DATA/DOCUMENT AVAILABILITY

15) The Defendant shall submit to the Implementing State Agency and/or EPA the results of all sampling and/or tests or other data generated by, or on behalf of, the Defendant pursuant to

the requirements of this Attachment.

16) The Defendant shall notify the Implementing State Agency and/or EPA, in writing or by electronic mail, at least ten (10) days in advance of engaging in any field activities at the facility conducted pursuant to this Attachment. At the request of the Implementing State Agency and/or EPA, the Defendant shall provide, or allow the Implementing State Agency and/or EPA or its authorized representatives to take, split and/or duplicate any of the samples collected by the Defendant pursuant to this Attachment. Similarly, at the request of the Defendant, the Implementing State Agency and/or EPA will allow the Defendant or its authorized representatives to take split and/or duplicate any of the samples collected by the Implementing State Agency and/or EPA under this Attachment, provided that such sampling shall not delay the Implementing State Agency and/or EPA's proposed sampling activities. Nothing in this Attachment shall limit or otherwise affect the Implementing State Agency's and/or EPA's authority to collect samples pursuant to applicable law, including, but not limited to, RCRA and/or CERCLA.

RISK ASSESSMENT PLAN [1]

17) The Defendant shall develop and submit for approval a Risk Assessment Plan to the Implementing State Agency and/or EPA within forty-five (45) days of confirming the existence of hazardous waste, hazardous constituents and/or COCs exceeding action levels established through Appendix A-1 or background, whichever is higher, that may be emanating from the facility in soil and/or sediment, and/or surface water, and/or near, at or beyond the "zone of discharge" in groundwater. The Risk Assessment Plan shall address both environmental and human receptors and shall contain, but not be limited to the following elements: description of the facility or site; scope of the risk assessment; identification and description of the hazardous waste, hazardous constituents and/or COCs; description of sampling methods and collection strategies; exposure assessment (including identification of exposure pathways); toxicity assessment; and risk characterization. The Defendant shall contact the Implementing State Agency and/or EPA and obtain any publically available guidance or models that will assist in the development of the Risk Assessment Plan and the subsequent Report.

a) The Defendant shall implement the Work under the Risk Assessment Plan within thirty (30) days of written approval by the Implementing State Agency and/or EPA of the Risk

1 If determined by EPA and/or the Implementing State Agency that the requirements of the Risk Assessment and/or Corrective Action Sections of this Attachment apply, EPA may, in consultation with the Implementing State Agency, defer the oversight of the Risk Assessment and/or Corrective Action obligations of this Attachment to the Implementing State Agency's corresponding authorized program, and may monitor these same obligations, in lieu of the requirements of this Attachment.

Assessment Plan.

b) The Defendant shall prepare and submit a written Risk Assessment Report to the Implementing State Agency and/or EPA within forty-five (45) days after completion of the Work under the Risk Assessment Plan. The Report must include the following information at a minimum: a description of the risk assessment; a summary of the results of the risk assessment; a summary of the problems encountered in doing the risk assessment; and an explanation of the activities that need to be taken to address the risks identified by the assessment. The Defendant shall contact the Implementing State Agency and/or EPA and obtain any publically available guidance or models that will assist in the development of the Risk Assessment Report.

CORRECTIVE ACTION PLAN

18) The Defendant shall develop and submit for approval a Corrective Action Plan to the Implementing State Agency and/or EPA within ninety (90) days after notification by the Implementing State Agency and/or EPA that such a plan is required. The Corrective Action Plan must include sections addressing: (1) the identification and evaluation of potential remedial alternatives from the releases that have been identified at the facility; and (2) those measures or actions appropriate to remediate, control, prevent or mitigate the release, potential release or movement of hazardous waste, hazardous constituents and/or COCs into the environment, or within or from one environmental medium to another. The Defendant shall contact the Implementing State Agency and/or EPA and obtain any publically available guidance or models that will assist in the development of the Corrective Action Plan and associated reports.

a) The Defendant shall implement the Work under the portion of the Corrective Action Plan addressing the identification and examination of the potential alternative remedies within sixty (60) days after receiving written approval from the Implementing State Agency and/or EPA. The Defendant shall, within thirty (30) days after completion of the identification and examination Work, submit to the Implementing State Agency and/or the EPA a Corrective Measures Evaluation Report which includes an evaluation of each remedial alternative, including all information gathered and studies conducted (*e.g.*, bench scale or pilot tests). This Report must contain adequate information to enable the Implementing State Agency and/or EPA to make a decision as to the adequacy and appropriateness of the corrective measures selection.

b) Defendant will be notified by the Implementing State Agency and/or EPA, upon review of the Corrective Measures Evaluation Report, if no further action is required or which selected remedies need to be implemented at the facility or site. If determined that corrective measures are needed, the Implementing State Agency and/or EPA may select

corrective measures from the Corrective Measures Evaluation Report, reject any alternative provided in the report or prescribe a different remedial alternative or corrective measure(s) performance standard.

i) The Implementing State Agency and/or the EPA will draft a statement of basis and seek public comment. The Implementing State Agency and/or EPA will consider public comments regarding the proposed corrective measures. The Implementing State Agency and/or the EPA will make publically known the final decision regarding the selected corrective measures.

ii) If the Implementing State Agency and/or EPA determine that corrective measures are needed, the Defendant shall prepare and submit a Corrective Measures Implementation Plan within sixty (60) days after receiving notification to implement corrective measures as selected by the Agency. The Corrective Measures Implementation Plan shall include, at a minimum, sections addressing: engineering design; construction, operation and maintenance; monitoring and performance monitoring; waste management; health and safety plan; schedule; corrective measure goals; reporting requirements; and public participation .

c) The Defendant shall prepare and submit to the Implementing State Agency and/or EPA a Corrective Action Certification Report within forty-five (45) days after completion of the corrective measures. The Corrective Action Certification Report shall contain the following minimum information: a description of the corrective measures completed; summaries of results and documentation of attainment of performance requirements; summaries of all the problems encountered; summaries of accomplishments and/or effectiveness of corrective measures; and a certification of completion signed by the Defendant and by an independent, registered professional engineer skilled in the appropriate technical discipline(s). The Corrective Action Certification Report will be reviewed by the Implementing State Agency and/or EPA for adequacy and will be subject to public comment.

19) If during the implementation of the Corrective Action Plan, information comes to the attention of the Defendant that waste units or areas of concern pose an immediate or potential threat to human health and the environment, the Defendant shall immediately notify the Implementing State Agency and/or EPA of the threat.

a) The Defendant, within thirty (30) days of such notification, shall submit for approval to the Implementing State Agency and/or EPA an Interim Measures Plan designed to mitigate any immediate or potential threat(s) to human health and the environment. The Interim Measures Plan shall include at a minimum: engineering design; construction, operation and maintenance; monitoring and performance monitoring; waste management; health and safety plan; schedule; corrective measure goals; reporting requirements; and

public participation.

b) The Defendant shall prepare and submit an Interim Measures Report to the Implementing State Agency and/or EPA after completion of the interim measures conducted under this Consent Decree. The Report shall at a minimum include: a description of interim measures implemented; summaries of results; summaries of problems encountered; and summaries of accomplishments and/or effectiveness of the interim measures.

c) The Defendant shall contact the Implementing State Agency and/or EPA and obtain any publically available guidance or models that will assist in the development of the Interim Measures Plan and the Interim Measures Report.

ATTACHMENT A
APPENDIX 1

Screening Criteria- Action Levels for Assessment of Corrective Action

I. Definition

Action levels are conservative health-based concentrations of hazardous wastes and/or hazardous constituents determined to be indicators for the protection of human health or the environment. Action levels shall be set by the Implementing State Agency and/or EPA for all hazardous wastes and/or hazardous constituents identified through Attachment A which the Implementing State Agency and/or EPA has reason to believe may have been released from the facility into the environment. Should the concentration of hazardous wastes and/or hazardous constituents in soils, sediments, or surface water, or in groundwater (at or beyond the zone of discharge) exceed the action levels established for any environmental medium, the Implementing State Agency and/or EPA may require the Respondent to conduct a Risk Assessment and/or perform Corrective Action. If the Implementing State Agency and/or EPA determine that concentrations of hazardous wastes and/or hazardous constituents released from the facility, below established action levels, potentially pose a threat to human health or the environment given site-specific exposure conditions, cumulative effects, ecological concerns or other factors, then the Implementing State Agency and/or EPA may require a Risk Assessment. The requirement to conduct a Risk Assessment and/or perform Corrective Action shall not be subject to judicial review, but shall be subject to dispute resolution (other than judicial review) pursuant to Section XI of the Consent Decree.

Action levels shall be concentration levels that satisfy the following criteria.

II. Soils

Action levels for constituents in soils shall be derived from the most stringent of levels established by the Implementing State Agency or EPA's Regional Screening Levels.

III. Sediment

Action levels for constituents in sediment shall be concentrations specified as:

1. Latest Sediment and Soil Screening Values for ecological risks as calculated by the Implementing State Agency and/or EPA.

2. If action levels are not available from these screening values, then other EPA-approved action levels will be used.

IV. Groundwater

Action levels for constituents in groundwater at or beyond the zone of discharge shall be concentrations specified as:

1. Maximum Contaminant Levels ("MCLs") established at 40 CFR Part 141, or the applicable state law or facility permit requirements for the State in which the facility is located, these action levels must meet appropriate aquatic water quality criteria if it is determined through the process outlined in Attachment A that groundwater has the potential to impact surface water.

2. For facilities where the MCL is the most stringent standard for individual contaminants, if the natural background exceeds the MCL, representative natural background will be the default groundwater standard, unless the applicable state law or facility permit is more stringent than natural background for that contaminant, in which case the applicable state law or facility permit will provide the appropriate standard for that contaminant.

V. Surface Water

Action levels for constituents in surface water shall be concentrations specified as:

1. The more stringent of the Implementing State Agency and/or EPA Surface Water Screening Values for ecological risk;

2. If action levels are not available from the screening values, Ambient Water Quality Criteria as established by the Clean Water Act will be used;

ATTACHMENT B: GROUNDWATER AND ZONE OF DISCHARGE REQUIREMENTS

I. Groundwater Requirements

(1) Notwithstanding the classification and criteria for groundwater set forth in the State where the Company is located, discharge to groundwater shall not impair the state-designated use of contiguous surface waters.

(2) Groundwater must meet the more stringent of either the maximum contaminant levels ("MCLs") established at 40 C.F.R. Part 141, or the applicable state law or facility permit requirements for the State in which the facility is located, and must meet appropriate state water quality criteria and applicable Clean Water Act water quality standards, if it is determined through the process outlined in Attachment A that groundwater has the potential to impact surface water.

For facilities where the MCL is the most stringent standard for individual contaminants, if the natural background exceeds the MCL, representative natural background will be the default groundwater standard, unless the applicable state law or facility permit is more stringent than natural background for that contaminant, in which case the applicable state law or facility permit will provide the appropriate standard for that contaminant.

(3) These standards do not apply within a designated zone of discharge.

II. Zone of Discharge Requirements

A. Establishment of the Zone of Discharge

(1) No zone of discharge shall be allowed into potable groundwater, unless authorized by the Implementing State Agency before the effective date of the Consent Decree or by this Attachment. Zones of horizontal discharge shall extend no farther than to the facility's current property boundary or the existing permitted boundary, where a permit applies, unless a smaller zone of discharge is necessary to protect the designated use of adjacent waters outside the zone of discharge. Vertical zones of discharge shall be maintained where permitted prior to the date of entry of the Consent Decree.

(2) Where multiple sites occur within close proximity, a single zone of discharge for the sites may be established at the discretion of EPA and/or the Implementing State Agency.

(3) Within the zone of discharge, if a statistically significant increase in contaminant concentration (including corrosivity) in groundwater is discovered, which EPA or the Implementing State Agency determines may present a potential or actual hazard to human health and/or the environment, then the hazard shall be addressed under the Zone of Discharge-Corrective Action portion of this Attachment.

B. Modifications to an Established Zone of Discharge

(1) At any time, EPA and/or the Implementing State Agency, after consultation with each other, may revise the zone of discharge and/or monitoring requirements for any of the reasons described in (1)(a) through (e) of this section. Also, Defendant may petition for a modification in the zone of discharge and/or monitoring requirements for any of the reasons described in (1)(a) through (e) of this section. In those cases where the defendant has petitioned for an increase in the zone of discharge and/or monitoring requirements, such modification must be

approved by both EPA and the Implementing State Agency. Either Agency's order for modification or denial of Defendant's petition for modification shall not be subject to judicial review, but shall be subject to dispute resolution (other than judicial review) pursuant to Section XI of the Consent Decree.
(a) Monitoring data indicate that the discharge plume has resulted or may in the foreseeable proximate future result in a violation of applicable water quality standards beyond the boundary of the existing zone of discharge;
(b) Continuation of the existing zone of discharge will impair the designated use of underground sources of drinking water or the surface waters immediately affected by the groundwater;
(c) Continuation of the existing zone of discharge may result in an imminent and substantial endangerment to public health or the environment;
(d) The monitoring data provided by owner/operator are inadequate to allow a determination of compliance with applicable zone of discharge limitations and the owner fails to provide reasonable additional data requested by EPA and/or the Implementing State Agency; or
(e) A change in the chemical, physical, or microbiological composition, or the volume or the location of the discharge, requires a change in the zone of discharge or the monitoring scheme to assure compliance.

C. Zone of Discharge Monitoring Requirements
(1) Any Company discharging into groundwater shall establish a monitoring program as described below unless a groundwater monitoring plan that satisfies the requirements of this section has already been approved by the Implementing State Agency and/or EPA;
(2) Monitoring Plan Requirements. (a) Using the information listed from (b)(i) through (xiii) below, the owner/operator shall provide EPA and/or the Implementing State Agency with a plan containing findings and recommendations for groundwater monitoring derived from site-specific information. The groundwater monitoring plan shall be signed and sealed by the professional geologist or professional engineer who prepared or approved it. The plan shall show the locations of the proposed background and downgradient monitoring wells, construction details of the monitoring wells, and a water sampling and chemical analysis protocol. The plan shall indicate how to determine background or natural background (where available) quality of the groundwater in the vicinity of the site and any deviations in the quality of the receiving groundwater in the downgradient monitoring wells. EPA and/or the Implementing State Agency will evaluate the adequacy of the plan upon submittal.
(b)The following information is generally required unless otherwise specified by EPA and/or the Implementing State Agency.
(i) Hydrogeological, physical and chemical data for the site, such as:
1. Direction and rate of groundwater flow, background groundwater quality (all field verified), and natural background groundwater quality where available;
2. Porosity, horizontal and vertical permeability for the aquifer(s);
3. The depth to, and lithology of, the first confining bed(s);
4. Vertical permeability, thickness, and extent of any confining beds;
5. Topography, soil information and surface water drainage systems surrounding the site;
6. Fracture trace analysis;
7. Geophysical methods such as ground penetrating radar surveys;
(ii) Waste disposal rate and frequency, chemical composition, method of discharge, pond

volume, spray-field dimension, or other applicable site specific information;
(iii) Toxicity of waste;
(iv) Present and anticipated discharge volume and seepage rate to the receiving groundwater; and physical, chemical, and microbiological characteristics of the leachate;
(v) Disposal system water balance;
(vi) Present and reasonably expected future pollution sources located within one mile radius of the site;
(vii) Inventory depth, construction details, and cones of depression of water supply wells or wellfields and monitoring wells located within one mile radius of the site or potentially affected by the discharge;
(viii) Site specific economic and feasibility considerations;
(ix) Chronological information on water levels in the monitoring wells and water quality data on water supplies collected from the water supply and monitoring wells;
(x) Type and number of waste disposal/waste storage facilities within the facility;
(xi) Chronological information on surface water flows and water quality upstream and downstream from the site;
(xii) Construction and operation details of waste disposal/waste storage facilities;
(xiii) History of construction and land development in the vicinity of the site.
(3) Monitoring Wells.
(a) On a quarterly basis, or such other frequency specified, the owner/operator shall submit reports to EPA and/or the Implementing State Agency on all monitoring wells indicating the type, number and concentration of discharge constituents or parameters indicated by the report.
(b) The reports must also include:
1. Monitor well location, construction, and the collection and testing of samples; and
2. Groundwater monitoring data displayed in graphic form for analyzing trends in water quality.
(c) Location of Monitoring Wells to Detect Migration of Contaminants. Unless the owner/operator can demonstrate that detection can be obtained by a methodology other than the use of monitoring wells, wells shall be located as follows:
1. One up-gradient well located as close as possible to the site, without being affected by that site's discharge, to determine the background, or natural background quality where available, of the groundwater (background well);
2. One well at the edge of the zone of discharge downgradient from the site (compliance wells);
3. Minimum of three (3) wells downgradient from the site and within the zone of discharge designed to detect the chemical, physical, and microbiological (if applicable) characteristics of the discharge plume (intermediate well); and
4. Such other wells as are dictated by the complexity of the hydrogeology of the site, the magnitude and direction of the plume or the likelihood of threat to the public health or the environment, to ensure adequate and reliable monitoring data in generally accepted engineering or hydrogeological practice.
(d) When requested by EPA and/or the Implementing State Agency, the owner/operator shall inform EPA and/or the Implementing State Agency of the next sampling schedule so that a representative of either Agency may be present.

D. Zone of Discharge-Corrective Action

(1) Whether or not a facility is operating under a currently valid EPA permit, State permit, EPA-issued Order and/or State-issued Order, the owner/operator shall take corrective action if EPA and/or the Implementing State Agency determines that:

(a) The plume is detected at, near, or beyond the zone of discharge, or

(b) The plume is likely in the foreseeable future to threaten to impair the designated use of an underground source of drinking water or surface water immediately affected by the groundwater, or

(c) Within the zone of discharge a statistically significant increase in contaminant concentration (including corrosivity) in groundwater is discovered that EPA or the State determines may present a potential or actual hazard to human health and/or the environment.

(2) The owner/operator shall take appropriate action, as required by the EPA and/or the Implementing State Agency, to address any impacts presented by the plume or significant increase in contaminant concentration in the groundwater, including, but not limited to, increasing the degree of treatment prior to discharge, containing the contaminant(s) that caused the violation of water quality standards or otherwise correcting the violation of water quality standards of the State where the facility is located or as otherwise approved by EPA and the Implementing State Agency.

(3) If monitoring/sampling results indicate that contamination is detected at, near, or beyond the zone of discharge as described in D(1), the owner/operator shall submit a proposed plan, within thirty (30) days of detection, to EPA and/or the Implementing State Agency that addresses, at a minimum, the following factors:

(a) Direction of the plume movement in relationship to existing and potential sources of drinking water;

(b) Plume size both in the areal and vertical dimensions;

(c) Rate of migration of the plume;

(d) Level of toxicity of the plume;

(e) Rate at which the plume is being diluted;

(f) A detailed description of the activities that will need to be taken to prevent further migration of the plume and to clean-up the contamination or release.

(g) The costs of corrective action;

(h) A comparison of the clean up or other corrective actions costs with the benefits to the public of such corrective action; and

(i) Current and projected future use of adjacent ground and surface waters affected by the plume.

The owner/operator will provide within thirty (30) days, if requested by EPA and/or the Implementing State Agency, any additional information or data needed so as to aid EPA and /or the Implementing State Agency in making its corrective action assessment.

ATTACHMENT C: PHOSPHOGYPSUM STACK SYSTEM CONSTRUCTION AND OPERATIONAL REQUIREMENTS

I. Phosphogypsum Stack System General Criteria

Phosphogypsum Stack Systems. The purpose of this document is to ensure the physical integrity of impoundments used to manage phosphogypsum and process water generated during the course of production of phosphate fertilizer. This document establishes minimum design, construction, operation, inspection, and maintenance requirements to ensure that phosphogypsum stack system impoundments meet critical safety standards and do not cause unplanned releases to the environment. Owners/Operators of phosphogypsum stack systems are required to maintain inspection logs and to develop and maintain plans to respond to emergency conditions.

(1) Performance standards. A phosphogypsum stack system shall be designed, constructed, operated, maintained, closed, and monitored throughout its design period to control the movement of waste and waste constituents into the environment so that groundwater and surface water quality standards and criteria will not be violated outside the applicable zone of discharge specified for the system.

(2) Operation plan. The owner/operator of a phosphogypsum stack system shall have an operation plan that provides written, detailed instructions for the daily operation of the system. The operation plan shall be kept at or near the facility and shall be accessible to operators of the system.

(3) Groundwater monitoring. The facility shall perform groundwater monitoring and reporting as prescribed in the Groundwater and Zone of Discharge Requirements (Attachment B).

(4) Surface water management. Phosphogypsum stack systems shall be operated to provide for the collection, control, recycling and treatment of surface runoff from the site as necessary to meet the applicable water quality standards of the State where the facility is located.

(5) Leachate management. So long as the release of leachate would not result in non-compliance with water quality standards or zone of discharge, any leachate emanating from a phosphogypsum stack system shall be collected and routed to a cooling pond, surge pond, or decant pond, to be contained within the system or recirculated to the production plant or if discharged, treated if required to meet the applicable water quality standards of the State where the facility is located.

(6) Interim Stack System Management Plan ("ISSMP"). The owner/operator of each phosphogypsum stack system shall compile and submit an ISSMP for approval to the Implementing State Agency and/or EPA. The approved ISSMP and subsequent revisions shall be made available to the Implementing State Agency and/or EPA upon request. The ISSMP shall provide instructions for two (2) years of operation and management of the specific phosphogypsum stack system should a shutdown occur such that no phosphoric acid will be produced at the facility for up to a two-(2)-year period. By July 1 of each following year, the owner/operator shall revise the ISSMP, taking into account the process wastewater levels and the existing stack system configuration as of June 1 of that year. The ISSMP shall be designed to protect human health and the environment and shall include:

(a) A detailed description of process wastewater management procedures that will be implemented to insure that the stack system operates in accordance with all applicable requirements. The procedures shall address the actual process wastewater levels present at the

facility as of June 1 of each year and shall assume that the facility will receive average annual rainfall during the two-(2)-year planning period;
(b) A detailed description of the procedures to be followed for the daily operation and routine maintenance of the stack system (including required environmental sampling and analyses) as well as for any maintenance or repairs recommended following annual inspections of the system;
(c) Identification of all machinery, equipment and materials necessary to implement the plan as well as actions that would be taken to assure the availability of these items during the planning period;
(d) Identification of the sources of power or fuel necessary to implement the plan as well as the actions that would be taken to assure the availability of power or fuel during the planning period; and
(e) Identification of the personnel necessary to implement the plan, including direct labor required for paragraphs (a) and (b) above, and any necessary direct supervisory personnel, as well as the actions that would be taken to assure their availability and any required training of these personnel.
(7) If the owner/operator applies for temporary deactivation of a phosphogypsum stack system in accordance with Attachment D.III (Temporary Deactivation of Phosphogypsum Stack System(s)) of this Consent Decree, the ISSMP must be submitted to the Implementing State Agency and/or EPA for approval as part of the request in accordance with Attachment D.III(2)(d).
(8) Upon approval of the temporary deactivation and the ISSMP by the Implementing State Agency and/or EPA, the owner/operator must implement the procedures set forth in the approved ISSMP immediately upon phosphogypsum stack system deactivation.
(9) No ISSMP is required for phosphogypsum stack systems that are closed, that are undergoing closure, or for which an application for a closure permit has been submitted, where permitting requirements apply.

II. Assessment of Existing Perimeter Dikes

(1) Within six (6) months of the signing of the Consent Decree, the owner/operator of a phosphogypsum stack system shall submit to the Implementing State Agency and/or EPA documentation that existing perimeter dikes have either been:
(a) Assessed and certified by a third-party engineer post January 2005, to have been constructed or modified to address freeboard, dike seepage, factors of safety, and slope stability, in accordance with a permit issued by the Implementing State Agency in response to an application, where permitting requirements apply; or
(b) Engineered or retrofitted such that they are assessed and certified by a third-party engineer to be in compliance with the following:
(i) Cross section design
(A) Both inside and outside slopes shall be no steeper than two horizontal to one vertical.
(B) The design shall provide positive seepage control features such as:
1. Cut-off trench in natural soil foundations
2. Clay core or other impermeable core material
3. Blanket drain
4. Chimney drain and toe drain
5. Geomembrane or composite liner on inside slope

(C) The top of the dike shall include a roadway that will permit wheeled vehicles. The design shall also incorporate an all-weather roadway near the downstream toe that will permit wheeled vehicle traffic around the perimeter of the dike for purposes of inspection of the slope, toe and natural ground beyond the toe, as well as maintenance.
(ii) Freeboard provisions
(A) The design freeboard of an above-grade perimeter dike shall not be less than five (5) feet unless a design freeboard of less than five (5) feet is justified based on results of seepage and stability analyses and wave run-up analyses. However, in no event shall the design freeboard of an above-grade perimeter dike be less than three (3) feet.
(iii) Design factors of safety and slope stability
(A) Stability analysis. A seepage or flow net analysis shall be made, when applicable, for use in the stability analysis. The stability analysis shall consider the minimum fluid level as well as the fluid level at the design freeboard on the upstream slope of the dike, and possible fluctuations of the tail water level.
(B) Design safety factors – The designing engineer shall use the following minimum safety factors: 1.75 for horizontal shear at base of fill; 1.5 for horizontal shear within the fill due to seepage through the outer face; 1.5 for horizontal shear or circular arc failure through the foundation soils; 1.5 for protection against shear failure of any circular arc in either inside or outside slope. It is imperative that water pressure distribution be included in the analyses; or
(c) Evaluated by a third-party engineer who certifies the safety and stability of the dikes in accordance with (1)(b)(iii) of this section.
(2) Within nine (9) months of a final determination that a dike's safety and stability cannot be certified in accordance with (1)(b)(iii) of this section, the owner/operator shall submit to the Implementing State Agency and/or EPA for approval, a proposal to upgrade or retrofit the dike to comply with the requirements of II.(1)(b) of this Attachment, or to take the dike out of service as soon as practicable but no later than ninety (90) days after a final determination that the dike's safety and stability cannot be certified and that the dike cannot or will not be upgraded or retrofitted to comply with the requirements of II(1)(b).
(3) The owner/operator of any dike in need of upgrade, retrofit, or de-servicing, shall implement, within six (6) months of the Implementing State Agency's and/or EPA's approval of the proposal submitted in accordance with (2), above, interim measures recommended by a third-party engineer that will ensure the safety and stability of the dike until such time as it is upgraded or retrofitted or taken out of service. These interim measures must be submitted to the Implementing State Agency and/or EPA for approval.
(4) At the time of the assessment performed pursuant to (1)(b) or (1)(c) of this section, a third-party engineer shall also determine whether the existing system is equipped with process water conveyance/containment capabilities that conform to the following design requirements:
(a) Conveyance ditches, pumps, pipes, and hydraulic structures located within a phosphogypsum stack system shall have adequate capacity to circulate the process water stream(s), if applicable, and to contain or transfer runoff on the process watershed upstream of the water control structures resulting from a storm event generating a 100-year rainfall in twenty-four (24) hours while maintaining at the same time the design freeboard of the perimeter dike. If provisions are made to contain some or the entire storm surge resulting from such event within the phosphogypsum stack system upstream from the conveyance system or water control structures, then the transfer capacity of the ditches, pumps, pipes, and related structures may be reduced accordingly.

(5) Within one year of a final determination that a system does not meet the design criteria of (4)(a) of this Section, the owner/operator shall submit to the Implementing State Agency and/or EPA for approval, a proposal to modify the system to attain compliance. Such modification shall be completed as soon as practicable, but not later than fourteen (14) months after the owner/operator receives all necessary governmental permits or other prior approvals, whichever shall later occur.

III. Construction of New Perimeter Dikes

(1) Design.

(a) Site investigation. The general area desired for construction of a perimeter dike shall be carefully inspected by a design engineer prior to selection of the exact location for the dike. Areas of uneven natural subsidence, sinkholes, pockets of organic matter, or other unstable soils shall be avoided, unless special provisions are made for their mitigation.

(b) Soil testing. A program of soil sampling and testing adequate to determine the characteristics of the foundation material that will support the proposed dike and of the material to be used for construction of the dike shall be performed. Sampling shall include borings, test pits, or in-place samples from the associated exposed excavation face. All borings and/or test pit explorations shall be logged using a recognized engineering soil classification system, with location and depths of all samples recorded on the log. Tests to determine in-place densities, shear-strength, and permeabilities of the foundation and embankment soils shall be performed. Tests on foundation soils shall be performed either on undisturbed samples or on the in-place soil. Tests on embankment soils shall be performed on samples remolded to the densities and moisture contents to be used in construction.

(c) Cross section design.

(i) The crest on the top of the dike shall be graded toward the inside or the outside slope. If the dike exceeds ten (10) feet in height and crest runoff is directed toward the outside slope, runoff controls shall be used to protect the outside slope against erosion. Both inside and outside slopes shall be no steeper than two and one-half (2.5) horizontal to one (1.0) vertical. Seepage control shall be provided by means of a liner constructed in accordance with Section VI of this Attachment, placed on the inside slope of the dike.

(d) Freeboard provisions

(i) The design freeboard of an above-grade perimeter dike shall not be less than five (5) feet unless a design freeboard of less than five (5) feet is justified based on results of seepage and stability analyses and wave run-up analyses. However, in no event shall the design freeboard of an above-grade perimeter dike be less than three (3) feet.

(e) Design factors of safety and slope stability of perimeter dikes.

(i) Stability analysis. A seepage or flow net analysis shall be made, when applicable, for use in the stability analysis. The stability analysis shall consider the minimum fluid level as well as the fluid level at the design freeboard on the upstream slope of the dike, and possible fluctuations of the tail water level.

(ii) Design safety factors – The designing engineer shall use the following minimum safety factors for perimeter dikes: 1.75 for horizontal shear at base of fill; 1.5 for horizontal shear within the fill due to seepage through the outer face; 1.5 for horizontal shear or circular arc failure through the foundation soils; 1.5 for protection against shear failure of any circular arc in

either inside or outside slope. It is imperative that water pressure distribution be included in the analyses.
(2) Site preparation. Ground which will become the foundation of dikes shall be stripped of all vegetation and organic detritus or residue, including muck, mud, slimes, or other material which would flow or undergo excessive consolidation under heavy loading. All earth foundation surfaces on which fill is to be placed shall be scarified or moistened and compacted prior to spreading of first course of fill material, and the dike base shall be well drained during construction, except when placing hydraulic fill.
(3) Material to be used. Material used for dikes shall be free of extraneous matter that could affect the compactability, density, permeability, or shear strength of the finished dike (e.g. stumps, vegetation, trees, palmettos, debris). Tailings may be used for dike fill when such a completed dike will meet the seepage and structural requirements above.
(4) Process water control design. Conveyance ditches, pumps, pipes, and hydraulic structures located within a phosphogypsum stack system shall have adequate capacity to circulate the process water stream(s), if applicable, and to contain or transfer runoff on the process watershed upstream of the water control structures resulting from a storm event generating a 100-year rainfall in twenty-four (24) hours, while maintaining at the same time the design freeboard of the perimeter dike. If provisions are made to contain all or part of the storm surge resulting from such event within the phosphogypsum stack system upstream from the conveyance system or water control structures, then the transfer capacity of the ditches, pumps, pipes, and related structures may be reduced accordingly.
(5) Methods of construction.
(a) Each new dike shall be constructed to meet or exceed the minimum safety requirements of this section and the specifications and design for that dike. Appropriate earthmoving equipment shall be used to place materials in dike construction. The soil shall be compacted and density tests shall be performed to ensure that the designed densities are obtained. A representative of the third-party engineer shall be present on the site during construction of the dike and liner, and during construction and installation of spillways and penetrations through the dike or liner. The Implementing State Agency and/or EPA shall be advised of the date on which construction of a new dike will begin.
(b) Areas around any water level control structure pipe, any other conduit, or any surface of discontinuity between materials within the mass of the dike shall be carefully inspected to avoid potential concentration of seepages and to ensure that soils under and around a culvert are uniformly compacted and are in continuous contact with the external culvert surface. All penetrations through the liner on the upstream slope of the dike shall be made using water tight joints or connections and shall be capable of maintaining their integrity under anticipated in-use conditions. All pipes and joints in pipes or conduits extending through a dike shall be made leak-proof and shall be constructed of materials suitable for the fluids carried and the load imposed. In order to avoid leaks associated with differential settlement, conduits through dikes shall not be rigidly supported by piles or piers. Backfill around conduits shall be of a density that is equal to or greater than those of the surrounding embankment. Particular attention shall be devoted to the lower third of the conduit.

IV. Operational Requirements for Perimeter Dikes

(1) All perimeter dikes shall be operated so as to maintain the design freeboard, unless temporary incursions into the freeboard are demonstrated to be safe in accordance with IV(2), below. Each perimeter dike shall be inspected as prescribed in this document.

(a)Vegetative cover adequate to inhibit wind and water erosion shall be established and maintained on the outside slope of the dike. Such vegetation shall be maintained sufficiently low to permit visual inspection of the soil surfaces and critical areas; or

(b) In areas where historically evapotranspiration exceeds precipitation, an alternative method may be used to inhibit wind and water erosion on the outside slope of the dike. The alternative method must be certified by a third party engineer as providing erosion protection equivalent to that of a vegetative cover.

(2) Temporary Non-emergency Use of Design Freeboard.

(a) To assure system safety and integrity and to reduce the probability of discharge, a facility seeking to temporarily utilize the design freeboard of a perimeter must maintain the safety and stability of the dike. If the facility decides to seek temporary use of the design freeboard, it must demonstrate that safety and stability is maintained using the following mechanisms:

1. An inspection of the facility;
2. Dike design and construction information;
3. Results of seepage and stability analyses (including monitoring of seepage pressures within the dike if such monitoring is deemed necessary); and
4. Wind surge and wave run-up analyses.

(b) A report by a third-party engineer shall specify conditions under which such use may be authorized, such as:

1. Acceptable wind speeds in forecast;
2. Acceptable rainfall levels in the forecast;
3. Increased inspection frequencies; and
4. Weekly monitoring of piezometric levels within the mass of the dike, if and as needed.

(c) This report shall be made available to the Implementing State Agency and/or EPA upon request.

(3) A completed new perimeter dike shall be thoroughly inspected prior to the placement of process water behind it. Spillways and water level control structures shall be certified by a design third-party engineer as meeting all specifications of the design, and degree of compaction of the fill shall also be certified. Legible photographs, either aerial or ground, may be used to document this initial inspection, but shall not in themselves constitute certification. A complete file describing the items inspected and their condition shall be maintained by the facility.

(4) All perimeter dikes and water control structures shall be inspected weekly. Water level elevations and freeboard compliance shall be determined at least every 12 hours. Piezometric water levels within the dike shall be measured quarterly if piezometers have been installed. The inspections shall be made by a qualified company employee or contractor employed or retained by the owner/operator of the dike. The findings of each inspection shall be recorded in a log.

(5) Each perimeter dike shall be inspected annually by a third-party engineer with experience in the field of construction and operation of perimeter dikes. An annual report pertaining to such an inspection shall be prepared and shall include recommendations and corrective measures taken. The report shall be retained by the owner/operator. The annual inspections shall include:

(a) Analyses of seepage or other significant items shown on all aerial photographs of the dike that have been taken for any reason since the date of the last annual inspection.

(b) Condition of soil surfaces and top and slopes of the dike and in areas within fifty feet (50') downstream from the outside toe.
(c) Review of all periodic inspection reports to evaluate the effectiveness of maintenance done to the dike during the period since the last annual inspection.
(d) Examination and interpretation of data obtained from any instrumentation installed in the mass of the dike.
(e) Condition of spillway and water level control structures, including all conduits exiting the dike.
(6) The following items shall be considered as indicating potential trouble areas that must be documented and closely checked on subsequent inspections and repaired as necessary:
(a) Abnormal dead vegetation or damp areas on the downstream slope, at the toe of slope, or downstream from the toe of slope that could be indicative of pond water seepage.
(b) Surface erosion, gullying or wave erosion on the upstream slope of the dike.
(c) Surface erosion or gullying on the downstream slope of the dike.
(d) Erosion below any conduit through the dike near or at the toe of slope of the dike.

V. New Phosphogypsum Stack Systems or Lateral Expansions of Existing Phosphogypsum Stack Systems

(1) Any lateral expansion is considered a new phosphogypsum stack and must be constructed in accordance with the applicable requirements of Section VI of this Attachment.
(2) Except for incidental deposits of phosphogypsum entrained in the process wastewater, placement of phosphogypsum outside the phosphogypsum stack footprint is considered a lateral expansion of the phosphogypsum stack system. For the purpose of this section, the footprint is defined as the outside edge of the starter dikes used to contain the placement of phosphogypsum in the stack.
(3) Storage or containment of process wastewater outside the footprint of the phosphogypsum stack, cooling ponds, surge ponds, or perimeter drainage conveyances is considered a lateral expansion of the phosphogypsum stack system. For the purpose of this paragraph, the footprint is defined as the outside edge of the dams, dikes or ditches used to store or contain process wastewater.
(4) A completed new phosphogypsum stack system, including the starter dike, shall be thoroughly inspected prior to the deposition of process water in it. The liner, spillways and water level control structures shall be certified by a design third-party engineer as meeting all specifications of the design, and the degree of compaction of the fill shall also be certified. Legible photographs, either aerial or ground, may be used to document this initial inspection, but shall not in themselves constitute certification. A complete file describing the items inspected and their condition shall be made available to the Implementing State Agency and/or EPA upon request.
(5) An "Emergency Diversion Impoundment" will not be considered a lateral expansion under this Section V unless the Impoundment stores process wastewater for more than 90 consecutive days or 120 days cumulatively per year.

Exceptions
No person shall dispose of, or store prior to disposal, any phosphogypsum except within a permitted phosphogypsum stack system, in States where permitting requirements apply. This provision shall not be construed to prohibit any use or reuse of phosphogypsum not otherwise prohibited by law.

VI. Phosphogypsum Stack System Construction Requirements
(1) Minimum design standards. The requirements of this document are the minimum standards for constructing a phosphogypsum stack system.
(2) Run-On Control. Install and maintain a run-on control system capable of preventing flow during peak discharge from at least a twenty-five (25)-year storm.
(3) Run-Off Control. Install and maintain a run-off management system to collect and control at least the water volume resulting from a twenty-four (24)-hour, twenty-five (25)-year storm.
(4) Liner and leachate control systems. Phosphogypsum stack systems shall be constructed with composite liners and leachate control systems. Cooling ponds shall be constructed with composite liners.
(a) Liners shall be:
1. Constructed of materials that have appropriate physical, chemical, and mechanical properties to prevent failure due to physical contact with the phosphogypsum, process wastewater or leachate to which they are exposed, climatic conditions, the stress of installation, and other applied stresses and hydraulic pressures that are anticipated during the operational and closure period of the system. The supplier of materials for the liner components shall provide test information accepted by the engineer of record, that supports the capabilities of the materials to meet these needs;
2. Installed upon a base and in a geologic setting capable of providing structural support to prevent overstressing of the liner due to settlements and applied stresses;
3. Constructed so that the bottom of the liner system is not subject to fluctuations of the groundwater so as to adversely impact the integrity of the liner system;
4. Designed to resist hydrostatic uplift if the liner is located below the seasonal high groundwater table; and
5. Installed to cover all surrounding earth that could come into contact with the phosphogypsum, process wastewater or leachate.
(b) Liner design standards.
1. The synthetic component of composite liners shall consist of a 60-mil or thicker geomembrane liner with a maximum water vapor transmission rate of 0.24 grams per square meter per day as determined by the American Society for Testing and Materials (ASTM) Method E96-80, procedure BW, "Test Methods for Water Vapor Transmission of Materials," Sections 04.06, 08.03, and 15.09, which document is incorporated herein by reference.
2. The non-synthetic component of the composite liner shall consist of either of the following:
a. A layer of compacted soil at least eighteen (18) inches thick, placed below the geomembrane, with a maximum hydraulic conductivity of 1×10^{-7} centimeters per second, constructed in six-inch lifts. The geomembrane liner component shall be installed in direct and uniform contact with the compacted soil component to retard leachate migration if a leak in the flexible membrane liner should occur. Soil materials used within the top twelve (12) inches of the

compacted soil layer immediately below the synthetic liner shall be free from rigid or sharp objects that could damage or otherwise affect the integrity of the liner.
b. A layer of mechanically compacted phosphogypsum at least twenty-four (24) inches thick, placed above the geomembrane, with a maximum hydraulic conductivity of 1×10^{-4} centimeters per second. No rigid or sharp objects that could damage the liner may be placed within this compacted layer of phosphogypsum;
3. The non-synthetic component of a composite liner may not be required where it can be demonstrated to the Implementing State Agency and/or EPA that a synthetic liner alone or in contact with sedimented gypsum placed in slurry form will be equivalent or superior to a composite liner designed and installed in accordance with these requirements.
(c) Any proposed composite liner design shall be accompanied by a detailed construction quality assurance plan, describing in detail how the design will be properly constructed in the field. For composite liners using compacted phosphogypsum, the quality assurance plan shall place particular emphasis on protection of the geomembrane during placement and compaction of the phosphogypsum, and on prompt placement of phosphogypsum on the geomembrane. The construction quality assurance plan must be submitted to the Implementing State Agency and/or EPA for approval.
(d) The following liner design standards must be met:
1. Standards for geosynthetic components.
a. Geomembranes shall have factory and field seams whose shear strengths during testing are at least ninety percent (90%) of the specified minimum yield strength for that lining material, and the failure shall occur in the lining material outside the seam area. All field seams must also be visually inspected and pressure or vacuum tested for seam continuity using suitable non-destructive techniques.
b. No large or rigid objects may be placed in the phosphogypsum stack system in a manner that may damage the liner or leachate collection system and, with the exception of liners installed at the toe of the phosphogypsum stack, in no case shall such objects be placed within ten (10) vertical feet of the liner or leachate collection system, unless approved by the Implementing State Agency and EPA.
c. High density polyethylene (HDPE) geomembranes shall meet the specification contained in method GRI GM13.
d. Polyvinyl chloride (PVC) geomembranes shall meet the specification contained in method PGI 1197.
e. Interface shear strength of the actual components that will be used in the liner system shall be tested with method ASTM D5321 or an equivalent test method.
f. The transmissivity of geonets shall be tested with method ASTM D4716, or an equivalent test method, to demonstrate that the design transmissivity will be maintained for the design period of the facility. The testing for the geonet in the liner system shall be conducted using actual boundary materials intended for the geonet at the maximum design normal load for the phosphogypsum stack, and at the design load expected from one lift of phosphogypsum. At the maximum design normal load, testing shall be conducted for a minimum period of 100 hours unless data equivalent to the 100-hour period is provided in which case the test shall be conducted for a minimum period of one hour. In the case of the design load from one lift of phosphogypsum, the minimum period shall be one hour. For geonets used in final covers, only one test shall be conducted for a minimum period of one hour using the expected maximum

design normal load from the cover soils and the actual boundary materials intended for the geonet.
h. In addition, the synthetic liner material shall be subjected to continuous spark testing at the production facility prior to delivery to the site for installation. If the continuous spark testing detects any defect, the tested material must be rejected and not delivered to the site;
(e) Standards for soil components.
1. Soil components of liner systems shall be constructed to preclude, to the greatest extent practicable, lenses, cracks, channels, root holes, pipes, or other structural inconsistencies that can increase the saturated hydraulic conductivity of the soil component. The design shall illustrate and describe those instances in which over-excavation of permeable areas and backfilling may be necessary to seal the permeable area. The soil component shall be placed and compacted in layers to achieve the design performance.
2. The permeability of soil liner components shall not be increased above the values specified for the component, as a result of contact with leachate from the phosphogypsum stack system. Compatibility of the soil component and leachate shall be demonstrated by testing the soil component with actual or simulated leachate in accordance with EPA Test Method 9100 or an equivalent test method.
3. The soil component of the liner system may consist of in-situ soils or compacted imported soils, provided they meet the specifications for soil liners.
4. Specifications for the soil component of the liner system shall contain at a minimum:
a. Allowable range of particle size distribution and Atterberg limits, to include shrinkage limit;
b. Placement moisture criteria and dry density criteria;
c. Maximum laboratory-determined saturated hydraulic conductivity, using simulated leachate as the saturating and testing liquid;
d. Minimum thickness of the soil liner;
e. Lift thickness;
f. Surface preparation (scarification) for tying lifts together; and
g. Type and percentage of clay mineral within the soil component.
5. The soil liner shall be placed using construction equipment and procedures that achieve the required saturated hydraulic conductivity and thickness. A field test section shall be constructed using the proposed construction equipment and tested to document that the desired saturated hydraulic conductivity and thickness is achieved in the field.
(f) Liner systems construction quality assurance.
1. Liner systems shall have a construction quality assurance plan to provide personnel with adequate information to achieve continuous compliance with the liner construction requirements. The plan shall include or refer to specifications and construction methods that use established engineering practices to construct a liner system and provide for quality control testing procedures and sampling frequencies. Sampling and testing shall be conducted in the field by trained personnel during construction and after construction completion. Such personnel will be under the direction of the construction quality assurance professional engineer, to assure the liner system will comply with the standards. The construction quality assurance professional engineer or his designee shall be on-site at all times during construction to monitor construction activities. Construction activities include the time during which the protective layer is installed over the geomembrane, to ensure that the placement techniques do not cause damage to the liner system materials.

2. Liner systems shall be installed in accordance with the construction quality assurance plan. Plans that comply with EPA Document EPA/600/R-93/182 or updates thereof shall be presumed to be in compliance with this section. The following minimum specific elements shall be included in the plan:
a. Responsibility and authority of all organizations and key personnel involved in permitting, designing, constructing, and providing construction quality assurance of the phosphogypsum stack system shall be described fully;
b. Minimum qualifications of the construction assurance quality professional engineer and supporting personnel shall be in the plan to demonstrate that they possess the training and experience necessary to fulfill their identified responsibilities;
c. Procedures and tests that will be used to monitor the installation of the liner system components shall be described in detail;
d. The sampling activities, sample size, sample locations, frequency of testing, acceptance and rejection criteria, and plans for implementing corrective measures that may be necessary shall be described; and
e. Reporting requirements for construction quality assurance activities shall be described, including daily summary reports, observation data sheets, problem identification and corrective measures, and final documentation. All such documents shall be included in a final report.
3. A laboratory experienced in the testing of geosynthetics, independent of the liner manufacturer and installer, shall perform the required testing that must include, at a minimum, conformance testing for all geosynthetics and geocomposites, and testing of seam shear and peel strength for geomembranes.
4. The professional engineer in charge of construction quality assurance shall provide a signed, sealed final report and record drawings stating that the liner system has been installed in substantial conformance with the plans and specifications for the liner system and identifying any significant deviations.
(g) Soil Liner construction quality assurance.
In addition to the requirements of (f) above, the following requirements apply to construction of the soil component of liner systems. All required testing and analysis shall be performed in accordance with generally accepted engineering procedures, such as those promulgated by the ASTM. Parenthetic references to ASTM methods are intended as guidance only.
1. A construction quality assurance/quality control plan shall be prepared for each soil liner project to outline project specifications and construction requirements. The plan shall specify performance criteria for the soil liner, and provide quality control testing procedures and minimum sampling frequencies. In addition, the plan shall define the responsibilities of the parties that will be involved in soil liner construction, and shall present minimum qualifications of each party to fulfill their identified responsibilities.
2. Field and laboratory testing during liner construction shall be conducted by a qualified soil testing laboratory representing the owner/operator. A qualified field technician representing the owner/operator shall provide full time, on-site inspection during liner construction. The field technician shall work under the supervision of a professional engineer with experience in soil liner construction.
3. Prior to soil liner installation, an appropriate borrow source shall be located. Suitability of the liner construction materials from that source shall be determined in accordance with the following:

(a). If demonstrated field experience is available from at least three (3) prior successful projects of five (5) or more acres each to document that a given borrow source can meet the requirements of the project specifications, then extensive laboratory testing of the borrow source will not be required. However, the source of material shall be geologically similar to and the methods of excavating and stockpiling the material shall be consistent with those used on the prior projects. Furthermore, a minimum of three representative samples from the appropriate thickness of the in-situ stratum or from stockpiles of the borrow material proposed for liner construction shall be submitted to an independent soil testing laboratory to document through index testing that the proposed material is consistent with the material used on prior successful projects. At a minimum, index testing shall consist of percent fines, Atterberg limits and moisture content determinations.

(b). If demonstrated field experience as defined above is not available or cannot be documented, then the following requirements shall be met.

1. A field exploration and laboratory testing program shall be conducted by an independent soil testing laboratory to document the horizontal and vertical extent and the homogeneity of the soil strata proposed for use as liner material. A sufficient number of index tests from each potential borrow stratum shall be performed to quantify the variability of the borrow materials and to document that the proposed borrow material complies with specifications. At a minimum, the index tests shall consist of percent fines, Atterberg limits and moisture content determinations.

2. Sufficient laboratory hydraulic conductivity tests shall be conducted on samples representative of the range invariability of the proposed borrow source (ASTM D-5084). For each such sample, test specimens shall be prepared and tested to cover the range of molding conditions (moisture content and dry density) required by project specifications. The hydraulic conductivity tests shall be conducted in triaxial type permeameters. The test specimens shall be consolidated under an isotropic consolidation stress no greater than ten (10) pounds per square inch and permeated with water under an adequate backpressure to achieve saturation of the test specimens. The inflow to and outflow from the specimens shall be monitored with time and the hydraulic conductivity calculated for each recorded flow increment. The test shall continue until steady state flow is achieved and relatively constant values of hydraulic conductivity are measured (ASTM D-5084). The borrow source will only be considered suitable if the hydraulic conductivity of the material, as documented on laboratory test specimens, can be shown to meet the requirements of the project specifications at the ninety-eight percent (98%) confidence level.

3. Prior to full-scale liner installation, a field test section or test strip shall be constructed at the site above a prepared sub-base. The test strip shall be considered acceptable if the measured hydraulic conductivities of undisturbed samples from the test strip meet the requirements of the project specifications at the ninety-eight percent (98%) confidence level. If the test section fails to achieve the desired results, additional test sections shall be constructed in accordance with the following requirements:

a. The test section shall be of sufficient size such that full-scale liner installation procedures can be duplicated within the test section;

b. The test section shall be constructed using the same equipment for spreading, kneading and compaction and the same construction procedures (*e.g.*, number of passes, moisture addition and homogenization, if needed) that are anticipated for use during full-scale liner installation;

4. At a minimum, the liner test section shall be subject to the following field and laboratory testing requirements:

a. A minimum of five (5) random samples of the liner construction material delivered to the site during test section installation shall be tested for moisture content (ASTM D-2216), percent fines (ASTM D-1140) and Atterberg limits (ASTM D-4318);
b. At least five (5) field density and moisture determinations shall be performed on each lift of the compacted liner test section;
c. Upon completion of the test section lift, the thickness of the lift shall be measured at a minimum of five (5) random locations to check for thickness adequacy; and
d. A minimum of five (5) Shelby tube or drive cylinder (ASTM D-2937) samples shall be obtained from each lift of the test section for laboratory hydraulic conductivity testing. Laboratory hydraulic conductivity testing shall be conducted in triaxial type permeameters (ASTM D-5084). The test specimens shall be consolidated under an isotropic consolidation stress no greater than ten (10) pounds per square inch and permeated with water under an adequate backpressure to achieve saturation of the test specimens. The inflow to and outflow from the specimens shall be monitored with time and the hydraulic conductivity calculated for each recorded low increment. The test shall continue until steady state flow is achieved and relatively constant values of hydraulic conductivity are measured (ASTM D-5084). Alternatively, a sealed double-ring infiltration field test (ASTM D3385) may be used as an alternative to taking drive or Shelby tube samples.
5. Full scale liner installation may begin only after completion of a successful liner test section. During liner construction, documentation of quality control testing shall be maintained and made available to the Implementing State Agency and/or EPA upon request, to document that the installed liner conforms to approved project specifications. The testing frequencies for quality control testing are specified below; however, during construction of the first five acres of the liner, these frequencies shall be doubled. Samples shall be obtained from random locations selected by an independent soil testing laboratory. If there are indications of a change in material properties, product quality or construction procedures during liner construction, additional tests shall be performed to determine compliance.
6. Field testing during liner installation. The following field tests shall be performed:
a. Prior to the laying of the liner materials, the liner sub-base shall be compacted to the specified density. Density tests shall be conducted at a minimum rate of two tests per acre;
b. A minimum of two (2) moisture content and field density determinations shall be conducted per acre per lift of the compacted liner. The degree of compaction shall be checked using the one-point field Proctor test or other appropriate test procedures; and
c. A minimum of four (4) thickness measurements shall be conducted per acre per lift of the compacted liner.
7. Laboratory testing during liner installation. The following laboratory tests shall be performed:
a. Percent fines (ASTM D-1140) of the liner construction material shall be determined at a minimum frequency of two (2) tests per ace per lift of installed liner;
b. Atterberg Limits determinations shall be performed on one sample per acre per lift of installed liner; and
c. Hydraulic conductivity testing of Shelby tube or drive cylinder (ASTM D-2937) samples of the compacted liner shall be performed at a minimum frequency of one test per acre per lift. Laboratory hydraulic conductivity tests shall be conducted in triaxial type permeameters (ASTM D-5084). The test specimens shall be consolidated under an isotropic consolidation stress no greater than ten (10) pounds per square inch and permeated with water under an adequate backpressure to achieve saturation of the test specimens. The inflow to and outflow from the

specimens shall be monitored with time and the hydraulic conductivity calculated for each recorded flow increment. The test shall continue until steady state flow is achieved and relatively constant values of hydraulic conductivity are measured.
8. If the test data from a liner section does not meet the requirements of the project specifications, additional random samples may be tested from that liner section. If such additional testing demonstrates that the thickness and hydraulic conductivity meet the requirements of the project specifications at the ninety-five percent (95%) confidence level, that liner section will be considered acceptable. If not, that liner section shall be reworked or reconstructed so that it does meet these requirements.
(h) Leachate control system standards.
1. A perimeter underdrain system designed to stabilize the side slopes of the phosphogypsum stack shall be installed above the geomembrane liner.
2. Perimeter drainage conveyances used in the leachate control system shall either consist of covered or uncovered ditches that are lined continuously with the phosphogypsum stack liner, or of chemically compatible leachate collection pipes. Covered ditches shall have maintenance manholes installed at appropriate intervals. Piped systems shall have manholes or appropriate cleanout structures at appropriate intervals unless the engineer of record certifies and identifies areas where manholes or cleanout structures in piped systems are not feasible.
3. All toe drain or leachate collection systems must be constructed within the lined system.
(i) Liquid containment and conveyance systems.
1. Composite liners shall be used on all liquid containments and conveyances associated with phosphogypsum transport, cooling water, and return of process wastewater. Exceptions are pumped flow systems contained in pipes or alternative systems that provide an equivalent degree of protection.
2. Pump and piping systems associated with the transport of phosphogypsum or process wastewater and that cross surface waters of the State must be double contained with chemically compatible materials in a manner that assures that all materials under pumped flow are contained within a lined system in the event of a leak or piping system failure.

VII. Requirements for Actively Operated Phosphogypsum Stack Systems
(1) All active stack compartments, including any noted areas containing critical conditions, as defined below in (4), until corrected, shall be inspected daily. Inactive stack compartments, stack slopes, collection ditches, and drain outlets shall be inspected at least weekly and after storms. Flow from drain outlets shall be checked quarterly. The total areal coverage of water on the stack shall be estimated each month and the total water inventory on top of the stack shall be estimated annually. The required inspections and estimates shall be carried out by a qualified company employee or contractor employed or retained by the owner/operator of the phosphogypsum stack. The results of the required inspections and estimates shall be recorded in a log that shall be maintained by the owner/operator of the phosphogypsum stack.
(2) Where a leak detection system exists, the amount of liquid removed from any such system must be recorded weekly.
(3) Each phosphogypsum stack shall be inspected within one year of the date of entry of the Consent Decree and annually thereafter by a third-party engineer with experience in the field of construction and operation of phosphogypsum stacks at the same time that the annual inspection of the associated perimeter dike occurs. This annual inspection shall be recorded in a report and

shall include an updated aerial photograph and state the area of the top of the stack and the current height and elevation of the stack. The annual inspection report shall include recommendations and corrective measures taken. If corrective measures are not completed by the time of annual submittal, then follow up inspections shall be conducted by the third-party engineer on a quarterly basis with quarterly project reports submitted until completion of all corrective measures. One copy of the annual inspection report shall be submitted to the Implementing State Agency and/or EPA.

(4) Any of the following items shall be considered as indicating a critical condition that requires immediate investigation and may require emergency maintenance action:

(a) Concentrated seepage (*e.g.*, springs or boils) on the face of a stack slope, at the toe of the slope, or beyond the toe of a slope with active signs of piping at the point of seepage (*e.g.*, a gypsum or soil cone or delta at the point of seepage).

(b) Evidence of slope instability including sloughing, bulging or heaving of the face of the stack or the toe of the slope.

(c) Lateral movement or subsidence of the slope or crest of the stack.

(d) Formation of new non-shrinkage cracks or enlargement of wide cracks in the surface of the slope or crest of the stack.

(e) Observed or suspected damage to the liner system.

(f) Drains discharging turbid water.

(g) Concentrated seepage (*i.e.*, springs or boils) in the vicinity of a decant pipe.

(5) In addition to the indicators set forth in Attachment E (items considered as indicating a critical condition that requires immediate investigation and/or emergency maintenance action), the following items shall be considered as indicating potential trouble areas that must be documented and closely checked on subsequent inspections and repaired as necessary:

(a) Concentrated seepage (*e.g.*, springs or boils) on the face of a stack or at the toe of slope without active signs of piping at the point of seepage.

(b) Previously observed localized sloughing at the toe of slope of the stack.

(c) Previously observed cracks in the surface of the slope or crest of the stack.

(d) Nonflowing drains.

(6) Phosphogypsum Stack System Operation Plans.

The following items shall be included in the operation plan for each phosphogypsum stack system and shall be approved by an engineer experienced in the construction and operation of phosphogypsum stacks:

(a) The method used to raise and operate the stack.

(b) A description of the source and consistency of gypsum used in constructing the gypsum dikes and the method used for shaping and/or mechanically working the gypsum.

(c) The overall average exterior slope for raising the phosphogypsum stack and the maximum design height of the stack.

(d) The procedures used to assure that pipes used to transport phosphogypsum to the phosphogypsum stack systems and to return process water to the phosphate fertilizer production facilities are operated and maintained in a safe manner.

(e) The procedures used to decant process water from the top of the phosphogypsum stack.

(f) The location of pumps, spillways, and staff gauges.

(g) Provisions that address emergency measures to be taken in the event of mechanical failure of a pump or in the event of a power failure for any portion of a phosphogypsum stack system that relies on pumps or power to operate monitoring equipment or to transfer process water and/or

rainfall-runoff from low areas to the main cooling pond. Such emergency provisions may include:

i. Back-up power (*e.g.*, on-site power; diesel generator, etc.) and/or back-up pump that would be activated in the event of electrical or mechanical failure; or

ii. Sufficient surge storage capacity or emergency surge capacity within the conveyance system to contain the process water stream(s), if applicable, as well as runoff from a storm event generating a 100-year rainfall in 24 hours; or

iii. Increased inspection frequencies or continuous monitoring (*e.g.*, remote video camera or automatic water level control device tied to a warning system) to provide early warning of an imminent spill prior to its occurrence; and an emergency action plan that would be undertaken to prevent or contain an accidental spill.

(h) A site-specific water management plan shall be prepared and updated annually to reflect changes in process watershed area, storm surge, and projected water balances. The updated plan shall be consistent with water quality based effluent limits applicable to the facility. This plan shall specify at a minimum, a set of specific actions, including minimum process water consumption and transfer rates, that are put into motion when the storage volume, surge capacity, or operating water level(s) of the cooling/surge pond system are determined to be inadequate to contain the rainfall from a storm event generating a 100-year rainfall in twenty-four (24) hours, or where such actions are determined to be necessary based on water balance model results for the rainfall scenarios described in subsection (7) below. The site specific-water management plan and annual updates thereof shall be submitted to the Implementing State Agency and/or EPA.

(i) The adequacy of the facility's site-specific water management and action plans and emergency measures shall be based on a five-year water balance analysis as set forth in (7) below.

(7) The water balance analysis shall use the first day of the month that succeeds the month of the year with the highest long-term average precipitation total as the beginning date for the analysis, unless the EPA and Implementing State Agency approve the use of an alternate date where a larger volume of precipitation or water accumulation (such as snowmelt) is expected. The analysis shall identify the rates of all water inputs and outputs, any manufacturing production changes, and changes in process watershed area considered in the analysis. A third-party engineer shall verify the accuracy of the analysis. A summary of the analysis and the water balance analysis results shall be included in the annual updated site-specific water management plan required in (6) above.

(a) The water balance calculations shall be performed for five (5) distinct extreme rainfall scenarios applied for the subsequent five (5)-year period using monthly, or more frequent, input rainfall quantities which shall include:

1. Rainfall corresponding to the highest monthly 100-year Rainfall Event occurring during the annual 100-year Rainfall Event, as defined in Attachment F; and

2. Annual rainfall events shall be determined based on a long-term rainfall record from a National Oceanic & Atmospheric Administration or equivalent weather station in the vicinity of the facility. The five-year rainfall total shall be based on a cumulative five-year rainfall event which has a probability of exceedance of five percent (5%), which shall be considered an equivalent probability as the 100-year Rainfall Event (*i.e.*, a probability of not being exceeded = 99%) for not being exceeded during a five (5)-year period (i.e., $[1 - 0.99^5] = 5\%$).

(i) Example of the input annual rainfall quantities for each of the five 5-year extreme rainfall scenarios[1]:

	Rainfall, inches					
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Total**
Scenario 1	100-year annual rainfall quantity incorporating the highest monthly 100-year rainfall event (Y1)	An annual rainfall event which together the preceding or following annual rainfall event, contributes to a 2-year total which has a 5% probability of exceedance (Y2)	An annual rainfall event which together the preceding or following annual rainfall events, contributes to a 3-year total which has a 5% probability of exceedance (Y3)	An annual rainfall event which together the preceding or following annual rainfall events, contributes to a 4-year total which has a 5% probability of exceedance (Y4)	An annual rainfall event contributing to a 5-year total which has a 5% probability of exceedance (Y5)	5-year cumulative rainfall total determined in accordance with (6)(a)2. of this section (Σ)
Scenario 2	(Y3)	(Y1)	(Y2)	(Y5)	(Y4)	(Σ)
Scenario 3	(Y5)	(Y4)	(Y1)	(Y3)	(Y2)	(Σ)
Scenario 4	(Y2)	(Y3)	(Y4)	(Y1)	(Y5)	(Σ)
Scenario 5	(Y4)	(Y5)	(Y3)	(Y2)	(Y1)	(Σ)

3. The annual rainfall quantities exceeding or less than the long-term average annual rainfall shall be distributed at least amongst the various months of the year, other than the month for the highest monthly 100-year rainfall event, in proportion to the normal monthly rainfall amounts determined from the corresponding long-term record.

(b) The water balance analysis for any phosphogypsum stack system shall indicate whether the system storage will be less than any of the following water balance targets:

1. At the beginning of the rainy season, the calculated 100-year, 24-hour rainfall event plus one-half the value for the 25-year, 24-hour rainfall event calculated (in inches) for the area where the facility is located.

2. At the end of the rainy season, the 100-year, 24-hour rainfall event calculated (in inches) for the area where the facility is located.

3. Water levels that exceed impoundment maximum design levels at any time during a year.

If the water balance for any phosphogypsum stack system indicates that system storage is less than the water balance targets, the owner/operator must provide reasonable assurance that additional process water consumption or management items, not already included as outputs in the water balance analysis, are readily available and capable of maintaining these water balance targets. Use of available storage within an auxiliary holding pond, up to its maximum design levels, may be used to provide this assurance.

(c) If the water balance indicates that at any time during the five (5)-year period that process water levels, in conjunction with additional available process water consumption or management

[1] In lieu of the requirements of 7(a)1(i), facilities located in Florida must provide annual updates to their operation plan and water balance analyses that incorporate the five (5)-year extreme rainfall scenarios prescribed by the Florida Administrative Code (F.A.C.) Chapter 62-672.680 and/or any updates thereof.

items will not meet the water balance targets, the owner/operator must provide additional process water consumption or management items, and submit an alternatives plan and implementation schedule for approval by the Implementing State Agency and/or EPA for the additional consumption or management measures within ninety (90) days of submittal of the water balance analysis. The plan and schedule shall include, at a minimum, the following elements:
1. A listing and description of the additional process water consumption or management items to be evaluated, including the identification of items that can be rapidly implemented to achieve the water balance targets;
2. A listing of interim measures that can be implemented to prevent an unpermitted release of process water in the event that actual rainfall events contribute to process water levels exceeding maximum design levels; and
3. A proposed schedule for the evaluation, selection, engineering, design, and construction, installation or implementation for the items and interim measures needed to increase water consumption, reduce inventories, or any combination of such actions that will result in achievement of the water balance targets.

VIII. Contingency Plans for Operating Phosphogypsum Stack Systems

(1) The owner/operator of a phosphogypsum stack system shall prepare, and update annually thereafter, a contingency plan to address unplanned releases of process water. The elements of such a plan shall address the applicable elements of the "National Response Team's Integrated Contingency Plan Guidance," 61 Fed. Reg. 28,641 (June 5, 1996), which is incorporated herein by reference and shall demonstrate the ability to mobilize equipment and manpower to respond to emergency situations. The plan shall be maintained at the facility and be available for inspection by the Implementing State Agency and/or EPA upon request.
(2) Training. The owner/operator of a phosphogypsum stack system shall provide annual training in inspection and operations requirements and contingency plan requirements to appropriate personnel. Newly hired personnel shall receive training prior to engaging in inspection or operations activities. A training plan consistent with the requirements of this document shall be maintained at each facility and be available for inspection upon request. Records demonstrating that appropriate personnel have received the necessary training shall be maintained by the facility owner/operator for a period of three years.

ATTACHMENT D: CLOSURE OF PHOSPHOGYPSUM STACKS/ STACK SYSTEMS

I. General Requirements for the Stack Closure Plan

(1) Applicability. The following requirements must be incorporated into the Stack Closure Plan for each phosphogypsum stack system. The Stack Closure Plan shall be developed no later than one year after entry of the Consent Decree. The requirements of Section I of this Attachment apply to active and inactive phosphogypsum stack systems, and to new or expanded components (e.g. lateral expansions) of phosphogypsum stack systems when constructed. A Stack Closure Plan and schedules for closure need not be submitted if the system has already undergone stack closure, began undergoing stack closure prior to January 30, 2007, or an application for stack closure in a manner that satisfies the requirements of Attachment D has been submitted to the Implementing State Agency and/or EPA as of the Date of the EPA Notice of Violation. The requirements of Section II apply to the same phosphogypsum stack system and are due at least ninety (90) days before permanent deactivation is scheduled to occur.

(2) Owners/operators of actively operating phosphogypsum stack systems shall submit the Stack Closure Plan, including a schedule for closure, for its phosphogypsum stack systems for approval to the Implementing State Agency and/or EPA. The Stack Closure Plan shall include:

(a) A description of the physical configuration of the phosphogypsum stack system for the period of time that the closure cost scenario is determined as calculated in accordance with Appendix 2 of this Consent Decree.

(b) A site-specific water management plan describing the procedures to be employed during closure of the phosphogypsum stack system to manage the anticipated volume of process wastewater. The Stack Closure Plan shall address the management, treatment (including neutralization), and disposal of ponded and pore process wastewater, both during stack system closing activities and long-term care activities. An independent third-party with water treatment expertise must be used to evaluate the water and its neutralization requirements for the duration of stack system closure;

(c) An estimate of all costs associated with stack system closure, including the costs of stack closing, long-term care activities, and implementation of the site-specific water management plan; and

(d) A description of all construction work necessary to properly undertake stack system closure

II. Permanent Closure Requirements for Phosphogypsum Stacks/ Stack Systems

(1) At least ninety (90) days before the permanent deactivation of a phosphogypsum stack system, the owner/operator shall submit for approval a closure application including a Permanent Stack Closure Plan, as described below, to the Implementing State Agency and/or EPA. The Permanent Stack Closure Plan shall include the requirements of (2) through (10) of this Section, or shall contain an explanation of why the requirement is not applicable. Valid information on record in an existing permit or approved groundwater monitoring plan may be used to satisfy the applicable requirements of this Attachment.

(2) General information report. This report must be submitted for approval to the Implementing State Agency and/or EPA and shall contain:
(a) Identification of the phosphogypsum stack system;
(b) Name, address and phone number of primary contact persons;
(c) Identification of persons or consultants preparing this report;
(d) Present property owner and phosphogypsum stack system operator;
(e) Location by township, range and section, and latitude and longitude of the phosphogypsum stack system;
(f) Total acreage of the phosphogypsum stack system and total acreage of the facility property;
(g) Legal description of the property on which the phosphogypsum stack system is located; and
(h) History of the phosphogypsum stack system, including construction dates and a general description of operations.
(3) Area information report. This report details the area in which the phosphogypsum stack system is located. The report must use verifiable information. The term "area" means that area that may affect or be affected by the phosphogypsum stack system, and at a minimum includes the land within a one-mile radius of the phosphogypsum stack system. The report shall be supplemented by maps and cross-section drawings. The following topics shall be addressed in the report:
(a) Topography;
(b) Hydrology, including surface water drainage patterns and hydrologic features such as surface waters, springs, drainage divides and wetlands;
(c) Geology, including the nature and distribution of lithology, unconsolidated deposits, major confining units and sinkholes;
(d) Hydrogeology, including depth to groundwater table, groundwater flow directions, recharge and discharge areas used by public and private wells within one mile of the phosphogypsum stack system;
(e) Ground and surface water quality;
(f) Land use information. The report shall include a discussion and maps indicating:
1. Identification of adjacent landowners;
2. Zoning;
3. Present land uses; and
4. Roads, highways, right-of-ways, or other easements.
(4) Groundwater monitoring plan and site specific information. The groundwater monitoring plan and most recent quarterly report submitted in accordance with Attachment B, Section C (Zone of Discharge Monitoring Requirements), and approved by the Implementing State Agency and/or EPA.
(5) Assessment report on the effectiveness of existing phosphogypsum stack system design and operation. Based on the area information report and the groundwater monitoring plan, a written assessment shall be prepared that discusses the effects of the phosphogypsum stack system on adjacent ground and surface waters, and the phosphogypsum stack system area. Specific concerns to be addressed are:
(a) Effectiveness and results of the groundwater investigation; and
(b) Effects of surface water runoff, drainage patterns, and existing storm water controls.

(6) Performance standards. This component of the Permanent Stack Closure Plan shall be developed to address the following performance standards.
(a) Closure of phosphogypsum stack systems shall be designed to protect human health and the environment by:
1. Controlling, minimizing or eliminating the post closure escape of phosphogypsum, process wastewater, leachate, and contaminated runoff to ground and surface waters;
2. Minimizing leachate generation;
3. Detecting, collecting, and removing leachate and process wastewater efficiently from the phosphogypsum stack system and promoting drainage of process wastewater from the phosphogypsum stack;
4. Being compatible with any required groundwater or surface water corrective action plan;
5. Minimizing the need for further maintenance.
(b) Closure plans for phosphogypsum stacks shall include a final cover system designed to protect human health and the environment by:
1. Promoting drainage off the stack;
2. Minimizing ponding;
3. Minimizing erosion;
4. Minimizing infiltration into the phosphogypsum stack;
5. Functioning with little or no maintenance.
(c) Closure of ponds and drainage conveyances storing process wastewater shall be designed to protect human health and the environment by:
1. Treating or removing from the ponds and drainage conveyances all process wastewater as soon as practical, either through return of the process wastewater to the manufacturing process, transfer of process wastewater to another pond permitted in accordance with this Attachment, in-situ treatment, or by treatment and subsequent discharge of the process wastewater under an appropriate discharge permit;
2. Placing any sludges removed from a pond, settling basin, or drainage conveyance into an active phosphogypsum stack permitted in accordance with this Attachment, or an inactive stack undergoing stack closure in accordance with this Attachment. The closure plan shall contain a detailed description of procedures for removing or treating the sludges, methods for sampling and testing surrounding soils, and criteria for determining the extent of removal required to satisfy the closure performance standards.
(7) Closure design plan. A closure design plan shall be prepared to meet the performance standards specified in section II.(6), above, and shall be based on the area information report, groundwater monitoring plan, and assessment of the effectiveness of the existing phosphogypsum stack system design and operation. The closure design plan shall consist of engineering plans and a report on closing procedures that shall apply to the closing of the phosphogypsum stack system and the monitoring and maintenance during the long-term care period. The closure design plan shall include the following information:
(a) A plan sheet showing phases of site closing.
(b) Drawings showing existing topography and proposed final elevations and grades.
(c) For phosphogypsum stacks, final cover installation plans showing the sequence of applying final cover, including thickness and type of material that will be used. All phosphogypsum stacks shall have a final cover designed to meet the performance standards. Final cover shall be placed over the entire surface of the phosphogypsum

stack. The final cover shall be vegetated with drought-resistant species to control erosion, whose root systems will not penetrate any low-permeability barrier layer (or alternative approved in accordance with II(7)(c)2c of this Attachment). Water balance calculations, based on available climatic data, shall be prepared that estimate the rates and volumes of water infiltrating the cover systems, collected by any leachate control system, and migrating out of the bottom of the stack or liner system. Final cover may consist of synthetic membranes, soils, or chemically or physically amended soils or phosphogypsum.

1. Side slopes and all other grades shall be designed to minimize erosion of the final cover material. Such designs shall consider the erosion susceptibility of the material proposed for final cover relative to historical rainfall patterns for the area, the ability to establish and maintain vegetation and special maintenance procedures proposed to insure that infiltration and erosion are minimized. If the side slopes of any stack are steeper than a two (2)-foot horizontal run to one foot vertical rise, the closure design plan shall include a stability analysis demonstrating the longterm stability of the area.

2. Top gradients of final cover on phosphogypsum stacks shall be designed to prevent ponding or low spots and minimize erosion.

a. The final cover on the top gradient shall consist of a barrier soil layer at least 18 inches thick, emplaced in six (6)-inch thick lifts. A final, eighteen (18)-inch thick layer of soil or amended phosphogypsum that will sustain vegetation to control erosion shall be placed on top of the barrier layer. For unlined stacks, the barrier layer shall have a maximum permeability of 1×10^{-7} cm/sec; for lined stacks, the barrier layer shall have a maximum permeability of 1×10^{-5} cm/sec. If less permeable soils are used, the thickness of the barrier layer may be decreased to twelve (12) inches provided that infiltration is minimized to an equivalent degree.

b. A geomembrane may be used as an alternative to the low-permeability soil barrier for a final cover, constructed to preclude rainfall infiltration into the stack. A geomembrane used in final cover shall be a semi-crystalline thermoplastic at least forty (40) mils thick, or a non-crystalline thermoplastic at least thirty (30) mils thick, with a maximum water vapor transmission rate of 2.4 grams per square meter per day, have chemical and physical resistance to materials it may come in contact with, and withstand exposure to the natural environmental stresses and forces throughout the installation, seaming process, and settlement of the phosphogypsum during the closure and long-term care period. A protective soil or amended phosphogypsum layer at least twenty-four (24) inches thick shall be put on top of the geomembrane. Material specifications, installation methods, and compaction specifications shall be adequate to protect the barrier layer from root penetration, resist erosion, and remain stable on the final design slopes. This layer shall include soils or amended phosphogypsum that will sustain vegetative growth.

c. In areas where historically evapotranspiration exceeds precipitation, the geomembrane option in (7)(c)2b, above may be used in conjunction with an alternative top cover design for the twenty-four (24) inch thick layer of protective soil or amended phosphogypsum placed above the geomembrane. The request for an alternate top cover design must be submitted for approval to the Implementing State Agency and EPA.

3. The closure design plan shall describe provisions for cover material for long-term care erosion control, filling other depressions, maintaining berms, and general maintenance of

the phosphogypsum stack, and shall specify the anticipated source and amount of material necessary for proper closure of the stack.
(d) The type of leachate control system proposed. The leachate control system shall be designed to prevent leachate from causing violations of water quality standards beyond the approved zone of discharge for the phosphogypsum stack system.
(e) Compliance with groundwater protection requirements. The closure design plan shall demonstrate how the phosphogypsum stack system will meet the water quality standards of the State where the Facility is located. The groundwater monitoring plan and sampling schedule may be adjusted for a phosphogypsum stack system where groundwater contamination is not evident or corrective measures have been taken to correct contamination.
(f) The proposed method of stormwater control. This shall include control of stormwater occurring on the phosphogypsum stack system. Stormwater or other surface water that mixes with leachate shall be considered to be leachate and shall be treated to meet the applicable water quality standards of the State where the Facility is located, at the point of discharge. The stormwater control plan shall meet the requirements of the State where the Facility is located; however, nothing herein shall be construed to preclude application of the requirements of the appropriate water management district.
(g) The proposed method of access control. The closure design plan shall describe how access to the closed phosphogypsum stack system shall be restricted to prevent any future waste dumping or use of the phosphogypsum stack system by unauthorized persons. Restricted access shall remain in force until the phosphogypsum stack system is stabilized and there is no evidence that the property is being used as an unauthorized dump site.
(h) A description of any proposed final use of the phosphogypsum stack system.
(8) Closure construction quality assurance plan. A detailed construction quality assurance plan shall be developed for construction activities associated with the closure of the phosphogypsum stack system, including each component of the final cover system. The plan shall specify quality assurance test procedures and sampling frequencies. Records shall be kept to document construction quality and demonstrate compliance with plans and specifications. Upon completion of closure activities a final construction quality assurance report shall be submitted to the Implementing State Agency and/or EPA, prepared by an engineer. The final report shall include at least the following information:
(a) Listing of personnel involved in closure construction and quality assurance activities;
(b) Scope of work;
(c) Outline of construction activities;
(d) Quality assurance methods and procedures;
(e) Test results (destructive and non-destructive, including laboratory results); and
(f) Record drawings.
(9) Closure operation plan. This component of the Permanent Stack Closure Plan shall:
(a) Describe the actions that will be taken to close the phosphogypsum stack system, such as placement of cover, grading, construction of berms, ditches, roads, retention-detention ponds, installation or closure of wells and boreholes, installation of fencing or seeding of vegetation, protection of on-site utilities and easements;
(b) Provide a time schedule for completion of the closing and long-term care;

(c) Contain appropriate references to the closure design plan, area information report, groundwater monitoring plan, and other supporting documents;
(d) Provide a revised estimate of all costs associated with stack closing, long term care and site-specific water management activities being undertaken under the Permanent Stack Closure Plan in accordance with Appendix II (Financial Assurance). Also, describe the proposed method of demonstrating financial responsibility for the long-term monitoring and maintenance in accordance with Appendix II;
(e) Indicate any additional equipment and personnel needed to complete closure of the phosphogypsum stack system; and
(f) Describe any proposed use of the system for water storage or water management.
(10) Certification by an engineer. Information, plans, and drawings presented in support of a closure plan shall be prepared under the direction of, and certified by, an engineer. A letter of appointment shall be submitted by the proper company official confirming that the engineer is authorized to prepare plans and specifications. The engineer shall be required to make periodic inspections during the closing of the phosphogypsum stack system to insure closure is being accomplished according to the Permanent Stack Closure Plan.
(11) Nothing in the section is intended to preclude the construction of a lined cooling pond or auxiliary holding pond on top of an inactive Phosphogypsum stack, as long as the pond is constructed in accordance with the applicable provisions of Attachment C, and as long as the design is included in the closure plan. Within such a cooling pond, the requirements for minimizing ponding and establishing vegetation cover are not applicable.

III. Temporary Deactivation of Phosphogypsum Stack System(s)
(1) The owner/operator of a phosphogypsum stack system may request in writing, a determination by the Implementing State Agency and/or EPA that the provisions of Section II of this Attachment need not apply in limited circumstances to a specific phosphogypsum stack system, and shall request approval of a temporary deactivation of the phosphogypsum stack system. This request must be submitted on a yearly basis. The Implementing State Agency and/or EPA may authorize a temporary deactivation approval for each individual phosphogypsum stack system in accordance with this subsection or deny the request for such an approval.
(2) Each request shall set forth at least the following information:
(a) The specific phosphogypsum stack system or phosphogypsum stack for which temporary deactivation, and approval of, is sought;
(b) A demonstration that current economic or other conditions justify a temporary deactivation of the phosphogypsum stack system;
(c) An estimate of the duration of the temporary deactivation of the phosphogypsum stack system, and a demonstration that the stack system is reasonably expected to become active within this estimated time period; and
(d) The Interim Stack System Management Plan (ISSMP) prepared in accordance with Attachment C.I.(7) of this Consent Decree.

(3) If the Implementing State Agency and/or EPA determine that other information is necessary to ascertain if a temporary deactivation is warranted, the applicant must submit the additional information upon request.
(4) Upon approval of the temporary deactivation and the ISSMP by the Implementing State Agency and/or EPA, the owner/operator must implement the procedures set forth in the approved ISSMP immediately upon phosphogypsum stack system deactivation.
(5) If after review of the information submitted pursuant to (2) and (3) of this Section, the Implementing State Agency and/or EPA determine that temporary deactivation is not warranted, the owner/operator may continue to operate the phosphogypsum stack system or permanently close the phosphogypsum stack system in accordance with the provisions of Section II of this Attachment.
(6) If at any time during the approved temporary deactivation period, the Implementing State Agency and/or EPA requires information to ascertain if the criteria under (2)(a)-(d) of this Section are being meet, the owner or operator will provide such information within thirty (30) days of the request by the Implementing State Agency and/or EPA.
(7) If after review of the information submitted pursuant to (6) of this Section, the Implementing State Agency and/or EPA determines that the owner or operator no longer satisfies the criteria specified in (2)(a)-(d), the EPA and/or the Implementing State Agency will so notify the owner and/or operator of its determination and the provisions of Section II of this Attachment will apply. Either Agency's determination that Defendant no longer satisfies the criteria specified in (2)(a)-(d) shall not be subject to judicial review, but shall be subject to dispute resolution (other than judicial review) pursuant to Section XI of the Consent Decree.

IV. Closure Procedures for Phosphogypsum Stacks/ Stack Systems
(1) Closing inspections. The Implementing State Agency and/or EPA may require in the Permanent Stack Closure Plan which particular closing steps or operations must be inspected and approved by the Implementing State Agency and/or EPA before proceeding with subsequent closure actions.
(2) Final survey and record drawings. A final survey shall be performed, after permanent closure is complete, by an engineer or a registered third-party land surveyor to verify that final contours and elevations of the phosphogypsum stack system are in accordance with the plan as approved by the Implementing State Agency and/or EPA. Aerial mapping techniques that provide equivalent survey accuracy may be substituted for the survey.
(a) The survey or aerial mapping information shall be included in a report along with information reflecting the record drawings of the phosphogypsum stack system. Contours should be shown at no greater than five (5)-foot intervals.
(b) The owner/operator shall submit this report to the Implementing State Agency and/or EPA in accordance with the closing schedule.
(3) Certification of closure construction completion. A certification of closure construction completion, signed, dated and sealed by a third-party engineer, shall be provided to the Implementing State Agency and/or EPA upon completion of closure.
(4) Official date of closing. Upon receipt of the documents required in (2) and (3) of this section, the Implementing State Agency and/or EPA shall acknowledge by letter to the owner/operator that notice of termination of operations and closing of the

phosphogypsum stack system has been received. The date of this letter shall be the official date of closing for purposes of determining the beginning of the long-term care period.
(5) Use of closed phosphogypsum stack systems. Closed phosphogypsum stack systems, if disturbed, are a potential hazard to public health, groundwater and the environment. Consultation with and approval by the Implementing State Agency and/or EPA is required before conducting activities that may disturb the closed phosphogypsum stack systems. If the Agencies determine that use of a closed phosphogypsum stack system is not permissible, such determination shall not be subject to judicial review, but shall be subject to dispute resolution (other than judicial review) pursuant to Section XI of the Consent Decree.

V. Long-Term Care for Phosphogypsum Stacks/ Stack Systems
(1) Long-term care period. The owner/operator of any phosphogypsum stack system shall be responsible for monitoring and maintenance of the facility in accordance with an approved Permanent Stack Closure Plan for fifty (50) years from the date of closing unless a reduced long-term care period is approved by the Implementing State Agency and/or EPA in accordance with V(2), below. Before the expiration of the long-term care monitoring and maintenance period the Implementing State Agency and/or EPA may extend the time period if it is determined that:
(a) The closure design or closure operation plan under the Permanent Stack Closure Plan was ineffective in meeting the standards of this Attachment, or
(b) The extension of the long-term care period is necessary to protect human health and the environment.
(2) Reduced long-term care period. The owner/operator of a phosphogypsum stack system may request, in writing, for a reduced long-term care schedule. The Implementing State Agency and/or EPA may approve, within its discretion, the request if the information provided by the owner and/or operator substantiates its claim that the reduced period is sufficient to protect human health and the environment. The request must, at a minimum, demonstrate that the phosphogypsum stack system meets the criteria of (2)(a)-(d), below, and provide any other information relevant to establishing that the reduced period is sufficient to protect human health and the environment:
(a) The phosphogypsum stack system has been constructed and operated in accordance with approved standards, and has a leachate control system and a liner that has controlled, minimized or eliminated releases; and
(b) The phosphogypsum stack system has been closed with appropriate final cover, that the vegetative cover (or alternative approved in accordance with II(7)(c)2c of this Attachment) has been established, and a monitoring system has been installed and is operating within the manufacturer's specifications; and
(c) The Facility has a twenty (20)-year history after the date of closure of no violations of water quality standards or criteria detected in the monitoring system, and no increases over background water for any monitoring parameters that may be expected to result in violations of water quality standards or criteria; and
(d) The phosphogypsum stack system has had no detrimental erosion of the cover system.

(3) Transfer of permit. If a phosphogypsum stack system is operated and maintained pursuant to a permit issued by the Implementing State Agency and/or EPA, transfer of the phosphogypsum stack system permit shall be in accordance with the provisions of the Implementing State Agency and/or EPA.
(4) Replacement of monitoring devices. If a monitoring well or other device required by the monitoring plan is destroyed or fails to operate for any reason, the phosphogypsum stack system owner/operator shall, immediately upon discovery, notify the Implementing State Agency and/or EPA in writing. All inoperative monitoring devices shall be replaced with functioning devices within sixty (60) days of the discovery of the malfunctioning unit unless the owner/operator is notified otherwise in writing by the Implementing State Agency and/or EPA.
(5) Certification of Long-Term Care Completion. A certification of long-term care completion signed, dated and sealed by a third-party engineer, shall be provided by the owner/operator to the Implementing State Agency and/or EPA upon completion of long-term care.

VI. Closure of Unlined Systems in Phosphogypsum Stacks/ Stack Systems
No phosphogypsum or process wastewater shall be placed in an unlined phosphogypsum stack system after five (5) years of the effective date of the Consent Decree; however, such systems may be used for water storage and water management purposes to facilitate closure. Closure or lining of each unlined system shall be completed as expeditiously as practicable, but not to exceed five (5) years of the effective date of the Consent Decree. For purposes of this subsection, "unlined" means that the phosphogypsum stack system was constructed without an installed liner meeting those standards outlined in Section VI of Attachment C, or an equivalent liner as approved by EPA and/or the Implementing State Agency.

ATTACHMENT E: IMMINENT AND SUBSTANTIAL ENDANGERMENT DIAGNOSTIC REQUIREMENTS

I. Requirements for Dikes and Phosphogypsum Stacks

(1) If a critical condition is suspected or confirmed, the Implementing State Agency and EPA shall be notified immediately and the defective area of the dike or stack shall be inspected daily in accordance with Section VII of Attachment C, until corrective maintenance has cured such defect. A written report of the condition and the actions proposed for its correction shall be made to the Implementing State Agency and EPA within seven (7) days from the time existence of the critical condition is confirmed. .
(2) Any of the following items shall be considered as indicating a critical condition that requires immediate investigation and may require emergency maintenance action:
(a) Concentrated seepage on the downstream slope, at the toe of slope, or downstream from the toe of slope (e.g., boils, soil cones, springs or deltas).
(b) Evidence of slope instability including sloughing, bulging or heaving of the downstream slope, or subsidence of the dike slope or crest.
(c) Cracking of surface on crest or either face of the dike or stack slope.
(d) General or concentrated seepage in the vicinity of or around any conduit through the dike.
(e) Observed or suspected damage to the liner system.

II. Temporary Measures for Use of Design Freeboard to Prevent Release

(1) Temporary use of the design freeboard. For purposes of this Attachment, the design freeboard shall mean the vertical distance from the water surface, when water levels are at the maximum design level, to the lowest elevation of the top of the surrounding dike.
(a) Temporary use of the design freeboard of a perimeter dike or a gypsum dike is authorized when the water level is at the design freeboard and when such use is necessary to prevent the release of untreated process water. Such use of the freeboard shall only be allowed when a third-party engineer has approved such use and when documentation demonstrating the continued safety and stability of the dike is submitted to the Implementing State Agency and/or EPA. Such documentation shall include a listing of any operational limitations or constraints recommended by the third-party engineer as set forth in this section together with confirmation that the owner/operator will comply with such recommendations. The third-party engineer shall base his or her recommendations on:
1. An inspection of the facility;
2. Dike design and construction information;
3. Results of seepage and stability analyses (including monitoring of seepage pressures within the dike if such monitoring is deemed necessary); and
4. Wind surge and wave run-up analyses.
(b) The report by the third-party engineer shall specify conditions under which such use may be undertaken so as not to jeopardize the integrity of the dike, such as:
1. Acceptable wind speeds in forecast;
2. Increased inspection frequencies; and

3. Weekly monitoring of piezometric levels within the mass of the dike, if and as needed.
(c) The third-party engineer shall reevaluate the facility each time use of the design freeboard is proposed by the owner/operator. The Implementing State Agency and/or EPA shall be informed of the proposed use and the engineer's recommendations prior to or within 24 hours of each such occurrence.
(2) If the perimeter dike of the phosphogypsum stack system is an above-grade dike, the system may incorporate an emergency spillway to allow for the controlled release of process water during emergencies and to avoid overtopping of the perimeter dike. The spillway shall be located so as to minimize the environmental impact of any release to the extent practicable. This provision shall not be deemed to authorize a discharge from the spillway and shall not be construed to limit the Implementing State Agency and/or EPA's exercise of enforcement discretion in the event that such discharge causes or contributes to a violation of applicable federal and/or state regulations.

III. Requirements for Actively Operated Phosphogypsum Stack Systems
(1) When a critical condition is suspected during any inspection, the inspector shall ensure that a competent technical representative of the phosphogypsum stack system owner/operator is made aware of the condition immediately. If the existence of the critical condition is confirmed, the Implementing State Agency and/or EPA shall be notified immediately. A written report of the condition and the actions proposed for its correction shall be made to the Implementing State Agency and/or EPA within seven (7) days from the time existence of the critical condition is confirmed.
(2) Any of the following items shall be considered as indicating a critical condition that requires immediate investigation and may require emergency maintenance action:
(a) Concentrated seepage (e.g., springs or boils) on the face of a stack slope, at the toe of the slope, or beyond the toe of slope with active signs of piping at the point of seepage (e.g., a gypsum or soil cone or delta at the point of seepage).
(b) Evidence of slope instability including sloughing, bulging or heaving of the face of the stack or the toe of the slope.
(c) Lateral movement or subsidence of the slope or crest of the stack.
(d) Formation of new non-shrinkage cracks or enlargement of wide cracks in the surface of the slope or crest of the stack.
(e) Observed or suspected damage to the liner system.
(f) Drains discharging turbid water.
(g) Concentrated seepage (i.e., springs or boils) in the vicinity of a decant pipe.

ATTACHMENT F: DEFINITIONS FOR PURPOSE OF THE CONSENT DECREE

"100-year floodplain" means any land area susceptible to being inundated by water from a flood having a one percent chance of being equaled or exceeded in any given year.
"100-year Rainfall Event" means a rainfall event which is characterized by a mean return period of one hundred years, i.e., a rainfall event which has a 99% probability for not being exceeded during any given year.
"Active" means a phosphogypsum stack/system that currently receives phosphogypsum and/or process wastewater.
"Aquifer" means a geologic formation, group of formations, or part of a formation capable of yielding a significant amount of groundwater to wells, springs or surface water.
"Auxiliary holding pond (AHP)" means a lined storage pond, designated by the operator and approved by the Implementing State Agency and/or EPA, typically used to hold untreated process water. AHPs are intended to increase system storage above that otherwise provided by cooling/surge ponds and are typically located within the footprint of a phosphogypsum stack system.
"Background" means the condition of waters in the absence of the activity or discharge under consideration, based on the best scientific information available to the Implementing State Agency and/or EPA.
"Berm" means a shelf that breaks the continuity of the slope of an embankment in order to arrest the velocity of storm water flowing down the face and/or to enhance the stability of the embankment. .
"Cooling/surge pond" means impounded areas within the phosphogypsum stack system, excluding settling compartments atop the phosphogypsum stack, that provide cooling capacity, surge capacity, or any combination thereof, for the phosphoric acid process water recirculation system including phosphogypsum stack transport, runoff, and leachate water from the process watershed.
"*Corrective action*" means actions and activities taken to address a release of hazardous waste and/or hazardous constituents that could affect human health and/or the environment, including those activities required pursuant to Appendix 1, Attachments A and B.
"Dike" means a barrier to the flow of phosphogypsum and process water which is constructed of naturally occurring soil (earthen dike) or of phosphogypsum and which is a component of a phosphogypsum stack system.
"Disposal" means the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste into or upon any land or water so that such solid waste or any constituent thereof may enter other lands or be emitted into the air or discharged into any waters, including groundwaters, or otherwise enter the environment.
"Drain" means a material more pervious than the surrounding fill which allows seepage water to drain freely while preventing piping or internal erosion of the fill material.
"Earthen dike" means a barrier to the flow of phosphogypsum and process water which is constructed of naturally occurring soil and which is a component of a phosphogypsum stack system.

"Emergency diversion impoundment (EDI)" means a storage area designated in the facility's site-specific water management plan to be used on a temporary basis when necessary to avoid an unpermitted surface water discharge resulting from dike overtopping or other imminent and substantial endangerment identified in Attachment E.
"Engineer" includes the terms "professional engineer" and "licensed engineer" and means a person who holds a State-issued license to engage in the practice of engineering.
"Erosion control" means physical devices constructed, and management practices utilized, to control sedimentation and soil erosion such as silt fences, sediment basins, check dams, channels, swales, energy dissipation pads, seeding, mulching and other similar items.
"Facility" means all contiguous land and structures, other appurtenances and improvements on the phosphate fertilizer manufacturing complex.
"Final cover" means the materials used to cover the top and sides of a phosphogypsum stack upon closure.
"Freeboard" means the height of the lowest point on the dam or dike crest, excluding the emergency spillway, above the highest adjacent liquid surface within the impoundment [Freeboard shall be determined by generally accepted good engineering practices and shall include, at a minimum, evaluation of wind surge, wave height, and wave run-up analyses, erosion protection measures, and protection of dike integrity and inner rim-ditch geometry].
"Geomembrane" means a low-permeability synthetic membrane used as an integral part of a system designed to limit the movement of liquid or gas in the system.
"Groundwater" means water beneath the surface of the ground within a zone of saturation, whether or not flowing through known and definite channels.
"Groundwater Table" means the upper surface of a zone of saturation, where the body of groundwater is not confined by an overlying impermeable zone.
"Gypsum dike" means the outermost dike constructed within the perimeter formed by a starter dike for the purpose of raising a phosphogypsum stack and impounding phosphogypsum and/or process water. This term specifically excludes any dike inboard of a rim ditch, any partitions separating stack compartments, or any temporary windrows placed on the gypsum dike.
"Inactive" means a phosphogypsum stack system for which a temporary deactivation has not been requested and approved; the phosphogypsum stack system is no longer receiving phosphogypsum and/or process wastewater, and the owner/operator does not intend to, and in fact does not, deposit any significant quantity of phosphogypsum there within one year.
"Inside (upstream) slope" means the face of the dam or dike which will be in contact with the impounded liquids.
"Installation" means any structure, equipment, facility, or appurtenances thereto, operation or activity which may be a source of pollution.
"Lateral expansion" means the expansion, horizontally, of phosphogypsum or process wastewater storage capacity beyond the permitted capacity (where applicable) and design dimensions of the phosphogypsum stack, or cooling ponds, surge ponds, and perimeter drainage conveyances at an existing facility. Any phosphogypsum stack, cooling pond, surge pond, or perimeter drainage conveyance which is constructed within 2000 feet of an existing phosphogypsum stack system, measured from the edge of the expansion

nearest to the edge of the footprint of the existing phosphogypsum stack system, is considered a lateral expansion.

"Leachate" means liquid that has passed through or emerged from phosphogypsum.

"Liner" means a continuous layer of low permeability natural or synthetic materials which controls the downward and lateral escape of waste constituents or leachate from a phosphogypsum stack system.

"Lithified earth material" means all rock, including all naturally occurring and naturally formed aggregates or masses of minerals or small particles of older rock that formed by crystallization of magma or by induration of loose sediments. This term does not include man-made materials, such as fill, concrete, and asphalt, or unconsolidated earth materials, soil, or regolith lying at or near the earth's surface.

"Log" means a written record maintained by the owner/operator of an earthen dam or a phosphogypsum stack system that contains a schedule of inspections of system components, the findings of such inspections, and any remedial measures taken in response to such findings.

"Maximum Design Level" means the maximum process water elevation when the water level is at the operating design freeboard for an impoundment as determined using generally accepted good engineering practices, or the minimum freeboard allowed, for perimeter earthen dikes. For the purposes of this Consent Decree, generally accepted good engineering practices for determining the permitted operating design freeboard includes, at a minimum, evaluation of wind surge, wave height, and wave run-up analyses, erosion protection measures, and protection of dike integrity and inner rim-ditch geometry.

"Natural Background" means the condition of waters in the absence of man-induced alterations based on the best scientific information available. The establishment of natural background may be based on historical pre-alteration data.

"New perimeter earthen dike" means a perimeter earthen dike that is completed after the effective date of the Consent Decree.

"Operation plan" means the operation plan required by this Consent Decree.

"Outside (downstream) slope" means the face of the dam or dike which will not be in contact with the impounded liquids.

"Permanent Deactivation" means Stack Closure.

"Perimeter dike" means the outermost earthen dike surrounding a phosphogypsum stack system that has not been closed or any other earthen dike the failure of which could cause a release of process water outside the phosphogypsum stack system.

"Permanent Stack Closure Plan" means the plan for Stack Closure submitted at or prior to closure and prepared in accordance with the requirements of Appendix I, Attachment D, Section II.

"Phosphogypsum" means calcium sulfate and byproducts produced by the reaction of sulfuric acid with phosphate rock to produce phosphoric acid. Phosphogypsum is a solid waste within the definition of Section 1004(27) of RCRA, 42 U.S.C. § 6903(27).

"Phosphogypsum stack" means any defined geographic area associated with a phosphoric acid production facility in which phosphogypsum is disposed of or stored, other than within a fully enclosed building, container or tank.

"Phosphogypsum stack system" means the phosphogypsum stack (or pile, or landfill), together with all pumps, piping, ditches, drainage conveyances, water control structures,

collection pools, cooling ponds, surge ponds, auxiliary holding ponds, regional holding ponds and any other collection or conveyance system associated with the transport of phosphogypsum from the plant to the phosphogypsum stack, its management at the stack, and the process wastewater return to the phosphoric acid production or other process. This definition specifically includes toe drain systems and ditches and other leachate collection systems, but does not include conveyances within the confines of the fertilizer production plant or emergency diversion impoundments used in emergency circumstances caused by rainfall events of high volume or duration for the temporary storage of process wastewater to avoid discharges to surface waters of the state.

"Piping" means progressive erosion of soil or solid material within the dam or dike, starting downstream and working upstream, creating a tunnel into the dam or dike. Piping occurs when the velocity of the flow of seepage water is sufficient for the water to transport material from the embankment.

"Pollution" means the presence in the outdoor atmosphere or waters of the state of any substances, contaminants, noise, or man-made or man-induced alteration of the chemical, physical, biological or radiological integrity of air or water in quantities or levels which are or may be potentially harmful or injurious to human health or welfare, animal or plant life, or property, including outdoor recreation.

"Process wastewater" means *"Process wastewater from phosphoric acid production."*

"Process wastewater from phosphoric acid production" means waters used or generated in one or more production operations that have accumulated contaminants to such an extent that they must be removed. This includes the following process streams resulting from phosphoric acid plant operations: water from phosphoric acid production operations through concentration to merchant grade acid[1]; phosphogypsum transport water; phosphogypsum stack runoff; process wastewater generated from the uranium recovery step of phosphoric acid production; process wastewater from animal feed production operations that qualify as mineral processing operations based on the definition of mineral processing that the Agency finalized on September 1, 1990[2]; and process wastewater from superphosphate production[3].

"Process Watershed" means the aggregate of all areas that contribute to or generate additional process water from direct precipitation, rainfall runoff, or leachate to a phosphogypsum stack, process water cooling/surge ponds, or any other storage, collection, or conveyance system associated with the transport of phosphogypsum or process water for a particular phosphogypsum stack system.

"Qualified Company Employee" means an employee trained specifically in the area of their job duties.

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[1] Water from phosphoric acid production operations through concentration means operations to: (1) an ultimate saleable product below 54% phosphoric acid; or (2) merchant grade acid (i.e., 54%). Wastewaters generated from the production of any concentration of phosphoric acid that is diverted to chemical manufacturing (i.e. MAP, DAP, superphosphate, FSA, SPA) is not included within the scope of phosphoric acid production operations.

[2] Process wastewater from animal feed production includes de-fluorination but excludes ammoniated animal feed production.

[3] Process wastewater from superphosphate production includes process wastewater generated from the production process that involves the direct reaction of phosphate rock with dilute, not merchant grade, phosphoric acid [55 Fed. Reg. 2328, January 23, 1990].

"Related company" or "related" means affiliates of the enterprise; entities for which investments are accounted by the equity method by the enterprise; trusts for the benefit of employees, such as pension and profit-sharing trusts that are managed by or under the trusteeship of management; principal owners of the enterprise; its management; members of the immediate families of principal owners of the enterprise and its management; and other parties with which the enterprise may deal if one party controls or can significantly influence the management or operating policies of the other to an extent that one of the transacting parties might be prevented from fully pursuing its own separate interests. Another party also is a related party if it can significantly influence the management or operating policies of the transacting parties or if it has an ownership interest in one of the transacting parties and can significantly influence the other to an extent that one or more of the transacting parties might be prevented from fully pursuing its own separate interests.

"Run-Off" means any rainwater, leachate, or other liquid that drains over land from any part of a facility.

"Run-On" means any rainwater, leachate, or other liquid that drains over land onto any part of a facility.

"Seismic impact zone" means an area with a ten percent or greater probability that the maximum horizontal acceleration in lithified earth material, expressed as a fraction of the earth's gravitational pull (g), will exceed 0.10g in 250 years.

"Soil Liner" means a liner constructed from naturally occurring earthen material. This definition expressly excludes any liner constructed of synthetic material or phosphogypsum.

"Solid waste" means any garbage, or refuse, sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations.

"Stack Closing" means the time at which a phosphogypsum stack system ceases to accept wastes, and includes those actions taken by the owner/operator of the facility to prepare the system for any necessary monitoring and maintenance after closing.

"Stack Closure" means the cessation of operation of a phosphogypsum stack system and the act of securing such a system, including the installation of a liner, so that it will pose no significant threat to human health or the environment. This includes stack closing, long-term care (i.e., monitoring and maintenance) and water management activities associated with stack closing and long-term care activities.

"Stack Closure Plan" means the conceptual closure plan that includes the basic design details and is prepared in accordance with the requirements of Appendix I, Attachment D, Section I.

"Stack system configuration" means the maximum physical dimensions of the phosphogypsum stack system as provided by the Defendant in a general plan and schedule for closure or a closure plan submitted to the Implementing State Agency and/or EPA.

"Starter Dike" means the initial dike constructed at the base of a phosphogypsum stack to begin the process of storing phosphogypsum.

"Statistically Significant" means that a result is not likely to be due to chance alone. For purposes of this Attachment, a significance level of 0.05 or 0.01 should be used in determining statistical significance.
"Storage" means the containment of wastes, either on a temporary basis or for a period of years, in such a manner as not to constitute disposal of such wastes.
"Surface Water" means water upon the surface of the earth, whether contained in bounds created naturally or artificially or diffused. Water from natural springs shall be classified as surface water when it exits from the spring onto the earth's surface.
"Temporary Deactivation" means a phosphogypsum stack system that will cease or has ceased to accept deposits of phosphogypsum and/or process wastewater on a temporary basis and for which a demonstration has been made in writing to, and approved by, the EPA and/or the Implementing State Agency, that the phosphogypsum stack system is reasonably expected to become active within an estimated time period.
"Third-party engineer" means an engineer who is not an employee of any entity that owns or operates a phosphate mine or phosphate fertilizer manufacturing facility.
"Third-party liability" means a demonstration of financial responsibility to address bodily injury and property damage caused by sudden and non-sudden accidental occurrences.
"Toe" means the toe of the dam or dike is the junction between the face of the dam or dike and the adjacent terrain.
"Toe drain" is a wedge-shaped drain supporting the downstream toe of the dam.
"Transport" means the movement of wastes from the point of generation to any intermediate points, and finally to the point of ultimate storage or disposal.
"Waters" include, but are not limited to, rivers, lakes, streams, springs, impoundments, and all other waters or bodies of water, including fresh, brackish, saline, tidal, surface or underground waters. Waters owned entirely by one person other than the state are included only in regard to possible discharge on other property or water. Underground waters include, but are not limited to, all underground waters passing through pores of rock or soils or flowing through in channels, whether manmade or natural.
"Wave run-up" means the difference in vertical height between the maximum elevation attained by wave run up or uprush on a slope and the still water elevation at the inboard toe of the slope.
"Wetlands" means those areas that are defined in 40 CFR 232.2. Wetlands include, but are not limited to, swamps, marshes, bogs, and similar areas.
"Wind surge or setup" means the vertical rise in base water-surface elevation, exclusive of the wave height, above the still water elevation, caused by wind-induced stresses and mounding of the water surface in the leeward direction.
"Zone of Discharge" means a volume underlying or surrounding the site and extending to the base of a specifically designated aquifer or aquifers, within which an opportunity for the treatment, mixture or dispersion of wastes into receiving groundwater is afforded.

APPENDIX 2

APPENDIX 2: FINANCIAL ASSURANCE

This Appendix sets forth the obligations of Defendant to secure and maintain Financial Assurance as required under Paragraph 26 of the Consent Decree, including schedules and notice requirements. Submittals requiring EPA approval shall be submitted pursuant to Section V (Compliance), Paragraphs 27-31, and Section XIV (Notices) of the Consent Decree. "EPA approval" or "determination" as used in this Appendix shall encompass approval or determination by any Implementing State Agency and shall not be subject to judicial review, but shall be subject to dispute resolution (other than judicial review) pursuant to Section X (Dispute Resolution) of the Consent Decree, unless specified otherwise in this Appendix. Any time period specified by this Appendix may be increased by written agreement of the Parties.

I. Definitions

Except as otherwise provided in this Appendix, definitions for the terms presented herein shall be incorporated from 40 C.F.R. § 264.141.[1/] Whenever the terms set forth below are used in this Appendix, the definitions set forth below shall apply. However, the Parties are not bound by these definitions in connection with any matter not relating to Financial Assurance under this Consent Decree.

"Affiliate" shall have the same meaning as set forth in the Statement of Financial Accounting Standards No. 57, Appendix B (Glossary) (Financial Accounting Standards Board - Original Pronouncements, as amended): "A party that, directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with the enterprise."

"Anniversary Date" shall mean the annual anniversary of the date that Financial Assurance is provided unless otherwise stated in this Appendix. The Anniversary Date for a Self-Assurance Mechanism shall be ninety (90) days after the end of the Defendant's fiscal year.

"Assets" shall mean all existing and all probable future economic benefits obtained or controlled by a particular entity, as represented on the company's Independently Audited balance sheet.

"Assets located within the United States" shall mean the sum of all Assets located in the United States.

"Certified Public Accountant" or "CPA" shall mean an accountant who has demonstrated the requisite certification requirements of the American Institute of Certified Public Accountants

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[1/] Florida has promulgated financial assurance regulations by adopting by reference 40 C.F.R. Part 264, Subpart H (including all appendices), except as otherwise provided by the Florida Administrative Code ("F.A.C."). See F.A.C. R.62-730.180(1). FDEP has incorporated by reference all federal regulations cited in this Appendix (except for some federal citations specified in the definition of "Environmental Obligations").

("AICPA") and met all statutory and licensing requirements of the State in which (s)he works.

"Closure Plan" shall mean the plan prepared for Phosphogypsum Stack System Closure, Long Term Care, and associated Water Management activities, in accordance with the requirements of Appendix 1, Attachment D (including, as applicable, Stack Closure Plan and Permanent Stack Closure Plan).

"Control" shall have the same meaning as set forth in the Statement of Financial Accounting Standards No. 57, Appendix B (Glossary) (Financial Accounting Standards Board - Original Pronouncements, as amended): "The possession, direct or indirect, of the power to direct or cause the direction of management and policies of an enterprise through ownership, by contract, or otherwise."

"Corrective Action" shall mean actions and activities taken to address a release of hazardous waste and/or hazardous constituents that could affect human health and the environment including those activities required pursuant to Appendix 1, Attachments A and B.

"Cost Estimates" shall mean the EPA-approved cost estimates for Phosphogypsum Stack System Closure and Long Term Care, or for work performed pursuant to a Risk Assessment Plan, Interim Measures Plan, or Corrective Action Plan, as applicable under the various Sections of this Appendix.

"Current Assets" or "CA" shall mean cash or other assets or resources reasonably expected to be realized within one (1) year during the normal operating cycle of the business, as represented on the company's Independently Audited balance sheet.

"Current Dollars" shall mean U.S. dollars in the year actually received or paid, unadjusted for price changes or inflation.

"Current Liabilities" or "CL" shall mean obligations that are reasonably expected to be repaid within one (1) year using existing resources classified as Current Assets, as represented on the company's Independently Audited balance sheet.

"Current Ratio" shall mean Current Assets divided by Current Liabilities ("CA/CL").

"Debt-to-Equity Ratio" shall mean the total Liabilities divided by Net Worth ("TL/NW").

"Defendant" shall mean CF Industries, Incorporated, and as applicable, any Guarantor.

"Environmental Obligations" shall mean obligations both in programs that EPA directly operates, and in programs where EPA has delegated authority to the State or approved a State's program that are assured through the use of a corporate financial test. These obligations include, but are not limited to: liability, closure, post-closure and corrective action cost estimates for

hazardous waste treatment, storage, and disposal facilities pursuant to 40 C.F.R. §§ 264.101, 264.142, 264.144, 264.147, 265.142, 265.144 and 265.147; cost estimates for municipal solid waste management facilities pursuant to 40 C.F.R. §§ 258.71, 258.72 and 258.73; current plugging and abandonment cost estimates for underground injection control facilities pursuant to 40 C.F.R. § 144.62; cost estimates for petroleum underground storage tanks pursuant to 40 C.F.R. § 280.93; cost estimates for PCB facilities pursuant to 40 C.F.R. § 761.65; any financial assurance required under, or as part of an action under, the Comprehensive Environmental Response, Compensation, and Liability Act; and any other environmental obligation assured through a financial test.

"Exchange" shall mean a place where securities are traded (e.g., New York Stock Exchange).

"Financial Assurance" shall mean a written demonstration of financial capability, in compliance with the terms of this Appendix, to implement Phosphogypsum Stack System Closure and Long Term Care in an amount at least equal to the approved Cost Estimates, and to provide for Third-party Liability and Corrective Action as required under this Appendix.

"Financial Mechanism" shall mean those mechanisms or instruments specified in this Appendix used to secure funding for an obligation under the Consent Decree.

"GAAP" shall mean U.S. Generally Accepted Accounting Principles.

"Guarantee" shall mean agreements where a second entity assumes responsibility for the payment of a debt or performance of an obligation if the entity primarily liable fails to perform. The entity providing the Guarantee is the Guarantor.

"Immediate Family" shall have the same meaning as set forth in the Statement of Financial Accounting Standards No. 57, Appendix B (Glossary) (Financial Accounting Standards Board - Original Pronouncements, as amended): "Family members whom a principal owner or a member of management might control or influence or by whom they might be controlled or influenced because of a family relationship."

"Independent Attorney" shall mean an attorney hired by Defendant to provide the opinion required by Paragraph 11.f of this Appendix. The Independent Attorney must be licensed and in good standing, have expertise in the areas of law for which the opinion is being rendered, free of control by Defendant (or Defendant's Guarantor or Related Party), and able to exercise his or her judgment as to the required opinion. Defendant shall waive any claim of attorney-client privilege or work-product doctrine in connection with the Independent Attorney's provision of the opinion required by Paragraph 11.f of this Appendix, and shall provide EPA with any requested support for the Independent Attorney's opinion.

"Independently Audited" shall mean an independent assessment (audit) of the fairness by which a company's financial statements are presented by its management in conformance with GAAP.

The audit must be performed by an independent Certified Public Accountant and conform to U.S. Generally Accepted Auditing Standards (GAAS).

"Intangible Assets" or "IA" shall mean identifiable non-monetary assets lacking physical substance, as defined under GAAP and as accounted for in the company's Independently Audited financial statements, including but not limited to patents, copyrights, franchises, goodwill, trademarks, and trade names.

"Liabilities" shall mean all probable future sacrifices of economic benefits arising from present obligations to transfer assets or provide services to other entities in the future as a result of past transactions or events, as represented on the company's Independently Audited balance sheet.

"Long Term Care" shall mean those activities required pursuant to Appendix 1, Attachment D, including associated Water Management activities, and shall be substituted for "post-closure" in 40 C.F.R. Part 264, Subpart H.

"Management" shall have the same meaning as set forth in the Statement of Financial Accounting Standards No. 57, Appendix B (Glossary) (Financial Accounting Standards Board - Original Pronouncements, as amended): "Persons who are responsible for achieving the objectives of the enterprise and who have the authority to establish policies and make decisions by whose objectives are to be pursued. Management normally includes members of the board of directors, the chief executive officer, chief operating officer, vice president in charge of the principal business functions (such as sales, administration, or finance), and other persons who perform similar policymaking functions. Persons without formal titles also may be members of management."

"Net Present Value" or "NPV" shall mean the total present value of a time series of cash flows.

"Net Worth" shall mean total Assets minus total Liabilities and is equivalent to shareholder's (or owner's) equity, as represented on the company's Independently Audited balance sheet.

"Non-U.S. Corporation" shall mean a legal entity, chartered by a State or government outside the continental United States, Alaska, Hawaii, or U.S. territories.

"Operating Cash Flow" shall mean the net cash provided by operating activities, as determined on a consolidated basis, as accounted for pursuant to GAAP, and as represented on a company's Independently Audited consolidated statements of cash flows (also referred to as "cash flows provided by operations" or "cash flow from operating activities").

"Plan Work" shall mean, as applicable in the context of this Appendix, the work required to implement any Risk Assessment Plan, Corrective Action Plan, or Interim Measures Plan pursuant to Paragraphs 17 through 19 of Attachment A of Appendix 1, or any corrective action assessment for the Zone of Discharge, pursuant to Section D of Attachment B of Appendix 1.

"Principal Owners" shall have the same meaning as set forth in the Statement of Financial Accounting Standards No. 57, Appendix B (Glossary) (Financial Accounting Standards Board - Original Pronouncements, as amended): "Owners of record or known beneficial owners of more than 10 percent of the voting interest of the enterprise."

"Related Party" or "Related Parties" shall have the same meaning as set forth in the Statement of Financial Accounting Standards No. 57, Appendix B (Glossary) (Financial Accounting Standards Board - Original Pronouncements, as amended): "Affiliates of the enterprise; entities for which investments in their equity securities would, absent the election of the fair value option under FASB Statement No. 159, *The Fair Value Option for Financial Assets for Financial Assets and Financial Liabilities*, be required to be accounted for by the equity method by the enterprise; trusts for the benefit of employees, such as pension and profit-sharing trusts that are managed by or under the trusteeship of management; principal owners of the enterprise; its management; members of the immediate families of principal owners of the enterprise and its management; and other parties with which the enterprise may deal if one party controls or can significantly influence the management or operating policies of the other to an extent that one of the transacting parties might be prevented from fully pursuing its own separate interests. Another party also is a related party if it can significantly influence the management or operating policies of the transacting parties or if it has an ownership interest in one of the transacting parties and can significantly influence the other to an extent that one or more of the transacting parties might be prevented from fully pursuing its own separate interests."

"Phosphogypsum Stack System Closure" shall mean the closure of the Phosphogypsum Stack System and associated Water Management activities required pursuant to Appendix 1, Attachment D, which term shall be substituted for "closure" as referenced in 40 C.F.R. Part 264, Subpart H.

"Substantial Business Relationship" shall mean the extent of a business relationship necessary under applicable State law to make a guarantee contract issued incident to that relationship valid and enforceable. A "substantial business relationship" must arise from a pattern of recent or ongoing business transactions, in addition to the guarantee itself, such that a currently existing business relationship between the guarantor and the owner or operator is demonstrated to the satisfaction of the EPA.

"Tangible Assets" shall mean total Assets minus Intangible Assets.

"Tangible Assets located within the United States" shall mean the sum of all Tangible Assets located in the United States.

"Tangible Net Worth" or "TNW" shall mean total Assets minus Intangible Assets and minus total Liabilities ("(TA-IA)- TL").

"Third Party" shall mean a party that is not a Related Party nor a party with a Substantial Business Relationship.

"Third-Party Mechanism" shall mean a trust fund, surety bond, letter of credit, or insurance.

"Self-Assurance Mechanism" shall mean a corporate financial test or a corporate guarantee.

"Water Management" shall mean the water management and groundwater monitoring activities described in Appendix 1, Attachment D.

II. Cost Estimates

1. Within thirty (30) days of the Lodging of this Consent Decree, Defendant shall provide to EPA for approval its initial Cost Estimate submission, which shall include a detailed written Cost Estimates for Phosphogypsum Stack System Closure and Long Term Care (which include respective associated Water Management activities) for the Facility, including but not limited to the cost of cover material, topsoil, seeding, fertilizing, mulching, labor, land surface care, and groundwater monitoring, collection and analysis and any other costs of compliance with Appendix 1, Attachment D.

a. The Cost Estimates shall be calculated based on the point in time when the extent and manner of the operation of the Phosphogypsum Stack System would make Phosphogypsum Stack System Closure and Long Term Care and the associated Water Management activities the most expensive, and based on what it would cost to hire a Third Party to complete Phosphogypsum Stack System Closure and Long Term Care.

(1) Defendant may propose, for EPA's approval in its unreviewable discretion, an alternate estimate of labor costs associated with Long Term Care Water Management activities, together with a demonstration that the alternative estimate is a reasonable substitute for what the cost would be to hire a Third Party to perform the Long Term Care Water Management activities. If approved by EPA, such cost estimates shall be clearly identified as alternative labor costs in the documentation required for the annual cost estimate update (as provided for in Attachment A).

(2) If Defendant's Cost Estimates include a cost to close the Phosphogypsum Stack System that is based upon the availability of soil from the borrow pits at the Facility and/or the use of the ball mills at the Facility to crush limestone, Defendant agrees that the United States, FDEP and their representatives, in addition to their other rights to Financial Assurance as set forth in this Consent Decree, shall have the same legal right of access to and use of such soil, and any equipment necessary to access and process such soil, and/or the use of the ball mills to crush limestone as Defendant would have. Defendant shall confirm in the annual Cost Estimate required under Paragraph 4, below, that the United States, FDEP and their representatives continue to have a right to access and use the ball mills (and any other associated equipment) to process limestone, to access and use the soil, and that the soil available is sufficient for closure of the Phosphogypsum Stack System, and that Defendant knows of no reasons as

to why the United States, FDEP and their representatives could not have access to and use of the ball mills, borrow pits and soil. If, for any reason, Defendant or EPA determines that such access cannot be had, or that the available soil in the borrow pit is insufficient for closure of the Phosphogypsum Stack System, then Defendant within thirty (30) days of such determination shall submit to EPA a revised Cost Estimate recalculating the soil cost as a cost of a third-party buying the soil for closure of the Phosphogypsum Stack System and/or lime (to substitute for the limestone) to treat the wastewater, and shall provide any additional or alternative Financial Assurance necessary to cover this cost. Nothing in this Paragraph 1.a(2) shall be construed as transferring to the United States, FDEP or their representatives any obligation that Defendant may have under the law, including permit requirements, to properly manage, close and/or remediate the soil borrow pits and/or the ball mills, or otherwise creating such obligations for the United States and/or FDEP.

b. Defendant shall also include Attachment A and B of this Appendix in its initial Cost Estimate submission to EPA. Defendant shall provide the information required in Attachment A, in its initial Cost Estimate submission, as follows:

(1) Defendant may elect to provide the initial Cost Estimate information in Attachment A based, in whole or in part, on cost estimates for the various components comprising Phosphogypsum Stack System Closure and Long Term Care that were used in connection with submissions to the FDEP (i.e., Form 62-673.900(4)(j)) in 2010, adjusted using the inflationary factor as specified in Paragraph 4 and Attachment A. If Defendant elects to provide the Cost Estimate information using the inflationary factor in its initial Cost Estimate submission, Defendant shall in it first annual submission pursuant to Paragraph 4, below, provide the Cost Estimate information in Attachment A by recalculating the costs, in Current Dollars, for Phosphogypsum Stack System Closure and Long Term Care.

(2) Defendant may elect, in it initial Cost Estimate submission, to not include the cost information required by the following items in Attachment A: (a) the contingency for closure costs and administrative costs specified in Exhibit 1 of Attachment A-1; and (b) the contingency for water treatment in Exhibit 3, Attachment A-1. If Defendant elects not to include the costs in its initial Cost Estimate submission, Defendant shall include such costs in its first annual submission pursuant to Paragraph 4 of this Appendix.

2. The Cost Estimates shall be calculated as follows:

a. In Current Dollars if Defendant provides Financial Assurance under Subsection III.A., below; or

b. In Current Dollars for Phosphogypsum Stack System Closure and Net Present Value for Long Term Care if Defendant provides the Financial Assurance pursuant to Subsection III.B., below. NPV shall be calculated using the 30-Year Treasury Constant Maturity Rate, averaged for the previous twelve (12) months (using the average spot rate for each month) from the date of the annual Cost Estimates, and discounted over the time period for which Long Term Care is required.

3. Defendant shall not include in the Cost Estimates any credit for salvage value or a zero cost for handling hazardous waste with potential future value, as set forth in 40 C.F.R. § 264.142(a)(3)&(4).

4. Defendant shall submit annually to EPA for review revised written Cost Estimates, together with supporting documentation, reflecting inflationary adjustments, significant cost adjustments and/or changes to the Phosphogypsum Stack System. Defendant shall submit the annual updates sixty (60) days prior to the Anniversary Date of the establishment of the Financial Mechanism. If more than one Financial Mechanism is being used to provide Financial Assurance, the updated Cost Estimates shall be submitted sixty (60) days prior to the earliest Anniversary Date, for a given calendar year, of a Financial Mechanism. When submitting the annual Cost Estimate update, Defendant shall:

a. Submit as part of the annual updates the information required in Attachments A and B of this Appendix.

b. When adjusting the Cost Estimates for inflation annually, except as provide below in Paragraph 4.c or, if applicable, Paragraph 4.f, the adjustment shall be made by either:

(1) Recalculating the costs, in Current Dollars, in conformity with 40 C.F.R. §§ 264.142(b) and 264.144(b) (see also OSWER Directive No. 9476.00-5); or

(2) Using the inflationary factor derived from the most recent Implicit Price Deflator for the Gross National Product published by the U.S. Department of Commerce in its Survey of Current Business, in the manner as specified by 40 C.F.R. §§ 264.142(b) and 264.144(b).

c. The Cost Estimates shall be adjusted for inflation every five years by recalculating the costs, in Current Dollars, as specified in Paragraph 4.b(1), above.

d. If the Cost Estimates are due January 31st, use the Implicit Price Deflator for the Gross National Product published for the 3rd quarter of the previous year

e. If providing Financial Assurance under Subsection III.B., submit with the annual updates the calculation and documentation for the average discount rate used for the NPV.

f. For purposes of calculations set forth in this Paragraph 4.f, the Gross Domestic Product ("GDP") Deflator is as specified in the "GDP (Chained) Price Index" of the Gross Domestic Product Deflators Used in the Historic Tables (Table 10.1), published by the Office of Management and Budget ("OMB"). If Defendant provides Financial Assurance pursuant to Section III.B, the inflation factor to be used to inflate Long Term Care costs (including Water Management costs) for purposes of deriving the NPV of Long Term Care shall be the mathematical average of the calculated inflation factors for each year over a five-year period. Each year's calculated inflation factor shall be the product of dividing the GDP Deflator for the relevant year by the GDP Deflator for the year immediately prior, beginning with the first year in which the GDP Deflator is an estimate and for each year thereafter until the fifth year. If the OMB publication is unavailable, in a written agreement not subject to Court approval under Section XVII (Modification) of the Consent Decree, EPA and Defendant shall identify another method to derive the inflation factor.

5. Notwithstanding the provisions of Section XI (Information Collection and Retention) of the Consent Decree, Defendant shall maintain at the Facility for the duration of this Consent Decree the latest approved Cost Estimates prepared in accordance with this Appendix.

III. Financial Assurance for Phosphogypsum Stack System Closure and Long Term Care

6. Within thirty (30) days of the Entry of the Consent Decree or within thirty (30) days of EPA's approval of Defendant's initial Cost Estimates, whichever is later, and on the first Anniversary Date and annually thereafter, Defendant shall provide to EPA an originally signed certification by Defendant's Chief Financial Officer ("CFO"), together with supporting documentation, confirming that it has secured Financial Assurance for Phosphogypsum Stack System Closure and Long Term Care, in an amount no less than the approved Cost Estimates and pursuant to the requirements of either Subsection III.A. ("Type A Financial Assurance") or III.B. ("Type B Financial Assurance"), of this Appendix, at Defendant's election.

a. Notwithstanding Paragraph 7, below, if Defendant initially elects to provide Type A Financial Assurance, Defendant shall have the one-time option, but not the obligation, to change to Type B Financial Assurance in 2011 after the preparation of Defendant's audited financial statements for the fiscal year-end December 31, 2010. Defendant shall notify EPA of this election by April 15, 2011, and within thirty (30) days of such notice provide the demonstration required by Subsection III.B. Defendant shall continue to be subject to the Financial Assurance requirements under Subsection III.A., until EPA approves the request to change to Type B Financial Assurance.

7. Once Defendant establishes either Type A or Type B Financial Assurance for Phosphogypsum Stack System Closure and Long Term Care, it shall maintain such Financial Assurance pursuant to the requirements of the applicable Subsection unless EPA approves a request to provide Financial Assurance pursuant to the other Subsection. If Defendant wishes to request such a change, Defendant shall submit to EPA for approval: (a) an originally signed certification by Defendant's CFO, together with supporting documentation, explaining in detail the reasons for the request; and (b) proposed Financial Assurance, compliant with the applicable Subsection's requirements, that can become effective within thirty (30) days of EPA's approval. Defendant shall not cancel its existing Financial Assurance for Phosphogypsum Stack System Closure and Long Term Care until it receives EPA's written approval of Defendant's request and the alternate Financial Assurance is in effect (e.g., trust fund is funded; insurance policy is in effect). EPA's determination whether to approve Defendant's request to provide Financial Assurance pursuant to the other Subsection may take into account Defendants' ability to promptly comply with the requirements of the other Subsection, its financial stability, and other such factors and proposals as Defendant may advance in requesting the change.

8. If Defendant establishes a trust fund to meet its Financial Assurance obligations under either Subsection III.A. or III.B. of this Appendix and the value of the funds placed in a trust fund is equal to or greater than the amount that would be required to comply with FDEP financial assurance regulations for terminal closure of the Facility (F.A.C. R.62-673.640), the

funding of the trust fund will be considered as a cash deposit arrangement under F.A.C. R.62-673.640(4)(a). If EPA approves a request by Defendant to provide alternate Financial Assurance in lieu of the established trust fund, such approval by EPA shall not be construed to waive or subordinate Defendant's obligation to comply with F.A.C. R.62-673.640.

A. Type "A" Financial Assurance for Phosphogypsum Stack System Closure and Long Term Care

9. Financial Assurance for Phosphogypsum Stack System Closure and Long Term Care under this Subsection must comply with the requirements of 40 C.F.R. §§ 264.143(a)-(i), 264.145(a)-(i), and 264.148, except as clarified and modified in this Subsection.

10. Defendant shall use the Cost Estimates generated pursuant to Section II, above, in lieu of the cost estimates required pursuant to 40 C.F.R. §§ 264.142 and 264.144 to establish Financial Assurance under this Subsection. Defendant shall provide Type A Financial Assurance in an amount at least equal to the latest Cost Estimates.

11. Defendant shall choose from the Financial Mechanisms specified in 40 C.F.R. §§ 264.143(a)-(f) and 264.145(a)-(f) to establish Type A Financial Assurance, provided that, if Defendant is using Third-Party Mechanisms (a trust fund, letter of credit, surety bond, or insurance), the Trustee of any trust fund, or the provider of any letter of credit, surety bond, or insurance shall not be a Related Party to Defendant. Defendant shall word the Financial Mechanism as specified in 40 C.F.R. § 264.151 unless EPA provides an alternate form, e.g., to address more than one beneficiary of the Financial Mechanism (i.e., EPA and the State).

a. For a trust fund, Defendant shall comply with 40 C.F.R. §§ 264.143(a) and 264.145(a), except that:

(1) In lieu of complying with 40 C.F.R. §§ 264.143(a)(3)-(4) and 264.145(a)(3)-(4), Defendant shall fully fund the trust within thirty (30) days unless one of the following two subparagraphs apply:

(i) If Defendant is unable to fully fund the trust fund, as specified above, except as provided in Paragraph 11.a(1)(ii), below, Defendant within ten (10) days of EPA's approval of the Cost Estimates shall submit to EPA for approval an originally signed certification by Defendant's CFO, together with supporting documentation, explaining in detail Defendant's inability to immediately fund the trust fund, and including a proposal for a pay-in period of no longer than three (3) years, with at least fifty percent (50%) of the Phosphogypsum Stack System Closure and Long Term Care Cost Estimates to be funded in the first year. Any subsequent request for an extension to an approved pay-in period shall be made at least 180 days before the close of an approved pay-in period, and shall include an originally signed certification by Defendant's CFO explaining in detail why a longer pay-in period is needed, together with supporting documentation.

(ii) If Defendant initially elects to provide fully funded Financial Assurance under the Consent Decree through the sole use of a trust fund under this Subsection, and does not elect to provide Financial Assurance under Subsection III.B. pursuant to Paragraph 6.a, above, Defendant shall fund the trust fund in three installments: (1) fifty percent (50%) of the initial Cost Estimate shall be provided at the time of the Entry of the Consent Decree; (2) fifty percent (50%) of the difference between the subsequent Cost Estimate and the value of the assets in the trust fund shall be provided one year later on the Anniversary Date; and (3) the full difference between the subsequent Cost Estimate and the value of the assets in the trust fund shall be provided in the second year on the Anniversary Date.

(2) In lieu of 40 C.F.R. § 264.151(a), Defendant shall use the exact wording specified in Attachment E-1 to this Appendix for the trust agreement. The trust agreement must be accompanied by a formal certification of acknowledgment as set forth in Attachment E-1. Defendant shall update Schedule A of the trust agreement within sixty (60) days after a change in the amount of the Cost Estimates.

(3) In addition to the requirements of 40 C.F.R. § 264.143(a), Defendant shall pay all expenses incurred by the Trustee in connection with the administration of the trust fund, including fees for legal services rendered to the Trustee and compensation of the Trustee.

b. For a surety bond guaranteeing payment or performance, Defendant shall comply with 40 C.F.R. §§ 264.143(b)&(c) and 264.145(b)&(c), except that:

(1) In addition to the requirements of 40 C.F.R. §§ 264.143(b)(1)&(c)(1) and 264.145(b)(1)&(c)(1), Defendant shall provide an originally signed certification by Defendant's CFO or an officer of A.M. Best or a Nationally Recognized Statistical Ratings Organization ("NRSRO"), documenting that the surety has at least a "secured" financial strength rating of "A" by A.M. Best or an equivalent rating by the NRSRO.

(2) In lieu of 40 C.F.R. §§ 264.143(b)(4)(ii)&(c)(5) and 264.145(b)(4)(ii)&(c)(5), upon notice to Defendant and the Surety of a determination by EPA that Defendant has failed to perform Phosphogypsum Stack System Closure and/or Long Term Care as required by Appendix 1 of this Consent Decree, and following the conclusion of any dispute resolution (other than judicial review) under Section X (Dispute Resolution) of the Consent Decree, the Surety under the terms of the bond will perform Phosphogypsum Stack System Closure and/or Long Term Care as directed by EPA or will deposit the amount of the penal sum into the stand-by trust fund.

c. For a letter of credit, Defendant shall comply with 40 C.F.R. §§ 264.143(d) and 264.145(d), except that:

(1) In addition to the requirements of 40 C.F.R. §§ 264.143(d)(1) and 264.145(d)(1), Defendant shall provide an originally signed certification by Defendant's CFO documenting that the provider of the letter of credit is a federally insured financial institution.

(2) In lieu of 40 C.F.R. § 264.143(d)(8) and 264.145(d)(9), upon

notice to Defendant of a determination by EPA that Defendant has failed to perform Phosphogypsum Stack System Closure and/or Long Term Care as required by Appendix 1 of this Consent Decree, and following the conclusion of any dispute resolution (other than judicial review) under Section X (Dispute Resolution) of the Consent Decree, EPA may draw on the letter of credit.

d. For insurance, Defendant shall comply with 40 C.F.R. §§ 264.143(e) and 264.145(e), and shall provide an originally signed certification by Defendant's CFO or an officer of A.M. Best or an NRSRO, documenting that the insurer has at least a "secured" financial strength rating of "A" by A.M. Best or an equivalent rating by the NRSRO. Defendant also shall:

(1) Comply with 40 C.F.R. §§ 264.143(e)(8) and 264.145(e)(8), except that in lieu of 40 C.F.R. §§ 264.143(e)(8)(i)-(v) and 264.145(e)(8)(i)-(v) the following conditions are substituted: (a) EPA determines that the Facility has been abandoned; (b) the Work required under this Consent Decree is undertaken by EPA; (c) Phosphogypsum Stack System Closure, partial Phosphogypsum Stack System Closure, or Long Term Care is ordered by EPA or by a U.S. District Court or other court of competent jurisdiction; (d) Defendant is named as debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or (e) the premium due is paid.

(2) Submit annually a Certificate of Insurance and a complete copy of the insurance policy, including amendments and endorsements.

(3) Notify EPA if it has cause to believe that it will not be able to make a premium payment.

(4) Ensure the assignment requirements of 40 C.F.R. §§ 264.143(e)(7) and 264.145(e)(7) are incorporated into the insurance policy exactly as written, with no additional qualifying conditions.

(5) Ensure that the policy does not allow or offer coverage for liabilities other than those contemplated by the Consent Decree.

e. For the corporate financial test and corporate guarantee, Defendant (including Defendant's Guarantor), shall comply with 40 C.F.R. §§ 264.143(f) and 264.145(f), except that:

(1) In lieu of complying with 40 C.F.R. §§ 264.143(f)(1)(ii)(A) and 264.145(f)(1)(ii)(A), Defendant shall use the current rating of either Standard & Poor's ("S&P") long-term issuer credit rating or Moody's long-term corporate family rating, which assesses a company's capacity to meet its long-term (greater than one (1) year) financial commitments, as they come due. The rating must be BBB or greater as issued by S&P, or Baa or greater as issued by Moody's. If Defendant has more than one rating, the lower of the two will be used to meet the criteria in 40 C.F.R. §§ 264.143(f) and 264.145(f). If Defendant with multiple ratings discontinues a rating that is below BBB (S&P) or Baa (Moody's), or a rating agency discontinues a rating that is below BBB (S&P) or Baa (Moody's), such that the remaining rating(s) subsequently would enable the Defendant to satisfy the corporate financial test criteria, Defendant shall provide alternate Financial Assurance and shall be disqualified from using the corporate financial test for two (2) years.

(2) The term "assets" specified in 40 C.F.R. §§ 264.143(f)(1)(i)(D)&(ii)(D) and 264.145(f)(1)(i)(D)&(ii)(D) shall be replaced by the term "tangible assets."

(3) The phrase "all Environmental Obligations" is substituted for "current closure and post-closure cost estimates and current plugging and abandonment cost estimates" found in 40 C.F.R. §§ 264.143(f)(1) and 264.145(f)(1).

(4) In lieu of complying with 40 C.F.R. §§ 264.143(f)(3) and 264.145(f)(3), Defendant shall document its satisfaction of the corporate financial test by submitting to EPA within ninety (90) days after the close of Defendant's fiscal year, for each year Defendant is providing a Self-Assurance Mechanism:

(a) A letter signed by Defendant's CFO worded as specified by the appropriate Form in Attachment C of this Appendix. [Note: Form C-1 corresponds to CFO letter for Subsection III.A.]

(b) A copy of the independent CPA report on examination of Defendant's audited financial statements for the latest completed fiscal year that Defendant is using for the basis of the financial test.

(c) A copy of the audited financial statements for the last completed year.

(d) A report of procedures and findings from Defendant's independent CPA, resulting from an agreed-upon procedures engagement performed in accordance with the AICPA Statement on Standards for Attestation Engagements and Related Attestation Interpretations, AT Section 201 - Agreed Upon Procedures Engagements, as updated, that describes the procedures performed and related findings, including whether or not differences or discrepancies were found in the comparison of financial information set out in the letter (including attachments and exhibits) from Defendant's CFO and Defendant's Independently Audited, year-end financial statements for the last fiscal year, including all attachments. Where differences or discrepancies exist between Defendant's CFO letter and Defendant's Independently Audited year-end financial statements, the report of procedures and findings will reconcile any differences or discrepancies between the values or information represented in Defendant's CFO letter and Defendant's Independently Audited financial statements. Procedures to be performed by the independent CPA shall be in accordance with AT Section 201.

(5) In addition to complying with 40 C.F.R. §§ 264.143(f)(6) and 264.145(f)(6), if Defendant determines at any time during the fiscal year that it no longer meets or will not meet the requirements of this Paragraph 11.e, Defendant shall provide alternate Financial Assurance pursuant to the requirements of Subsection III.A. and Section VII of this Appendix.

(6) Within thirty (30) days of notice by EPA that EPA, pursuant to 40 C.F.R. §§ 264.143(f)(7) and 264.145(f)(7), no longer believes that Defendant meets the requirements of the corporate financial test criteria of this Paragraph 11.e, or that EPA disallows the use of the corporate financial test based on qualifications in the opinion expressed by the independent CPA as set out in 40 C.F.R. §§ 264.143(f)(8) and

264.145(f)(8), Defendant shall provide alternate Financial Assurance as required by 40 C.F.R. §§ 264.143(f)(7)&(8) and 264.145(f)(7)&(8) pursuant to this Subsection. Defendant's failure to timely provide alternate Financial Assurance is not subject to Section VII of this Appendix.

(7) In addition to complying with 40 C.F.R. §§ 264.143(f) and 264.145(f), Defendant shall:

(a) If more than sixty percent (60%) of Defendant's tangible assets are in the form of one or more note receivables from one or more Related Parties, submit to EPA, when providing the information required by Paragraph 11.e(4), above, and 40 C.F.R. §§ 264.143(f)(5) and 264.145(f)(5), an originally signed certification by Defendant's CFO together with a list of each note receivable, the name of the Related Party and a description (along with any necessary documentation) of the Related Party's financial strength, to demonstrate that each Related Party maintains the financial strength to meet its obligation to the Defendant.

(b) On a quarterly basis, using the sum of the most recent four (4) quarters' financial statements (including balance sheets, income statements, and cash flow statements), reviewed by a independent CPA, evaluate Defendant's ability to meet the criteria of the corporate financial test.

f. For the corporate guarantee, Defendant shall comply with 40 C.F.R. §§ 264.143(f)(10) and 264.145(f)(11), and shall meet the requirements specified below, if applicable.

(1) Defendant may use a Non-U.S. Corporation as Guarantor only if the following conditions are met: (a) the Non-U.S. Corporation has identified a registered agent for service of process in the State in which the facility covered by the guarantee is located and in the State in which it has its principal place of business; (b) Defendant submits to EPA a written legal opinion from an Independent Attorney, prior to the execution of the guarantee, confirming that a guarantee executed as required under this Section by the Non-U.S. Guarantor is a legally valid and an enforceable obligation in the State(s); (c) the Non-U.S. Corporation provides Independently Audited financial statements in conformance with GAAP; (d) the total amount of the Non-U.S. Corporation's present and proposed guarantee's (including self-guarantees) to cover all Environmental Obligations in the United States shall not exceed twenty-five percent (25%) of the Non-U.S. Corporation's tangible net worth in the United States; and (e) the written guarantee reflects the Non-U.S. Corporation's (Guarantor's) agreement to comply with the reporting requirements required under the Consent Decree and that within thirty (30) days of executing the guarantee the Guarantor will establish a stand-by trust with a financial institution within the continental United States, Alaska, or Hawaii.

(2) Defendant shall use the exact wording specified in Attachment E-2 to this Appendix for the corporate guarantee. The certified copy of the corporate guarantee must accompany the items sent to EPA and FDEP, in accordance with Section XIV (Notices) of the Consent Decree, as specified in Paragraph 11.e(4) of this Appendix.

12. If Defendant seeks to provide:

a. More than one Third-Party Mechanism to demonstrate Financial Assurance for Phosphogypsum Stack System Closure and Long Term Care, pursuant to 40 C.F.R. §§ 264.143(g) and 264.145(g), Defendant shall submit to EPA an originally signed certification by Defendant's CFO verifying that the Third-Party Mechanisms do not incorporate terms subrogating one Financial Mechanism to another, i.e., designating a prioritization for the release of the funds or the payment of a claim. EPA, if the need arises, will determine the priority for the release of funds or payment of a claim.

b. A Financial Mechanism ensuring Financial Assurance at more than one Facility pursuant to 40 C.F.R. §§ 264.143(h) and 264.145(h), Defendant:

(1) Shall not provide a single trust fund or insurance policy to cover the multiple Facilities in different States, but shall provide each affected State with its own distinct trust fund or insurance policy;

(2) May use the same letter of credit or surety bond for multiple Facilities provided that the following conditions are meet: (i) the Facilities' EPA Identification Numbers, names, addresses, and the Phosphogypsum Stack System Closure and Long Term Care costs associated with each particular Facility are clearly specified in the Financial Mechanism; and (ii) the Financial Mechanism clearly states that there can be a release of funds for a specified Facility without requiring the entire obligation covered by the Financial Mechanism to be placed in the associated stand-by trusts; and

(3) Shall not release funds designated for one or more Facilities in another State except upon written agreement of EPA, Defendant, and the affected State(s).

B. Type B Financial Assurance for Phosphogypsum Stack System Closure and Long Term Care

13. Financial Assurance under this Subsection must comply with the requirements of 40 C.F.R. §§ 264.143(a)-(b)&(d)-(i), 264.145(a)-(b)&(d)-(i), and 264.148, except as clarified and modified in this Subsection (including Attachment D). Defendant shall use the Cost Estimates generated pursuant to Section II, above, in lieu of the cost estimates required pursuant to 40 C.F.R. §§ 264.142 and 264.144, to establish Financial Assurance under this Subsection. Defendant shall provide Type B Financial Assurance in an amount at least equal to the latest Cost Estimates.

14. The options and requirements for Type B Financial Assurance depend upon Defendant's threshold rating, which shall be based on: (i) current S&P long-term issuer credit rating of AAA through BB-; (ii) current Moody's long-term corporate family rating of Aaa though Ba3; or (iii) an equivalent current rating from an NRSRO that assesses a company's capacity to meet its long-term (greater than one (1) year) financial commitments, as they come due. If Defendant has more than one rating, it shall use the lowest rating to determine its threshold rating. If Defendant does not have a publicly available rating to establish its threshold rating under Attachment D, Defendant may provide an originally signed letter from the appropriate official at S&P, Moody's, or an NRSRO stating what rating would be issued by that rating agency. The

rating provided (i.e., current S&P long-term issuer credit rating, current Moody's long-term corporate family rating, or an equivalent current rating from an NRSRO that assesses a company's capacity to meet its long-term (greater than one (1) year) financial commitments) must address the credit-worthiness of Defendant inclusive of the fiscal year-end audited financial statements for the current year. The letter must confirm that: (i) the rating is derived from information that the rating agency uses in the normal course of business to generate such a rating, and (ii) the rating is the same rating that would be issued if the rating were public. Defendant shall attach this letter to the CFO's letter submitted to EPA.

15. A Defendant that qualifies to use a Self-Assurance Mechanism based on its threshold rating and Attachment D shall use only one Self-Assurance Mechanism. When required under Attachment D to provide a Third-Party Mechanism in combination with a Self-Assurance Mechanism, Defendant shall use a trust fund unless permitted to substitute another type of Third-Party Mechanism pursuant to Paragraphs 17 and 18, below. Defendant shall meet the minimum threshold amount specified in Attachment D to be funded in or covered by a Third-Party Mechanism.

16. Defendant shall use the Financial Mechanisms specified in 40 C.F.R. §§ 264.143(a)-(b)&(d)-(f) and 264.145(a)-(b)&(d)-(f) to establish Type B Financial Assurance as provided by Attachment D, provided that, if Defendant is using Third-Party Mechanisms (a trust fund, letter of credit, surety bond guaranteeing payment, or insurance), the Trustee of any trust fund, or the provider of any letter of credit, surety bond guaranteeing payment, or insurance shall not be a Related Party to Defendant. Defendant shall word the Financial Mechanism as specified in 40 C.F.R. § 264.151, unless EPA provides an alternate form, e.g., to address more than one beneficiary of the Financial Mechanism (i.e., EPA and the State). Defendant shall also comply with the requirements of 40 C.F.R. §§ 264.143(a)(7)-(8), (b)(7), (d)(7) & (e)(9) and 264.145 (a)(7)-(8), (b)(7), (d)(7) & (e)(9), except that the corpus of the trust fund, the penal sum of the payment surety bond, the value of the letter of credit, or the limit of liability of the insurance policy shall not be reduced to reflect reductions in the Cost Estimates until such time as the annual Cost Estimate is equivalent to the corpus of the trust fund, the penal sum of the payment surety bond, the value of the letter of credit, or the limit of liability of the insurance policy. In addition, Defendant shall comply with the requirements of 40 C.F.R. §§ 264.143(a)(10) & (e)(5) and 264.145 (a)(11) & (e)(9), except as provided for in Paragraph 20 of this Appendix. If Financial Assurance is provided by multiple Third-Party Mechanisms pursuant to Paragraph 18 of this Appendix, the individual value of the Third-Party Mechanisms shall not be reduced to reflect any reductions in the Cost Estimates until such time as the annual Cost Estimate is equivalent to the sum of the total obligations covered by the Third-Party Mechanisms.

a. For a trust fund, Defendant shall comply with 40 C.F.R. §§ 264.143(a) and 264.145(a), except that:

(1) In lieu of complying with 40 C.F.R. §§ 264.143(a)(3)-(4) and 264.145(a)(3)-(4), Defendant shall fully fund the trust unless Defendant seeks a pay-in period pursuant to Paragraph 16.a(1)(i), below, and EPA approves such a request.

(i) If Defendant is unable to fully fund the trust fund, Defendant within ten

(10) days of EPA's approval of the Cost Estimates shall submit to EPA for approval an originally signed certification by Defendant's CFO, together with supporting documentation, explaining in detail Defendant's inability to immediately fund the trust fund, and including a proposal for a pay-in period of no longer than three (3) years, with at least fifty percent (50%) of the Phosphogypsum Stack System Closure and Long Term Care Cost Estimates to be funded in the first year. Any subsequent request for an extension to an approved pay-in period shall be made at least 180 days before the close of an approved pay-in period, and shall include an originally signed certification by Defendant's CFO explaining in detail why a longer pay-in period is needed, together with supporting documentation.

(2) In lieu of 40 C.F.R. § 264.151(a), Defendant shall use the exact wording specified in Attachment E-1 to this Appendix for the trust agreement. The trust agreement must be accompanied by a formal certification of acknowledgment as set forth in Attachment E-1. Defendant shall update Schedule A of the trust agreement within sixty (60) days after a change in the amount of the Cost Estimates.

(3) In addition to the requirements of 40 C.F.R. § 264.143(a), Defendant shall pay all expenses incurred by the Trustee in connection with the administration of the trust fund, including fees for legal services rendered to the Trustee and compensation of the Trustee.

(4) Defendant shall use March 30th, after the initial funding of the trust fund, as the Anniversary Date of the trust fund

b. For a surety bond guaranteeing payment, Defendant shall comply with 40 C.F.R. §§ 264.143(b) and 264.145(b), except that:

(1) In addition to the requirements of 40 C.F.R. §§ 264.143(b)(1) and 264.145(b)(1), Defendant shall provide an originally signed certification by Defendant's CFO or an officer of A.M. Best or an NRSRO, documenting that the surety has at least a "secured" financial strength rating of "A" by A.M. Best or an equivalent rating by the NRSRO.

(2) In lieu of 40 C.F.R. §§ 264.143(b)(4)(ii) and 264.145(b)(4)(ii), upon notice to Defendant and the Surety of a determination by EPA that Defendant has failed to perform Phosphogypsum Stack System Closure and/or Long Term Care as required by Appendix 1 of this Consent Decree, and following the conclusion of any dispute resolution (other than judicial review) under Section X (Dispute Resolution) of the Consent Decree, the Surety under the terms of the bond will deposit the amount of the penal sum into the stand-by trust fund.

c. For a letter of credit, Defendant shall comply with 40 C.F.R. §§ 264.143(d) and 264.145(d), except that:

(1) In addition to the requirements of 40 C.F.R. §§ 264.143(d)(1) and 264.145(d)(1), Defendant shall provide an originally signed certification by Defendant's CFO documenting that the provider of the letter of credit is a federally insured financial institution.

(2) In lieu of 40 C.F.R. §§ 264.143(d)(8) and 264.145(d)(9), upon

notice to Defendant of a determination by EPA that Defendant has failed to perform Phosphogypsum Stack System Closure and/or Long Term Care as required by Appendix 1 of this Consent Decree and following the conclusion of any dispute resolution (other than judicial review) under Section X (Dispute Resolution) of the Consent Decree, EPA may draw on the letter of credit.

d. For insurance, Defendant shall comply with 40 C.F.R. §§ 264.143(e) and 264.145(e), and shall provide an originally signed certification by Defendant's CFO or an officer of A.M. Best or an NRSRO, documenting that the insurer has at least a "secured" financial strength rating of "A" by A.M. Best or an equivalent rating by the NRSRO. Defendant also shall:

(1) Comply with 40 C.F.R. §§ 264.143(e)(8) and 264.145(e)(8), except that in lieu of 40 C.F.R. §§ 264.143(e)(8)(i)-(v) and 264.145(e)(8)(i)-(v) the following conditions are substituted: (a) EPA determines that the Facility has been abandoned; (b) the Work required under this Consent Decree is undertaken by EPA; (c) Phosphogypsum Stack System Closure, partial Phosphogypsum Stack System Closure, or Long Term Care is ordered by EPA or by a U.S. District Court or other court of competent jurisdiction; (d) Defendant is named as debtor in a voluntary or involuntary proceeding under Title 11 (bankruptcy), U.S. Code; or (e) the premium due is paid.

(2) Submit annually a Certificate of Insurance and a complete copy of the insurance policy, including amendments and endorsements.

(3) Notify EPA if it has cause to believe that it will not be able to make a premium payment.

(4) Ensure that the assignment requirements of 40 C.F.R. §§ 264.143(e)(7) and 264.145(e)(7) are incorporated into the insurance policy exactly as written, with no additional qualifying conditions.

(5) Ensure that the policy does not allow or offer coverage for liabilities other than those contemplated by the Consent Decree.

e. For the corporate financial test and corporate guarantee, Defendant (including Defendant's Guarantor) shall comply with 40 C.F.R. §§ 264.143(f) and 264.145(f), except that:

(1) The phrase "all Environmental Obligations" is substituted for "current closure and post-closure cost estimates and current plugging and abandonment cost estimates" found in 40 C.F.R. §§ 264.143(f)(1) and 264.145(f)(1).

(2) In lieu of complying with 40 C.F.R. §§ 264.143(f)(1)(i)-(ii) and 264.145(f)(1)(i)-(ii), Defendant shall:

(a) Meet the corporate financial test criteria specified in Attachment D which corresponds to Defendant's rating threshold as specified in Paragraph 14, above. If a Defendant with multiple ratings discontinues, or S&P, Moody's, or an NRSRO discontinues, the lower of the ratings, Defendant shall for a period of two (2) years commencing on Defendant's fiscal year-end apply the criteria and requirements of Attachment D (and this Paragraph) as if the lower rating were in effect. If during that two year period, a change in Defendant's other rating(s) results in Defendant not satisfying the corporate financial test or becoming subject to a more stringent set of corporate financial test criteria under

Attachment D, Defendant shall provide Financial Assurance as specified in Paragraphs 16.e(4)(a) and 19, below.

(b) Calculate the three (3)-year rolling average specified in Attachment D for the Debt-to-Equity Ratio (TL/NW), Current Ratio, or the Operating Cash Flow metric ("OCF metric") as follows: (i) TL/NW is a three (3)-year rolling average of total liabilities divided by three (3)-year rolling average of net worth; (ii) CA/CL is a three (3)-year rolling average of current assets divided by three (3)-year rolling average of current liabilities; and (iii) OCF metric is a three (3)-year rolling average of operating cash flow, except for a Defendant with an S&P rating of BB-, Moody's rating of Ba3 or an equivalent rating from an NRSRO who shall calculate the OCF metric annually.

(c) Not use the OCF metric to demonstrate Financial Assurance if Defendant has a negative cash flow for that fiscal year.

(3) In lieu of complying with 40 C.F.R. §§ 264.143(f)(3) and 264.145(f)(3), Defendant shall document its satisfaction of the corporate financial test by submitting to EPA within ninety (90) days after the close of Defendant's fiscal year, for each year Defendant is providing a Self-Assurance Mechanism:

(a) A letter signed by Defendant's CFO worded as specified by the appropriate Form in Attachment C of this Appendix. [Note: Form C-2 corresponds to the CFO letter for this Subsection III.B.]

(b) A copy of the independent CPA report on examination of Defendant's audited financial statements for the latest completed fiscal year that Defendant is using for the basis of the financial test.

(c) A copy of the audited financial statements for the last completed year.

(d) A report of procedures and findings from Defendant's independent CPA, resulting from an agreed-upon procedures engagement performed in accordance with the AICPA Statement on Standards for Attestation Engagements and Related Attestation Interpretations, AT Section 201 - Agreed Upon Procedures Engagements, as updated, that describes the procedures performed and related findings, including whether or not differences or discrepancies were found in the comparison of financial information set out in the letter (including attachments and exhibits) from Defendant's CFO and Defendant's Independently Audited, year-end financial statements for the last fiscal year, including all attachments. Where differences or discrepancies exist between Defendant's CFO letter and Defendant's Independently Audited year-end financial statements, the report of procedures and findings will reconcile any differences or discrepancies between the values or information represented in Defendant's CFO letter and Defendant's Independently Audited financial statements. Procedures to be performed by the independent CPA shall be in accordance with AT Section 201.

(4) In addition to complying with 40 C.F.R. §§ 264.143(f)(6) and 264.145(f)(6), if Defendant determines at any time during the fiscal year that:

(a) It no longer meets or will not meet the requirements of this

Paragraph 16.e (including the loss of a threshold rating except as provided by Paragraph 16.e(2)(a), above), Defendant shall within ten (10) days send written notice to EPA of this determination, by certified mail, stating the basis for such a determination. If Defendant cannot re-establish compliance with the requirements of this Paragraph 16.e pursuant to Sections VII and/or VIII of this Appendix, then Defendant, within thirty (30) days of its notice to EPA as specified above, shall provide alternate Financial Assurance for Phosphogypsum Stack System Closure and Long Term Care pursuant to Paragraph 19, below.

(b) Its threshold rating requires Defendant to change from one set of corporate financial test criteria under Paragraph 16.e(2), above, and Attachment D (e.g., CFT Criteria A) to a more stringent set of corporate financial test criteria (e.g., CFT Criteria C), Defendant shall notify EPA within ten (10) days of the change in corporate financial test criteria and within thirty (30) days of such notice shall submit to EPA a revised corporate financial test or corporate guarantee based on the most recent evaluation conducted under Paragraph 16.e(6)(c), below, demonstrating compliance with the more stringent corporate financial test criteria. To the extent necessary, Defendant shall at the same time make a contribution to the Third-Party Mechanism to comply with the minimum threshold amount specified in the corporate financial test requirements in Paragraph 16.e(2), above.

(5) Within thirty (30) days of notice by EPA that EPA, pursuant to 40 C.F.R. §§ 264.143(f)(7) and 264.145(f)(7), no longer believes that Defendant meets the corporate financial test criteria in Paragraph 16.e(2), above, or that EPA disallows the use of the corporate financial test based on qualifications in the opinion expressed by the independent CPA as set forth in 40 C.F.R. §§ 264.143(f)(8) and 264.145(f)(8), Defendant shall provide alternate Financial Assurance as required by 40 C.F.R. §§ 264.143(f)(7)&(8) and 264.145(f)(7)&(8) pursuant to Paragraph 19 of this Appendix. Defendant's failure to timely provide alternate Financial Assurance is not subject to Section VII of this Appendix.

(6) In addition to complying with 40 C.F.R. §§ 264.143(f) and 264.145(f), Defendant shall:

(a) If Defendant with an S&P rating of BB-, Moody's rating of Ba3 or an equivalent NRSRO rating, receives a negative outlook posted on one or more of its ratings, or receives a qualified opinion from an independent CPA, or is delisted from an Exchange for any reason other than: (i) Defendant's decision to take the company into private ownership, or (ii) a transaction which results in the acquisition of Defendant (or Defendant's ultimate parent corporation) by another company subjecting Defendant to Section IX of this Appendix, then Defendant shall within ten (10) days of such an event send written notice by certified mail of such event to EPA, and within thirty (30) days of such notice shall provide an alternate form of Financial Assurance, in compliance with Paragraph 19 of this Appendix. In the event that the delisting is due to Defendant's decision to take the company into private ownership Defendant may continue to provide Financial Assurance using the Financial Mechanism(s) already in place if, within twenty (20)

days of the delisting, it provides documentation to EPA from S&P, Moody's or the NRSRO confirming that Defendant meets a current S&P long-term issuer credit rating, Moody's long-term corporate family rating, or equivalent current rating from an NRSRO, as specified in Paragraph 14.

(b) If more than sixty percent (60%) of Defendant's tangible assets are in the form of one or more note receivables from one or more Related Parties, submit to EPA, when providing the information required by Paragraph 16.e(3), above, and 40 C.F.R. §§ 264.143(f)(5) and 264.145(f)(5), an originally signed certification by Defendant's CFO together with a list of each note receivable, the name of the Related Party and a description (along with any necessary documentation) of the Related Party's financial strength, to demonstrate that each Related Party maintains the financial strength to meet its obligation to the Defendant.

(c) On a quarterly basis prepare and use financial statements (including balance sheets, income statements, and cash flow statements), reviewed by a independent CPA, to evaluate Defendant's ability to meet the criteria of the corporate financial test. To meet the criteria involving rolling averages, the averages shall be based on the results as of the end of the same quarter for the prior years (i.e., a three (3)-year rolling average evaluated at the end of the first quarter for Year X shall include the results from the first quarter of Year X-2 and X-1). In addition, Operating Cash Flow for this evaluation shall be based on the results from the most recent four (4) quarters (i.e., for a first quater analysis, the Operating Cash Flow shall be based on the results from the second quater of the previous year through the first quarter of the current year). The same adjustment shall be made for the OCF metric for prior periods if the criteria involves the use of a rolling average.

(d) If Defendant with a S&P rating of BBB- through BB, a Moody's rating of Baa3 through Ba2, or an equivalent rating from an NRSRO receives a negative outlook posted on one or more of its ratings, or receives a qualified opinion rendered by an independent CPA, Defendant within twenty (20) days of such event shall submit to EPA a revised corporate financial test based on the most recent evaluation conducted under Paragraph 16.e(6)(c), above.

f. For the corporate guarantee, Defendant shall comply with 40 C.F.R. §§ 264.143(f)(10) and 264.145(f)(11), and shall meet the requirements specified below, if applicable.

(1) Defendant may use a Non-U.S. Corporation as a Guarantor only if the following conditions are met: (a) Non-U.S. Corporation meets the requirements of Paragraph 11.f of this Appendix, and (b) Non-U.S. Corporation has a current rating for either the S&P long-term issuer credit rating of AAA through BBB, Moody's long-term corporate family rating of Aaa though Baa, or an equivalent rating from an NRSRO that assesses a company's capacity to meet its long-term (greater than one (1) year) financial commitments, as they come due.

(2) Defendant shall use the exact wording specified in Attachment E-2

to this Appendix for the corporate guarantee. The certified copy of the corporate guarantee must accompany the items sent to EPA and FDEP, in accordance with Section XIV (Notices) of the Consent Decree, as specified in Paragraph 16.e(3) of this Appendix.

17. Defendant may submit annually, for EPA approval, a request to use a letter of credit, surety bond guaranteeing payment, or insurance in lieu of the trust find required under Paragraph 15, above. Defendant shall include in its request documentation demonstrating compliance with Financial Assurance under this Subsection. Defendant may not rely upon the letter of credit, payment surety bond, or insurance to establish compliance with this Appendix until EPA has approved the Third-Party Mechanism. Defendant shall comply with the letter of credit, payment surety bond or insurance requirements of Paragraph 16 of this Appendix, as applicable. Defendant shall also demonstrate compliance with Paragraph 12 of this Appendix.

18. Defendant may submit annually, for EPA approval, a request to use multiple Third-Party Mechanisms (i.e., trust fund, letter of credit, surety bond guaranteeing payment, and insurance) in conjunction with a Self-Assurance Mechanism (i.e., corporate financial test or corporate guarantee), together with supporting documentation, to demonstrate Financial Assurance for Phosphogypsum Stack System Closure and Long Term Care. Defendant shall not rely upon the additional Third-Party Mechanism to establish compliance with this Consent Decree until EPA has approved the additional Third-Party Mechanism. Defendant shall also demonstrate compliance with Paragraph 12 of this Appendix.

19. If Defendant at any time becomes ineligible to rely on a Self-Assurance Mechanism pursuant to this Subsection, and cannot re-establish such eligibility pursuant to Sections VII and/or VIII of this Appendix, then Defendant shall establish alternate Financial Assurance based on Current Dollars by: (a) maintaining the existing Financial Assurance in the trust fund (or as approved, other Third-party Mechanism) as established pursuant to Paragraph 15, above; (b) providing additional Financial Assurance using Third-party Mechanism(s) pursuant to Paragraphs 11.a-d, above; and (c) meeting the requirements of Paragraph 12, above, when providing more than one Financial Mechanism. If Defendant meets the above requirements and EPA approves the alternate Financial Assurance (including the termination of a corporate guarantee if provided), Defendant does not need to meet the requirements of Paragraph 16 of this Appendix. Defendant shall continue to be subject to Subsection III.B., as set forth in this Paragraph, unless EPA approves a request to change to Type A Financial Assurance pursuant to Paragraph 7 of this Appendix.

20. If the Cost Estimates at the commencement of Defendant's fiscal year are less than or equal to the value of the following Third-Party Mechanisms, trust fund or insurance, then Defendant may draw upon the Third-Party Mechanism(s) to pay for Phosphogypsum Stack System Closure and Long Term Care. Otherwise, Defendant shall first draw upon the resources of the Self-Assurance Mechanism before drawing upon a Third-Party Mechanism to pay for Phosphogypsum Stack System Closure or Long Term Care. If EPA approves the use of multiple

Third-Party Mechanisms under Paragraph 18, above, EPA in its unreviewable discretion will designate the priority for drawing on the Third-Party Mechanisms.

IV. Financial Assurance for Corrective Action

21. Within thirty (30) days of receiving approval by EPA of any Risk Assessment Plan or Interim Measures Plan required pursuant to Paragraphs 17 or 19 in Attachment A of Appendix 1, Defendant shall provide a detailed written Cost Estimate for the work required under the applicable Plan ("Plan Work"). Defendant shall, within twenty (20) days of EPA's approval of the Cost Estimate, demonstrate and provide to EPA Financial Assurance for the Plan Work in accordance with the requirements of Subsection III.A of this Appendix as applied to the Plan Work. If Defendant wishes to seek a waiver of all or part of the Financial Assurance, or wishes to propose an alternative form or reduced amount of Financial Assurance, Defendant shall submit a request to EPA explaining the basis for the proposed waiver, or alternative or reduced Financial Assurance, together with supporting documentation. Until such time as EPA approves the proposed waiver, or alternate or reduced Financial Assurance in writing, Defendant shall provide Financial Assurance in the amount of the approved Cost Estimate in accordance with Subsection III.A of this Appendix as applied to the Plan Work.

22. Within thirty (30) days of receiving written approval by EPA of any Corrective Action Plan required pursuant to Paragraph 18 of Attachment A of Appendix 1, or any corrective action assessment by EPA for the Zone of Discharge required pursuant to Section D of Attachment B of Appendix 1, Defendant shall submit to EPA for approval a proposed Financial Assurance Plan to implement the applicable Plan Work. The proposed Financial Assurance Plan shall include, as appropriate:

a. Estimated costs for each stage of the Plan Work.

b. A proposed Financial Mechanism, or set of Mechanisms, to provide Financial Assurance for the Plan Work, selected from the options set forth in Subsection III.A. of this Appendix (e.g., trust fund, surety bond, insurance, letter of credit, corporate financial test, or corporate guarantee) as applied to the Plan Work. If Defendant wishes to propose an alternate form or reduced amount of Financial Assurance, wishes to provide Financial Assurance in phases corresponding to the estimated costs for each stage of Plan Work or wishes to seek a waiver of all or part of the Financial Assurance required under this Subsection, Defendant shall submit a request to EPA explaining the basis for the proposed alternate, reduced or phased Financial Assurance, or the waiver of all or part of the Financial Assurance, together with supporting documentation.

c. A proposed schedule (on at least a semi-annual basis) to update the Cost Estimates required pursuant to Paragraph 22.b, above, to reflect inflationary adjustments and/or changes to the Plan Work.

23. Within thirty (30) days of EPA's approval of Defendant's Financial Assurance Plan, Defendant shall provide Financial Assurance for the Plan Work in an amount no less than the approved Cost Estimate, and in accordance with the Financial Assurance Plan approved by

EPA.

V. Financial Assurance for Third-Party Liability

24. Defendant shall provide Financial Assurance to compensate third-parties for bodily injury or property damage that might result from sudden accidental or non-sudden accidental occurrences associated with the Phosphogypsum Stack System Closure, Long Term Care, or Corrective Action at the Facility ("Financial Assurance for Third-party Liability"). The Financial Assurance for Third-party Liability shall comply with 40 C.F.R. § 264.147, except as provided in Paragraph 25, below, and in lieu of complying with 40 C.F.R. § 264.147(e) Defendant shall maintain such Financial Assurance for the duration of Phosphogypsum Stack System Closure, Long Term Care and, if required, Corrective Action. If Defendant wishes to propose an adjustment to the amount of Financial Assurance pursuant to 40 C.F.R. § 264.147(c), Defendant shall submit to EPA for approval an originally signed certification by Defendant's CFO and, as set forth in 40 C.F.R. § 264.147(c), explaining the basis for the proposed adjustment, together with supporting documentation. Until such time as EPA approves the adjusted Financial Assurance in writing, Defendant shall provide Financial Assurance for Third-party Liability as required herein. Nothing in this Paragraph shall be construed to waive or limit EPA's right, pursuant to 40 C.F.R. § 264.147(d), to adjust the level of Financial Assurance required in 40 C.F.R. § 264.147(a)&(b).

25. Defendant's Financial Assurance for Third-party Liability shall comply with 40 C.F.R. §§ 264.147(a)-(b)&(f)-(j) and 264.151(g), (h)(2) & (i)-(n), except as modified by this Paragraph. If Defendant is using a trust fund, letter of credit or surety bond, the Trustee of any trust fund, or the provider of any letter of credit, or surety bond shall not be a Related Party to Defendant. Defendant shall word the Financial Mechanism as specified in 40 C.F.R. § 264.151, except that the term "facility" shall substitute for the phrase "hazardous waste facility," and unless EPA provides an alternate form, e.g., to address more than one beneficiary of the Financial Mechanism (i.e., EPA and the State).

a. For a surety bond or for insurance, Defendant shall demonstrate that the Surety and the Insurer have at least a "secured" financial strength rating of "A" by A.M. Best or an equivalent rating by an NRSRO. Such demonstration shall be in the form of an originally signed certification by Defendant's CFO or an officer of A.M. Best or the NRSRO.

b. For a letter of credit, Defendant shall ensure that the provider of the letter of credit is a federally insured financial institution.

c. For the corporate financial test, Defendant shall:

(1) In lieu of 40 C.F.R. § 264.147(f)(1)(ii)(A), use the current rating for either the S&P long-term issuer credit rating or Moody's long-term corporate family rating which assesses a company's capacity to meet its long-term (greater than one (1) year) financial commitments, as they come due.

(2) In lieu of the provision at 40 C.F.R. § 264.147(f)(3), demonstrate that it meets the corporate financial test by submitting the following to EPA within ninety (90) days after the close of Defendant's fiscal year:

(a) A letter signed by Defendant's CFO and as worded in

40 C.F.R. § 264.151(g).

(b) A copy of the independent CPA's report on examination of Defendant's audited financial statements for the latest completed fiscal year.

(c) A copy of the Independently Audited financial statements for the last completed year.

(d) A report of procedures and findings from Defendant's independent CPA, resulting from an agreed-upon procedures engagement performed in accordance with the AICPA Statement on Standards for Attestation Engagements and Related Attestation Interpretations, AT Section 201 - Agreed Upon Procedures Engagements, as updated, that describes the procedures performed and related findings, including whether or not differences or discrepancies were found in the comparison of financial information included in the letter (including attachments and exhibits) from Defendant's CFO and Defendant's Independently Audited, year-end financial statements for the last fiscal year, including all attachments. Where differences or discrepancies exist between Defendant's CFO letter and Defendant's Independently Audited year-end financial statements, the report of procedures and findings will reconcile any differences or discrepancies between the values or information represented in Defendant's CFO letter and Defendant's Independently Audited financial statements. Procedures to be performed by the independent CPA shall be in accordance with AT Section 201.

VI. Reporting and Information Gathering

26. Defendant shall provide to EPA upon request any information or reports regarding the financial status of Defendant, the Financial Mechanism(s) provided by Defendant to meet its obligations for Financial Assurance, and the financial institution(s) or Guarantor(s) providing the Financial Mechanism(s) to secure Defendant's obligations under this Appendix to the Consent Decree. Such information shall be provided within twenty (20) days of the request unless otherwise stipulated by EPA. Defendant may assert Confidential Business Information ("CBI") or trade secret under 40 C.F.R. Part 2 and/or Section 403.73, F.S., except for information provided pursuant to Paragraphs 11.e and 16.e, above. Defendant shall follow the procedures set forth in 40 C.F.R. Part 2, Subpart B and/or F.A.C. R.62-730.100(3), to assert any claim of CBI or trade secret. If Defendant claims information in a Self-Assurance Mechanism is CBI or a trade secret under 40 C.F.R. Part 2 and/or Section 403.73, F.S., Defendant shall submit two (2) Financial Assurance submissions to EPA, one submission with the CBI or trade secret information redacted, and so identified in the submission, which will be publically available, and the second submission that will contain the CBI or trade secret information.

VII. Temporary Non-Compliance

27. If Defendant violates, or determines that it will violate, any requirement of this Appendix, Defendant within ten (10) days shall submit to EPA an originally signed certification by Defendant's CFO, together with supporting documentation, explaining in detail the nature of

the violation, and stating whether or not the non-compliance can be rectified by Defendant within thirty (30) days. If Defendant does not believe that it can rectify the non-compliance within thirty (30) days, then within ten (10) days of its notice Defendant shall submit to EPA for approval a plan and schedule for correcting the violation which, if applicable, shall include providing additional or alternative Financial Assurance. Any dispute raised by Defendant regarding EPA's refusal to approve such a plan shall not prohibit EPA from accessing or collecting on the existing Financial Assurance.

28. Defendant shall not be subject to stipulated penalties pursuant to Section VIII (Stipulated Penalties) of the Consent Decree for temporary non-compliance with this Appendix provided that: (a) Defendant complies with the notice and submittal requirements of Paragraph 27, above; (b) EPA approves the plan and schedule for correcting the violation, including any additional or alternative Financial Assurance; (c) Defendant within ten (10) days of EPA's approval commences the correction of the violation in accordance with the approved schedule, including if applicable, the establishment of any additional or an alternate form of Financial Assurance; and (d) EPA determines that Defendant's violation is not due to Defendant's lack of diligence or good faith (the burden of proving this shall rest with Defendant). Defendant shall be deemed to be without Financial Assurance for purposes of enforcement (but not for accessing or collecting Financial Assurance should it be necessary) if Defendant fails to meet any of the requirements of this Appendix and does not rectify such violation in compliance with this Paragraph.

VIII. Compliance Schedule

29. In the event that a Defendant providing Financial Assurance pursuant to Subsection III.B. notifies EPA pursuant to Paragraph 16.e(4), above, that Defendant (or Defendant's Guarantor) no longer satisfies the corporate financial test criteria due to information that has come to its attention pursuant to Paragraph 16.e(6)(c), above, Defendant within ten (10) days of such notice shall provide additional or alternate Financial Assurance as set forth below.

a. If Defendant fails to satisfy the corporate financial test criteria and requirements of Paragraph 16.e, above, for each quarter in a given fiscal year (not including the fourth quarter (i.e., fiscal year-end)), except as provided in Paragraph 29.b, below, Defendant shall increase the face value or the corpus of the Third-Party Mechanism by twenty-five percent (25%). If Defendant can satisfy the corporate financial test criteria by the fiscal year-end (i.e., in its annual submission pursuant to Paragraph 16.e(3), above) and Defendant's quarterly review under Paragraph 16.e(6)(b) for the following fiscal year does not result in notification from Defendant that it does not satisfy the corporate financial test, Defendant can request and EPA will authorize the release of funds or a reduction in the value of the Third-Party mechanism commensurate with the contemporaneous Cost Estimates and requirements of Paragraph 16.e of this Appendix.

b. If Defendant fails to satisfy the corporate financial test criteria and requirements of Paragraph 16.e, above, for any two (2) consecutive quarters in a given fiscal year (not including the fourth quarter (i.e., fiscal year-end)), Defendant shall provide alternate Financial Assurance in accordance with Paragraph 19 of this Appendix. If Defendant can satisfy

the corporate financial test criteria by the fiscal year-end (i.e., in its annual submission pursuant to Paragraph 16.e(3), above) and its annual submissions pursuant to Paragraph 16.e(3) for the following two (2) fiscal years do not trigger Paragraphs 16.e(4) or 16.e(5), above, EPA upon Defendant's request will authorize a release of the funds or a reduction in the value of the Third-Party Mechanism(s) so that the value of the Third-Party Mechanism is commensurate with the minimum threshold funding for a Third-Party Mechanism as specified in Attachment D plus an additional twenty-five (25%) of the Cost Estimate.

c. Defendant shall be deemed to be without Financial Assurance for purposes of enforcement (but not for accessing or collecting Financial Assurance should it be necessary) if Defendant fails to meet a compliance schedule. Failure to timely comply with a compliance schedule or to provide alternate Financial Assurance pursuant to this Section is not subject to the provisions of Section VII of this Appendix.

IX. Business Transactions

30. No transfer of ownership or operation of the Facility shall relieve Defendant of its Financial Assurance obligations under this Consent Decree, except as provided by this Section and Section II (Applicability) of the Consent Decree.

31. At least thirty (30) days prior to any transfer, Defendant shall submit to EPA information explaining the proposed transfer in detail and stating whether Defendant requests the transfer of its Financial Assurance responsibilities to the Transferee pursuant to Section II (Applicability) of the Consent Decree and Paragraph 32.b, below.

32. In the event of a transfer of the Facility's ownership or operation:

a. If Defendant is to retain its Financial Assurance obligations upon the transfer of the Facility, Defendant shall establish a trust fund in accordance with this Appendix into which Defendant shall fully fund, in Current Dollars, the Financial Assurance. Defendant shall establish and fund the trust fund, as well as provide EPA the appropriate documentation evidencing the trust fund, by the date of the Facility transfer. The portion of funds vested in the trust fund that are not required to meet annual withdrawals shall be invested in U.S. Treasury Bills, or market-based notes and bills that achieve an investment goal or preservation of principle and guarantee an inflation-adjusted rate of return no less than the 30-Year Treasury Constant Maturity Rate average for the previous twelve (12) months from the date of the annual cost estimate. If Defendant wishes to propose alternate Financial Mechanism(s) in lieu of the trust fund, Defendant at least thirty (30) days prior to the transfer shall submit an originally signed certification by Defendant's CFO, together with supporting documentation, explaining the compelling reasons why the proposed alternate Financial Mechanism is being requested and is an equivalent substitute for the trust fund. If EPA approves Defendant's request, Defendant shall establish the approved Financial Assurance. If by the date of the transfer EPA does not approve such a request or the Defendant has not put in place the approved Financial Assurance, then e4Defendant shall fully fund the trust fund as described above.

b. If Transferee agrees to assume Defendant's Financial Assurance

obligations, Defendant shall submit to EPA for approval an originally signed certification by Transferee's CFO, together with supporting documentation, explaining in detail its ability to provide Financial Assurance pursuant to the requirements of this Appendix and agreeing to provide the Financial Assurance if approved by EPA pursuant to Section II (Applicability) of the Consent Decree. Defendant shall comply with the requirements of Paragraph 32.a, above, until: (1) EPA has approved Transferee's proposed Financial Assurance; (2) the United States, after consultation with FDEP, consents to the transfer of obligations pursuant to Section II (Applicability) of the Consent Decree; (3) Transferee has established the approved Financial Assurance; and (4) EPA has given its consent for Defendant to cancel its Financial Assurance.

33. If Defendant is providing Financial Assurance through the use of any Financial Mechanism other than the exclusive use of a fully fund trust fund in Current Dollars, in the event of a business transaction that results, or Defendant determines will result, in an adverse material change to Defendant's financial or corporate structure such that Defendant or its successor (or a Guarantor of defendant or its successor) has insufficient operating cash flow or tangible assets to cover the long-term (greater than one (1) year) financial liabilities as represented on the Defendant's or successor's audited balance sheet and to comply with the Financial Assurance requirements of this Consent Decree, Defendant shall provide notice to EPA within fourteen (14) days of identifying such adverse material change and comply with the with the requirements for Financial Assurance in Paragraph 32.a, above.

X. Reservation of Rights

34. EPA reserves the right to determine at any time that the Financial Assurance provided by Defendant no longer satisfies the requirements of this Consent Decree or the referenced provisions of 40 C.F.R. Part 264. EPA may base this determination on Defendant's failure to provide notices or documentation required by this Appendix as well as on a substantive evaluation of Defendant's Financial Assurance. Within thirty (30) days of written notice from EPA that Defendant's Financial Assurance no longer satisfies the requirements of this Consent Decree or the referenced regulations, Defendant shall submit to EPA for approval revised or alternate Financial Assurance that satisfies the requirements of this Consent Decree. Defendant shall not cancel the existing Financial Assurance until the revised or alternate Financial Assurance has been approved by EPA and EPA has provided written consent permitting Defendant to cancel the existing Financial Assurance. Failure to timely provide alternative Financial Assurance as required by this Section (or any Paragraph of this Appendix that references this Section) is not subject to the provisions of Section VII of this Appendix. EPA's determination shall be subject to dispute resolution (other than judicial review) pursuant to Section X (Dispute Resolution) of this Consent Decree, except that the time frames for notices and submissions shall be reduced by half (e.g., under Informal Dispute Resolution Defendant shall submit its Notice of Dispute within ten (10) days).

Attachment A

Attachment A

PHOSPHOGYPSUM STACK SYSTEM
CLOSURE AND LONG TERM CARE COST ESTIMATES

Date: _____ Date of Review: _____

Reviewer Signature: _____

INSTRUCTIONS:

1. The Phosphogypsum Stack System Closure and Long Term Care Cost Estimates are to be adjusted for inflation and, if needed, re-estimated to address a change to the Phosphogypsum Stack System Closure or Long Term Care Plans, significant adjustments or revisions to the materials or labor costs specified in the plans, or modification to the Consent Decree that effects the Phosphogypsum Stack System Closure or Long Term Care plans or Cost Estimates. This form shall be used to provide the information regarding the adjustments to the Cost Estimates and submitted annually.

2. Fill in all sections, below, as appropriate. To adjust the Phosphogypsum Stack System Closure and Long Term Care Cost Estimates for inflation one of two methods can be used: (1) an inflationary factor; or (2) recalculate costs in Current Dollars. If using the inflationary factor, fill in Section II.A, below. If recalculating the costs in Current Dollars, fill in Section II.B, below.

3. Notwithstanding the option to update the Cost Estimates annually by using an inflationary factor, the Cost Estimates must be updated every five years by recalculating the costs in Current Dollars for Phosphogypsum Stack System Closure and Long Term Care.

4. This form is to be sent to the appropriate individual(s) identified in Section XIV (Notices) of the Consent Decree.

I. GENERAL INFORMATION

Facility Name: _____ EPA ID #: _____

Facility Address: _____

Owner/Operator: _____

Mailing Address: _____

_____

II. COST ESTIMATE ADJUSTMENT

Please check below the appropriate boxes identifying the type of Cost Estimate adjustment under this Section. In addition, Defendant shall complete Attachments A-1 and, if needed, Attachments A-2 and A-3. Requirements under the Consent Decree for Cost Estimates are found in Appendix 2, Section II, of the Consent Decree.

☐ **A. Use of an Inflation Factor**

The Cost Estimates may be adjusted for inflation by using an inflation factor. Please follow the instructions below in each subsection to derive the inflation factor that must be used when adjusting the Cost Estimates for inflation. If providing Financial Assurance pursuant to Appendix 2, Subsection III.A, of the Consent Decree, complete subsections A(1)-(2), below. If providing Financial Assurance pursuant to Appendix 2, Subsection III.B of the Consent Decree, complete subsections A(1) & (3), below. Use of an inflation factor may only occur when approved Phosphogypsum Stack System Closure and Long Term Care Cost Estimates exist and there have been no changes to the Phosphogypsum Stack System Closure or Long Term Care Plans, no significant adjustments or revisions to

the materials or labor costs specified in the plans, or modification to the Consent Decree that effects the Phosphogypsum Stack System Closure or Long Term Care plans or Cost Estimates.

Inflation Factor

When adjusting for inflation to update the current dollar Cost Estimates in subsection A(1) and A(2), below,, the inflation factor must be derived from the most recent Implicit Price Deflator for Gross National Product ("Deflator") published by the U.S. Department of Commerce in its Survey of Current Business. The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year. See Appendix 2, Paragraphs 4.b(2) and 4(d), of the Consent Decree. (For additional information and guidance see 40 C.F.R. §§ 264.142(b)(1)&(2) and 264.144(b)(1)&(2).)

Latest Published Annual Deflator: _____
Annual Deflator for Previous Year: _____
Inflation Factor: _____

☐ (1) Adjusted Phosphogypsum Stack System Closure Cost Estimate – Current Dollars

The adjustment under this subsection is based on the latest Phosphogypsum Stack System Closure Cost Estimate dated _____. Phosphogypsum Stack System Closure and associated Water Management costs represented in this subsection are in Current Dollars. To update the Phosphogypsum Stack System Closure Cost Estimate for inflation take the latest Phosphogypsum Stack System Closure and the associated Water Management costs, multiplying each cost by the most recent inflation factor, then add together the two resulting costs. Complete the steps as instructed, placing the information in the line items designated below. See Appendix 2, Paragraphs 4.b(2) and 4(d), of the Consent Decree. (For additional information and guidance see 40 C.F.R. §§ 264.142(b)(1)&(2).)

Phosphogypsum Stack System Closure cost (latest): _____
Associated Water Management cost (latest): _____

Phosphogypsum Stack System Closure cost (latest)		Inflation Factor		Inflation Adjusted Phosphogypsum Stack System Closure cost
_____	X	_____	=	_____

Associated Water Management cost (latest)		Inflation Factor		Inflation Adjusted Associated Water Management cost
_____	X	_____	=	_____

Inflation Adjusted Phophogypsum Stack System Closure cost		Inflation Adjusted Associated Water Management cost		**Phosphogypsum Stack System Closure Cost Estimate**
_____	+	_____	=	_____

☐ (2) Adjusted Long Term Care Cost Estimate – Current Dollars

The adjustment under this subsection is based on the latest Long Term Care Cost Estimate dated _____, for all years of Long Term Care remaining. Long Term Care and associated Water Management costs represented in this subsection are in Current Dollars. To update the Long Term Care Cost Estimate for inflation take the latest Long Term Care and the associated Water Management costs, multiplying each cost by the most recent inflation factor, then add together the two resulting costs. Complete the steps as instructed, placing the information in the line items designated below. See Appendix 2, Paragraphs 4.b(2) and 4(d), of the Consent Decree. (For additional

information and guidance see 40 C.F.R. §§ 264.144(b)(1)&(2).)

Long Term Care cost (latest): _____
Associated Water Management cost (latest): _____

Long Term Care cost (latest)		Inflation Factor		Inflation Adjusted Long Term Care cost
_____	X	_____	=	_____

Associated Water Management cost (latest)		Inflation Factor		Inflation Adjusted Associated Water Management cost
_____	X	_____	=	_____

Inflation Adjusted Long Term Care cost		Inflation Adjusted Associated Water Management cost		**Long Term Care Cost Estimate (Current Dollars)**
_____	+	_____	=	_____

☐ (3) Adjusted Long Term Care Cost Estimate – Net Present Value

The adjustment is based on the latest Long Term Care Cost Estimate dated _____, for all years of Long Term care remaining. Long Term Care and associated Water Management costs represented in this subsection are in NPV. To update the Long Term Care Cost Estimate for inflation, complete the following steps as instructed and place the information in the line items designated below:

(i) To determine the Long Term Care and associated Water Management Costs in Current Dollars, calculate the costs as instructed in subsection A(2), above, filling in the necessary information.

(ii) To inflate forward the current Long Term Care and associated Water Management costs for all remaining years of Long Term Care, adjust the costs as instructed in Attachment A-2, adjusting each year's costs by the inflation factor specified in Attachment A-2. (For additional reference information, see Paragraph 4.f, Appendix 2, of the Consent Decree.)

(iii) Using each year's adjusted costs due to inflation, place the information from Attachment A-2 in the corresponding line items located in Attachment A-3.

(iv) Following the instructions for Attachment A-3 to determine the present value of Long Term Care and associated Water Management costs for each year. To derive the net present value dollars for inflation adjusted Long Term Care, add each year's present value for Long Term Care costs; to derive the net present value dollars for the inflation adjusted associated Water Management, add each year's present value for the associated Water Management costs.

(v) Insert, below, the inflation adjusted Long Term Care and associated Water Management costs in net present value; these totals must be taken from Attachment A-3. To obtain the Long Term Care Cost Estimate (NPV), add together the inflation adjusted Long Term Care and associated Water Management costs in net present value.

Inflation Adjusted Long Term Care costs (NPV)
(total of Column [C] of Attachment A-3): _____
Inflation Adjusted Associated Water Management costs (NPV)
(total of Column [E] of Attachment A-3): _____

Long Term Care Costs Estimate (NPV): _____

Cost Estimate Using Inflation Factor

To determine the totals costs to be covered by Financial Assurance, add together the Phosphogypsum Stack System Closure Cost Estimate and the appropriate Long Term Care Cost Estimate (subsection A(2) or A(3) of this Attachment). The sum of the two Cost Estimates will provide the Total Cost Estimate.

Phosphogypsum Stack System Cost Estimate: _____

Long Term Care Cost Estimate
([*identify the subsection*]): _____

Total Cost Estimate Financial Assurance Under [*identify Subsection of Appendix 2*]: _____

☐ **B. Recalculate Cost Estimates**

Inflation adjustment can be achieved by recalculating the costs for the Phosphogypsum Stack System Closure and Long Term Care. See Paragraph 4, Appendix 2, of the Consent Decree. If recalculating the costs in Current Dollars, and providing Financial Assurance pursuant to Section III.A, Appendix 2, of the Consent Decree, submit the certification from the independent qualified professional engineer (box 1). If recalculating the costs in Current Dollars, and providing Financial Assurance pursuant to Section III.B, Appendix 2, of the Consent Decree, submit the certification from the independent qualified professional engineer (box 1) and the certification from CF Industries (box 2), with the calculations underpinning Long Term Care and associated Water Management costs in present value.

☐ (1) Certification by Third-party Engineer

This is to certify that the Phosphogypsum Stack System Closure and Long Term Care costs specified below and in Attachment A-1, pertaining to the engineering features of this Phosphogypsum Stack System, have been examined by me and found to conform to engineering principles applicable to such systems. In my professional judgment, the Cost Estimates are a true, correct and complete representation of the financial liabilities for Phosphogypsum Stack System Closure and Long Term Care of the facility and comply with the requirements of the Consent Decree, [*insert case designation*]. It is understood that the Phosphogypsum Stack System Closure and Long Term Care Cost Estimates shall be submitted to the EPA and FDEP, annually, revised or adjusted as required by the Consent Decree.

(a) Phosphogypsum Stack System Closure Cost Estimate: _____
   1. Phosphogypsum Stack System Closure costs ($ [*insert current costs*])
   2. Associated Water Management costs ($ [*insert current costs*])

(b) Long Term Care Cost Estimate: _____
   1. Long Term Care costs ($ [*insert current costs*])
   2. Associated Water Management costs ($ [*insert current costs*])

(c) **Total Cost Estimate:** _____
   (Add lines (a) and (b), above.)

_____ _____
Signature of Engineer Florida Registration Number (affix seal)

_____
Name & Title (please type)

_____

_____
Mailing Address

_____
Telephone Number

_____
Engineer E-Mail Address

☐ (2) **Certification by CF Industries**

The present value for the Long Term Care and associated Water Management costs, as represented below and in Attachments A-2 and A-3, has been calculated by CF Industries is in accordance with the requirements of the Consent Decree and is represented in the Chief Financial Officer's letter (Attachment C, Appendix 2, of the Consent Decree), as calculated in this Attachment. It is understood that Attachment A-2 (Adjusting Long Term Care and Associated Water Management Costs to Calculate Current (Then-Year) Dollars) and Attachment A-3 (Present Value of Long Term Care and Associated Water Management), shall be submitted to the EPA and FDEP, whenever CF Industries is required to, or determines to, recalculate the Cost Estimates. [Note: The independent Certified Public Accountant ("CPA") has, as part of the CPA's report under Paragraph 16.e(3)(d), Appendix 2, reviewed calculations in Attachment A-2 and A-3.]

The costs to be used in Attachments A-2 and A-3 have been based on the Long Term Care and associated Water Management costs certified by the independent qualified professional engineer, above, in subsection B(1).

[*Instructions: To fill in the information below, obtain the Long Term Care Cost Estimate by adding together, from Attachment A-3, the total present value dollars for Long Term Care costs (column [C] of Attachment A-3) and to total present value dollars for associated Water Management costs (column [E] of Attachment A-3). Insert the Long Term Care and associated Water Management costs as parenthetical information.]*

(a) Long Term Care Cost Estimate (NPV): _____

1. Long Term Care costs ([*insert total from column [C] of Attachment A-3*])
2. Associated Water Management costs ([*insert total from column [E] of Attachment A-3*])

(b) **Total Cost Estimate**: _____
(Add line B(1)(a), Phosphogypsum Stack System Closure Cost Estimate and line B(2)(a), Long Term Care Cost Estimate (NPV).)

_____
Signature of CF Industries Representative

_____
Name & Title (please type)

_____
Telephone Number

_____

_____
Mailing Address

_____
E-Mail Address

Attachment A-1

Attachment A-1: Instructions

Attachment A-1 (and associated Exhibits 1-3) provide the costs for Phosphogypsum Stack System Closure (Exhibit 1), Long Term Care (Exhibit 2) and associated Water Management activities (Exhibit 3). The costs for the associated Water Management activities are broken out based on which activities are associated with Phosphogypsum Stack System Closure and which activities are associated with Long Term Care. In additions to the costs and the year the costs were estimated being identified in the Exhibits, any assumptions, comments descriptions or relevant information needed to explain the costs shall be included. For example, specifying the estimated hours per week for an activity; yearly salary for an on-site engineer tasked with Long Term Care activities; assumptions for mowing the grassed stacks; assumptions for the identified contingency; and what costs are captured by administrative costs.

Attachment A-1: Exhibit 1

ATTACHMENT A-1

Exhibit 1

A. GYPSUM STACK AT CLOSURE

Activity	Quantity	Unit	Unit Cost	Total Cost
1. Top Grading and Cover				
1a. General Excavation and Fill		yd^3		$0
1b. Dewatering, Fine Grading & Compaction		acres		$0
1c. 40-mil HDPE Liner Materials		acres		$0
1d. 40-mil HDPE Liner Installation		acres		$0
1e. 24" Thick Soil Cover		yd^3		$0
1f. Grassing by Seeding		acres		$0
1g. Subtotal		**acres**		**$0**
2. Side Slope Grading and Cover				
2a. General Excavation and Fill		yd^3		$0
2b. Fine Grading & Compaction		acres		$0
2c. Dolomite Addition		acres		$0
2d. Grassing by Seeding Incl.Maint. & Watering		acres		$0
2e. Subtotal		**acres**		**$0**
3. Side Slope Drains		**lineal ft**		**$0**
4. Toe Drain		**lineal ft**		**$0**
5. Side Slope Drainage Swale				
5a. Grading & Compaction		acres		$0
5b. 40-mil HDPE Textured Liner Materials		acres		$0
5c. 40-mil HDPE Textured Liner Installation		acres		$0
5d. 24" Thick Soil Cover		yd^3		$0
5e. Grassing by Seeding & Sodding		acres		$0
5f. Subtotal		**acres**		**$0**
6. Toe Drainage Swale				
6a. Grading & Compaction		acres		$0
6b. 40-mil HDPE Textured Liner Materials		acres		$0
6c. 40-mil HDPE Textured Liner Installation		acres		$0
6d. 24" Thick Soil Cover		yd^3		$0
6e. Grassing by Seeding & Sodding		acres		$0
6f. Subtotal		**acres**		**$0**
7. Surface Water Control		**acres**		
8. Security Fence (includes cooling pond)		**lineal ft**		
9. Security Fence Gates and Signage		**lump**		
10. Subtotal		**acres**		**$0**
11. Permitting		**lump**		
12. Design, Construction Management & QA/QC [%]		**lump**		**$0**
13. Construction Surveying [%]		**lump**		**$0**
SUBTOTAL GYPSUM STACK CLOSURE		**acres**		**$0**

B. COOLING CHANNEL CLOSURE COST

1. Sluiced Gypsum Filling	yd^3	**$0**
2. Grading and Cover		
2a. General Excavation and Fill	yd^3	$0
2b. Fine Grading & Compaction	acres	$0
2c. 40-mil HDPE Liner Materials	acres	$0
2d. 40-mil HDPE Liner Installation	acres	$0
2e. 24" Thick Soil Cover	yd^3	$0
2f. Grassing by Seeding	acres	$0
2g. Subtotal	**acres**	**$0**
3. Stack Drain Header Pipe	**lineal ft**	**$0**
4. Sumps and Pump Stations	**each**	**$0**
5. Surface Water Control	**lump**	
6. Subtotal	**acres**	**$0**
7. Design, Construction Management & QA/QC [%]	**lump**	**$0**
8. Construction Surveying [%]	**lump**	**$0**
SUBTOTAL COOLING CHANNEL	**acres**	**$0**

C. COOLING POND CLOSURE COST

1. Sluiced Gypsum Filling	yd^3	**$0**
2. Grading and Cover		
2a. General Excavation and Fill	yd^3	$0
2b. Fine Grading & Compaction	acres	$0
2c. 40-mil HDPE Liner Materials	acres	$0
2d. 40-mil HDPE Liner Installation	acres	$0
2e. 24" Thick Soil Cover	yd^3	$0
2f. Grassing by Seeding	acres	$0
2g. Subtotal	**acres**	**$0**
3. Surface Water Control	**lump**	
4. Subtotal	**acres**	**$0**
5. Design, Construction Management & QA/QC [%]	**lump**	**$0**
6. Construction Surveying [%]	**lump**	**$0**
SUBTOTAL COOLING POND CLOSURE	**acres**	**$0**

D. 5-YEAR CLOSURE PERIOD O&M AND MONITORING

1. Operation & Maintenance	**years**	**$0**
2. Surface Water Monitoring	**acres**	**$0**
3. Groundwater Monitoring	**wells**	**$0**
TOTAL O&M AND MONITORING COSTS	**acres**	**$0**

E. ADMINISTRATIVE COSTS

1. E.g., Construction Management	**$0**
2. E.g., Administrative Management	**$0**
3. E.g., Staff Salaries	**$0**
4. E.g., Reports, Permits, Filings	**$0**
TOTAL ADMINISTRATIVE COSTS	**$0**
CONTINGENCY FOR CLOSURE COSTS (5%)	**$0**
TOTAL CLOSURE CONSTRUCTION COST (acres)	**$0**

Notes and Assumptions

1. **List any assumption/comments for activities and costs related to closure.**
   (a) E.g., Side slope drain costs for 12" HDPE pipe running vertically and spaced at 50' intervals
   (b) E.g., Toe drain costs unit pricing installation only; grading/excavation in Swale activities.
   (c) E.g., O&M costs include mowing, etc. Administrative and labor costs related to O&M activities captured in . . .
   (d) The Cooling Pond Closure cost is treated as a Long Term Care costs for purposes of Section II, Appendix 2.

Attachment A-1: Exhibit 2

Attachment A-1

Exhibit 2

LONG TERM CARE COST ESTIMATE

Long Term Care Item	Estimated Cost ([*Insert Year*] Dollars)		
	[__ YEARS]	[__ YEARS]	[__ YEARS]
1. Administrative, Etc.			
2. Inspections			
3. Site Security/Fence Maintence			
4. Monitoring Wells Sampling and Testing			
5. Surface Water Sampling and Testing			
6. Mowing			
7. Land Surface Care & Contingency Repairs			
8. Contingency (5% Items 1 & 2)			
TOTAL ANNUAL COST	**$0**	**$0**	**$0**

NOTES AND ASSUMPTIONS:

1. E.g., Positions, wages, time, materials, overhead, etc

2. Description of inspections and costs. If a particular cost associated with activity is captured by another element of the Cost Estimate, provide information.

3. Description of costs. If a cost is captured by another element of the Cost Estimate, provide information.

4. Description of costs,. If a cost is captured by another element of the Cost Estimate, provide inforrmation; e.g., pump and operation maintenance.

5 & 6. Description of costs. If a cost is captured by another element of the Cost Estimate, provide information.

7. Description of costs. If a cost is captured by another element of the Cost Estimate, provide inofrmation.

8. Provide basis for the contingency.

Attachment A-1: Exhibit 3

Attachment A-1 **Exhibit 3**

COST FOR PROCESS WATER TREATMENT

Item	Process Water	
	Quantity	
	Acre - Feet	Billion Gal.
1. Ponded Water		0.00
2. Drainable Pore Water		0.00
3. Total Infiltration Above Liner for 50 Years		0.00
4. Total Infiltration Below Liner for 50 Years		0.00
5. Water Balance During Closure		0.00
TOTAL WATER QUALITY	**0**	**0.00**

Expenditure Period	Water Treated Billion Gallons	Treatment Cost (MM$)	Avg. Unit Cost ($/1000 Gal)	Treatment Cost Contingency**
Phosphogypsum Stack System Closure (Years*)				
Long Term Care (Years*)				
TOTAL QUANTITY AND TREATMENT COST	**0.00**	**0.00**	-	-

Notes and Assumptions:

* Years to be inserted that correspond to the expenditure period

** Treatment Cost Contingency is 5.5%. The cost is presented in "MM$" and is the total treatment cost plus the contingency.

Attachment A-2

Appendix 2: Attachment A-2

ADJUSTING LONG TERM CARE AND ASSOCIATED WATER MANAGEMENT COSTS TO CALCULATE CURRENT (THEN-YEAR) COSTS

Instructions:

1. Use the information and formulas, below, to determine the current (then-year) dollars for Long Term Care and associated Water Management costs (i.e., columns [C] and [E], below).
2. The Long Term Care and associated Water Management costs in Current Dollars to be used in columns [B] and [D], below, shall be obtained, as appropriate, by calculating the inflation adjusted Long Term Care and associated Water Management costs pursuant to Section II.A(2) of Attachment A or from the information provided in Section II.B(1)(b) of Attachment A.
3. For purposes of determining the inflation factor, the Gross Domestic Product (GDP) Deflator is as specified in the "GDP (Chained) Price Index" of the Gross Domestic Product Deflators Used in the Historic Tables, published by the Office of Management and Budget ("OMB"). The inflation factor used to inflate the costs in this attachment shall be derived from the mathematical average of the calculated inflation factors for each year over a five-year period. Each year's calculated inflation factor shall be the product of dividing the GDP for the relevant year by the GDP for the year immediately prior, beginning with the first year in which the GDP Deflator is an estimate and for each year thereafter until the fifth year. (See Paragraph 4.f, Appendix 2, of the Consent Decree.)
4. The inflated costs, as calculated in this Attachment A-2, shall be used to calculate the present value for Long Term Care and associated Water Management costs in Attachment A-3 and to provide information in Section II.A(3) and Section II.B(2) of Attachment A. [Note: Each year's adjusted costs due to inflation as specified in columns [C] and [E], below, shall be placed in the corresponding line items designated by year in columns [B] and [D] in Attachment A-3.]

r =	Inflation Factor	As specified in Paragraph 4.f, Appendix 2, of the Consent Decree. Note: Item 3, above, provides the criteria from Paragraph 4.f to calculate the inflation factor.
t =	Year	Year in which costs are incurred.
CE date =	Year	Year in which costs are estimated.

Year	Long Term Care Costs		Associated Water Management Costs	
	Current (Today's) Dollars	Inflated Annual Dollars (as of year in which cost incurred)	Current (Today's) Dollars	Inflated Annual Dollars (as of year in which cost incurred)
[A]	[B]	[C] = [B] * (r) $^{([t] - [CE\ Date])}$	[D]	[E] = [D] * (r) $^{([t] - [CE\ Date])}$
2010				
2011				
2012				
2013				
2014				
2015				
2016				
2017				
2018				
2019				
2020				

Year	Long Term Care Costs		Associated Water Management Costs	
	Current (Today's) Dollars	Inflated Annual Dollars (as of year in which cost incurred)	Current (Today's) Dollars	Inflated Annual Dollars (as of year in which cost incurred)
[A]	[B]	[C] = [B] * (r) ([t] – [CE Date])	[D]	[E] = [D] * (r) ([t] – [CE Date])
2021				
2022				
2023				
2024				
2025				
2026				
2027				
2028				
2029				
2030				
2031				
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2055				
2056				
2057				
2058				

Year	Long Term Care Costs		Associated Water Management Costs	
	Current (Today's) Dollars	Inflated Annual Dollars (as of year in which cost incurred)	Current (Today's) Dollars	Inflated Annual Dollars (as of year in which cost incurred)
[A]	[B]	[C] = [B] * (r) ([t] – [CE Date])	[D]	[E] = [D] * (r) ([t] – [CE Date])
2059				
2060				
2061				
2062				
2063				
2064				
2065				
2066				
2067				
2068				
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2090				
[...]				

Attachment A-3

PRESENT VALUE OF LONG TERM CARE AND ASSOCIATED WATER MANAGEMENT

Instructions:

1. Use the information and formulas, below, to calculate the present value of Long Term Care and associated Water Management costs. [Note: Present value is to be calculated only when providing Financial Assurance under Section III.B, Appendix 2, of the Consent Decree.]
2. In columns [B] and [D], insert the inflation-adjusted annual costs beginning in the year when Long Term Care is expected to begin. These costs have been generated in Attachment A-2, representing inflation adjusted (then-year) dollars in the year that the cost are expected to be incurred. [Note: The values in columns [B] and [D], below, are the same as those represented in columns [C] and [E] from Attachment A-2.]
3. Following the formula listed below, calculate the present value of the Long Term Care and associated Water Management costs in each year.
4. The present value, as calculated in this Attachment A-3, shall be used, as instructed, to fill in Sections II.A(3) and II.B(2) of Attachment A.

r =	Discount Rate	30-Year Treasury Constant Maturity Rate, averaged for the previous twelve (12) months from the date of the annual cost estimate
t =	Year	Year in which costs will be incurred
PV Date =	Year	Year in which present value is calculated

	Long Term Care Costs		Associated Water Management Costs	
Year	Current (Then-Year) Dollars (as of year in which cost incurred) [Note: These values are equivalent to Column [C] from Attachment A-2.]	Present Value Dollars (as of PV Date)	Current (Then-Year) Dollars (as of year in which cost incurred) [Note: These values are equivalent to Column [E] from Attachment A-2.]	Present Value Dollars (as of PV Date)
[A]	[B]	[C] = [B] / [(1 + r) $^{([t] - [PV\ Date])}$]	[D]	[E] = [D] / [(1 + r) $^{([t] - [PV\ Date])}$]
2010				
2011				
2012				
2013				
2014				
2015				
2016				
2017				
2018				
2019				
2020				
2021				
2022				
2023				

	Long Term Care Costs		Associated Water Management Costs	
Year	Current (Then-Year) Dollars (as of year in which cost incurred) [Note: These values are equivalent to Column [C] from Attachment A-2.]	Present Value Dollars (as of PV Date)	Current (Then-Year) Dollars (as of year in which cost incurred) [Note: These values are equivalent to Column [E] from Attachment A-2.]	Present Value Dollars (as of PV Date)
[A]	[B]	[C] = [B] / [(1 + r) $^{([t] - [PV\ Date])}$]	[D]	[E] = [D] / [(1 + r) $^{([t] - [PV\ Date])}$]
2024				
2025				
2026				
2027				
2028				
2029				
2030				
2031				
2032				
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2057				
2058				

	Long Term Care Costs		Associated Water Management Costs	
Year	Current (Then-Year) Dollars (as of year in which cost incurred) [Note: These values are equivalent to Column [C] from Attachment A-2.]	Present Value Dollars (as of PV Date)	Current (Then-Year) Dollars (as of year in which cost incurred) [Note: These values are equivalent to Column [E] from Attachment A-2.]	Present Value Dollars (as of PV Date)
[A]	[B]	[C] = [B] / [(1 + r) $^{([t] - [PV\ Date])}$]	[D]	[E] = [D] / [(1 + r) $^{([t] - [PV\ Date])}$]
2059				
2060				
2061				
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2083				
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2085				
2086				
2087				
2088				
2089				
2090				
Total				

Attachment B

Attachment B: Instructions

As part of the annual update of the Phosphogypsum Stack System Closure and Long Term Care Cost Estimates, Defendant shall submit Attachment B. The costs represented in Attachment B are in Current Dollars for the year in which the annual submittal is required. When filling out Attachment B, use the information and definition specified below. **Note**: The Cost Estimate for Phosphogypsum Stack System Closure includes the associated Water Management activities and the Cost Estimate for Long Term Care includes its associated Water Management activities (see Section I, Appendix 2, Consent Decree).

A. Columns 1-7

The information required by columns 1-7 must appear, at a minimum, in Attachment B. Use the definitions specified, below, and provide any assumptions utilized to provide the information. If it is determined that additional columns are required to accurately represent the water to be treated during Phosphogypsum Stack System Closure or Long Term Care, insert such information providing appropriate notes and assumptions for the additional information.

1. Pore Water is the volume of water contained within the pores of the phosphogypsum that gravity drains from the phosphogypsum during and after closure of the Phosphogypsum Stack.
2. Free Standing Process Water is the volume of water in the cooling pond, in the sedimentation ponds on the Phosphogypsum Stack, in the return canal, and in other storage or surge ponds associated with the Phosphogypsum Stack System (such water is also known as "process water inventory").
3. Infiltration Water is the water that infiltrates into the slide slopes of the closed Phosphogypsum Stack[1] and is calculated as follows:
   Infiltration = Rainfall-Evapotranspiration-Runoff-ΔStorage.
4. Net Rainfall Water is the average rainfall that is captured in the Phosphogypsum Stack System minus the evaporation from the process water system.
5. Total Water to be Treated is the summation of pore water, freestanding water, infiltration water and net rainwater.
6. Water to Storage is the excess water above what can be treated at a specified estimated rate of gallons per minute. Specify in "assumptions" the rate of gallons per minute (e.g., 1000 gallons per minute).
7. Average Water Treatment Rate is the yearly average treatment rate to treat all the available water with a maximum treatment rate of gallons per

[1] The area of the side slopes of the Phosphogypsum Stack is the horizontal projection of the grassed slopes. The lined ditches and roads are not included in the slope area.

minute and a 95% on stream factor. Specify in "assumptions" the rate of gallons per minute (e.g., 1000 gallons per minute).

B. Columns 8-12

The information required by columns 8-12 reflects the treatment methods and associated costs being utilized during Phosphogypsum Stack System Closure and Long Term Care. When providing the information in Attachment B, use the definitions and information specified, below, identifying any assumptions used in the costs calculations. When information needs to be updated to accurately represent the treatment activities and associated costs during Phosphogypsum Stack System Closure or Long Term Care, insert such information providing appropriate notes and assumptions for the additional information. Note: Underlying information used to generate the cost information shall be available upon request.

8. First Stage Lime Chemical Costs represent the cost of lime treatment needed to raise the treated water pH to the appropriate level, e.g., 4.5. Provide the costs and amount of lime (and/or limestone) used in the calculation in the comment column in Attachment B.[2]
9. Second State Lime Chemical Costs represents the cost of lime needed to raise the treated water to the appropriate level, e.g., from pH 4.5 to pH 6.7. Provide the costs and amount of lime used in the calculation in the comment column in Attachment B.[3]
10. Maintenance Materials and Power costs are based on the actual operating costs (non-labor) of equipment that would be used for liming. Costs are based on an average of the prior 3 years.
11. RO Pre-treatment and Operating Costs are based on latest data available for the chemical costs of pre-treatment and operating costs.[4] Provide cost data in the comment column of Attachment B (or attach written information to Attachment B).
12. Evaporative Spray Fields Operating and Maintenance Costs are based on 5% of estimated installed cost for maintenance costs of spray field plus power costs estimated from design flow and pressure.[5] Provide power and

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[2] CF Industries provided formula to calculate first stage lime chemical costs in an e-mail to Christine McCulloch, Department of Justice, on July 19, 2010 (Subject: "Lime Treatment Cost Calculations").

[3] CF Industries provided formula to calculate second stage lime chemical costs in an e-mail to Christine McCulloch, Department of Justice, on July 19, 2010 (Subject: "Lime Treatment Cost Calculations").

[4] The following formula is to be used to calculate the costs for RO pre-treatment and operating costs.
[(Gallons of water treated)/1000] X ($/1000 gals.) = RO Pre-treatment and Operating Costs

[5] The estimated installed costs based on the actual installed costs for similar systems. The following formula calculates the costs for evaporative spray field operating and maintenance costs.
[(No. nozzles in sprayfield) X ($/nozzle) X (0.5)] + [(Gallons of water pumped per minute) X (Kilowatt hrs. per GPM) X ($/KWH)] = Evaporative Spray Fields Operating and Maintenance Costs

installed costs for spray nozzles in the comment column of Attachment B (or attach written information to Attachment B).

C. Columns 13-18

The information required by columns 13-18 must appear, at a minimum, in Attachment B. Use the definitions specified, below, and provide any assumptions utilized to provide the information. If it is determined that additional columns are required to accurately represent the activities or costs associated with Phosphogypsum Stack System Closure and Long Term Care, insert such information providing appropriate notes and assumptions for the additional information. Note: Underlying information used to generate the cost information shall be available upon request.

13. Water Treatment Labor Costs are based on hourly manning and labor costs.[6]
14. Attenuation Cost Factor represents the reduction in the chemical costs due to chemical reaction between acidic process water and unreacted phosphate rock.[7]
15. Total Water Treatment Costs represent the total of all water treatment costs (e.g., columns 8-13) with the Attenuation Cost Factor applied to the lime treatment costs (e.g., columns 8 and 9).[8]
16. Construction and Phophogypsum Stack System Closure Costs represent the cost of purchasing and installing the units and/or processes for water treatment plus any other additional closure construction costs, and the operating and maintenance (O&M) costs for the closure. Construction and closure of the cooling pond at the end of the Long Term Care period is considered a Long Term Care Cost.
17. Long Term Care and Maintenance Costs are based on costs for on-site personnel to conduct maintenance and care activities during the Long Term Care period, monitoring costs, analysis costs, mowing and land surface costs, contingency repairs (e.g., restoration of eroded areas) and pump operation and maintenance (e.g., convey water from seepage collection system to water treatment).
18. Total Water Treatment and Closure Costs represent the sum of the Total Water Treatment Costs, Construction and Phosphogypsum Stack System Closure, and Long Term Care and Maintenance Costs.

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[6] The following formula calculates the water treatment labor costs.
(No. people working) X (No. hours worked per person) X ($/hour for labor) = Water Treatment Labor Costs

[7] This factor is based on the chemical analysis of seepage from the Phosphogypsum Stack and in-stack piezometers.

[8] The following formula calculates the total water treatment costs.
[(First Stage Lime Chemical Costs + Second Stage lime Chemical Costs) X (Attenuation Cost Factor)] + Maintenance Materials and Power Costs + RO Pre-treatment and Operating Costs + Evaporative Spray Fields Operating and Maintenance Costs + Water Treatment Labor Costs = Total Water Treatment Costs.

Stack Closure: Example

Summary of costs

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
								Treatment			*Treatment*	*Spray fields*	Labor							
Yr	Pore Water	Free Standing Process Water	Infiltration Water	Net Rain Water	Total Water to be Treated	Water To Storage	Average Water Treatment Rate	First Stage Lime Chemical cost	#NAME?	Maint. Materials & Power	RO Treatment & Operating Costs	Evaporative Spray fields Operating and Maintenance costs	Water Treatment Labor Costs	Attenuation Cost Factor	Total Water Treatment Costs	Const.& Gypsum Stack Closure	Long Term Care & Maint. Costs	Total Water Treatment & Closure Costs/Yr	Comments	Cost per 1000 gal Pond Water Treated (does not include Capital
	Acre-Ft	Acre-Ft	Acre-Ft	Acre-Ft	Acre-Ft	Acre-Ft	GPM	Million/Yr	Million/Yr	Million/Yr	Million/Yr	Million/Yr	Million/Yr		Million/Yr	Million/Yr	Million/Yr	Million/Yr		$/1000 gal
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Attachment C

Attachment C-1

CORPORATE FINANCIAL TEST
Letter from Chief Financial Officer

Instructions: The letter from the Chief Financial officer, as specified in Subsection III.A of Appendix 2 of the Consent Decree, must be worded as follows, except that instructions in the brackets are to be replaced with the relevant information and the brackets deleted.

[*Address to Regional Administrator of every Region in which facilities for which financial responsibility is to be demonstrated through the corporate financial test are located*].

I am the Chief Financial Officer ("CFO") of [*insert name and address of firm*] (hereinafter, "the firm"). This letter is in support of this firm's use of the corporate financial test to demonstrate Financial Assurance for costs associated with Phosphogypsum Stack System Closure and/or Long Term Care.

[*Fill out paragraphs 1-14, below, and provide supporting documentation, when required. If your firm has no facilities that belong in a particular paragraph, write "None" in the space indicated.*]

1. This firm is the owner or operator of the facilities, listed below, for which Financial Assurance for Phosphogypsum Stack System Closure and/or Long Term Care is demonstrated through the corporate financial test specified in Subsection III.A of Appendix 2 of the Consent Decree [*case name/docket information for the Consent Decree*]. The current Phosphogypsum Stack System Closure and/or Long Term Care Cost Estimates covered by the corporate financial test are provided for each listed facility below in Schedule A, attached to this letter. [*Attach Schedule A. For informational purposes, see Schedule A, Example 1.*]

[*List facilities and include the EPA Identification Number, name, address, and total current Cost Estimate for Phosphogypsum Stack System Closure and/or Long Term Care for each facility.*]

2. This firm guarantees, through the guarantee specified in Subsection III.A of Appendix 2 of the Consent Decree [*case name/docket information for the Consent Decree*], the Phosphogypsum Stack System Closure and/or Long Term Care of the facilities, listed below, owned or operated by the guaranteed party. The current Cost Estimates for the Phosphogypsum Stack System Closure and/or Long Term Care so guaranteed are provided for each facility listed below in Schedule A, attached to this letter. [*Attach Schedule A. For informational purposes, see Schedule A, Example 2.*]

[*List facilities and include the EPA Identification Number, name, address, and total current Cost Estimate for Phosphogypsum Stack System Closure and/or Long Term Care for each facility.*]

3. The firm identified above is : [*insert one or more:* (1) The direct or higher-tier parent corporation of the owner or operator; (2) owned by the same parent corporation as the parent corporation of the owner or operator, and receiving the following value in consideration of this guarantee ____ [*insert description of value received*]; or (3) engaged in the following substantial business relationship with the owner or operator ____ [*insert brief characterization of relationship*], and receiving the following value in consideration of this guarantee ____ [*insert value received*]]. [*Attach a written description of the business relationship or a copy of the contract establishing such relationship to this letter*].

4. The firm, as owner or operator or guarantor, is using a corporate financial test to secure the obligations of the facilities listed in Schedule B for which financial assurance is required under programs that EPA directly operates and obligations where EPA has delegated authority to the State or approved a State's program. These obligations include, but are not limited to: liability, closure, post-closure and corrective action cost estimates for hazardous waste treatment, storage and disposal facilities under 40 C.F.R. §§ 264.101, 264.142, 264.144, 264.147, 265.142, 265.144 and 265.147; cost estimates for municipal solid waste management facilities under 40 C.F.R. §§ 258.71, 258.72 and 258.73; current plugging and abandonment cost estimates for underground injection control facilities under 40 C.F.R. § 144.62; cost estimates for underground storage tanks under 40 C.F.R. § 280.93; cost estimates for facilities handling polychlorinated biphenyls under 40 C.F.R. § 761.65; any financial assurance required under, or as part of an action under, the Comprehensive Environmental Response, Compensation, and Liability Act; and any other environmental obligation assured through a financial test, excluding those costs represented in paragraphs1 and 2 listed above. The cost estimates by obligation are provided for each facility in Schedule B, attached to this letter. [*Attach Schedule B. For informational purposes, see Schedule B, Example 1.*]

A. The firm represents the total of all such environmental obligations in Current Dollars for the listed facilities in Schedule B of $_____ [*insert amount*], as of _____ [*insert date*].

5. Are there guarantees disclosed in accordance with FASB Interpretation No. 45 for which the firm is liable, but which are not explicitly accounted for on the balance sheet of the firm's latest completed independently audited financial statements? (Yes/No) _____

A. [*If yes:*] The firm discloses the information shown below for each such guarantee, as of the firm's latest completed fiscal year ended [*insert date*]:

i. [*The name of the entity for which the guarantee has been granted*];
ii. [*The nature of the relationship of the entity to the firm*];
iii. [*A description of the guarantee*]; and
iv. [*The fair value of the guarantee. If the fair value cannot be determined and in the alternative a range of the expected values cannot be provided, so indicate by stating "cannot be determined" with a brief explanation.*].

6. Are there asset retirement obligations, under FASB Statement No. 143 or FASB Interpretation No. 47, which are not explicitly accounted for on the balance sheet of the firm's latest completed independently audited financial statements? (Yes/No) _____

A. [*If yes:*] The firm discloses for each such obligation, a description of the obligation and a current cost estimate [*if current cost estimate is not available, and in the alternative a range of the expected values cannot be provided, so indicate by stating "cannot be determined" with a brief explanation*] in Schedule C, attached to this letter. [*Attach Schedule. For informational purposes, see Schedule C, Example 1.*]

7. Are there significant estimates and material concentrations known to management that are required to be disclosed in accordance with AICPA's SOP 94-6, Disclosure of Certain Significant Risks and Uncertainties, related to the firm's environmental obligations? (Yes/No) _____ [*Significant estimates are estimates as of the last completed fiscal year-end that could change materially during the up-coming fiscal year..*]

A. [*If yes:*] The firm discloses the following significant estimates and material concentrations, as of the firm's latest completed fiscal year ended [*insert date*]: _____.

8. Does the company provide post-retirement benefits other than pensions? (Yes/No): _____

A. Has the company explicitly accounted for its accrued pension and post-retirement benefits on the balance sheet of the firm's latest completed independently audited financial statements? (Yes/No) _____

B. If not, the firm discloses the following estimate, as of the firm's latest completed fiscal year ended [*insert date*]: $_____ [*insert value*]

9. Does the firm file a Form 10K with the Securities and Exchange Commission ("SEC") for the latest fiscal year? (Yes/No) _____

10. Does the firm comply with Sarbanes-Oxley Section 404? (Yes/No) _____

A. Did the firm's independent auditors' report on of the firm's internal controls identify any material weaknesses? (Yes/No)_____ [*Attach a copy of the independent auditors' report on of the company's internal controls*].

11. The fiscal year of the firm ends on [month, day]. [*Attach a copy of the firm's independently audited financial statements for the latest completed fiscal year.*]

A. The firm's financial statements are independently audited by an independent certified public accountant? (Yes/No) _____

B. Is the firm relying on audited consolidated financial statements. (Yes/No) _____ [*If the response is yes, please attach to this letter a list of the companies (with addresses) which are covered by the audited consolidated financial statements.*]

C. The firm has received a qualified or adverse accountant's opinion for the latest completed fiscal year ended [*insert date*]. (Yes/ No) _____ [*If response is yes, attach a copy of the accountant's opinion.*]

* * *

12. The firm represents that the figures marked with an asterisk below are:

A. Exactly as represented in the firm's independently audited, year-end financial statements (as attached). (Yes/No) _____

B. In accordance with U.S. Generally Accepted Accounting Principles (GAAP). (Yes/No) _____

C. As of the latest completed fiscal year ended [*insert date*]. (Yes/No) _____

[If one or more of the responses to paragraph 12 is no, attach a line-by-line reconciliation of each discrepancy that crosswalks the value represented in this letter to the company's independently audited year-end financial statements.]

13. The firm represents that as of the latest completed fiscal year-end [*insert date*], the Assets located in the United States in the amount of $ _____ is at least 90% of the firm's total assets. (Yes/No)

14. The firm represents that no more than sixty percent (60%) of the firm's tangible assets are in the form of one or more note receivables from one or more Related Parties. (Yes/No) _____

[*If the response to paragraph 14 is no, attach an originally signed certification by the firm's CFO as specified in Paragraph 11.e(6)(a) of Appendix 2 of the Consent Decree [case name/docket information for the Consent Decree], together with a list of each note receivable, the name of the Related Party and a description (along with any necessary documentation) of the Related Party's financial strength and capability to meet its obligations to the firm. Attach a line-by-line reconciliation that crosswalks the value(s) represented in this letter to the company's independently audited year-end financial statements.*]

[*Fill in Alternative I if the criteria of Paragraph 11.e of Appendix 2 (incorporating 40 C.F.R. §§ 264.143(f)(1)(A)(i) and 264.145(f)(1)(A)(i)) are being used. Fill in Alternative II if the criteria of Paragraph 11.e(1) of Appendix 2 (referencing 40 C.F.R. §§ 264.143(f)(1)(A)(ii) and 264.145(f)(1(A)(ii)) are being used.*]

Alternative I

1. Sum of current Cost Estimates (total of all cost estimates shown in paragraphs 1 or 2, and 4, above) $_____

*2. Total liabilities $____

*3. Total assets $ _____

4. Net worth [line 3 minus line 2] $____

*5. Intangible assets $_____

6. Tangible Net worth [line 4 minus line 5] $____

*7. Current assets $____

*8. Current liabilities $____

9. Net working capital [line 7 minus line 8] $____

*10. Net Income$_____

*11. Depreciation, Depletion and Amortization $____

12. Net income plus depreciation, depletion, and amortization (line 10 plus line 11) $____

*13. Total tangible assets in United States (required only if less than 90% of firm's assets are located in the U.S.) $____

14. Is line 6 at least $10 million? (Yes/No) ____

15. Is line 6 at least 6 times line 1? (Yes/No) ____

16. Is line 9 at least 6 times line 1? (Yes/No) ____

17. Are at least 90% of firm's tangible assets located in the U.S.? If not, complete line 18 (Yes/No) ____

18. Is line 13 at least 6 times line 1? (Yes/No) ____

19. Is line 2 divided by line 4 less than 2.0? (Yes/No) ____

20. Is line 12 divided by line 2 greater than 0.1? (Yes/No) ____

21. Is line 7 divided by line 8 greater than 1.5? (Yes/No) ____

Alternative II

1. Sum of current Cost Estimates (total of all cost estimates shown in paragraphs 1 or 2, and 4 above) $_____
2. The firm's represents:
   A. A Long-Term Issuer Credit Rating with Standard and Poor's of: _____ [insert rating] as of _____ [*insert date*]. [*Attach documentation evidencing the rating.*]
   B. A Long-Term Corporate Family Rating with Moody's Investor Services of: _____ [insert rating] as of _____ [*insert date*]. [*Attach documentation evidencing the rating.*]

*3. Total liabilities $____

*4. Total assets $ _____

5. Net worth [line 4 minus line 3] $____

*6. Intangible assets $_____

7. Tangible Net worth [line 5 minus line 6] $____

*8. Total tangible assets in U.S. (required only if less than 90% of firm's tangible assets are located in the U.S.) $____

9. Is line 7 at least $10 million ? (Yes/No) ____

10. Is line 7 at least 6 times line 1? (Yes/No) ____

11. Are at least 90% of firm's tangible assets located in the U.S.? If not, complete line 12 (Yes/No) ____

12. Is line 8 at least 6 times line 1? (Yes/No) ____

I hereby certify in my capacity as the Chief Financial Officer of the firm, based on my knowledge after reasonable due diligence, that the information included in this letter, including all attachments and exhibits, is true and accurate. I further certify in my capacity as the Chief Financial Officer of the firm, that the language of this letter is identical to the wording specified in Appendix 2, Attachment C-1, of the Consent Decree [*insert case name/docket information of the Consent Decree*].

Attached is a special report of procedures and findings from the firm's independent certified public accountant resulting from an agreed-upon procedures performed in accordance with the AICPA Statement on Standards for Attestation Engagements and Related Attestation Interpretations, AT Section 201 – Agreed Upon Procedures Engagements, that describes the procedures performed and related findings. The CPA's report discloses whether or not differences and/or discrepancies were found in the comparison of financial information disclosed in this letter (including all attachments and exhibits) with the independently audited financial statements (including attachments), as of the firm's latest completed fiscal year end [*insert date*]. Where differences or discrepancies exist between the financial information disclosed in this letter (including all attachments and exhibits) with the firm's independently audited financial statements (including attachments), the CPA's report of procedures and findings identifies and reconciles any difference or discrepancy between the values or information represented in this letter and the firm's independently audited year-end financial statements.

[Signature] _____

[Name] _____

[Title] Chief Financial Officer

[Date] _____

Schedule A: Corporate Financial Test or Corporate Guarantee Cost Estimate Information

Example A.1: Corporate Financial Test

Facility Name (EPA ID)	Activity (CL, WM-CL, LTC, WM-LTC)	Cost Estimate Current $
EPA123456789	CL	$1,000,000
EPA123456789	WM-CL	$10,000,000
EPA123456789	LTC	$100,000,000
Total		**$111,000,000**

Example A.2: Corporate Guarantee

Facility Name (EPA ID)	Activity (CL, WM-CL, LTC, WM-LTC)	Cost Estimate Current $
EPA123456789	CL	$1,000,000
EPA123456789	WM-CL	$10,000,000
EPA123456789	LTC	$100,000,000
Total		**$111,000,000**

Schedule B: Other Environmental Obligations Cost Estimate Information

Example B.1

Facility Name (EPA ID, Permit Number, or Site ID)	Statutory Obligation	Cost Estimate (Current $)
EPA123456789	CERCLA	$1,000,000
EPA123456789	SDWA (UIC)	$10,000,000
Total		**$11,000,000**

Schedule C: Asset Retirement Obligations Disclosure

Example C.1

Type of Obligation	Cost Estimate		Discount Rate (Date)	Time
	Current $	NPV $		
Property A	$1,000,000	$758,999	4.71% (May 2008)	2008-2013
Property B	$10,000,000	$4,372,445	...	2008-2013
Property C	$100,000,000	$19,118,278	...	2014-2064
Total	$111,000,000	$24,249,722		

Attachment C-2

CORPORATE FINANCIAL TEST
Letter of the Chief Financial Officer

Instructions: The letter from the Chief Financial officer, as specified in Subsection III.B of Appendix 2 of the Consent Decree, must be worded as follows, except that instructions in the brackets are to be replaced with relevant information and the brackets deleted.

[*Address to Regional Administrator of every Region in which facilities for which financial responsibility is to be demonstrated through the financial test are located.*]

I am the Chief Financial Officer of [*name and address of firm*] (hereinafter, "the firm"). This letter is in support of this firm's use of the corporate financial test to demonstrate Financial Assurance for costs associated with Phosphogypsum Stack System Closure and/or Long Term Care.

[*Fill out Schedule A for paragraphs 1 or 2, paragraphs 3 through 12, and Exhibit 1. Based on the information in Schedule A for paragraph 1 or 2, paragraphs 3 through 12, and Exhibit 1, fill out paragraphs 1 or 2, 13 through 15, and Exhibit 2. If your firm has no information that belongs in a particular paragraph, write "None" in the space indicated. For each facility, include its EPA Identification Number, name, address and Cost Estimates for Phosphogypsum Stack System Closure and/or Long Term Care*].

1. The firm is the owner or operator of the facilities listed in Schedule A for which Financial Assurance for Phosphogypsum Stack System Closure and/or Long Term Care is demonstrated through the corporate financial test specified in Subsection III.B of Appendix 2 of the Consent Decree [*case name/docket information of the Consent Decree*]. [*Attach Schedule A. For informational purposes, see Schedule A, Example 1.*]

   A. The firm represents the total Phosphogypsum Stack System Closure Cost Estimate in Current Dollars for the listed facilities in Schedule A of $_____ [*insert amount*], as of _____ [*insert date*].

   B. The firm represents the total Water Management Cost Estimate associated with Phosphogypsum Stack System Closure in Current Dollars for the listed facilities in Schedule A of $_____ [*insert amount*], as of _____ [*insert date*].

   C. The firm represents the total Long Term Care Cost Estimate in Current Dollars for the listed facilities in Schedule A of $_____ [*insert amount*], as of _____ [*insert date*].

   D. The firm represents the net present value (NPV) of the total Long Term Care Cost Estimate for the listed facilities in Schedule A as $_____ [*insert amount*], as of _____ [*insert date*].

   E. The firm represents the total Water Management Cost Estimate associated with Long Term Care in Current Dollars for the listed facilities in Schedule A of $_____ [*insert amount*], as of _____ [*insert date*].

   F. The firm represents the NPV of the total Water Management Cost Estimates associated with Long Term Care for the listed facilities in Schedule A as $_____ [*insert amount*], as of _____ [*insert date*].

2. The firm guarantees, through the guarantee specified in Subsection III.B of Appendix 2 of the Consent Decree [*case name/docket information of the Consent Decree*], the Phosphogypsum

Stack System Closure and/or Long Term Care of the listed facilities in Schedule A owned or operated by the guaranteed party. [*Attach Schedule A. For informational purposes, see Schedule A, Example 2.*]

A. The firm represents the total Phosphogypsum Stack System Closure Cost Estimate in Current Dollars for the listed facilities in Schedule A of $_____ [*insert amount*], as of _____ [*insert date*].

B. The firm represents the total Water Management Cost Estimate associated with Phosphogypsum Stack System Closure in Current Dollars for the listed facilities in Schedule A of $_____ [*insert amount*], as of _____ [*insert date*].

C. The firm represents the total Long Term Care Cost Estimate in Current Dollars for the listed facilities in schedule A of $_____ [*insert amount*], as of _____ [*insert date*].

D. The firm represents the NPV of the total Long Term Care Cost Estimate for the listed facilities in schedule A as $_____ [*insert amount*], as of _____ [*insert date*].

E. The firm represents the total Water Management Cost Estimate associated with Long Term Care in Current Dollars for the listed facilities in Schedule A of $_____ [*insert amount*], as of _____ [*insert date*].

F. The firm represents the NPV of the total Water Management Cost Estimate associated with Long Term Care for the listed facilities in Schedule A as $_____ [*insert amount*], as of _____ [*insert date*].

3. The firm represents that the NPV of the Long Term Care Cost Estimate and the Water Management Cost Estimate associated with Long Term Care, as specified in Paragraph 1.D & F or Paragraph 2.D & F, above, have been calculated in accordance with Appendix 2, Section II and Attachments A-2 and A-3, of the Consent Decree [*case name/docket information for Consent Decree*]. [*Attach a copy of the 30-Year Treasury Constant Maturity Rate averaged for the previous twelve months using the average spot rate for each month.*]

4. The firm, as owner or operator or guarantor, is using a corporate financial test to secure the obligations of the facilities listed in Schedule B for which financial assurance is required under programs that EPA directly operates and obligations where EPA has delegated authority to the State or approved a State's program. These obligations include, but are not limited to: liability, closure, post-closure and corrective action cost estimates for hazardous waste treatment, storage and disposal facilities under 40 C.F.R. §§ 264.101, 264.142, 264.144, 264.147, 265.142, 265.144 and 265.147; cost estimates for municipal solid waste management facilities under 40 C.F.R. §§ 258.71, 258.72 and 258.73; current plugging and abandonment cost estimates for underground injection control facilities under 40 C.F.R. §144.62; cost estimates for underground storage tanks under 40 C.F.R. § 280.93; cost estimates for facilities handling polychlorinated biphenyls under 40 C.F.R. § 761.65; any financial assurance required under, or as part of an action under, the Comprehensive Environmental Response, Compensation, and Liability Act; and any other environmental obligation assured through a corporate financial test, excluding those costs represented in paragraphs 1 and 2 listed above. The cost estimates by obligation are provided for each facility in Schedule B, attached to this letter. [*Attach Schedule B. For informational purposes, see Schedule B, Example 1.*]

   A. The firm represents the total of all such environmental obligations in Current Dollars for the listed facilities in Schedule B of $_____, [*insert amount*] as of _____ [*insert date*].

5. The firm identified above is [*insert one or more*: (1) The direct or higher-tier parent corporation of the owner or operator; (2) owned by the same parent corporation as the parent corporation of the owner or operator, and receiving the following value in consideration of this guarantee _____

[*insert description of value received*]; or (3) engaged in the following substantial business relationship with the owner or operator _____ [*insert brief characterization of the relationship*] and receiving the following value in consideration of this guarantee _____ [*insert value received*]]. [*Attach a written description of the business relationship or a copy of the contract establishing such relationship to this letter*].

6. Are there guarantees disclosed in accordance with FASB Interpretation No. 45 for which the firm is liable, but which are not explicitly accounted for on the balance sheet of the firm's latest completed independently audited financial statements? (Yes/No) _____

   A. [*If yes*:] The firm discloses the information shown below for each such guarantee, as of the firm's latest completed fiscal year ended [*insert date*]:

      i. [*The name of the entity for which the guarantee has been granted*];
      ii. [*The nature of the relationship of the entity to the firm*];
      iii. [*A description of the guarantee*]; and
      iv. [*The fair value of the guarantee. If the fair value cannot be determined and in the alternative a range of the expected values cannot be provided, so indicate by stating "cannot be determined" with a brief explanation.*].

7. Are there asset retirement obligations under FASB Statement No. 143 or FASB Interpretation No. 47, which are not explicitly accounted for on the balance sheet of the firm's latest completed independently audited financial statements? (Yes/No) _____

   A. [*If yes*:] The firm discloses for each such obligation, a description of the obligation and a current cost estimate [*if current cost estimate is not available and in the alternative a range of the expected values cannot be provided, so indicate by stating "cannot be determined" with a brief explanation*], in Schedule C, attached to this letter. [*Attach Schedule C. For informational purposes, see Schedule C, Examples 1.*]

8. Are there significant estimates and material concentrations known to management that are required to be disclosed in accordance with AICPA's SOP 94-6, Disclosure of Certain Significant Risks and Uncertainties, related to the firm's environmental obligations? (Yes/No) _____ [*Significant estimates are estimates as of the last completed fiscal year-end that could change materially during the up-coming fiscal year.*

   A. [*If yes*:] The firm discloses the following such significant estimates and material concentrations, as of the firm's latest completed fiscal year ended [*insert date*]: _____.

9. Does the company provide post-retirement benefits other than pensions? (Yes/No) _____

   A. Has the company explicitly accounted for its accrued pension and post-retirement benefits on the balance sheet of the firm's latest completed independently audited financial statements? (Yes/No) _____

   B. If not, the firm discloses the following estimate, as of the firm's latest completed fiscal year ended [*insert date*]: $_____ [*insert value*]

10. Does the firm file a Form 10K with the Securities and Exchange Commission ("SEC") for the latest fiscal year? (Yes/No) _____

11. Does the firm comply with Sarbanes-Oxley Section 404? (Yes/No) _____

A. Did the firm's independent auditors' report on the firm's internal controls identify any material weaknesses? (Yes/No)_____ [*Attach a copy of the independent auditors' report on the company's internal controls.*]

12. The fiscal year of the firm ends on [*month, day*]. [*Attach a copy of the firm's independently audited financial statements for the latest completed fiscal year.*]

A. The firm's financial statements are audited by an independent certified public accountant? (Yes/No) _____

B. Is the firm relying on audited consolidated financial statements. (Yes/No) _____ [*If response is yes, attach to the letter a list of the companies (with addresses) which are covered by the audited consolidated financial statements. If no, provide a list of companies (with addresses) that make up the corporate structure.*]

C. The firm has received a qualified or adverse accountant's opinion for the latest completed fiscal year ended [*insert date*]. (Yes/ No) _____ [*If response is yes, attach a copy of the accountant's opinion.*]

* * *

13. The firm represents that the figures marked with an asterisk in Exhibit 1 are:

A. Included as represented in the firm's independently audited, year-end financial statements (as attached). (Yes/No) _____

B. In accordance with U.S. Generally Accepted Accounting Principles (GAAP). (Yes/No) _____

C. As of the latest completed fiscal year ended [*insert date*]. (Yes/No) _____

[*If one or more of the responses to paragraph 13 is no, attach a line-by-line reconciliation of each discrepancy that crosswalks the value represented in this letter to the company's independently audited year-end financial statements.*]

14. The firm represents that it has:

A. A Long-Term Issuer Credit Rating with Standard and Poor's of _____ [*insert rating*] as of _____ [*insert date*]. [*Attach documentation or certified letter from S&P, as appropriate, evidencing the rating.*]

B. A Long-Term Corporate Family Rating with Moody's Investor Services of _____ [*insert rating*] as of _____ [*insert date*]. [*Attach documentation or certified letter from Moody's, as appropriate, evidencing the rating.*]

C. An equivalent rating, which assesses a company's capacity to meet its long-term (greater than one (1) year) financial commitments, as they come due, from a nationally recognized statistical rating organization ("NRSRO") of _____ [*insert rating*] as of _____ [*insert date*] from _____ [*insert NRSRO*]. [*Attach documentation or certified letter from NRSRO, as appropriate, evidencing the rating.*]

15. The firm represents that no more than sixty percent (60%) of the firm's tangible assets (or consolidated tangible assets, as the case may be) are in the form of one or more note receivables from one or more Related Parties: (Yes/No) _____

[*If the response to paragraph 15 is no, attach an originally signed certification by the firm's CFO as specified in Paragraph 16.e(6)(b) of Appendix 2 of the Consent Decree* [*case name/docket information for the Consent Decree*] *together with a list of each note receivable, the name of the Related Party and a description (along with any necessary documentation) of the Related Party's financial strength and capability to meet its obligations to the firm. Attach a line-by-line reconciliation that crosswalks the value(s) represented in this letter to the company's independently audited year-end financial statements.*]

I hereby certify in my capacity as the Chief Financial Officer of the firm, based on my best knowledge after reasonable due diligence, that the information included in this letter, including all attachments and exhibits, is true and accurate. I further certify in my capacity as the Chief Financial Officer of the firm, that the language of this letter is identical to the wording specified in Appendix 2, Attachment C-2, of the Consent Decree [*case name/docket information for the Consent Decree*].

Attached is a special report of procedures and findings from the firm's independent certified public accountant resulting from an agreed-upon procedures performed in accordance with the AICPA Statement on Standards for Attestation Engagements and Related Attestation Interpretations, AT Section 201 – Agreed Upon Procedures Engagements, that describes the procedures performed and related findings. The CPA's report discloses whether or not differences and/or discrepancies were found in the comparison of financial information disclosed in this letter (including all attachments and exhibits) with the independently audited financial statements (including attachments), as of the firm's latest completed fiscal year end [insert date] and in the calculation of NPV for the Long Term Care Cost Estimate (and the associated Water Management costs) as calculated pursuant to Appendix 2, Section II and Attachments A-2 and A-3, of the Consent Decree [*case name/docket information for the Consent Decree*]. Where differences or discrepancies exist between the financial information disclosed in this letter (including all attachments and exhibits) with the firm's independently audited financial statements (including attachments), and in the calculation of NPV for Long Term Care cost estimates and the Water Management cost estimates associated with Long Term Care, the CPA's report of procedures and findings identifies and reconciles any difference or discrepancy between the values or information represented in this letter and the firm's independently audited year-end financial statements, or this letter and the NPV for the Long Term Care Cost Estimate (and the associated Water Management costs) as calculated pursuant to Appendix 2, Section II and Attachments A-2 and A-3, of the Consent Decree [*case name/docket information for the Consent Decree*].

[*Signature*] _____

[*Name*] _____

[*Title*] Chief Financial Officer

[*Date*] _____

Exhibit 1. Financial Information				
		Amount in U. S. Dollars		
Item	Description	[A] Most Recent Fiscal Year$^{(n)}$	[B[Fiscal Year$^{(n-1)}$	[C] Fiscal Year$^{(n-2)}$
1	Sum of Stack Closure costs in Current Dollars and net present value (NPV) of Long Term Care costs (Sum of cost estimates listed in Paragraphs 1A, 1B, 1D, 1F, 2A, 2B, 2D, and 2F)			
2	Sum of cost estimates in current dollars for environmental obligations, not represented in Item 1 (Sum of cost estimates listed in Paragraph 4A)			
3	Sum of Items 1 and 2 above			
4	Sum of all environmental obligations in Current Dollars (Sum of cost estimates shown in Paragraphs 1A, 1B, 1C, 1E, 2A, 2B, 2C, 2E, and 4A)			
5	The firm's most recent S&P long-term issuer credit rating, Moody's long-term corporate family rating, or equivalent rating from an NRSRO (As represented in Paragraphs 13A, 13B, or 13C)			
6	Amount of funds held in all Third-party Mechanisms (e.g., trust fund, letter of credit), pursuant to this Consent Decree [*insert case name/docket information for the Consent Decree*] (Attach a copy of the Third-party Mechanism listing its current (within 10 days of the date of this letter) market value, or in the case of insurance its limit of liability, or in the case of surety bond its penal sum)			
7	Sum of Stack Closure costs in Current Dollars and NPV of Long-Term Care costs, minus current value of funds held in all third party financial mechanisms pursuant to the Consent Decree [*insert case name/docket information for the Consent Decree*] (Item 1 minus Item 6)			
8*	Total Liabilities			
9*	Total Assets			
10	Net Worth			

Exhibit 1. Financial Information

Item	Description	Amount in U. S. Dollars		
		[A] Most Recent Fiscal Year$^{(n)}$	[B[Fiscal Year$^{(n-1)}$	[C] Fiscal Year$^{(n-2)}$
	(Item 9 minus Item 8)			
11	Three Year Rolling Average of Total Liabilities Divided by Three-Year Rolling Average of Net Worth (Three-Year Average of Item 8, Columns [A], [B], [C] Divided by Three-Year Average of Line 10, Columns [A], [B], [C])			
12*	Intangible Assets			
13	Tangible Net Worth (Item 10 minus Item 12)			
14*	Current Assets			
15*	Current Liabilities			
16	Three Year Rolling Average of Current Assets Divided by Three-Year Rolling Average of Current Liabilities (Three-Year Average of Item 14, Columns [A], [B], [C] Divided by Three-Year Average of Item 15, Columns [A], [B], [C])			
17*	Operating Cash Flow			
18	Three Year Rolling Average of Operating Cash Flow (Three-Year Average of Item 17, Columns [A], [B], [C])			
19*	U.S. Assets			
20	Tangible U.S. Assets			

^{n} = Most recent fiscal year.

* = Values are as represented on the Company's independently audited financial statements.

Exhibit 2. Corporate Financial Test Criteria

Part 1. Ratings Threshold

1. Based on rating listed in Exhibit 1, Item 5, select the applicable Corporate Financial Test ("CFT") Criteria (see Schedule D, Part 1A). Note: If there is more than one rating (e.g., an S&P and Moodys rating), shall use the lowest rating to determine rating threshold in Schedule D. _____ [*insert issued rating*]

   If CFT Criteria A is identified, proceed to Line 9 below.

Part 2. Third-Party Financial Assurance Instrument

2. Percentage of current Phosphogypsum Stack System Closure costs and NPV of Long Term Care costs held in a Third-party Mechanism Pursuant to the Consent Decree (Exhibit 1, Item 6 divided by Exhibit 1, Item 1): _____ [insert percentage]

3. Is the percentage specified by Line 2 greater than or equal to the percentage threshold applicable to the Alternative identified by Line1 (and as specified in table below)? (Yes/No) _____

CFT Criteria	Percentage Threshold
A	Not applicable
B	At least 20%
C	At least 25%
D	At least 30%

Part 3. Financial Metrics Threshold

4. Is TL/NW (Exhibit 1, Item 11) less than the ratio threshold applicable to the CFT Criteria identified in Line 1 (and as specified in table below)? (Yes/No) _____

5. Is CA/CL (Exhibit 1, Item 16) greater than the ratio threshold applicable to the CFT Criteria identified in Line 1(and as specified in table below)? (Yes/No) _____

CFT Criteria	Line 4: Applicable TL/NW Ratio Threshold	Line 5: Applicable CA/CL Ratio Threshold
A	Not applicable	Not applicable
B	< 2.0	> 1.5
C	< 1.5	> 1.5
D	< 1.5	> 2.0

6. If CFT Criteria B is identified in Line 1, answer the following questions.

   A. Is the 3-year rolling average for the operating cash flow (Exhibit 1, Item 18) greater than or equal to 1.5 times the sum of Phosphogypsum Stack System Closure costs in Current Dollars and NPV of Long Term Care costs minus

current value of funds held in third-party instruments (Exhibit 1, Item 7)? (Yes/No) _____

B. Is the most recent fiscal year's operating cash flow (Exhibit 1, Item 17 Column A) greater than zero? (Yes/No) _____

7. If CFT Criteria C is identified by Line 1, answers the following questions.

A. Is the 3-year rolling average for the operating cash flow (Exhibit 1, Item 18) greater than or equal to 2.0 times the sum of Phosphogypsum Stack System Closure costs in Current Dollars and NPV for Long Term Care costs (in NPV) minus current value of funds held in Third-party Mechanisms (Exhibit 1, Item 7)? (Yes/No) _____

B. Is the most recent fiscal year's operating cash flow (Exhibit 1, Item 17 Column A) greater than zero? (Yes/No) _____

8. If CFT Criteria D is identified by Line 1, answer the following questions.

A. Is the most recent fiscal year's operating cash flow (Exhibit 1, Item 17, Column A) greater than or equal to 2.0 times the sum of Phosphogypsum Stack Closure costs in Current Dollars and NPV for Long Term Care costs (in NPV) minus current value of funds held in Third-party Mechanisms (Exhibit 1, Item 7)? (Yes/No) _____

B. Is the most recent fiscal year's operating cash flow (Exhibit 1, Item 17 Column A) greater than zero? (Yes/No) _____

Part 4. Coverage Thresholds

9. Is TNW (Exhibit 1, Item 13) greater than or equal to six (6) times the sum of Phosphogypsum Stack System Closure costs in Current Dollars, NPV of Long Term Care and costs in Current Dollars for environmental obligations (Exhibit 1, Item 3)? (Yes/No) _____

If "Yes," proceed to Line 12 below.

10. Is Line 2 greater than or equal to 40 percent? (Yes/No) _____

10a. If "Yes," is TNW (Exhibit 1, Item 13) greater than or equal to four (4) times the sum of Phosphogypsum Stack System Closure costs in Current Dollars, NPV of Long Term Care and costs in Current Dollars for environmental obligations (Exhibit 1, Item 3)? (Yes/No) _____

If "Yes," proceed to Line 12.

11. Is Line 2 greater than or equal to 60 percent? (Yes/No) _____

11a. If "Yes," is TNW (Exhibit 1, Item 13) greater than or equal to two (2) times the sum of Phosphogypsum Stack System Closure costs in Current Dollars, NPV of Long Term Care and costs in Current Dollars for environmental obligations (Exhibit 1, Item 3)? (Yes/No) _____

12. Is TNW (Exhibit 1, Item 13) greater than or equal to $20 million? (Yes/No) ____

13. Is Tangible U.S. Assets (Exhibit 1, Item 20) greater than or equal to 90 percent of the sum of all environmental obligations in Current Dollars (Exhibit 1, Item 4)? (Yes/No) _____

Summary

14. Did you answer "Yes" for Lines 3, 12, and 13? (Yes/No) _____

15. Did you answer "Yes" for Lines 9, 10a, or 11a? (Yes/No) _____

16. If CFT Criteria B, did you answer "Yes" for Line 4 and "Yes" for Line 5 or Line 6A and 6B? (Yes/No) _____

17. If CFT Criteria C, did you answer "Yes" for Line 4 and "Yes" for Line 5 or Line 7A and 7B? (Yes/No) _____

18. If CFT Criteria D, did you answer "Yes" for Line, 4, Line 5, and Line 8A and 8B? (Yes/No) _____

Schedule A: Corporate Financial Test and Corporate Guarantee Cost Estimate Information

For each facility, generate a separate table for the information being provided. If information required in Schedule A is not applicable, please indicate by entering N/A.

Example A.1: Corporate Financial Test

Facility Name (EPA ID)	Activity (CL, WM-CL, LTC, WM-LTC)	Cost Estimate		Discount Rate (Date)	Time
		Current $	NPV $		
EPA123456789	CL	$1,000,000	N/A	N/A	2008-2013
EPA123456789	WM-CL	$10,000,000	N/A	N/A	2008-2013
EPA123456789	LTC	$100,000,000	$19,118,278	4.71% (May 2008)	2014-2064
Total		**$111,000,000**	**$19,118,278**		

Example A.2: Corporate Guarantee

Facility Name (EPA ID)	Activity (CL, WM-CL, LTC, WM-LTC)	Cost Estimate		Discount Rate (Date)	Time
		Current $	NPV $		
EPA987654321	CL	$1,000,000	N/A	N/A	2008-2013
EPA987654321	WM-CL	$10,000,000	N/A	N/A	2008-2013
EPA987654321	LTC	$100,000,000	$19,118,278	4.71% (May 2008)	2014-2064
Total		**$111,000,000**	**$19,118,278**		

Schedule B: Other Environmental Obligations Cost Estimate Information

Example B.1

Facility Name (EPA ID, Permit Number, or Site ID)	Statutory Obligation	Cost Estimate (Current $)
EPA123456789	CERCLA	$1,000,000
EPA987654321	SDWA (UIC)	$10,000,000
Total		**$11,000,000**

Schedule C: Asset Retirement Obligations Disclosure

Example C.1

Type of Obligation	Cost Estimate		Discount Rate (Date)	Time
	Current $	NPV $		
Property A	$1,000,000	$758,999	4.71% (May 2008)	2008-2013
Property B	$10,000,000	$4,372,445	...	2008-2013
Property C	$100,000,000	$19,118,278	...	2014-2064
Total	**$111,000,000**	**$24,249,722**		

Attachment D

Corporate Financial Test ("CFT") Criteria for Appendix 2, Section III, Subsection B				
Part	**CFT Criteria A**	**CFT Criteria B**	**CFT Criteria C**	**CFT Criteria D**
1	**Ratings Threshold ***			
1A	• ≥A • ≥A2	• A-, BBB+ BBB • A3, Baa1, Baa2	• BBB-, BB+, BB • Baa3, Ba1, Ba2	• BB- • Ba3
2	**Third-Party Financial Assurance Mechanism (Trust Fund, Letter of Credit)**			
2A	None Required	• At least 20% of sum of total costs for Stack Closure in current dollars and Long Term Care in NPV.	• At least 25% of sum of total costs for Stack Closure in current dollars and Long Term Care in NPV.	• At least 30% of sum of total costs for Stack Closure in current dollars and Long Term Care in NPV.
3	**Financial Metrics Threshold**			
3A	None Required	• TL / NW < 2.0 (rolling)	• TL / NW < 1.5 (rolling)	• TL / NW < 1.5 (rolling)
		AND	**AND**	**AND**
3B-1	None Required	1. CA / CL > 1.5 (rolling)	1. CA / CL > 1.5 (rolling)	1. CA / CL > 2.0 (rolling)
		OR	**OR**	**AND**
3B-2	None Required	2. Operating Cash Flow ≥ 1.5 times [the sum of total costs for Stack Closure in current dollars and Long Term Care in NPV, minus the current market value of third-party financial assurance mechanism] (rolling)**	2. Operating Cash Flow ≥ 2.0 times [the sum of total costs for Stack Closure in current dollars and Long Term Care In NPV, minus the current market value of third-party financial assurance mechanism] (rolling)**	2. Operating Cash Flow ≥ 2.0 times [the sum of total costs for Stack Closure in current dollars and Long Term Care, minus the face value of third-party financial assurance mechanism] (annual)**
4	**Coverage Thresholds**			
4A-1	• TNW ≥ Six times the sum of total costs for Stack Closure in current dollars and Long Term Care, plus the sum of all other environmental obligations in current dollars.	• TNW ≥ Six times the sum of total costs for Stack Closure in current dollars and Long Term Care in NPV, plus the sum of all other environmental obligations in current dollars.	• TNW ≥ Six times the sum of total costs for Stack Closure in current dollars and Long Term care in NPV, plus the sum of all other environmental obligations in current dollars.	• TNW ≥ Six times the sum of total costs for Stack Closure in current dollars and Long Term care in NPV, plus the sum of all other environmental obligations in current dollars.
	OR	**OR**	**OR**	**OR**
4A-2	• TNW ≥ Four times the sum of total costs for Stack Closure in current dollars and Long Term Care in NPV, plus the sum of all other environmental obligations in current dollars, plus 40% in a third-party mechanism.	• TNW ≥ Four times the sum of total costs for Stack Closure in current dollars and Long Term Care in NPV, plus the sum of all other environmental obligations in current dollars, plus 40% in a third-party mechanism .	• TNW ≥ Four times the sum of total costs for Stack Closure in current dollars and Long Term Care in NPV , plus the sum of all environmental obligations in current dollars, plus 40% in a third-party mechanism .	• TNW ≥ Four times the sum of total costs for Stack Closure in current dollars and Long Term Care in NPV, plus the sum of all other environmental obligations in current dollars, plus 40% in a third-party mechanism .
	OR	**OR**	**OR**	**OR**

4A-3	• TNW ≥ Two times the sum of total costs for Stack Closure in current dollars and Long Term Care in NPV, plus the sum of all other environmental obligations in current dollars, plus 60% in a third-party mechanism .	• TNW ≥ Two times the sum of total costs for Stack Closure in current dollars and Long Term Care in NPV, plus the sum of all other environmental obligations in current dollars, plus 60% in a third-party mechanism .	• TNW ≥ Two times the sum of total costs for Stack Closure in current dollars and Long Term Care in NPV, plus the sum of all other environmental obligations in current dollars, plus 60% in a third-party mechanism .	• TNW ≥ Two times the sum of total costs for Stack Closure in current dollars and Long Term Care in NPV, plus the sum of all other environmental obligations in current dollars, plus 60% in a third-party mechanism .
	AND	**AND**	**AND**	**AND**
4B	• TNW of at least $20M	• TNW of at least $20M	• TNW of at least $20M	• TNW of at least $20M
	AND	**AND**	**AND**	**AND**
4C	• Tangible assets located in the United States ≥ at least 90% of the sum of all environmental obligations in current dollars.	• Tangible assets located in the United States ≥ at least 90% of the sum of all environmental obligations in current dollars.	• Tangible assets located in the United States ≥ at least 90% of the sum of all environmental obligations in current dollars.	• Tangible assets located in the United States ≥ at least 90% of the sum of all environmental obligations in current dollars.

* Rating shall consist of at least one of the following: (1) Standard & Poor's long-term issuer credit rating; (2) Moody's long-term corporate family rating; or (3) equivalent rating from a nationally recognized statistical rating organization ("NRSRO"). See Appendix 2, Subsection III.B, Paragraph 14.

** Cannot use the Operating Cash Flow ("OCF") financial metric to demonstrate Financial Assurance for a specific fiscal year if during that fiscal year there is a negative cash flow. See Appendix 2, Subsection III.B, Paragraph 16.e(2)(b).

Attachment E

Attachment E-1

TRUST AGREEMENT

Instructions: The trust agreement for a trust fund, as specified in Appendix 2 of the Consent Decree, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted. The Grantor may enter into an addendum to the Trust Agreement ("Addendum") required by the Trustee, provided that: (1) the Addendum supplements and does not contain terms that conflict, supersede, revise or alter the terms of the Trust Agreement (or the requirements of Appendix 2), and (2) the Addendum is approved by EPA in advance, such approval is within EPA's unreviewable discretion.

Trust Agreement

Trust Agreement, the "Agreement," entered into as of [date] by and between [name of the owner or operator], a [name of State] [insert "corporation," "partnership," "association," or "proprietorship"], the "Grantor," and [name of corporate trustee], [insert "incorporated in the State of ----" or "a national bank"], the "Trustee."

Whereas, the United States Environmental Protection Agency, "EPA," an agency of the United States Government, [and name of State Agency, an agency of name of State], "[abbreviation for state agency]" have entered into a Consent Decree with [name of the owner or operator] requiring [name of the owner or operator] to provide assurance that funds will be available when needed for Phosphogypsum Stack System Closure and/or Long Term Care [and/or Corrective Action] of its facility[ies] covered under the Consent Decree [need to insert additional description of the Consent Decree].

Whereas, the Grantor has elected to establish a trust to provide all or part of such financial assurance for the facilities identified herein,

Whereas, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this agreement, and the Trustee is willing to act as trustee,

Now, Therefore, the Grantor and the Trustee agree as follows:

Section 1. Definitions. As used in this Agreement:

(a) The term "Grantor" means the owner or operator who enters into this Agreement and any successors or assigns of the Grantor.

(b) The term "Trustee" means the Trustee who enters into this Agreement and any successor Trustee.

Section 2. Identification of Facilities and Cost Estimates. This Agreement pertains to the facilities and cost estimates identified on attached Schedule A [on Schedule A, for each facility list the EPA and [abbreviation for state agency] Identification Number, name,

address, and the current Phosphogypsum Stack System Closure and/or Long Term Care [and/or Corrective Action] cost estimates, or portions thereof, for which financial assurance is demonstrated by this Agreement].

Section 3. Establishment of Fund. The Grantor and the Trustee hereby establish a trust fund, the "Fund," for the benefit of EPA and [abbreviation for State Agency]. The Grantor and the Trustee intend that no third party have access to the Fund except as herein provided. The Fund is established initially as consisting of the property, which is acceptable to the Trustee, described in Schedule B attached hereto. Such property and any other property subsequently transferred to the Trustee is referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, IN TRUST, as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor, any payments necessary to discharge any liabilities of the Grantor established by EPA and [abbreviation for State Agency].

Section 4. Payment for Phosphogypsum Stack System Closure and Long Term Care [and Corrective Action]. The Trustee shall make payments from the Fund only as directed in writing by the appropriate EPA Regional Administrator and/or [State Agency Head] in accordance with Section 14, to provide for reimbursements to the Grantor or other persons from the Fund for the payment of the costs of Phosphogypsum Stack System Closure and/or Long Term Care [and/or Corrective Action] of the facilities covered by this Agreement. In addition, the Trustee shall refund to the Grantor only such amounts as the EPA Regional Administrator and/or [State Agency Head] specifies in writing. Upon refund, such funds shall no longer constitute part of the Fund as defined herein.

Section 5. Payments Comprising the Fund. Payments made to the Trustee for the Fund shall consist of cash or securities acceptable to the Trustee.

Section 6. Trustee Management. The Trustee shall invest and reinvest the principal and income of the Fund and keep the Fund invested as a single fund, without distinction between principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this Section. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall discharge his/her duties with respect to the trust fund solely in the interest of the beneficiary and with the care, skill, prudence, and diligence under the circumstances then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; except that:

(i) Securities or other obligations of the Grantor, or any other owner or operator of the facilities, or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 U.S.C. 80a-2.(a), shall not be acquired or held, unless they are securities or

other obligations of the Federal or a State government;

(ii) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the Federal or State government; and

(iii) The Trustee is authorized to hold cash awaiting investment or distribution un-invested for a reasonable time and without liability for the payment of interest thereon.

Section 7. Commingling and Investment. The Trustee is expressly authorized in its discretion:

(a) To transfer from time to time any or all of the assets of the Fund to any common, commingled, or collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and

(b) To purchase shares in any investment company registered under the Investment Company Act of 1940, 15 U.S.C. 80a-1 et seq., including one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 8. Express powers of Trustee. Without in any way limiting the powers and discretions conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

(a) To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee shall be bound to see to the application of the purchase money or to inquire into the validity or expediency of any such sale or other disposition;

(b) To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;

(c) To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depositary even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depositary with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality thereof, with a Federal Reserve bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund;

(d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings

certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the Federal or State government; and

(e) To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. Taxes and Expenses. All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee shall be paid from the Fund.

Section 10. Semiannual Accounting. The Trustee shall, every six (6) months from the date of establishment of the Fund, furnish to the Grantor and to the appropriate EPA Regional Administrator (or the designee) and [State Agency Head (or the designee)], a statement confirming the value of the Trust and a cumulative and calendar year accounting of the amount the Trustee has released from the Fund for reimbursement of Phosphogypsum Stack System Closure and Long Term Care [and Corrective Action] expenditures. The Trustee shall furnish additional valuation statements and accountings of the released funds to the Grantor and to the appropriate EPA Regional Administrator and [State Agency Head], as instructed in writing by the EPA Regional Administrator or [State Agency Head]. Any securities in the Fund shall be valued at market value as of no more than sixty (60) days prior to the anniversary date of establishment of the Fund or sixty (60) days prior to a semi-annual accounting. The failure of the Grantor to object in writing to the Trustee within ninety (90) days after the statement has been furnished to the Grantor and the EPA Regional Administrator and the [State Agency Head] shall constitute a conclusively binding assent by the Grantor, barring the Grantor from asserting any claim or liability against the Trustee with respect to matters disclosed in the statement.

Section 11. Advice of Counsel. The Trustee may from time to time consult with counsel, who may be counsel to the Grantor, with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 12. Trustee Compensation. The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing from time to time with the Grantor.

Section 13. Successor Trustee. The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor trustee and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the appointment, the Trustee shall

assign, transfer, and pay over to the successor trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it assumes administration of the trust in a writing sent to the Grantor, the EPA Regional Administrator, and the [State Agency Head], and the present Trustee by certified mail 10 days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this Section shall be paid as provided in Section 9.

Section 14. Instructions to the Trustee.

(a) All orders, requests, and instructions by the Grantor to the Trustee shall be in writing, signed by such persons as are designated in the attached Exhibit A or such other designees as the Grantor may designate by amendment to Exhibit A. The Trustee shall be fully protected in acting without inquiry in accordance with the Grantor's orders, requests, and instructions.

(b) All orders, requests, and instructions by the EPA Regional Administrator and the [State Agency Head] to the Trustee shall be in writing, signed by both the appropriate EPA Regional Administrator and [State Agency Head], unless otherwise indicated in instructions to the Trustee as signed by both the EPA Regional Administrator and the [State Agency Head]. Initial instructions by the EPA Regional Administrator and the [State Agency Head] to the Trustee are attached as Exhibit B. New, revised or amended instructions by the EPA Regional Administrator and the [State Agency Head] to the Trustee will be dated and appended hereto in this Exhibit and shall be designated Exhibit B followed by a numeric designation (e.g., Exhibit B-1, Exhibit B-2). The Trustee shall act and shall be fully protected in acting in accordance with the EPA Regional Administrator's and/or the [State Agency Head's] orders, requests, and instructions.

(c) The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor, EPA or [State Agency] hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instructions from the Grantor, EPA and/or the [State Agency], except as provided for herein and found in Exhibit B.

Section 15. Notice of Nonpayment. The Trustee shall notify the Grantor, the appropriate EPA Regional Administrator and the [State Agency Head], by certified mail within ten (10) days following the expiration of the thirty (30)-day period after the anniversary of the establishment of the Trust, if no payment is received from the Grantor during that period. After the pay-in period is completed, the Trustee shall not be required to send a notice of nonpayment.

Section 16. Amendment of Agreement. This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, the appropriate EPA Regional Administrator, and the [State Agency Head], or by the Trustee, the appropriate EPA

Regional Administrator, and the [State Agency Head] if the Grantor ceases to exist.

Section 17. Irrevocability and Termination. Subject to the right of the parties to amend this Agreement as provided in Section 16, this Trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, the EPA Regional Administrator, and the [State Agency Head], or by the Trustee, the EPA Regional Administrator, and the [State Agency Head] if the Grantor ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, shall be delivered to the Grantor.

Section 18. Immunity and Indemnification. The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor, the EPA Regional Administrator and/or the [State Agency Head] issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor or from the Trust Fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense.

Section 19. Choice of Law. This Agreement shall be administered, construed, and enforced according to the laws of the State of [insert name of State].

Section 20. Interpretation. As used in this Agreement, words in the singular include the plural and words in the plural include the singular. Whenever the terms "EPA Regional Administrator" and "[State Agency Head]" are used, they shall be construed to include the term "or his/her designee". The descriptive headings for each Section of this Agreement shall not affect the interpretation or the legal efficacy of this Agreement.

In Witness Whereof the parties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals to be hereunto affixed and attested as of the date first above written: The parties below certify that the wording of this Agreement is identical to the wording specified in Attachment E-1 of Appendix 2 of the Consent Decree [need to insert more information regarding the description of the CD, such as the name of the case, the case number, etc].

[Signature of Grantor]

[Title]

Attest:

[Title]

[Seal]

[Signature of Trustee]

Attest:

[Title]

[Seal]

(2) The following is an example of the certification of acknowledgment which must accompany the trust agreement for a trust fund as specified Appendix 2 of the Consent Decree.

State of

_____

County of

_____

On this [date], before me personally came [owner or operator] to me known, who, being by me duly sworn, did depose and say that she/he resides at [address], that she/he is [title] of [corporation], the corporation described in and which executed the above instrument; that she/he knows the seal of said corporation; that the seal affixed to such instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that she/he signed her/his name thereto by like order.

[Signature of Notary Public]

Attachment E-2

CORPORATE GUARANTEE

Instructions: The corporate guarantee, as specified in Appendix 2 of the Consent Decree, must be worded as follows, except the instructions in the brackets are to be replaced with the relevant information, if applicable, and the brackets deleted.

Corporate Guarantee for Phosphogypsum Stack System Closure and Long Term Care [or/and Corrective Action]

Guarantee made this [date] by [name of guaranteeing entity], a business corporation organized under the laws of the State of [insert name of State], herein referred to as guarantor. This guarantee is made on behalf of the [owner or operator] of [business address], which is [one of the following: "our subsidiary"; "a subsidiary of (insert name and address of common parent corporation), of which guarantor is a subsidiary"; or "an entity with which guarantor has a 'Substantial Business Relationship,'" as defined in Section I, Appendix 2, of the Consent Decree (insert citation/docket information of Consent Decree)] to the United States Environmental Protection Agency ("EPA") [and State].

Recitals

1. Guarantor meets or exceeds the financial test criteria and agrees to comply with the reporting requirements for guarantors as specified in Appendix 2 of the Consent Decree [insert citation/docket information of Consent Decree] ("Consent Decree" or "Decree"), as applicable.

2. [Owner or operator] owns or operates the following facility(ies) covered by this guarantee: [List for each facility: EPA Identification Number, name, and address. Indicate for each whether guarantee is for Phosphogypsum Stack Closure System, Long Term Care, or both Phosphogypsum Stack Closure System and Long Term Care [and/or Corrective Action].]

3. "Stack Closure Plan" and "Permanent Stack Closure Plan" [and/or "Risk Assessment Plan," "Interim Measures Plan" and/or "Corrective Action Plan"], as applicable, as used below refer to the plans maintained as required by the Consent Decree for the Phosphogypsum Stack System Closure and Long Term Care [and/or Corrective Action]of the facility(ies) identified above.

4. For value received from [owner or operator], guarantor guarantees to EPA [and State] that in the event that [owner or operator] fails to perform [insert "Phosphogypsum Stack System Closure," "Long Term Care," or both "Phosphogypsum Stack System Closure and Long Term Care" [and/or "Corrective Action"]]of the above facility(ies) in accordance with the Stack Closure Plan or Permanent Stack Closure Plan [or and/or Risk Assessment Plan, Interim Measures Plan and/or Corrective Action Plan], as applicable, the guarantor shall do so or establish a trust fund as specified in Appendix 2 of the Consent Decree, as applicable, in the name of [owner or operator] in the amount of the current Phosphogypsum Stack System Closure and Long Term Care [and/or Corrective Action] Cost Estimates as specified in the Consent Decree, Appendix 2.

5. Guarantor agrees that if, at the end of any fiscal year before termination of this guarantee, the guarantor fails to meet the financial test criteria, guarantor shall send within 90 days, by certified mail, notice to the EPA [and State] as provided for in Section XIV (Notices) of the Consent Decree, the EPA Regional Administrator for Region 4, and to [owner or operator] that the guarantor intends to provide alternate Financial Assurance as specified in Appendix 2 of the Consent Decree, as applicable, in the name of [owner or operator]. Within 120 days after the end of such fiscal year, the guarantor shall establish such Financial Assurance unless [owner or operator] has done so. Guarantor also agrees that if it determines that it no longer meets the financial test criteria, it shall notify the EPA [and State] as provided for in Section XIV (Notices) of the Consent Decree, the EPA Regional Administrator for Region 4, and [owner or operator] that it intends to provide alternate Financial Assurance as specified in Appendix 2 of the Consent Decree, as applicable, in the name of [owner or operator]. Within 30 days after the guarantor provides notice, the guarantor shall establish such Financial Assurance unless [owner or operator] has done so.

6. The guarantor agrees to notify the EPA [and State] as provided for in Section III, Appendix 2 of the Consent Decree (Paragraph 11 or Paragraph 16, as applicable), and the EPA Regional Administrator for Region 4, by certified mail, of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming guarantor as debtor, within 10 days after commencement of the proceeding.

7. Guarantor agrees that within 30 days after being notified by the EPA [(or State)] of a determination that guarantor no longer meets the financial test criteria or that it is disallowed from continuing as a guarantor of Phosphogypsum Stack System Closure and/or Long Term Care [and/or Corrective Action], it shall establish alternate Financial Assurance as specified in Appendix 2 of the Consent Decree, as applicable, in the name of [owner or operator] unless [owner or operator] has done so.

8. Guarantor agrees to remain bound under this guarantee notwithstanding any or all of the following: amendment or modification of the Stack Closure Plan or Permanent Stack Closure Plan [and/or Risk Assessment Plan, Interim Measures Plan and/or Corrective Action Plan], as applicable, amendment or modification of the Consent Decree, the extension or reduction of the time of performance of Phosphogypsum Stack System Closure or Long Term Care [or Corrective Action], or any other modification or alteration of an obligation of the owner or operator pursuant to the Consent Decree.

9. Guarantor agrees to remain bound under this guarantee for as long as [owner or operator] must comply with the applicable Financial Assurance requirements of the Consent Decree, including Appendix 2 of the Decree, for the above-listed facility, except as provided in paragraph 10 of this agreement.

10. (Insert the following language if the guarantor is (a) a direct or higher-tier corporate parent, or (b) a firm whose parent corporation is also the parent corporation of the owner or operator):

Guarantor may terminate this guarantee by sending notice to EPA and the State of Florida as provided for under Section XIV (Notices) of the Consent Decree, the EPA Regional

Administrator for Region 4, and to [owner or operator], by certified mail, provided that this guarantee may not be terminated unless and until [owner or operator] obtains, and the EPA [and State] approve(s), alternate Financial Assurance for Phosphogypsum Stack System Closure and/or Long Term Care [and/or Corrective Action] in compliance with the Consent Decree, including Appendix 2.

[Insert the following language if the guarantor is a firm qualifying as a guarantor due to its "substantial business relationship" with its owner or operator]

Guarantor may terminate this guarantee 120 days following the receipt of notification, through certified mail, by the EPA [and State] and by [owner or operator].

11. Guarantor agrees that if [owner or operator] fails to provide alternate Financial Assurance as specified in the Consent Decree, Appendix 2, as applicable, and obtain written approval of such Financial Assurance from the EPA [and State] within 90 days after a notice of cancellation by the guarantor is received by the notificants in paragraph 10, above, from guarantor, guarantor shall provide such alternate Financial Assurance in the name of [owner or operator].

12. Guarantor expressly waives notice of acceptance of this guarantee by the EPA [and State] or by [owner or operator]. Guarantor also expressly waives notice of amendments or modifications of the Stack Closure Plan or Permanent Stack Closure Plan [and/or Risk Assessment Plan, Interim Measures Plan and/or Corrective Action Plan], as applicable and of amendments or modifications of the Consent Decree.

I hereby certify that the wording of this guarantee is identical to the wording required under the Consent Decree.

Effective date: _____

Name of guarantor _____

Authorized signature for guarantor _____

Name of person signing _____

Title of person signing _____

Signature of witness or notary: _____

CF Industries, Inc., Plant City Facility

0 4000 8000 12000 ft.

Map center: 582571, 463089

Legend

- shp39138.shp
- Interstates
- US Highways
- State Highways
- Local Roads
- Cities (census places)

Scale: 1:40,000

[Florida Department of Environmental Protection] Disclaimer: This map is intended for display purposes only. It was created using data from different sources collected at different scales, with different levels of accuracy, and/or covering different periods of time.

Notes: Plant City Phosphoric Acid and Ammoniated Facility; Vicinity Latitude: 28Â° 10' 8.49", Longitude: 82Â° 8' 31.89"

RY SURVEY)

C-95

EXHIBIT "A"

N.00°40'52"W. 634.38'

EAST BOUNDARY OF SECTION 8, TOWNSHIP 27 SOUTH, RANGE 22 EAST.

DESCRIPTION: (WRITTEN)

BEING A PART OF SECTIONS 5, 6, 7 AND 8 OF TOWNSHIP 27 SOUTH, RANGE 22 EAST, HILLSBOROUGH COUNTY, FLORIDA, MORE PARTICULARLY DESCRIBED AS FOLLOWS: FOR A POINT OF BEGINNING COMMENCE AT THE SOUTHEAST CORNER OF SECTION 5, TOWNSHIP 27 SOUTH, RANGE 22 EAST, THENCE PROCEED NORTH 00 DEGREES 40 MINUTES 52 SECONDS WEST ALONG THE EAST BOUNDARY OF SAID SECTION 5, FOR A DISTANCE OF 634.38 FEET, THENCE SOUTH 89 DEGREES 19 MINUTES 08 SECONDS WEST FOR A DISTANCE OF 38.04 FEET, THENCE SOUTH 56 DEGREES 04 MINUTES 58 SECONDS WEST FOR A DISTANCE OF 1042.23 FEET, THENCE NORTH 77 DEGREES 56 MINUTES 54 SECONDS WEST FOR A DISTANCE OF 765.27 FEET, THENCE NORTH 78 DEGREES 36 MINUTES 45 SECONDS WEST FOR A DISTANCE OF 117.85 FEET, THENCE NORTH 83 DEGREES 07 MINUTES 26 SECONDS WEST FOR A DISTANCE OF 90.06 FEET, THENCE SOUTH 89 DEGREES 44 MINUTES 15 SECONDS WEST FOR A DISTANCE OF 142.58 FEET, THENCE SOUTH 77 DEGREES 21 MINUTES 31 SECONDS WEST FOR A DISTANCE OF 103.66 FEET, THENCE SOUTH 70 DEGREES 58 MINUTES 02 SECONDS WEST FOR A DISTANCE OF 206.70 FEET, THENCE SOUTH 72 DEGREES 51 MINUTES 45 SECONDS WEST FOR A DISTANCE OF 133.10 FEET, THENCE SOUTH 86 DEGREES 01 MINUTES 35 SECONDS WEST FOR A DISTANCE OF 816.70 FEET, THENCE NORTH 89 DEGREES 25 MINUTES 48 SECONDS WEST FOR A DISTANCE OF 279.13 FEET, THENCE NORTH 84 DEGREES 11 MINUTES 13 SECONDS WEST FOR A DISTANCE OF 199.57 FEET, THENCE NORTH 89 DEGREES 16 MINUTES 40 SECONDS WEST FOR A DISTANCE OF 229.45 FEET, THENCE SOUTH 89 DEGREES 51 MINUTES 43 SECONDS WEST FOR A DISTANCE OF 1699.02 FEET, THENCE NORTH 00 DEGREES 36 MINUTES 35 SECONDS EAST FOR A DISTANCE OF 512.23 FEET, THENCE NORTH 82 DEGREES 46 MINUTES 45 SECONDS WEST FOR A DISTANCE OF 29.05 FEET, THENCE SOUTH 72 DEGREES 10 MINUTES 32 SECONDS WEST FOR A DISTANCE OF 216.73 FEET, THENCE NORTH 89 DEGREES 09 MINUTES 55 SECONDS WEST FOR A DISTANCE OF 769.31 FEET, THENCE NORTH 47 DEGREES 33 MINUTES 50 SECONDS WEST FOR A DISTANCE OF 267.08 FEET, THENCE NORTH 31 DEGREES 32 MINUTES 59 SECONDS WEST FOR A DISTANCE OF 202.24 FEET, THENCE SOUTH 87 DEGREES 33 MINUTES 17 SECONDS WEST FOR A DISTANCE OF 415.38 FEET, THENCE SOUTH 75 DEGREES 34 MINUTES 47 SECONDS WEST FOR A DISTANCE OF 225.88 FEET, THENCE SOUTH 73 DEGREES 53 MINUTES 00 SECONDS WEST FOR A DISTANCE OF 139.02 FEET, THENCE SOUTH 01 DEGREES 30 MINUTES 26 SECONDS WEST FOR A DISTANCE OF 880.65 FEET TO A POINT ON A LINE BEING 100.00 FEET SOUTH OF AND PARALLEL WITH THE NORTH BOUNDARY OF THE NORTHEAST 1/4 OF AFORESAID SECTION 7, THENCE SOUTH 89 DEGREES 24 MINUTES 51 SECONDS EAST ALONG SAID LINE, FOR A DISTANCE OF 1724.14 FEET TO A POINT ON A LINE BEING 675.00 FEET WEST OF AND PARALLEL WITH THE EAST BOUNDARY OF AFORESAID SECTION 7, THENCE SOUTH 00 DEGREES 05 MINUTES 55 SECONDS WEST ALONG SAID LINE, FOR A DISTANCE OF 510.00 FEET, THENCE SOUTH 89 DEGREES 24 MINUTES 51 SECONDS EAST FOR A DISTANCE OF 425.00 FEET TO A POINT ON A LINE BEING 250.00 FEET WEST OF AND PARALLEL WITH THE EAST BOUNDARY OF SAID SECTION 7, THENCE SOUTH 00 DEGREES 05 MINUTES 55 SECONDS WEST ALONG SAID LINE, FOR A DISTANCE OF 3407.54 FEET TO A POINT ON A LINE BEING 1320.00 FEET NORTH OF AND PARALLEL WITH THE SOUTH BOUNDARY OF THE SOUTHEAST 1/4 OF SAID SECTION 7, THENCE SOUTH 89 DEGREES 50 MINUTES 23 SECONDS EAST ALONG SAID LINE, FOR A DISTANCE OF 250.00 FEET TO THE EAST BOUNDARY OF SAID SECTION 7, THENCE NORTH 89 DEGREES 17 MINUTES 05 SECONDS EAST ALONG A LINE BEING 1320.00 FEET NORTH OF AND PARALLEL WITH THE SOUTH BOUNDARY OF AFORESAID SECTION 8, FOR A DISTANCE OF 5319.49 FEET TO THE EAST BOUNDARY OF SAID SECTION 8, THENCE NORTH 00 DEGREES 27 MINUTES 40 SECONDS EAST ALONG SAID EAST BOUNDARY, FOR A DISTANCE OF 3972.17 FEET TO THE POINT OF BEGINNING.

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APPENDIX 4
FACILITY REPORT
EXECUTIVE SUMMARY

These summary charts provide an overview of the Upstream, Downstream, and Mixed-Use Units at CF Industries' Plant City Facility. They do not substitute for the diagrams or text in the Facility Report, and in case of any conflict between these summary charts and the diagrams/text, the diagrams shall control.

"A" Phosphoric Acid Plant (APAP) Designations

APAP Upstream

Unit Name (Alternative Name)	Unit ID
A-Reactors	n/a
Filter Feed Tank	n/a
Bird Filter	n/a
Belt Filter	n/a
Gypsum Repulp Tank	n/a
A-40 Evaporators	n/a
B-Aging Tank	332B
A-Aging Tank	332A
A-54 Evaporators	n/a

APAP Mixed-Use

Unit Name (Alternative Name)	Unit ID
North 28 Tank	32006
South 28 Tank	32007
Gyp Settler	331
APAP Acid Fume Scrubber (APAP Air Pollution Control Device (APCD))	APCD

APAP Downstream Co-managed with Upstream (Grandfathered)

Unit Name (Alternative Name)	Unit/Line ID
Transport pipes from 54 Holding or Gyp Settler Tank to XYZ DAP	54% Receiving Line and 54% Transfer Line
Transport Pipes from Gyp Settler to A DAP	54% Transfer APAP to A DAP
54 Holding Tank (54 Acid Tank)	234
Transport Pipes from 54 Holding Tank to North 54 Tank in BPAP	54% Receiving Line
Transport Pipes from 54 Holding Tank to South 54 Tank in BPAP	54% Receiving Line
Transport Pipes from 54 Holding Tank to #3 54 Aging Tank in BPAP	54% Receiving Line
Transport Pipes from 54 Holding Tank to A DAP 54 Storage Tank	54% Transfer APAP to A DAP
Transport Pipes from North 28/South 28 Tanks to A DAP East 28/West 28 Tanks	28% Transfer to A DAP
Transport Pipes from Lamella Clarifiers to A DAP 54 storage tank (532A)	

APAP Downstream

Unit Name (Alternative Name)	Unit ID
XYZ DAP North 26 Tank	563B
XYZ DAP South 26 Tank	561B
XYZ DAP North 54 Tank	563A
XYZ DAP South 54 Tank	561A
A DAP 54 Storage Tank	532A
All Associated Equipment XYZ DAP	n/a
All Associated Equipment A DAP	n/a
A DAP East 26 Tank	431B
A DAP West 26 Tank	431A
XYZ DAP S-274 Tank	na

"B" Phosphoric Acid Plant (BPAP) Designations

BPAP Upstream

Unit Name (Alternative Name)	Unit ID
B-Attack Tank	n/a
#1 Filtrate Tank	n/a
Bird Filter	n/a
Belt Filter	n/a
Gypsum Repulp Tank	n/a
B-40 Evaporators	n/a
40-Aging Tank	2321
40-Clarifier	2322
B-54 Evaporators	n/a

BPAP Mixed-Use

Unit Name (Alternative Name)	Unit ID
East 28 Tank	32613
West 28 Tank	32634
#3 54 Aging Tank	33450
BPAP Acid Fume Scrubber (BPAP Air Pollution Control Device (APCD))	APCD

BPAP Downstream Co-managed with Upstream (Grandfathered)

Unit Name (Alternative Name)	Unit/Line ID
Transport Pipes from East 28 Tank/West 28 Tank to XYZ DAP North 26 Tank	New 28 Line/Old 28 Line
Transport Pipes from East 28 Tank/West 28 Tank to XYZ DAP South 26 Tank	New 28 Line/Old 28 Line
North 54 Tank	2351A
Transport Pipes from North 54 Tank to XYZ DAP North 54 Tank	54% Transfer Line
Transport Pipes from North 54 Tank to XYZ DAP S-274 Tank	54% Transfer Line
Transport Pipes from North 54 Tank to XYZ DAP South 54 Tank	54% Transfer Line
South 54 Tank	2351B
Transport Pipes to South 54 and North 54 Tanks from 54 Holding Tank in APAP	54% Receiving Line
Transport Pipes from South 54 Tank to XYZ DAP North 54 Tank	54% Transfer Line
Transport Pipes from South 54 Tank to XYZ DAP S-274 Tank	54% Transfer Line
Transport Pipes from South 54 Tank to XYZ DAP South 54 Tank	54% Transfer Line

Transport Pipes from #3 54 Aging Tank to XYZ DAP North 54 Tank, XYZ DAP South 54 Tank and XYZ DAP S-274 Tank	54% Transfer Line
Transport Pipes to #3 54 Aging Tank from APAP 54 Holding Tank	54% Receiving Line
Transport Pipes from East 28 Tank/ West 28 Tank to XYZ DAP S-274 Tank	New 28 Line/ Old 28 Line

BPAP Downstream

Unit Name (Alternative Name)	Unit ID
XYZ DAP North 26 Tank	563B
XYZ DAP South 26 Tank	561B
XYZ DAP North 54 Tank	563A
XYZ DAP South 54 Tank	561A
All Associated Equipment XYZ DAP	n/a
All Associated Equipment A DAP	n/a
XYZ DAP S-274 Tank	n/a

Acid Clean-up (ACU) Plant Designations

ACU Upstream

Unit Name (Alternative Name)	Unit ID
North 26 Tank (26% Storage Tank)	11000A
North Clarifier (26% Clarifier)	11026A
A Carbon Column Tank (A CC)	ACC Feed or 11021N
South 40 Tank (40% Storage Tank)	110008
South Clarifier (40% Clarifier)	11026B
B Carbon Column Tank (B CC)	BCC or 11021S

ACU Mixed-Use

Unit Name (Alternative Name)	Unit ID
Green Acid Tank	10-58325
ACU Fume Scrubber (ACU Air Pollution Control Device (APCD))	APCD

ACU Downstream Co-managed with Upstream (Grandfathered)

Unit Name (Alternative Name)	Unit/Line ID
Transport Pipes from Green Acid Tank to A DAP East 26 and West 26 Tanks	“C” Green Acid Line
Transport Pipes from Green Acid Tank to XYZ DAP South 26 Tank	New “A” Green Acid Line and “B” Green Acid Line and “C" Green Acid Line
Transport Pipes from Green Acid Tank to XYZ DAP North 26 Tank	New “A” Green Acid Line and "B" Green Acid Line and “C” Green Acid Line
Transport Pipes from Green Acid Tank to XYZ DAP S-274 Tank	New “A” Green Acid Line and "B" Green Acid Line and “C” Green Acid Line

ACU Downstream

Unit Name (Alternative Name)	Unit ID
A DAP West 26 Tank	431A
XYZ DAP North 26 Tank	563B
XYZ DAP South 26 Tank	561B
All Associated Equipment XYZ DAP	n/a
All Associated Equipment A DAP	n/a
A DAP East 26 Tank	431B
XYZ DAP S-274 Tank	n/a

APPENDIX 4
FACILITY REPORT

CF INDUSTRIES, INC
PLANT CITY, FLORIDA COMPLEX
EPA ID NO. FLD 046 088 829

I. Purpose

The purpose of this Facility Report is to:

1. Identify CF Industries, Inc's (CF) current Upstream and Downstream Operations at its Plant City Facility, its Mixed-Use air pollution control devices (APCDs), and its Mixed-Use tanks, pipes, and other ancillary equipment involved in the production of phosphoric acid.
2. Identify certain units in Downstream Operations, the cleaning wastes from which may be managed with wastes from Upstream Operations due to the particular configuration of the Facility (Grandfathered Units).
3. Address phosphoric acid product and sulfuric acid leaks and spills within the phosphoric acid plants.
4. Address certain proposed changes to CF's operations to reinstate uranium extraction and recovery, as well as a new phosphoric acid recovery system, at the CF Facility.
5. Identify categories of future equipment installations, the wastes from which may be co-managed with Bevill-exempt wastes when meeting the conditions set forth in Section VIII of this Facility Report.

Hazardous wastes generated from the production of sulfuric acid and its transport to the phosphoric acid plants are not within the scope of this Report.

II. Background

CF's primary commercial products are the solid ammoniated phosphate fertilizers, monoammonium phosphate (MAP) and diammonium phosphate (DAP). DAP is manufactured in four production trains designated as A-DAP/MAP (A DAP), X-DAP/MAP (X DAP), Y-DAP/MAP (Y DAP), and Z-DAP/MAP (Z DAP). MAP is also produced in A-DAP/MAP and/or Y-DAP/MAP, and is permitted at X-DAP/MAP and Z-DAP/MAP. Ammonia and phosphoric acid (P_2O_5) are the primary reactants for MAP and DAP and are consumed in the production of ammoniated fertilizers on-site.

Phosphoric acid is produced by the digestion of phosphate rock with sulfuric acid. CF manufactures phosphoric acid in two production plants on-site designated as "A" Phosphoric Acid Plant (APAP) and "B" Phosphoric Acid Plant (BPAP). Acid is clarified in a separate production area designated as "Acid Clean-up (ACU)." The reaction yields phosphoric acid and phosphogypsum (gypsum). Gypsum is filtered from the phosphoric acid on a belt filter or tilting pan filter (bird filter), slurried with process wastewater in a Gypsum Repulp Tank, and the resultant slurry is pumped to a lined phosphogypsum storage stack ("gypstack"). Because the

production of phosphoric acid is a water-intensive process and water is used throughout the process (e.g., as phosphoric acid dilution water, in boilers, ball mills, evaporators, and as a pipe and tank cleaning agent), approximately 806 million gallons of pond water is constantly stored in and circulating throughout the facility's production processes, internal process water ditches, and the cooling ponds and ditches associated with the gypstack (cooling pond system).

CF disposes of slurried gypsum in a 197-acre, 60-mil high density polyethylene (HDPE) lined gypstack expansion located south of the closed 410-acre gypstack. CF also disposes of slurried gypsum in a 111-acre vertical expansion gypstack lined with 60-mil HDPE. The 111-acre vertical expansion is located between the 410-acre gypstack and the 197-acre expansion gypstack. The two lined gypsum disposal areas provide a combined 308-acre lined gypstack base. The combined lined expansion area operates in conjunction with the 60-mil HDPE existing lined cooling pond system. The gypstack and associated cooling pond system is collectively referred to as the phosphogypsum stack system.

CF's cooling pond system encompasses 93-acres and is lined with 60-mil HDPE. The cooling pond system consists of an 80-acre main cooling pond located directly east of the production complex, a 13-acre lined emergency holding pond, and the ponds' connecting ditches. CF operates the phosphogypsum stack system under an Industrial Wastewater Facility Permit issued by the Florida Department of Environmental Protection (FDEP).

III. First Saleable Products at CF

The line marking the division between Upstream and Downstream Operations lies at the point of generation of the First Saleable Product. CF does not currently manufacture or sell Merchant Grade Acid. It generates two First Saleable Products used as direct feedstocks to MAP or DAP production: 26% P_2O_5[1] that is routed to MAP/DAP rather than to further concentration steps, and 54% P_2O_5. All Downstream Operations at CF are associated with the storage, transport or use of these First Saleable Products in MAP/DAP operations.

IV. Current Phosphoric Acid Production

Diagram 13 identifies Upstream Operations, Downstream Operations, Mixed-Use Units for APAP, BPAP and ACU, and certain Downstream Operations generating cleaning wastes that may be managed with wastes from Upstream Operations.

[1] Note that although the terms P_2O_5 and phosphoric acid (H_3PO_4) are used interchangeably, the concentrations are not interchangeable. CF manufactures phosphoric acid, however, in this document we refer to the concentration of the acid in terms of P_2O_5 concentration, rather than phosphoric acid concentration. P_2O_5 concentration can converted to an approximate concentration of phosphoric acid by multiplying by 1.3808. Phosphoric acid is converted to an approximate concentration of P_2O_5 by multiplying by 0.7242.

APAP Including ACU

CF's APAP is fully concrete paved and approximately 50% of it has 60-mil HDPE liner installed below the concrete. Below-grade concrete trenches throughout APAP convey process water from the plant to the phosphogypsum stack system at a flow rate of approximately 20,000 – 30,000 gallons per minute (gpm). The main process water return ditches to the cooling pond system within the plant are lined with stainless steel and/or acid-resistant brick over concrete.

Standard Acid Flow Configuration

APAP currently produces three concentrations of P_2O_5 for use in fertilizer manufacturing- 26% P_2O_5 (interchangeably referred to as 28% P_2O_5), 40% P_2O_5 and 54% P_2O_5. The 26% P_2O_5 that is not used directly as feedstock to fertilizer manufacturing is further processed to 54% P_2O_5 in Upstream Operations (note that interchangeable acid flow routes are denoted in brackets and described in further detail later in this Report).

The current phosphoric acid manufacturing process described below is illustrated in process block flow Diagram 1.

Post-Reactor, unclarified 26% P_2O_5 is pumped through the Filter Feed Tank to either the Belt Filter or the Bird Filter. From the Belt Filter and Bird Filter, the unclarified 26% P_2O_5 is either transferred to DAP or processed for 26% acid clarification or processed for concentration to 40% P_2O_5 and eventually to 54% P_2O_5.

26% Acid Processed for 26% Acid Clarification

- 26% P_2O_5 from the #1 Filtrate Tanks is pumped to the ACU North 26 Tank (11000A) [or to the APAP North 28 Tank (32006) or APAP South 28 Tank (32007), as described below] and then from the ACU North 26 Tank to the ACU North Clarifier (11026A) for clarification;
- Overflow (clarified 26% P_2O_5) from the ACU North Clarifier is pumped to the A Carbon Column (A CC, 11021N) Tank and then to the ACU Green Acid Tank (10-58325);
- Clarified 26% P_2O_5 is pumped from the ACU Green Acid Tank to any of the following tanks: 1) A DAP West/East 26 Tank (431A/B); or 2) the XYZ DAP North 26 Tank (563B); or 3) XYZ DAP South 26 Tank (561B); or 4) XYZ DAP S-274 Tank; or 5) to the APAP North 28 Tank or APAP South 28 Tank; or 6) to BPAP East 28 Tank (32613) or BPAP West 28 Tank (32634).
- Underflow (solids) from the ACU North Clarifier is fed to two 15 m^2 belt filters located in ACU (ACU belt filters). The solids are rinsed to recover residual phosphoric acid. The acidic rinsate is pumped back into the ACU North 26 Tank or to the ACU Green Acid Tank.
- Rinsed solids from the ACU belt filters are then either pumped to the APAP or BPAP Bird Filters for a second stage of phosphoric acid recovery or pumped to the gypsum repulp tank for disposal on the gypstack.

26% Acid Processed to 40% Acid and then to 54% Acid

- 26% P_2O_5 from the #1 Filtrate Tanks is pumped to the APAP North 28 Tank or APAP South 28 Tank [or to ACU as described above];

- From the APAP North 28 Tank or APAP South 28 Tank, 26% P_2O_5 is fed to the A-40 evaporators (A, B, C, D, or E) for concentration to 40% P_2O_5 [or is transferred to BPAP East or BPAP West 28 Tanks or to A,X,Y or Z DAP];
- The 40% P_2O_5 is piped from the evaporators to the B-Aging Tank (332B);
- From the B-Aging Tank, 40% P_2O_5 is pumped to the ACU South 40 Tank (110008) and is then fed to the ACU South Clarifier (110008);
- Underflow (solids) from the ACU South Clarifier is pumped to the ACU North Clarifier and the combined solids from both clarifiers are pumped back to the Reactor or to the ACU Belt Filter for phosphoric acid recovery;
- Overflow (clarified 40% P_2O_5) from the ACU South Clarifier is pumped to the B-Carbon Column (B CC, 11021S) Tank then to the A-Aging Tank (332A) and then to the A-54 Evaporators;
- After the evaporators have concentrated the 40% P_2O_5 to 54% P_2O_5, the 54% P_2O_5 is pumped to the 54 Holding Tank (234) or to the Gyp Settler Tank (331);
- The 54% P_2O_5 is transferred from the 54 Holding Tank or Gyp Settler Tank to: 1) the North 54 Tank (2351A) or the South 54 Tank (2351B) or the BPAP #3 54 Aging Tank (33450); or 2) the A DAP 54 Storage Tank (532A); or 3) the XYZ DAP North 54 Tank (563A) and/or XYZ DAP S-274 Tank and/or the XYZ DAP South 54 Tank (561A). Prior to transferring the 54% P_2O_5 to the above tanks, the 54% P_2O_5 may be pumped to the Lamella clarifiers for clarification. [2]

Note: Solids settled from the APAP North 28 Tank and APAP South 28 Tank are pumped to the filter feed tank or directly back to either the Bird or Belt Filter to recover phosphoric acid values.

Alternative to Standard Acid Flow Configuration

When the ACU North Clarifier is not functioning or maintenance/cleaning is being performed on the ACU North 26 Tank, CF routes unclarified 26% P_2O_5 (that would typically be directed to the evaporators for concentration to 40% P_2O_5) directly to DAP operations from the APAP North 28 Tank or APAP South 28 Tank through the confines of the BPAP to the XYZ DAP North 26 Tank or to the XYZ DAP S-274 Tank or to the XYZ DAP South 26 Tank.

If the 54 Holding Tank is down for service or maintenance, CF uses the Gyp Settler Tank as an alternate swing tank for storage of 54% P_2O_5. The Gyp Settler Tank may also serve as alternate storage for 26% P_2O_5 and 40% P_2O_5.

When the ACU South Clarifier is not functioning or maintenance/cleaning is being performed on the South 40 Tank, CF routes unclarified 40% P_2O_5 directly from B-Aging Tank to A-Aging Tank

[2] EPA acknowledges that at times, the 54% P_2O_5 exiting CF's Lamella clarifiers may contain less than 1% solids and therefore, during those times, would meet the definition of Merchant Grade Acid (MGA). If, along with the conditions provided in the Consent Decree, CF completes the pre-approved projects to segregate APAP and BPAP cleaning wastes from downstream cleaning wastes and does not consistently manufacture MGA for on-site use and does not sell MGA, then the grandfathered units identified in this report will maintain their designations.

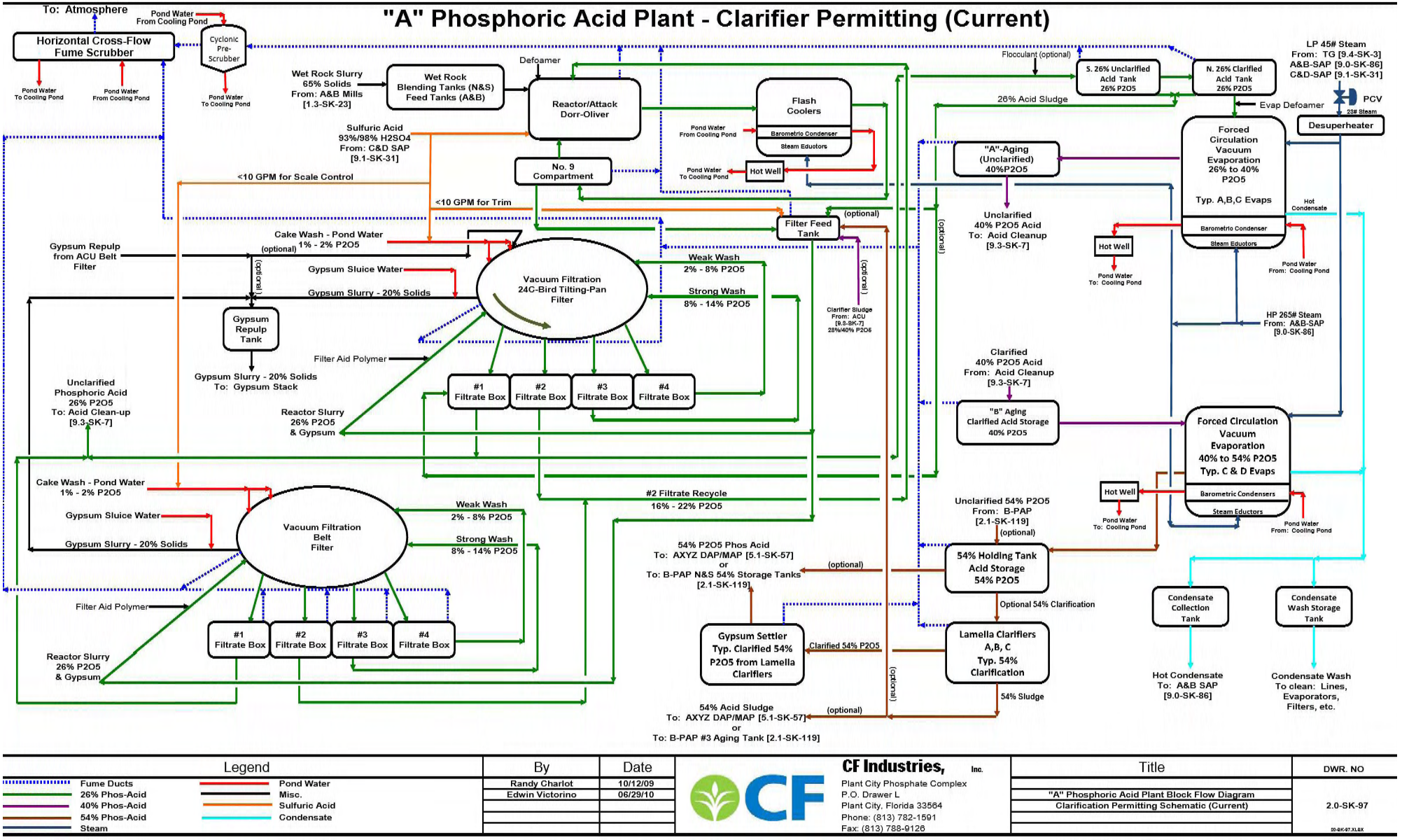


Diagram 1. Block flow diagram of the production of phosphoric acid in APAP.

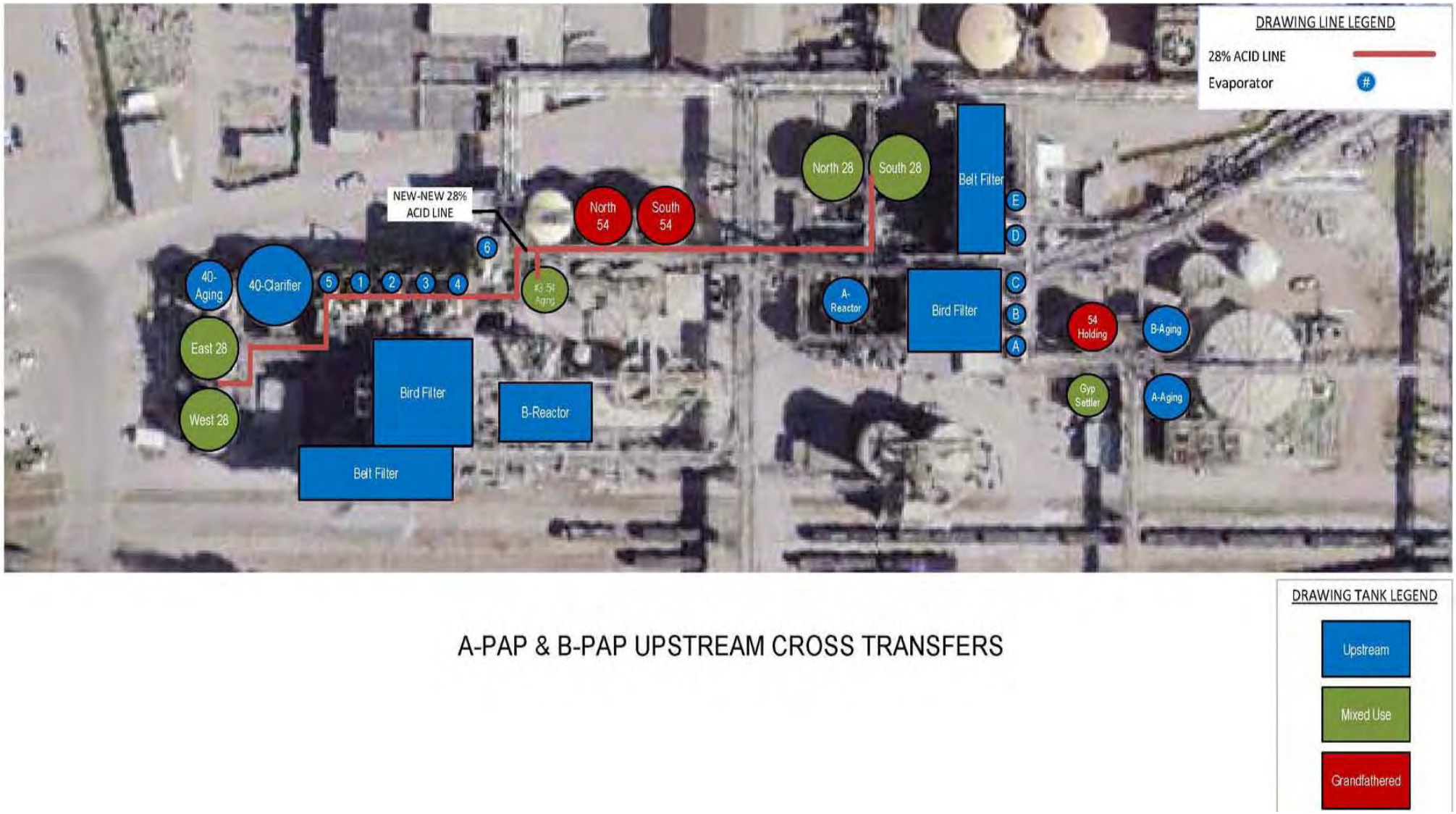
Phosphoric Acid Transfer Lines

Upstream Cross-Transfer between APAP and BPAP

CF currently has one primary transfer line (approximately 734 total feet in length) that serves to transport 26% P_2O_5 between APAP and BPAP. The line is designated as the New-New 28% line. The line is cleaned with pond water and/or condensate approximately twice per month to remove precipitated solids and scale to maintain acceptable pressure levels and acid flow rates. The location of the transfer line is illustrated in Diagram 2. The line designation and cleaning frequency listed in Table 1.

	Service	Name	Description	Cleaning Frequency	Length (ft)
APAP & BPAP Upstream Transfers	26% acid	New-New 28% Line	Transfers 26% P_2O_5 between APAP and BPAP	2x/ month	612
	Estimate for Existing Lines		**Estimate Length- Plan View (Ft)**		**612**
			Estimated Vertical Runs- Basis 20% Factor (Ft)		**122**
			Total Estimated Piping Length (Ft)		**734**

Table 1. Pipe designation associated with the upstream transfer of phosphoric acid between APAP and BPAP.



A-PAP & B-PAP UPSTREAM CROSS TRANSFERS

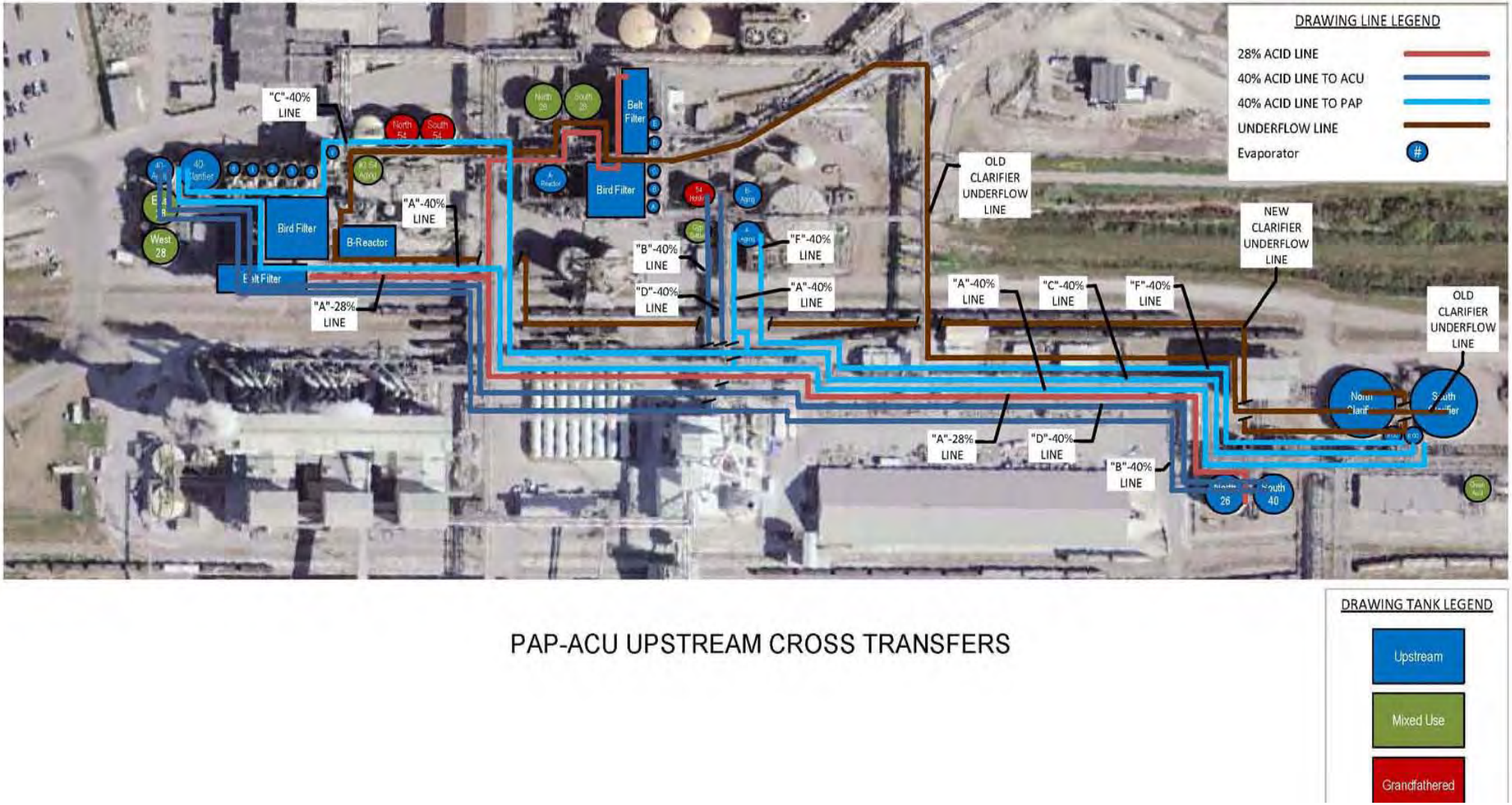
Diagram 2. Pipes designated for the upstream transfer of phosphoric acid between APAP and BPAP.

Upstream Cross-Transfer between APAP and BPAP to/from ACU

CF currently has eight transfer lines (approximately 17,372 total feet in length) that serve to transport 26% P_2O_5, 40% P_2O_5, and clarifier underflow between the APAP and BPAP to/from ACU. The lines are cleaned with pond water and/or condensate once per day to once per week to remove precipitated solids and scale to maintain acceptable pressure levels and acid flow rates. The locations of the transfer lines are illustrated in Diagram 3. The line designations and cleaning frequencies are listed in Table 2.

	Service	Name	Description	Cleaning Frequency	Length (ft)
PAP- ACU Upstream Transfers	26%	"A" 28% Line	Transfers 26% P_2O_5 from APAP and BPAP to ACU	1x/ week	1,898
	40%	"B" 40% Line	Transfers 40% P_2O_5 from APAP and BPAP to ACU	1x/ week	1,994
	40%	"D" 40% Line	Transfers 40% $P_2O_5$from APAP and BPAP to ACU	1x/ week	1,946
	40%	"F" 40% Line	Transfers 40% $P_2O_5$from ACU to APAP	1x/ week	1,033
	40%	"A" 40 % Line	Transfers 40% P_2O_5 from ACU to APAP and BPAP	1x/ week	2,053
	40%	"C" 40% Line	Transfers 40% P_2O_5 from ACU to APAP and BPAP	1x/ week	1,996
	Underflow	Old Clarifier Underflow Line	Transfers Clarifier Underflow from ACU to BPAP	1x/ day	1,921
	Underflow	New Clarifier Underflow Line	Transfers Clarifier Underflow from ACU to BPAP	1x/ day	1,636
	Estimate for Existing Lines		**Estimate Length- Plan View (Ft)**		**14,477**
			Estimated Vertical Runs- Basis 20% Factor (Ft)		**2,895**
			Total Estimated Piping Length (Ft)		**17,372**

Table 2. Pipe designations associated with the upstream transfer of phosphoric acid between APAP, BPAP and ACU.



PAP-ACU UPSTREAM CROSS TRANSFERS

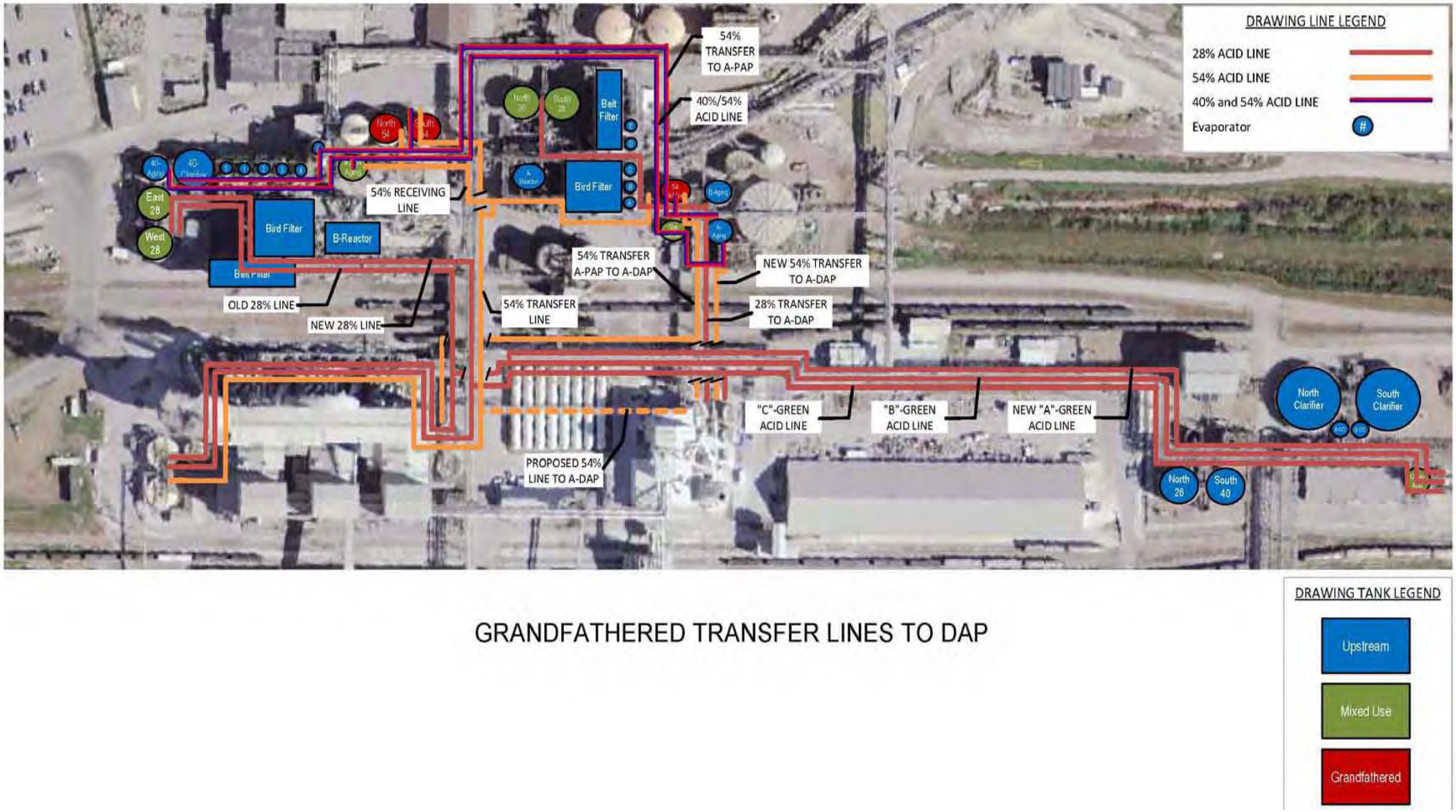
Diagram 3. The upstream transfer of phosphoric acid between APAP, BPAP and ACU.

Grandfathered Transfer Lines Between APAP, BPAP, ACU, and A, X, Y, and Z DAP

CF currently has thirteen transfer lines (approximately 14,656 total feet in length) that primarily serve to transport 26% and 54% P_2O_5 between the APAP, BPAP, ACU and A, X, Y, and Z DAP. Three of the lines transfer 40% or 54% P_2O_5 or clarifier underflow between APAP and BPAP. The lines are cleaned with pond water and/or condensate once per week to ten times per week to remove precipitated solids and scale to maintain acceptable pressure levels and acid flow rates. The locations of the transfer lines are illustrated in Diagram 4. The line designations and cleaning frequencies are listed in Table 3. In addition, shown on Diagram 4, additional piping will be installed to transport 54% P_2O_5 from BPAP to A DAP.

	Service	Name	Description	Cleaning Frequency	Length (ft)
Grandfathered Transfer Lines	26%	New 28% Line	Transfers 26% P_2O_5 from BPAP to XYZ DAP North and South Tank Farms	1x/ week	1,295
	26%	Old 28% Line	Transfers 26% P_2O_5 from BPAP to XYZ DAP North and South Tank Farms	1x/ week	1,201
	26%	"C" Green Acid Line	Transfers 26% P_2O_5 from ACU to the New 28% Line	5-10x/ week	1,405
	26%	"B" Green Acid Line	Transfers 26% P_2O_5 from ACU to the Old 28% Line	5-10x/ week	1,398
	26%	New "A" Green Acid Line	Transfers 26% P_2O_5 from ACU to the Old 28% Line (ties into the "B" Green Acid Line)	1x/ week	1,331
	26%	28% Transfer to ADAP	Transfers 26% P_2O_5 from APAP to A DAP	1-2x/ week	574
	54%	54% Receiving Line	Transfers 54% P_2O_5 from APAP to BPAP	1x/ week	503
	54%	54% Transfer Line	Transfers 54% $P_2O_5$from BPAP to XYZ DAP North and South Tank Farms	2-3x/ week	1,098
	54%	54% Transfer APAP to A DAP	Transfers 54% P_2O_5 from APAP to A DAP	1-2x/ week	690
	54%	New 54% Transfer to A DAP	Transfers 54% P_2O_5 from APAP to A DAP	2-3x/ week	188
	54%	Proposed 54% line to A DAP	Transfers 54% P_2O_5 from BPAP to A DAP	2-3x/ week	257
	40% and 54%	54% Transfer to APAP	Transfers 54% P_2O_5 from BPAP to APAP	1-2x/ week	1,110
	40% and 54%	40%/54% Acid Line	Transfers 40% P_2O_5 from APAP to BPAP and also transfers 54% Clarifier Underflow from APAP to BPAP	1x/ week	1,164
	Estimate for Existing Lines		**Estimate Length- Plan View (Ft)**		**12,214**
			Estimated Vertical Runs- Basis 20% Factor (Ft)		**2,442**
			Total Estimated Piping Length (Ft)		**14,656**

Table 3. Pipe designations associated with the grandfathered transfer lines.



GRANDFATHERED TRANSFER LINES TO DAP

Diagram 4. The transfer of phosphoric acid between APAP, BPAP, ACU, and A, X, Y and Z DAP.

Current Configuration - Upstream Units - APAP and ACU

The following processes, tanks and associated equipment used in the production, concentration, transport, and storage of 26% and 40% P_2O_5, and the concentration of 40% P_2O_5 to 54% P_2O_5, serve only Upstream Operations.

- The Reactor through filtration, recovery, and storage of 26% P_2O_5 when the acid is not diverted to XYZ or A DAP Plants[3]: A-Reactor, Filter Feed Tank, Bird and Belt Filters, #1 Filtrate Tanks, and Gypsum Repulp Tank;
- Clarification and storage of the 26% P_2O_5: ACU North 26 Tank, ACU North Clarifier, and A CC Tank;
- Concentration of 26% P_2O_5 to 40% P_2O_5: A-40 Evaporators (A, B, C, D, E);
- Clarification and storage of 40% P_2O_5: B-Aging Tank, ACU South 40 Tank, ACU South Clarifier, B-CC Tank, and A-Aging Tank;
- Concentration of 40% P_2O_5 to 54% P_2O_5: A-54 Evaporators (C, D, E);
- The phosphoric acid transfer lines from the A-54 Evaporators up to, but excluding the 54 Holding Tank.

Current Configuration- Mixed-use Units – APAP and ACU

The following air pollution control devices (APCD) and tanks with associated equipment in APAP are Mixed-Use.

APCD

APAP has one APCD that uses once-thru pond water to scrub vapors from the entire phosphoric acid process in APAP. The APCD generally serves Upstream and Mixed-Use Operations but currently also serves the Downstream 54 Holding Tank.

ACU has one APCD that uses once-thru pond water to scrub vapors from the entire phosphoric acid process in ACU. The APCD generally serves Upstream and Mixed-Use Operations.

Tanks

The following tanks identified as Mixed-Use units in APAP primarily serve Upstream Operations but may also serve as storage for feedstocks to Downstream Operations:

- APAP North 28 Tank (32006)- used routinely to store feedstock for DAP;
- APAP South 28 Tank (32007)- used routinely to store feedstock for DAP;
- Green Acid Tank (10-58325) in ACU - used to store feedstock for DAP or may feed APAP North/South 28 Tanks or BPAP East/West 28 Tanks;

[3] If 26% acid can be further processed or can be diverted to XYZ or A DAP, the storage tanks are considered Mixed-Use. While the pipes that serve to transfer the 26% acid to the MAP/DAP plants are part of Downstream Operations, wastes from the cleaning of these pipes may be managed with wastes from Upstream Operations.

- Gyp Settler (331)- swing tank for storage of all concentrations of phosphoric acid.

Current Configuration-Downstream Units

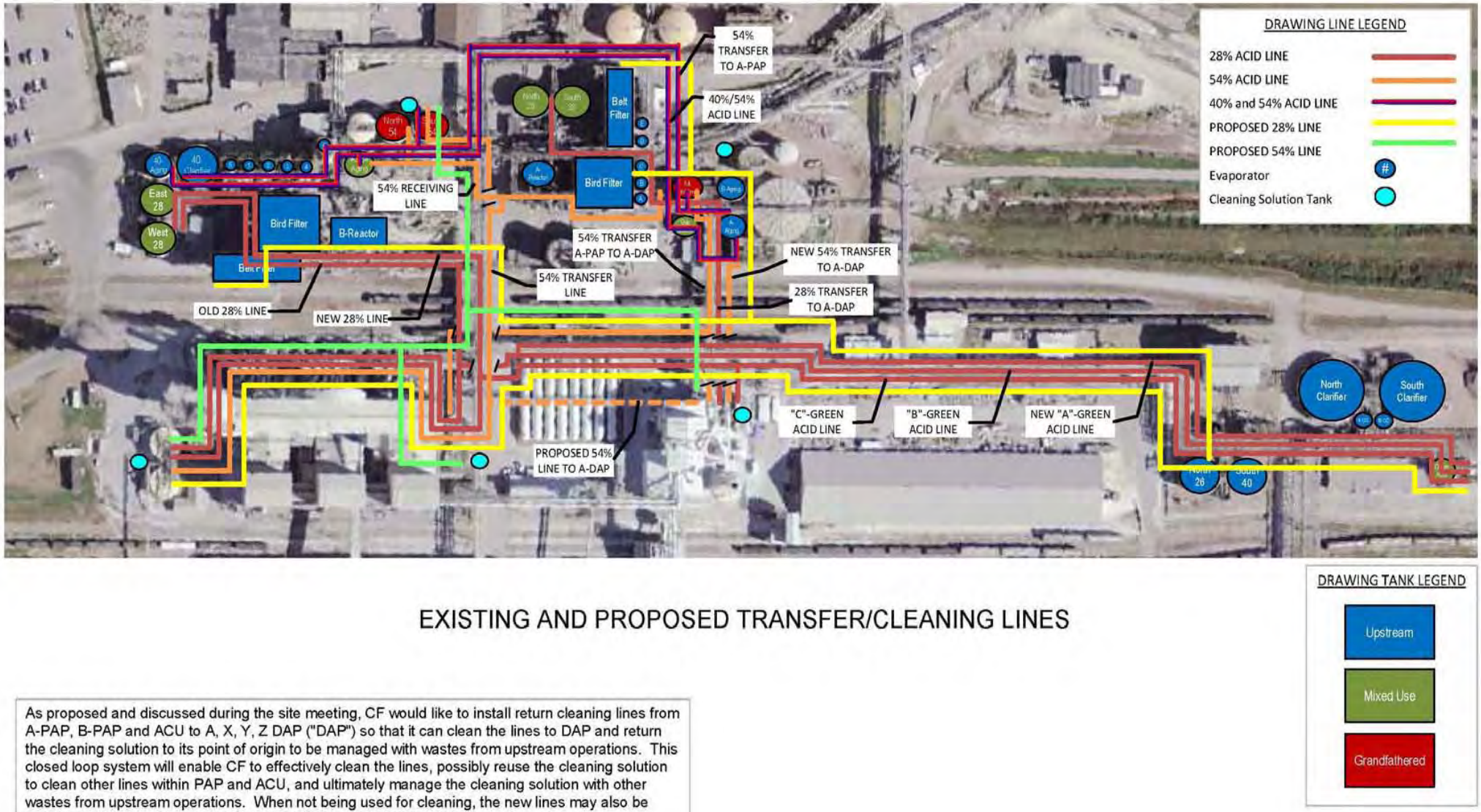
Diagram 5 and Table 4 is a conceptual plan for new piping at CF that will enable CF to clean the pipes that run from APAP to MAP/DAP and return the cleaning wastes back to APAP. The final detailed plan may include additional parallel piping to facilitate extended wash cycles. The new installed piping will be Grandfathered Units, the cleaning wastes from which may be managed with Upstream wastes. The new piping will afford complete segregation of chemical manufacturing wastes (MAP/DAP) from wastes generated from Upstream Operations. The schedule for the installation of the new piping is set forth in Appendix 8 to the Consent Decree.

Contingent upon the installation of the aforementioned piping, cleaning wastes from the following Downstream Operations tanks and/or associated piping in APAP may be managed with wastes from Upstream Operations (Grandfathered Units):

- Pipes that serve to transport 26% P_2O_5 from the North 28 and South 28 Tanks to the A DAP East/West 28 Tanks;
- Pipes that serve to transfer 26% P_2O_5 to XYZ or A DAP Plants from the Green Acid Tank (10-58325) in ACU;
- The 54 Acid Tank (54 Holding Tank) and associated pipes that serve to transfer 54% P_2O_5 to: 1) the North 54% Tank (2351A) or the South 54% Tank (2351B) or #3 Aging Tank in BPAP; or 2) the 54 Storage Tank (532-A) in A DAP; or 3) the North 54 Tank (563A) and/or Tank S-274 in XYZ DAP and the South 54 Tank (561A) in XYZ;
- Pipe that serves to transfer 54% P_2O_5 from the lamella clarifiers (54 transfer lines) to 54 storage tank (532A) in A DAP

Proposed Transfer/ Cleaning Lines	Service	Name	Description	Cleaning Frequency	Length (ft)
	Wash/ 28%	Proposed 28% Transfer/ Cleaning Lines	To Return wash water to PAP	NA	4,131
	Wash/ 54%	Proposed 54% Transfer/ Cleaning Lines	To Return wash water to PAP	NA	1,421
	Estimate for Existing Lines		**Estimate Length- Plan View (Ft)**		**5,552**
			Estimated Vertical Runs- Basis 20% Factor (Ft)		**1,110**
			Total Estimated Piping Length (Ft)		**6,662**

Table 4. CF's proposed transfer/cleaning lines to segregate MAP/DAP cleaning wastes from Upstream Operations.



EXISTING AND PROPOSED TRANSFER/CLEANING LINES

As proposed and discussed during the site meeting, CF would like to install return cleaning lines from A-PAP, B-PAP and ACU to A, X, Y, Z DAP ("DAP") so that it can clean the lines to DAP and return the cleaning solution to its point of origin to be managed with wastes from upstream operations. This closed loop system will enable CF to effectively clean the lines, possibly reuse the cleaning solution to clean other lines within PAP and ACU, and ultimately manage the cleaning solution with other wastes from upstream operations. When not being used for cleaning, the new lines may also be used as acid lines. The proposed lines are set forth in this drawing.

Diagram 5. CF's proposed transfer/cleaning lines

During the period in which the new piping is installed and put into service, CF may continue to manage wastewaters generated from Grandfathered Units with wastes from Upstream Operations, until such time as set forth in Appendix 8 to the Consent Decree.

Containment of Phosphoric Acid Product and Sulfuric Acid Feedstock Spills and Leaks

Approximately 50% of CF's APAP has 60-mil HDPE liner installed beneath the concrete pad underlying the battery limits of the Plant. The concrete pad is sloped towards stainless steel-lined and/or acid-resistant brick-lined trenches (denoted by orange dashed lines in Diagram 6A). Process water flows through the trenches at a rate of approximately 20,000 – 30,000 gpm to the HDPE-lined phosphogypsum stack system. Due to the engineered slope of the concrete pad and the configuration of APAP, small spills and leaks of phosphoric acid and incoming sulfuric acid used as a feedstock to phosphoric acid production operations (transfer lines denoted by orange lines in Diagram 6B) onto the concrete pad cannot be segregated and are commingled in the trenches with the process water flowing to the phosphogypsum stack system and managed pursuant to CF's Best Management Practices Program ("BMP"). So long as the phosphogypsum stack system remains fully lined and CF complies with the BMP and Consent Decree, CF may manage small spills and leaks of phosphoric acid or sulfuric acid within the concrete areas of APAP (delineated by red lines in Diagram 6B). This does not apply to spills and leaks of phosphoric acid or sulfuric acid outside of containment which must be managed in full compliance with RCRA.

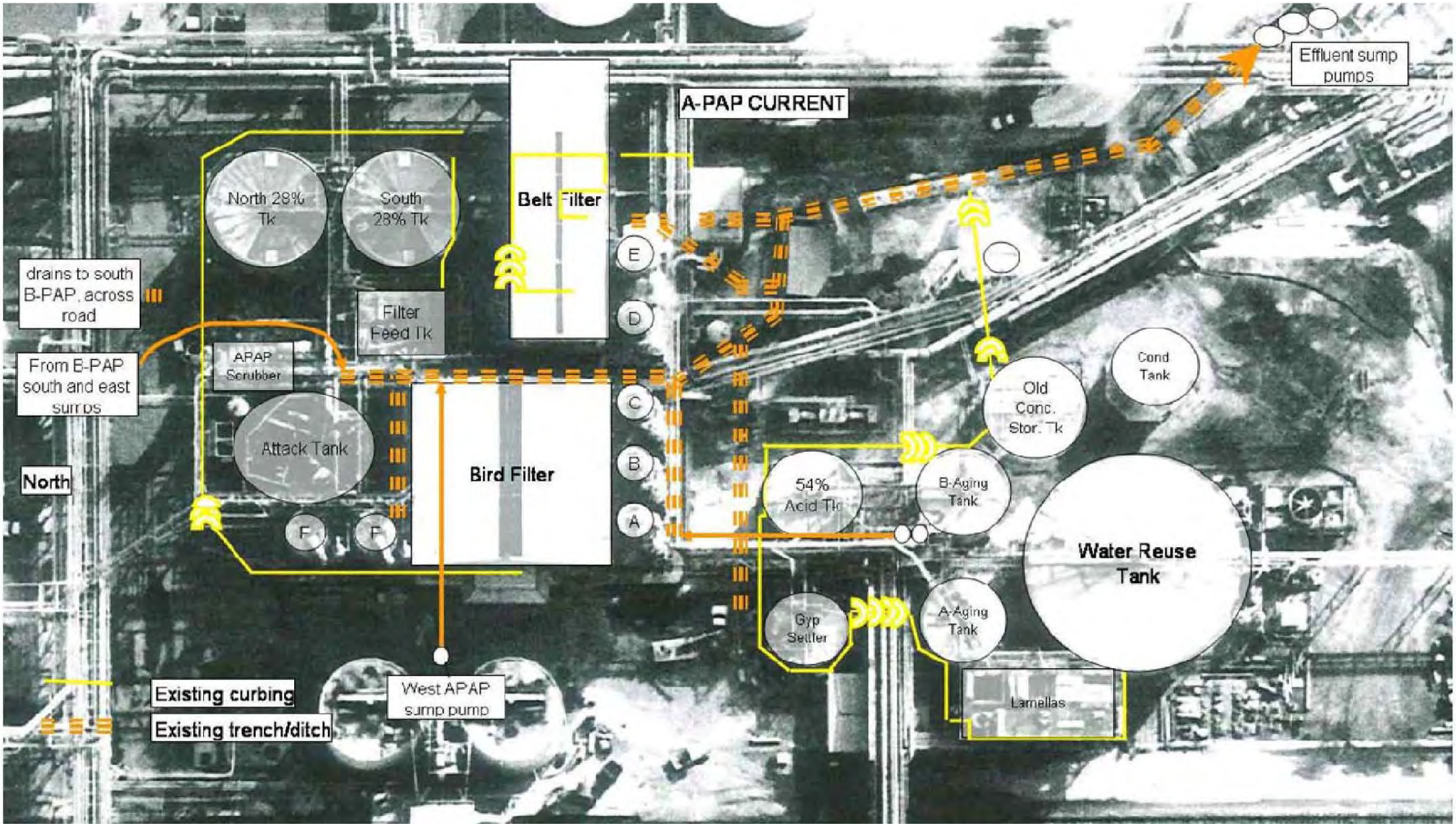
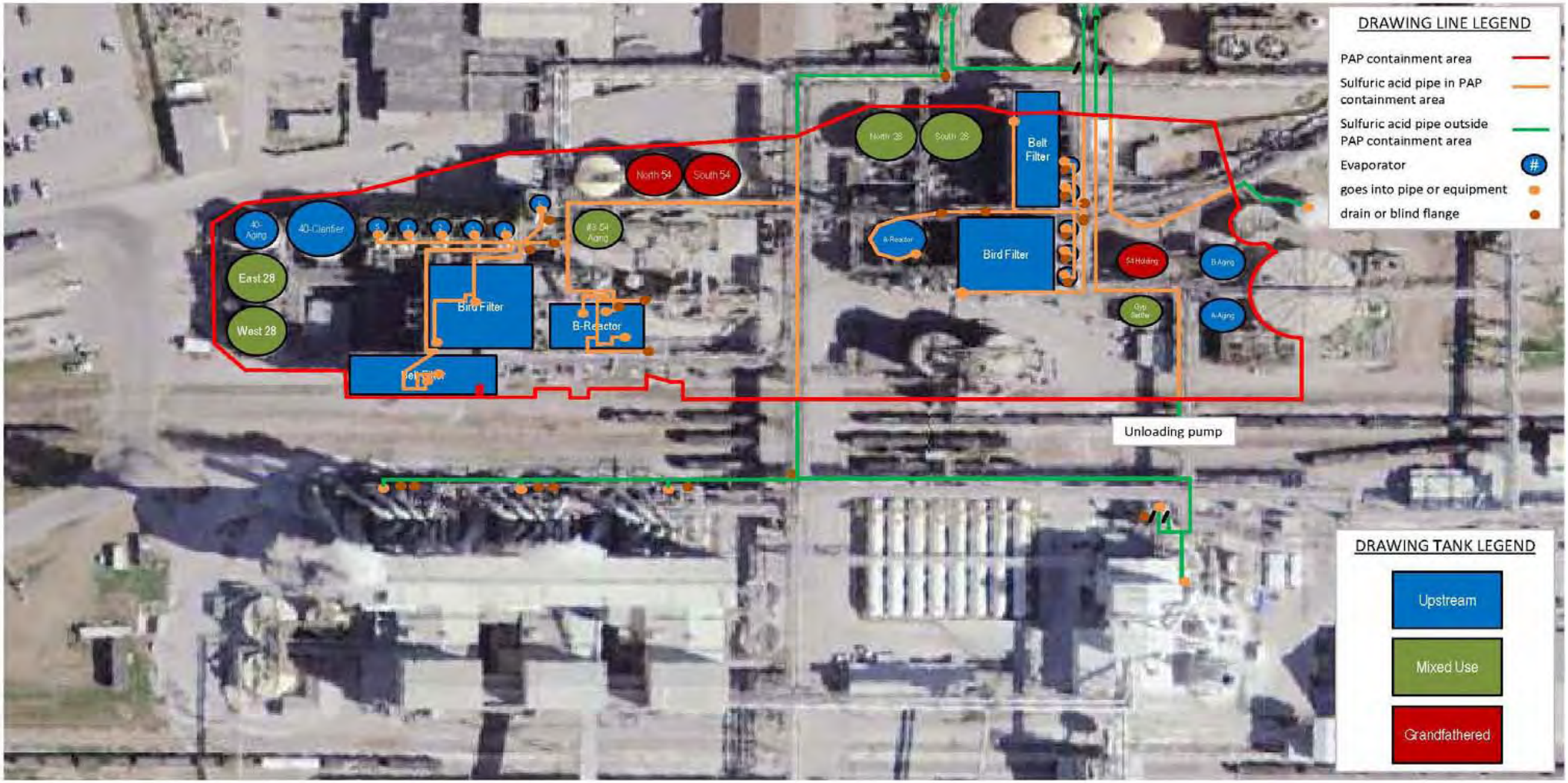


Diagram 6A. APAP current containment trenches and curbing.



SULFURIC ACID LINES IN PAP AND DAP

Diagram 6B. Sulfuric acid lines in PAP containment. Containment area delineated in red, sulfuric acid lines delineated in orange.

BPAP

CF's BPAP is fully concrete paved, and approximately 40% of BPAP has 60-mil HDPE liner installed below the concrete. Below-grade concrete trenches throughout BPAP convey process water from the plant being returned to the phosphogypsum stack system at a flow rate of approximately 20,000 – 30,000 gpm. The main process water return ditches within the confines of the plant are lined with stainless steel and/or acid-resistant brick over concrete.

Standard Acid Flow Configuration

BPAP currently produces three concentrations of phosphoric acid for use in fertilizer manufacturing- 26% P_2O_5, 40% P_2O_5, and 54% P_2O_5. The 26% P_2O_5 that is not used directly as feedstock to fertilizer manufacturing is further processed to 54% P_2O_5 in Upstream Operations (note that interchangeable acid flow routes are denoted in brackets and described in further detail later in this Report).

The current phosphoric acid manufacturing process described below is illustrated in process block flow Diagram 7.

Post-Attack Tank, unclarified 26% P_2O_5 is pumped from the Attack Tank to either the Bird Filter or the Belt Filter. From the Bird and Belt Filters, the unclarified 26% P_2O_5 is either transferred to DAP or processed for 26% clarification or processed for concentration to 40% P_2O_5 and eventually to 54% P_2O_5.

26% Acid Processed to 40% Acid and then to 54% Acid

- 26% P_2O_5 from the #1 Filtrate Tanks is pumped to the BPAP East 28 Tank (32613) and the BPAP West 28 Tank (32634) [or to the ACU North 26 Tank (11000A) as described below];
- From the BPAP East 28 Tank and BPAP West 28 Tank, phosphoric acid is fed to the B-40 Evaporators [or to APAP North 28 Tank (32006) and/or APAP South 28 Tank (32007) or to A,X,Y, or Z-DAP 26 Tanks (A DAP East 26 Tank (431B), A DAP West 26 Tank (431A), XYZ DAP North 26 Tank (563B), XYZ DAP South 26 Tank (561B)] for concentration to 40% P_2O_5;
- 40% P_2O_5 is piped from the B-40 Evaporators to the 40-Aging Tank (2321) and then to the ACU South 40 Tank (110008);
- 40% P_2O_5 is pumped from the ACU South 40 Tank to the ACU South Clarifier (11026B);
- Underflow (solids) from the ACU South Clarifier is pumped to the ACU North Clarifier;
- Overflow (clarified 40% P_2O_5 from the South Clarifier is pumped through the B CC Tank to the BPAP 40-Clarifier Tank (2322);
- The BPAP 40 Clarifier Tank serves as the B-54 Evaporators' feed tank;
- After the Evaporators have concentrated the 40% P_2O_5 to 54% P_2O_5, the 54% P_2O_5 is pumped to either the North 54 Tank (2351A) or the South 54 Tank (2351B) or #3 54 Aging Tank (33450);
- 54% P_2O_5 from the North 54 Tank and South 54 Tank or #3 54 Aging Tank supply phosphoric acid to 1) the A DAP 54 Storage Tank (532 A); or 2) to the XYZ DAP North 54 Tank (563 A) or XYZ DAP S-274 Tank or to the XYZ DAP South 54 Tank (561 A).

26% Acid Processed for 26% Acid Clarification

- 26% P_2O_5 from the #1 Filtrate Tanks is pumped to the ACU North 26 Tank [or to the BPAP West 28 Tank or BPAP East 28 Tank, as described above] and then from the ACU North 26 Tank to the ACU North Clarifier for clarification;
- Overflow (clarified 26% P_2O_5) from the ACU North Clarifier is pumped to the A CC Tank and then to the ACU Green Acid Tank (10-58325);
- Clarified 26% P_2O_5 is pumped from the ACU Green Acid Tank to any of the following tanks: A DAP East/West 26 Tanks (431B/A) or the XYZ DAP North 26 Tank (563B) or XYZ DAP South 26 Tank (561B) or XYZ DAP S-274 Tank or to APAP North/South 28 Tanks or to BPAP East/West 28 Tanks.
- Underflow (solids) from the ACU North Clarifier is fed to two 15 m^2 belt filters located in ACU (ACU belt filters). The solids are rinsed to recover residual phosphoric acid. The acidic rinsate is pumped back into the ACU North 26 Tank or to the ACU Green Acid Tank.
- Rinsed solids from the ACU belt filters are then either pumped to the APAP or BPAP Bird Filters for a second stage of phosphoric acid recovery or pumped to the gypsum repulp tank for disposal on the gypstack.

Note: Solids settled from the BPAP East 28 Tank and BPAP West 28 Tanks are pumped to the Filter Feed Tank or directly to either the Bird or Belt Filter to recover phosphoric acid values.

Alternative to Standard Acid Flow Configuration

When the ACU North Clarifier is not functioning or maintenance/cleaning is being performed on the ACU North 26 Tank, CF routes unclarified 26% P_2O_5 (that would typically be directed to the evaporators for concentration to 40% P_2O_5) directly to DAP operations from the BPAP East 28 Tank (2315A East) or BPAP West 28 Tank (2315B West) to the XYZ DAP North 26 Tank (563B) or to the XYZ DAP S-274 Tank or to the XYZ DAP South 26 Tank (561B).

If either of the BPAP East 28 or West 28 Tanks or either of the BPAP North 54 or South 54 Tanks are off-line when operationally necessary (e.g., cleaning, maintenance), CF uses an alternate tank (swing tank), # 3 54 Aging (33450), for storage of either 26%, 40%, or 54% P_2O_5. The 26% P_2O_5 is transferred from the # 3 54 Aging tank to the XYZ DAP North 26 Tank (563B) or to the XYZ DAP South 26 Tank (561B) or to the XYZ-DAP S-274 Tank via the New-New 28% Line, the New 28% line to XYZ, or the Old 28% line. These lines route directly to XYZ DAP or to A DAP from a point located near the BPAP East 28 and West 28 Tanks and are marked as such. The piping that serves to transfer 26% P_2O_5 from # 3 54 Aging Tank to the New-New 28% line also serves as the transfer line from the BPAP East 28 and West 28 Tanks to the evaporators (mixed use). When the # 3 54 Aging Tank stores 54% P_2O_5, the acid is transferred from the # 3 54 Aging Tank to 1) the A DAP 54 Storage Tank (532 A) or 2) to the XYZ DAP North 54 Tank (563 A) or XYZ DAP S-274 Tank or to the XYZ DAP South 54 Tank (561 A).

When the #3 54 Aging Tank stores 40% P_2O_5, the acid is transferred to the BPAP 40-Clarifer Tank.

When the ACU South Clarifier is not functioning or maintenance/cleaning is being performed on the ACU South 40 Tank, CF routes unclarified 40% P_2O_5 directly from the 40-Aging Tank to BPAP 40-Clarifier Tank.

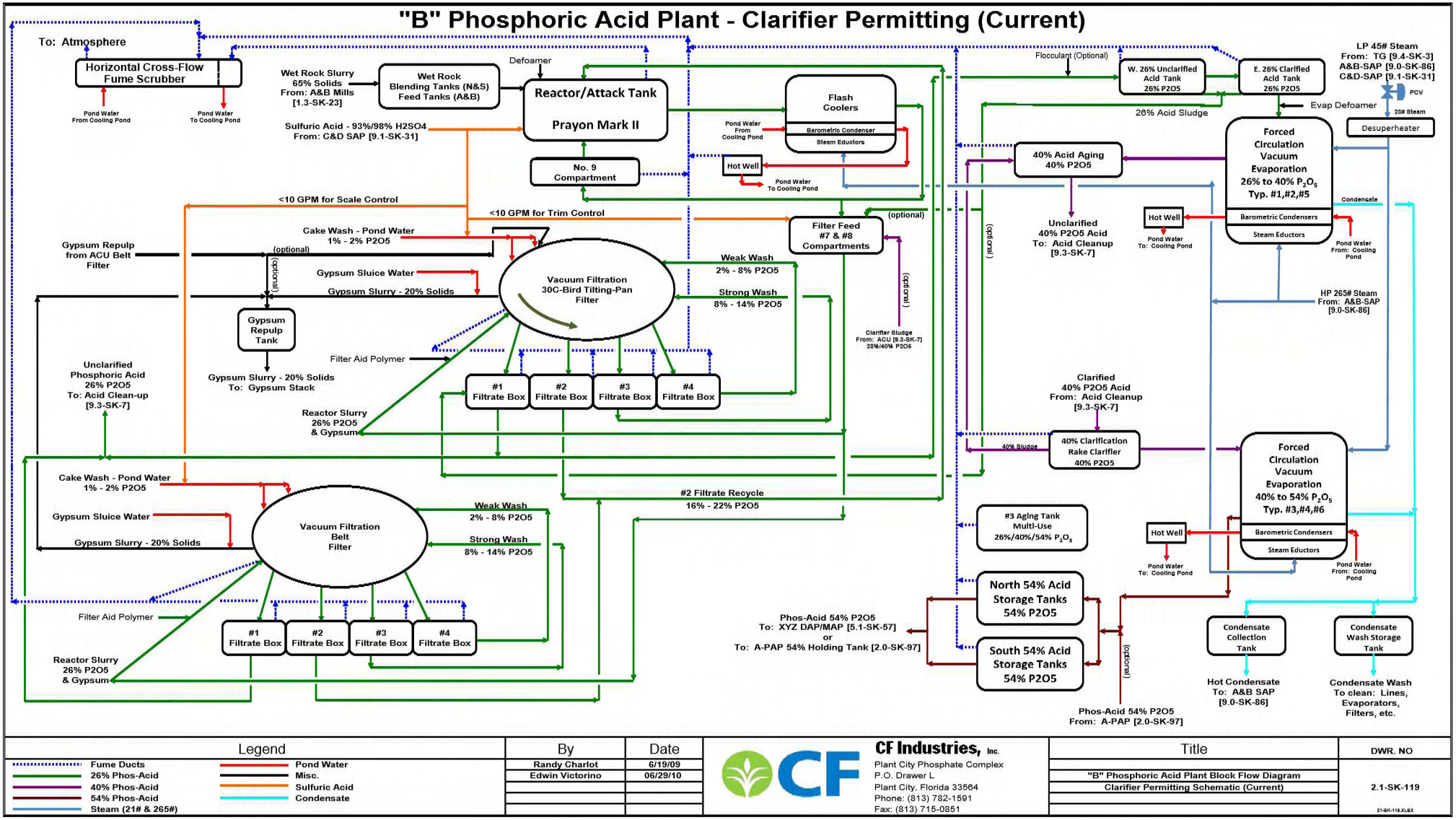


Diagram 7. Block flow diagram of the production of phosphoric acid in BPAP

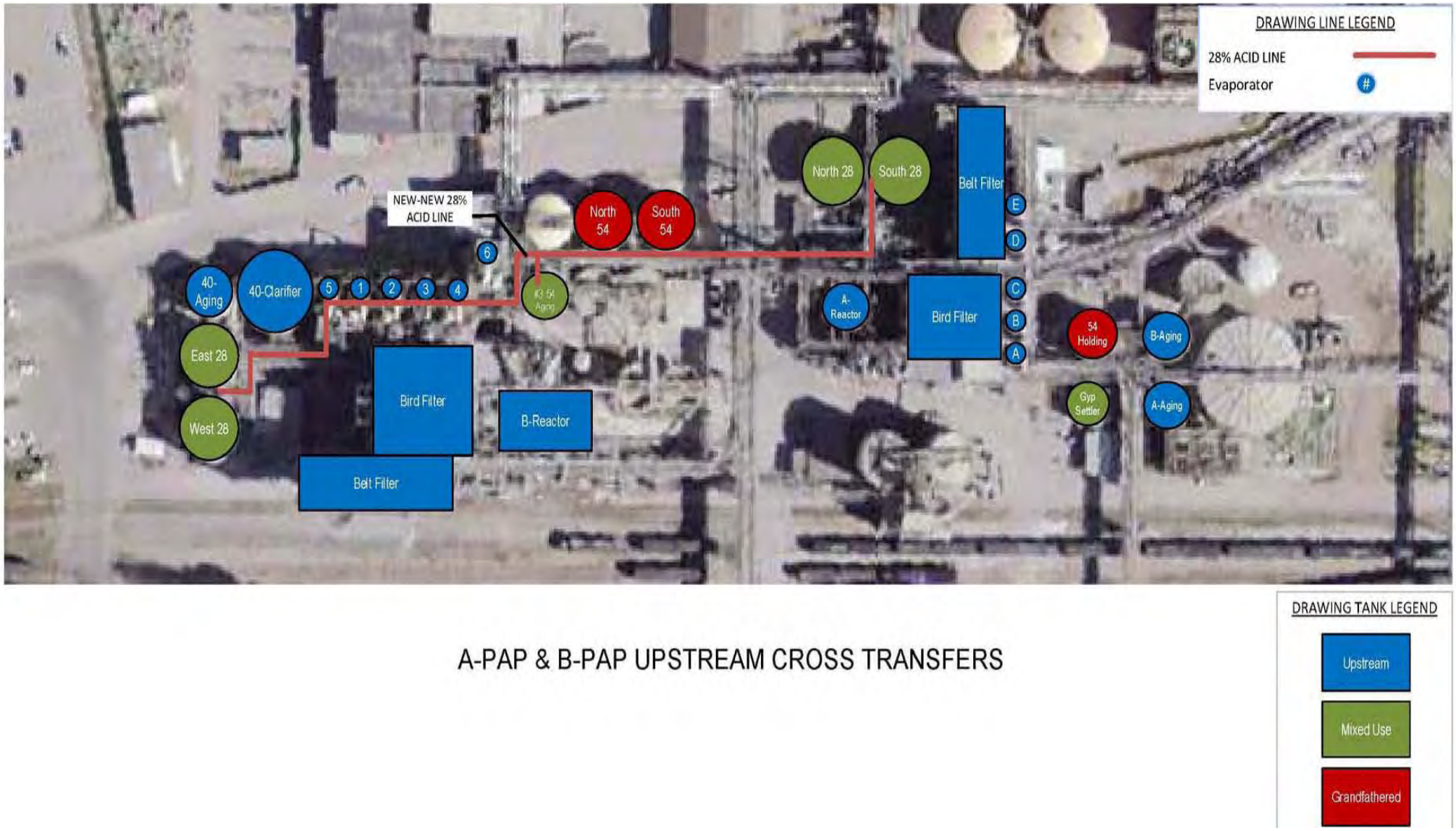
Phosphoric Acid Transfer Lines

Upstream Cross-Transfer between APAP and BPAP

CF currently has one primary transfer line (approximately 734 total feet in length) that serves to transport 26% P_2O_5 between APAP and BPAP. The line is designated as the New-New 28% line. The line is cleaned with pond water and/or condensate approximately twice per month to remove precipitated solids and scale to maintain acceptable pressure levels and acid flow rates. The location of the transfer line is illustrated in Diagram 8. The line designation and cleaning frequency is listed in Table 5.

	Service	Name	Description	Cleaning Frequency	Length (ft)
APAP & BPAP Upstream Transfers	26%	New-New 28% Line	Transfers 26% P_2O_5 between APAP and BPAP	2x/ month	612
	Estimate for Existing Lines		**Estimate Length- Plan View (Ft)**		**612**
			Estimated Vertical Runs- Basis 20% Factor (Ft)		**122**
			Total Estimated Piping Length (Ft)		**734**

Table 5. Pipe designations associated with the upstream transfer of phosphoric acid between APAP and BPAP.



A-PAP & B-PAP UPSTREAM CROSS TRANSFERS

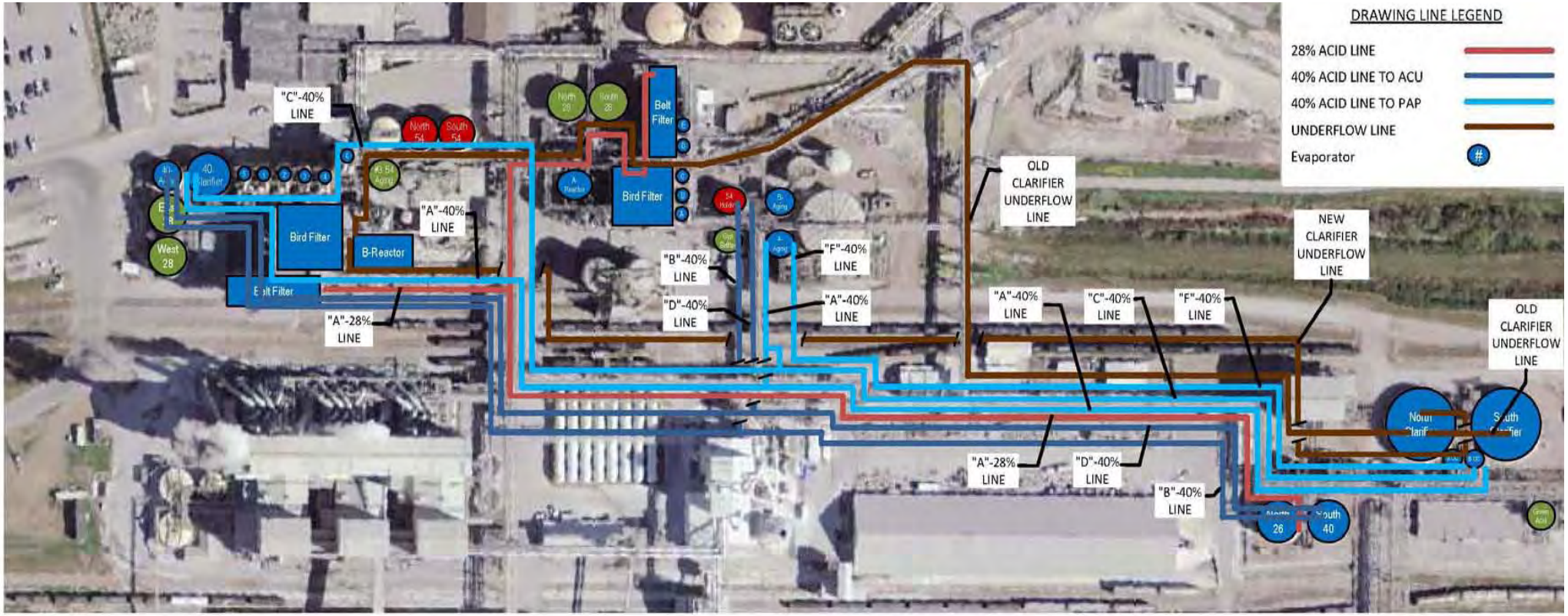
Diagram 8. Pipes designated for the upstream transfer of phosphoric acid between APAP and BPAP.

Upstream Cross- Transfer between APAP and BPAP to/from ACU

CF currently has eight transfer lines (approximately 17,372 total feet in length) that serve to transport 26%, 40%, and clarifier underflow between APAP and BPAP and ACU. The lines are cleaned with pond water and/or condensate once per day to once per week to remove precipitated solids and scale to maintain acceptable pressure levels and phosphoric acid flow rates. The locations of the transfer lines are illustrated in Diagram 9. The line designations and cleaning frequencies are listed in Table 6.

	Service	Name	Description	Cleaning Frequency	Length (ft)
PAP- ACU Upstream Transfers	26%	"A" 28% Line	Transfers 26% $P_2O_5$from APAP and BPAP to ACU	1x/ week	1,898
	40%	"B" 40% Line	Transfers 40% P_2O_5 from APAP and BPAP to ACU	1x/ week	1,994
	40%	"D" 40% Line	Transfers 40% P_2O_5 from APAP and BPAP to ACU	1x/ week	1,946
	40%	"F" 40% Line	Transfers 40% $P_2O_5$from ACU to APAP	1x/ week	1,033
	40%	"A" 40 % Line	Transfers 40% $P_2O_5$from ACU to APAP and BPAP	1x/ week	2,053
	40%	"C" 40% Line	Transfers 40% P_2O_5 from ACU to APAP and BPAP	1x/ week	1,996
	Underflow	Old Clarifier Underflow Line	Transfers Clarifier Underflow from ACU to BPAP	1x/ day	1,921
	Underflow	New Clarifier Underflow Line	Transfers Clarifier Underflow from ACU to BPAP	1x/ day	1,636
Estimate for Existing Lines			**Estimate Length- Plan View (Ft)**		**14,477**
			Estimated Vertical Runs- Basis 20% Factor (Ft)		**2,895**
			Total Estimated Piping Length (Ft)		**17,372**

Table 6. Pipe designations associated with the upstream transfer of phosphoric acid between APAP, BPAP and ACU.



PAP-ACU UPSTREAM CROSS TRANSFERS

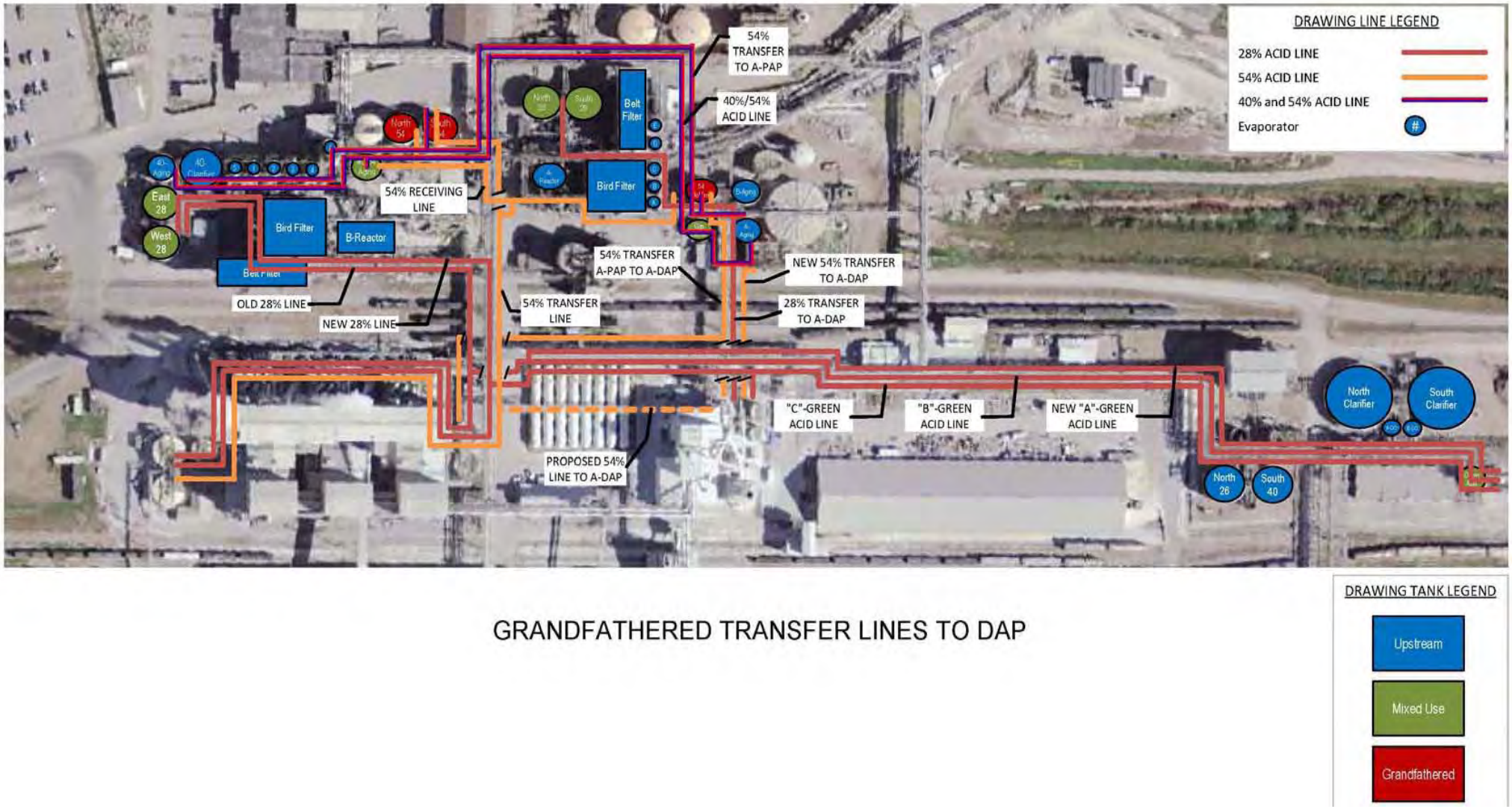
Diagram 9. The upstream transfer of phosphoric acid between APAP, BPAP and ACU.

Grandfathered Transfer Lines to A, X, Y,and Z DAP

CF currently has thirteen transfer lines (approximately 14,656 total feet in length) that primarily serve to transport 26% and 54% P_2O_5 between the APAP, BPAP and ACU to A, X, Y, and Z DAP. Three of the lines transfer 40% or 54% P_2O_5 between APAP and BPAP. The lines are cleaned with pond water and/or condensate once per week to ten times per week to remove precipitated solids and scale to maintain acceptable pressure levels and acid flow rates. The locations of the transfer lines are illustrated in Diagram 10. The line designations and cleaning frequencies are listed in Table 7. In addition, shown on Diagram 10, additional piping will be installed to transport 54% P_2O_5 from BPAP to A DAP.

	Service	Name	Description	Cleaning Frequency	Length (ft)
Grandfathered Transfer Lines	26%	New 28% Line	Transfers 26% P_2O_5 from BPAP to XYZ DAP North and South Tank Farms	1x/ week	1,295
	26%	Old 28% Line	Transfers 26% P_2O_5 from BPAP to XYZ DAP North and South Tank Farms	1x/ week	1,201
	26%	"C" Green Acid Line	Transfers 26% P_2O_5 from ACU to the New 28% Line	5-10x/ week	1,405
	26%	"B" Green Acid Line	Transfers 26% $P_2O_5$from ACU to the Old 28% Line	5-10x/ week	1,398
	26%	New "A" Green Acid Line	Transfers 26% $P_2O_5$from ACU to the Old 28% Line (ties into the "B" Green Acid Line)	1x/ week	1,331
	26%	28% Transfer to ADAP	Transfers 26% P_2O_5 from APAP to A DAP	1-2x/ week	574
	54%	54% Receiving Line	Transfers 54% P_2O_5 from APAP to BPAP	1x/ week	503
	54%	54% Transfer Line	Transfers 54% $P_2O_5$from BPAP to XYZ DAP North and South Tank Farms	2-3x/ week	1,098
	54%	54% Transfer APAP to A DAP	Transfers 54% $P_2O_5$from APAP to A DAP	1-2x/ week	690
	54%	New 54% Transfer to A DAP	Transfers 54% $P_2O_5$from APAP to A DAP	2-3x/ week	188
	54%	Proposed 54% line to A DAP	Transfers 54% P_2O_5 from BPAP to A DAP	2-3x/ week	257
	40% and 54%	54% Transfer to APAP	Transfers 54% P_2O_5 from BPAP to APAP	1-2x/ week	1,110
	40% and 54%	40%/54% Acid Line	Transfers 40% P_2O_5 from APAP to BPAP and also transfers 54% Clarifier Underflow from APAP to BPAP	1x/ week	1,164
	Estimate for Existing Lines		**Estimate Length- Plan View (Ft)**		**12,214**
			Estimated Vertical Runs- Basis 20% Factor (Ft)		**2,442**
			Total Estimated Piping Length (Ft)		**14,656**

Table 7. Pipe designations associated with the grandfathered transfer lines.



GRANDFATHERED TRANSFER LINES TO DAP

Diagram 10. Grandfathered transfer lines to A, X, Y, and Z DAP.

During the period in which the new piping is installed and put into service, CF may continue to manage wastewaters generated from Grandfathered Units with wastes from Upstream Operations, until such time as set forth in Appendix 8 to the Consent Decree.

Current Configuration - Upstream Units - BPAP and ACU

The following processes, tanks and associated equipment used in the production, concentration up to 54% P_2O_5, and storage of 26% and 40% P_2O_5 serve only Upstream Operations.

- Attack Tank through filtration and recovery and storage of 26% P_2O_5 when the phosphoric acid is not diverted to XYZ or A DAP Plants[4]: -Attack Tank, Bird and Belt Filters, #1 Filtrate Tanks, Gypsum Repulp Tank;
- Clarification and storage of 26% P_2O_5: ACU North 26 Tank, ACU North Clarifier, ACU A CC;
- Concentration of 26% P_2O_5 to 40% P_2O_5: B-40 Evaporators (5, 1, 2, 3);
- Clarification and storage of 40% P_2O_5: 40-Aging Tank, ACU South 40 Tank, ACU South Clarifier, ACU B CC, BPAP 40-Clarifier Tank;
- Concentration of 40% P_2O_5 to 54% P_2O_5: B-54 Evaporators (2, 3, 4, 6);
- The phosphoric acid transfer pipes from the B-54 Evaporators up to, but excluding the North 54 Tank (2351A) and South 54 Tank (2351B).

Current Configuration- Mixed-use Units - BPAP

The following air pollution control devices (APCD) and tanks with associated equipment in BPAP are Mixed-Use.

APCD
BPAP has one APCD that uses once-thru pond water to scrub vapors from the entire phosphoric acid process in BPAP. The APCD generally serves Upstream and Mixed-Use Operations but currently also serves the Downstream North 54 Tank (2351A) and the South 54 Tank (2351B).

Tanks
The following tanks identified as Mixed-Use units in BPAP primarily serve Upstream Operations but may also serve as storage for feedstocks to Downstream Operations:

East 28 Tank (32613)- used routinely to store feedstock for DAP;
West 28 Tank (32634)- used routinely to store feedstock for DAP;
3 54 Aging Tank (33450)- Swing tank for storage of all concentrations of phosphoric acid.

[4] Since 26% acid can be further processed or can be diverted to XYZ or A DAP, the storage tanks are considered Mixed-Use. While the pipes that serve to transfer the acid to the MAP/DAP plants are part of Downstream Operations, wastes from the cleaning of these pipes may be managed with wastes from Upstream Operations.

Current Configuration-Downstream Units

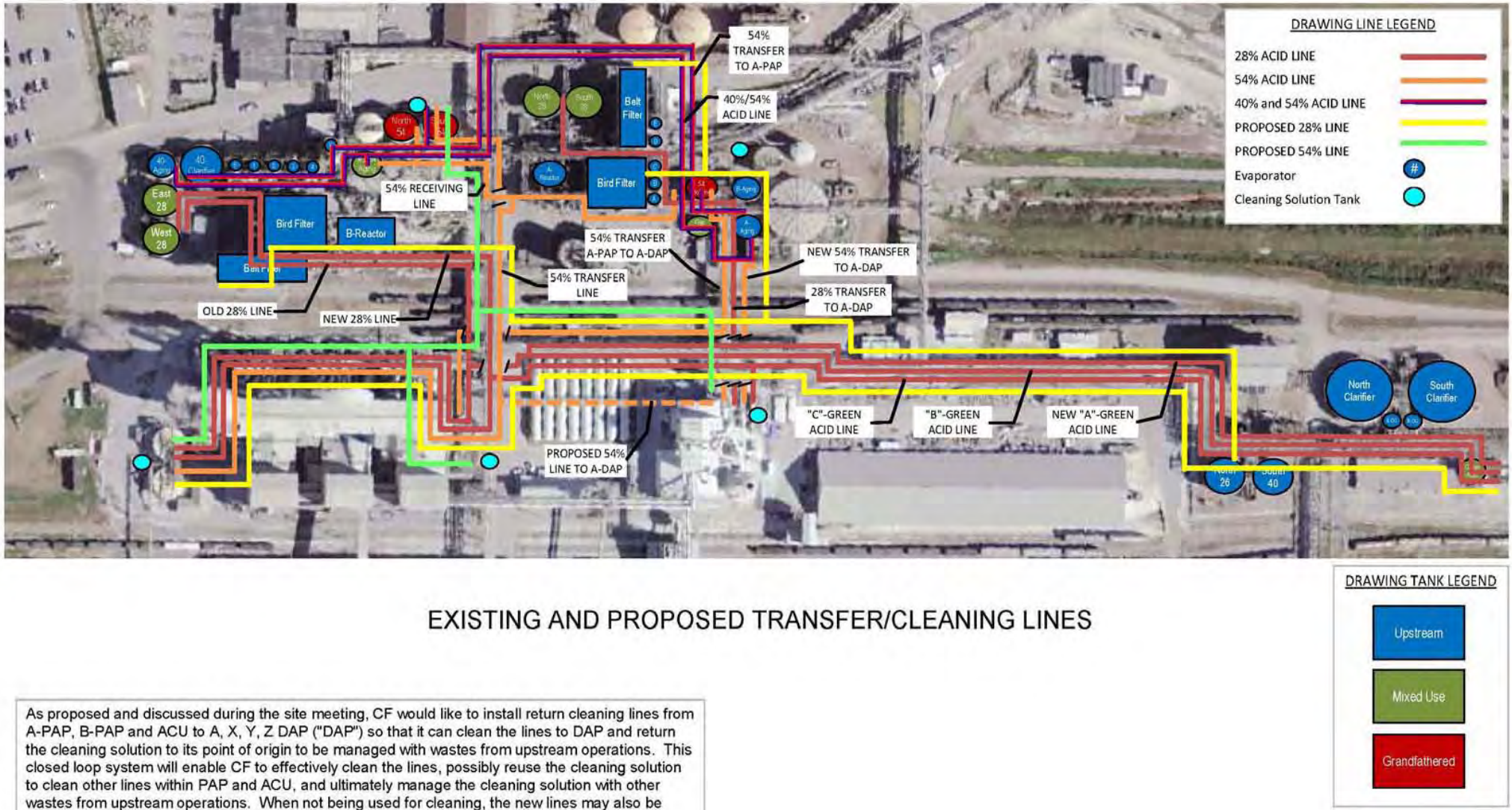
Diagram 11 and Table 8 is a conceptual plan for new piping at CF that will enable CF to clean the pipes that run from BPAP to MAP/DAP and return the cleaning waste back to BPAP. The final detailed plan may include additional parallel piping to facilitate extended wash cycles. The new installed piping will be Grandfathered Units, the cleaning wastes from which may be managed with Upstream wastes. The new piping will afford complete segregation of chemical manufacturing wastes (MAP/DAP) from wastes generated from Upstream Operations. The schedule for the installation of the new piping is set forth in Appendix 8 to the Consent Decree.

Contingent upon the installation of the aforementioned piping, cleaning wastes from the following Downstream Operations tanks and/or associated piping in BPAP may be managed with wastes from Upstream Operations (Grandfathered Units):

- Pipes that serve to transport 26% P_2O_5 from the BPAP East 28 Tank and West 28 Tank to the XYZ DAP North 26 Tank or XYZ DAP South 26 Tank or XYZ DAP S-274 Tank;
- The North 54 Tank (2351A) and associated pipes that serve to transfer 54% P_2O_5 to the A DAP 54 Storage Tank (532A) or to the XYZ DAP North 54 Tank (563A) or XYZ DAP S-274 Tank or the XYZ DAP South 54 Tank (561A) [To route to A DAP, CF must first route 54% P_2O_5 to APAP];
- The South 54 Tank (2351B) and associated pipes that serve to transfer 54% P_2O_5 to the A DAP 54 Storage Tank (532A) or to the XYZ DAP North 54 Tank (563A) or XYZ DAP S-274 Tank or the XYZ DAP South 54 Tank (561 A) [To route to A DAP, CF must first route 54% P_2O_5 to APAP].
- Transfer lines between the APAP 54 Holding Tank (234) and APAP North 54 and South 54 Tanks to/from #3 54 Aging Tank in BPAP.

	Service	Name	Description	Cleaning Frequency	Length (ft)
Proposed Transfer/ Cleaning Lines	Wash/ 28%	Proposed 28% Transfer/ Cleaning Lines	To Return wash water to PAP	NA	4,131
	Wash/ 54%	Proposed 54% Transfer/ Cleaning Lines	To Return wash water to PAP	NA	1,421
	Estimate for Existing Lines		**Estimate Length- Plan View (Ft)**		**5,552**
			Estimated Vertical Runs- Basis 20% Factor (Ft)		**1,110**
			Total Estimated Piping Length (Ft)		**6,662**

Table 8. CF's proposed transfer/cleaning lines to segregate MAP/DAP wastes from Upstream Operations.



EXISTING AND PROPOSED TRANSFER/CLEANING LINES

As proposed and discussed during the site meeting, CF would like to install return cleaning lines from A-PAP, B-PAP and ACU to A, X, Y, Z DAP ("DAP") so that it can clean the lines to DAP and return the cleaning solution to its point of origin to be managed with wastes from upstream operations. This closed loop system will enable CF to effectively clean the lines, possibly reuse the cleaning solution to clean other lines within PAP and ACU, and ultimately manage the cleaning solution with other wastes from upstream operations. When not being used for cleaning, the new lines may also be used as acid lines. The proposed lines are set forth in this drawing.

Diagram 11. CF's proposed transfer/cleaning lines

During the period in which the new piping is installed and put into service, CF may continue to manage wastewaters generated from Grandfathered Units with wastes from Upstream Operations, until such time as set forth in Appendix 8 to the Consent Decree.

Containment of Phosphoric Acid Product and Sulfuric Acid Feedstock Spills and Leaks

Approximately 40% of CF's BPAP has 60-mil HDPE liner installed beneath the concrete pad underlying the battery limits of the plant. The concrete pad is sloped towards stainless steel-lined and/or acid-resistant brick lined trenches (denoted by orange dashed lines in Diagram 12A). Process water flows through the trenches at approximately 20,000 – 30,000 gpm to the HDPE-lined phosphogypsum stack system. Due to the engineered slope of the concrete pad and the configuration of the BPAP, small spills and leaks of phosphoric acid and incoming sulfuric acid used as a feedstock to phosphoric acid production operations (transfer lines denoted by orange lines in Diagram 12B) onto the concrete pad cannot be segregated and are commingled in the trenches with the pond water flowing to the phosphogypsum stack system and managed pursuant to CF's Best Management Practices Program ("BMP"). So long as the Phosphogypsum Stack System remains fully lined and CF complies with the BMP and Consent Decree, CF may manage small spills and leaks of phosphoric acid or sulfuric acid within the concrete areas of BPAP (delineated by red lines in Diagram 12B). This does not apply to spills and leaks of phosphoric acid or sulfuric acid outside of containment which must be managed in full compliance with RCRA.

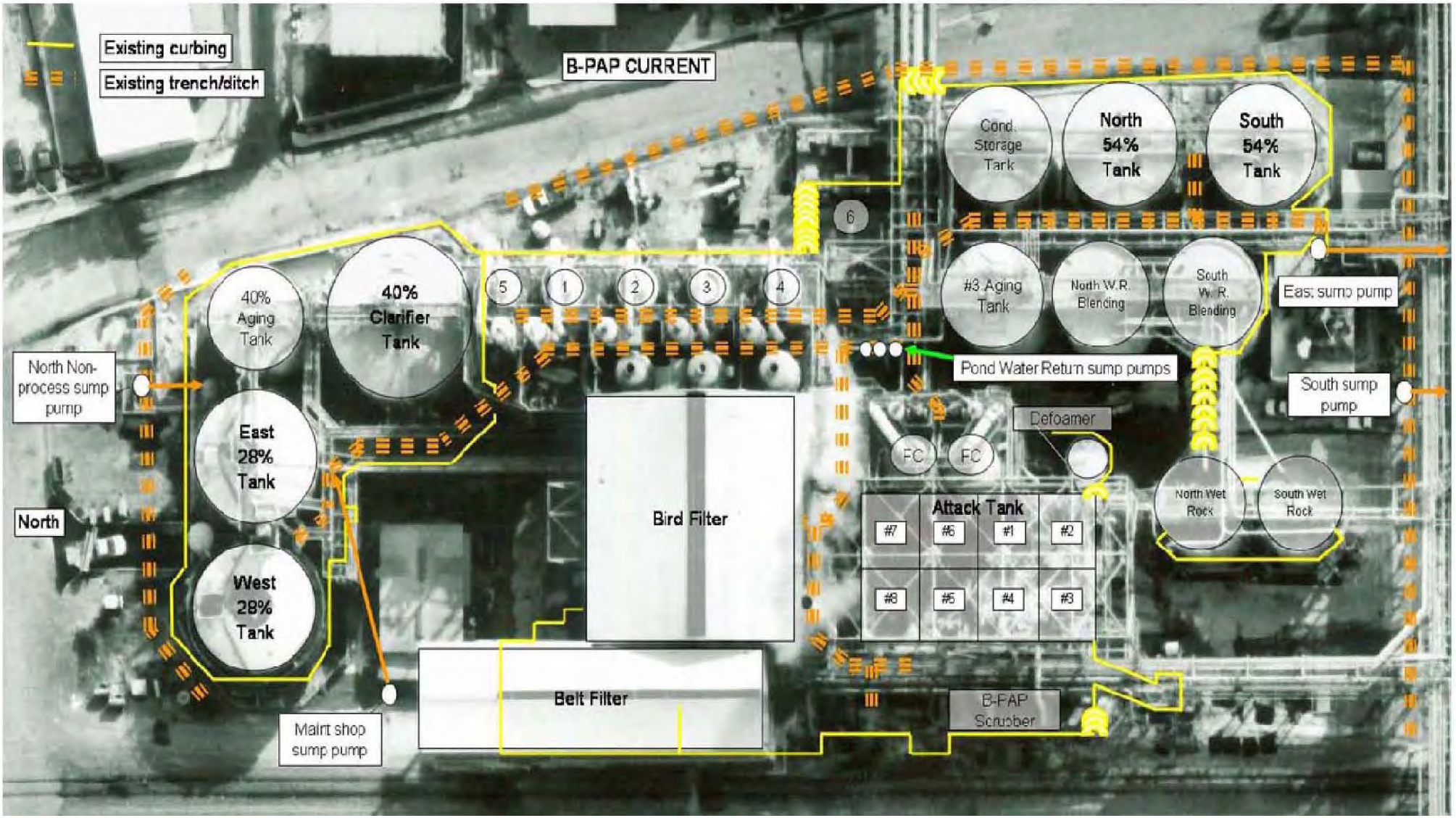
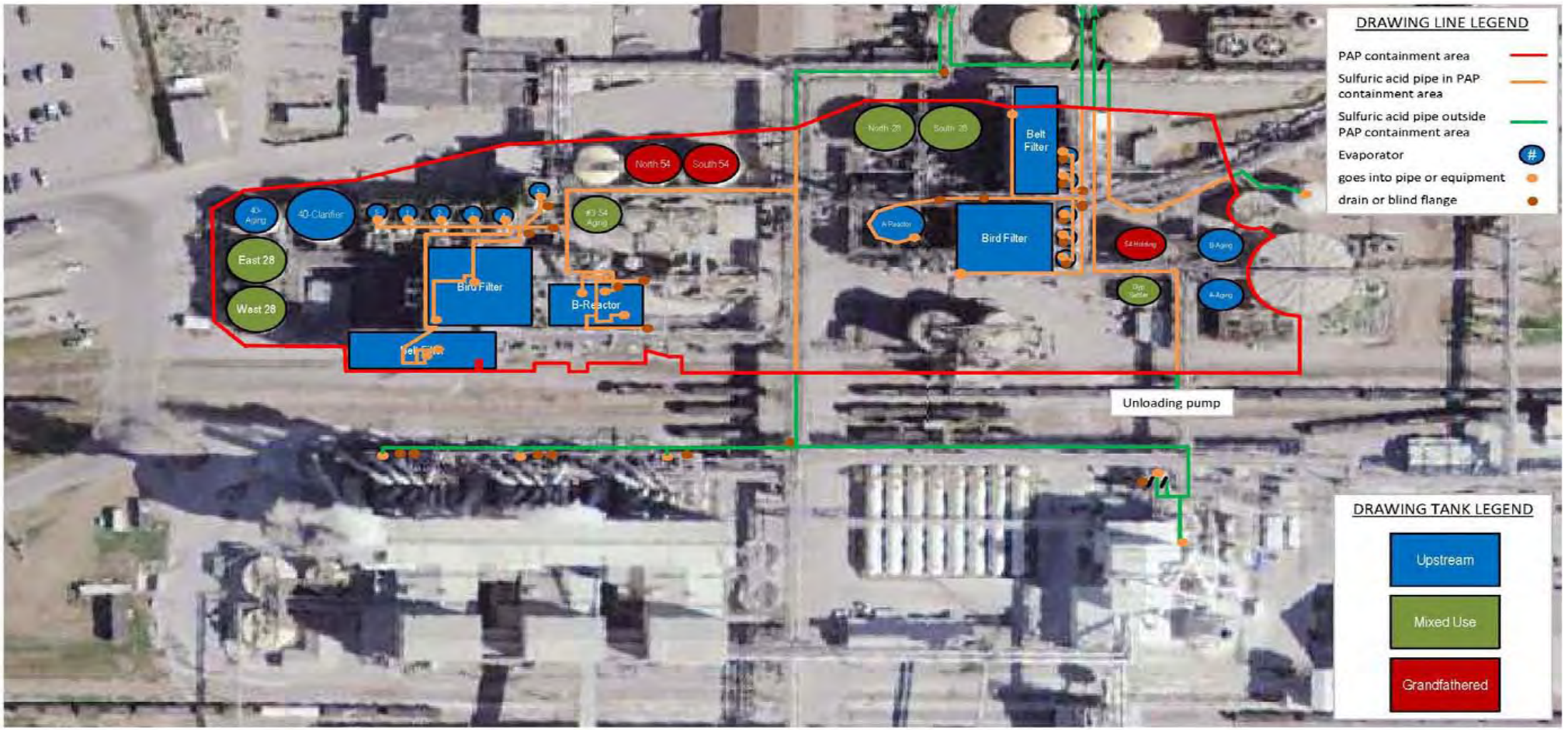


Diagram 12A. BPAP current containment trenches and curbing.



SULFURIC ACID LINES IN PAP AND DAP

Diagram 12B. Sulfuric acid lines in PAP containment. Containment area delineated in red, sulfuric acid lines delineated in orange.

V. Temporary Acid Transfer and Storage

Equipment maintenance and repair activities occasionally require CF to temporarily store or transport various phosphoric acid products in tanks or pipes associated with Upstream Operations during tank repairs or other emergent conditions in Downstream units. Provided that such use of Upstream units as temporary Downstream units is shorter than three months and the use of the units does not exceed four months cumulatively per calendar year, cleaning wastes generated from such tanks and/or pipes may be managed with wastes from Upstream Operations. Notice of such temporary use of Upstream tanks or pipes must be given to EPA and FDEP within 7 days of being placed into service, but advance approval will not be required.

VI. Planned Phosphoric Acid Production Operations

CF has advised EPA and FDEP that it is considering reinstating uranium extraction at the CF Facility, but to date has provided only limited information regarding the design of the intended uranium extraction and recovery project.

CF also advises that it plans to install additional clarifiers in APAP and BPAP or ACU.

Furthermore, CF is considering the option of converting one of the new clarifiers in PAP to 54% acid clarification. Both the clarified 54% P_2O_5 (overflow) and underflow will serve as feedstock for MAP and DAP production. There may be a need for additional storage tanks to separate the clarified 54% P_2O_5 (overflow) and underflow. Once put into service, the clarified 54% P_2O_5 (overflow) tanks and 54% underflow tanks are Grandfathered Units.

As set forth in Diagram 14, the proposed uranium extraction operations qualify as Upstream Operations, and Diagram 14 designates Upstream Operations, Mixed-Use units, and Downstream Operations for the proposed uranium extraction and recovery process if constructed as depicted in that Diagram. Diagram 14 also identifies Grandfathered Units. In the event that CF reconfigures its Facility in accordance with Diagram 14, Diagram 14 will replace Diagram 13 as identifying Upstream Operations, Downstream Operations, Mixed-Use Units for APAP, BPAP and ACU, and Grandfathered Units.

However, the Consent Decree does not bind CF to implement the proposed uranium extraction and recovery project as depicted in Diagram 14. If CF chooses to implement uranium extraction and recovery through a different process than that depicted in Diagram 14, this Facility Report may be modified pursuant to Section XVII (Modifications) of the Consent Decree. At that time, EPA and FDEP will determine whether the uranium extraction and recovery process as built involves Upstream Operations, Mixed-use units or Downstream Operations and amend the Facility Report to memorialize those determinations.

VII. Granulation (MAP/DAP) Plants

MAP and/or DAP manufacturing operations are Downstream Operations.

VIII. Authorized Future Installations

This section applies to future installations that were not grandfathered based on current or proposed projects. The following projects will be deemed Grandfathered or Mixed-use Units, as applicable, when installed within lined areas that drain to Plant City's phosphogypsum stack system and will not require prior approval by FDEP or EPA provided that: (i) said phosphogypsum stack system is in compliance with the requirements of Appendix 1, Attachment B (Groundwater and Zone of Discharge Requirements), Attachment C (Phosphogypsum Stack System Construction and Operational Requirements) of the Consent Decree, and that CFI is in compliance with the Financial Assurance requirements of the Consent Decree (Paragraph 26 and Appendix 2); and (ii) CFI provides EPA and FDEP with written notice at least ninety (90) days in advance of the reconfiguration or installation of said project. However, if as a result of circumstances that require CFI to install or reconfigure such equipment in less than ninety (90) days from the time a decision is made to undertake such action, CFI shall provide written notice to FDEP and EPA as soon as possible and in all events prior to the installation or reconfiguration of such equipment; and (iii) CFI obtains and/or modifies any permit(s) required by local, state, or federal agencies; and (iv) CFI submits to FDEP and EPA for approval a modified version of this Facility Report with the changes identified at least sixty (60) days in advance of the reconfiguration or installation of said project; and (v) if applicable, CF submits to FDEP and EPA for approval any modified section(s) of Appendix 5 (Best Management Practices Plan) at least forty-five (45) days in advance of the reconfiguration or installation of said project.

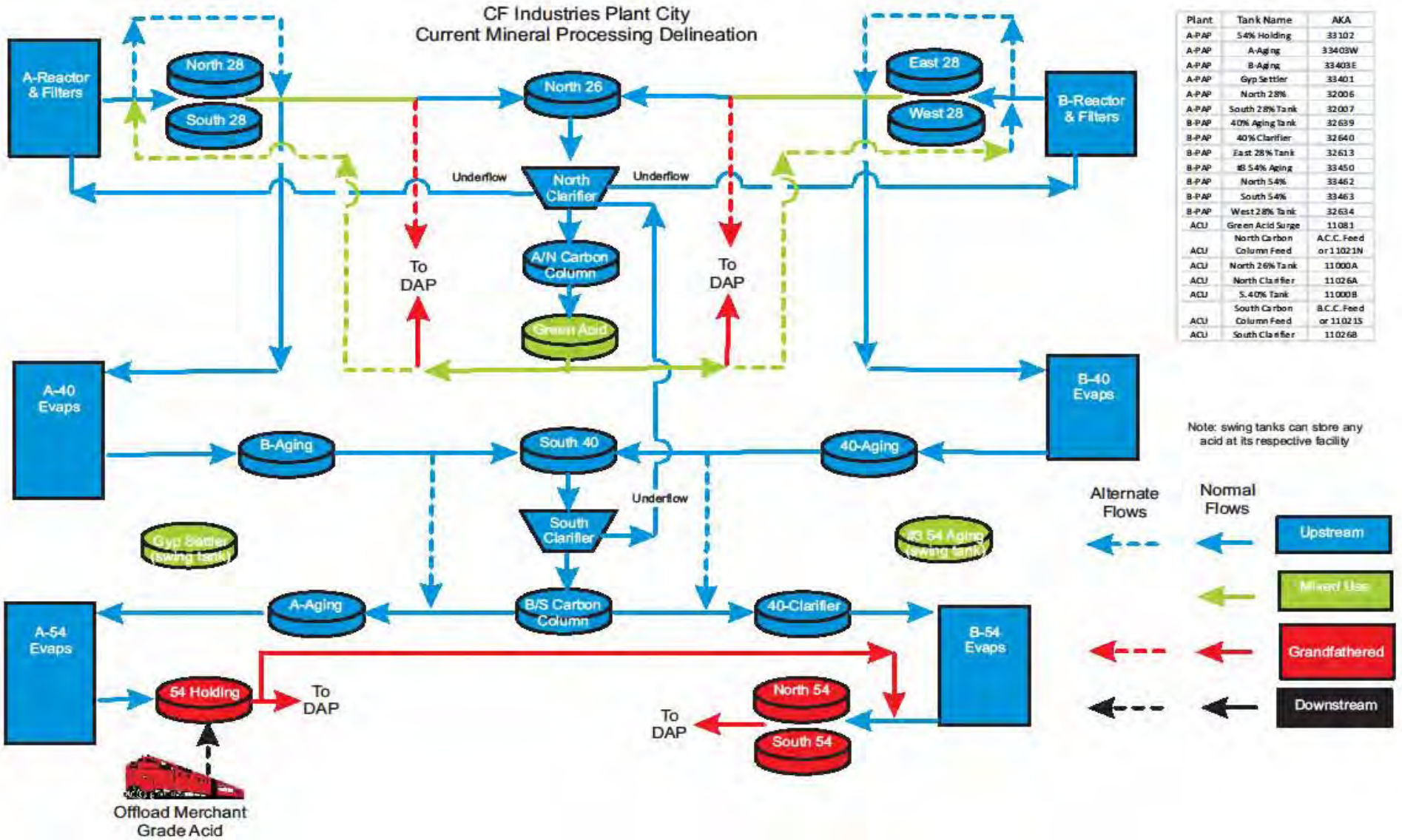
1. Any existing tank within the battery limits of APAP (Diagram 6B), BPAP (Diagram 12B), or ACU (Diagram 15) which may or may not be currently storing phosphoric acid, can be converted to phosphoric acid storage service up to, but excluding Merchant Grade Acid. Any tank placed into phosphoric acid storage service must be structurally adequate and physically compatible with the contents of the tank.

2. Up to a total of three (3) new phosphoric acid tanks storing First Saleable Product may be added within the battery limits of APAP (Diagram 6B), BPAP (Diagram 12B), or ACU (Diagram 15), where the stored phosphoric acid product in the new tank(s) will be used as a feedstock for MAP/DAP production in a manner identical to existing or grandfathered First Saleable Product tanks identified in this Facility Report. The installation of more than three (3) such tanks shall require advance approval by EPA and FDEP in order to be considered Grandfathered units.

3. APCDs (scrubbers) may be newly installed, replaced, or modified if they are servicing Upstream units, Mixed-use, and/or Grandfathered units identified in this Facility Report. Scrubbers may not be reconfigured to service any Downstream processes located outside the battery limits of APAP (Diagram 6B), BPAP (Diagram 12B), or ACU (Diagram 15) or any chemical processes not identified in this Facility Report.

4. Phosphoric acid piping systems and underflow piping systems associated with Mixed-use Units and Grandfathered Units identified in this Facility Report may be installed, replaced, or modified provided that the replacement or modified systems are located within the battery limits of APAP (Diagram 6B), BPAP (Diagram 12B), or ACU (Diagram 15) and serve only the phosphoric acid production operations identified in this Facility Report for those Mixed-use and Grandfathered units.

5. Acid transfer/cleaning solution piping between APAP, BPAP, and ACU (up to, but excluding Merchant Grade Acid) and the MAP/DAP plants may be installed, replaced, or modified so long as cleaning wastes from the piping systems remain segregated from MAP/DAP plant wastes.



Plant	Tank Name	AKA
A-PAP	54% Holding	33102
A-PAP	A-Aging	33403W
A-PAP	B-Aging	33403E
A-PAP	Gyp Settler	33401
A-PAP	North 28%	32006
A-PAP	South 28% Tank	32007
B-PAP	40% Aging Tank	32639
B-PAP	40% Clarifier	32640
B-PAP	East 28% Tank	32613
B-PAP	#3 54% Aging	33450
B-PAP	North 54%	33462
B-PAP	South 54%	33463
B-PAP	West 28% Tank	32634
ACU	Green Acid Surge	11081
ACU	North Carbon Column Feed	A.C.C. Feed or 11021N
ACU	North 26% Tank	11000A
ACU	North Clarifier	11026A
ACU	S. 40% Tank	110008
ACU	South Carbon Column Feed	B.C.C. Feed or 11021S
ACU	South Clarifier	110268

Diagram 13. Current designations for Upstream Units, Mixed-use Units, and Downstream Units (including the subset of Grandfathered Units, the wastes from which may continue to be managed with wastes from Upstream Units).

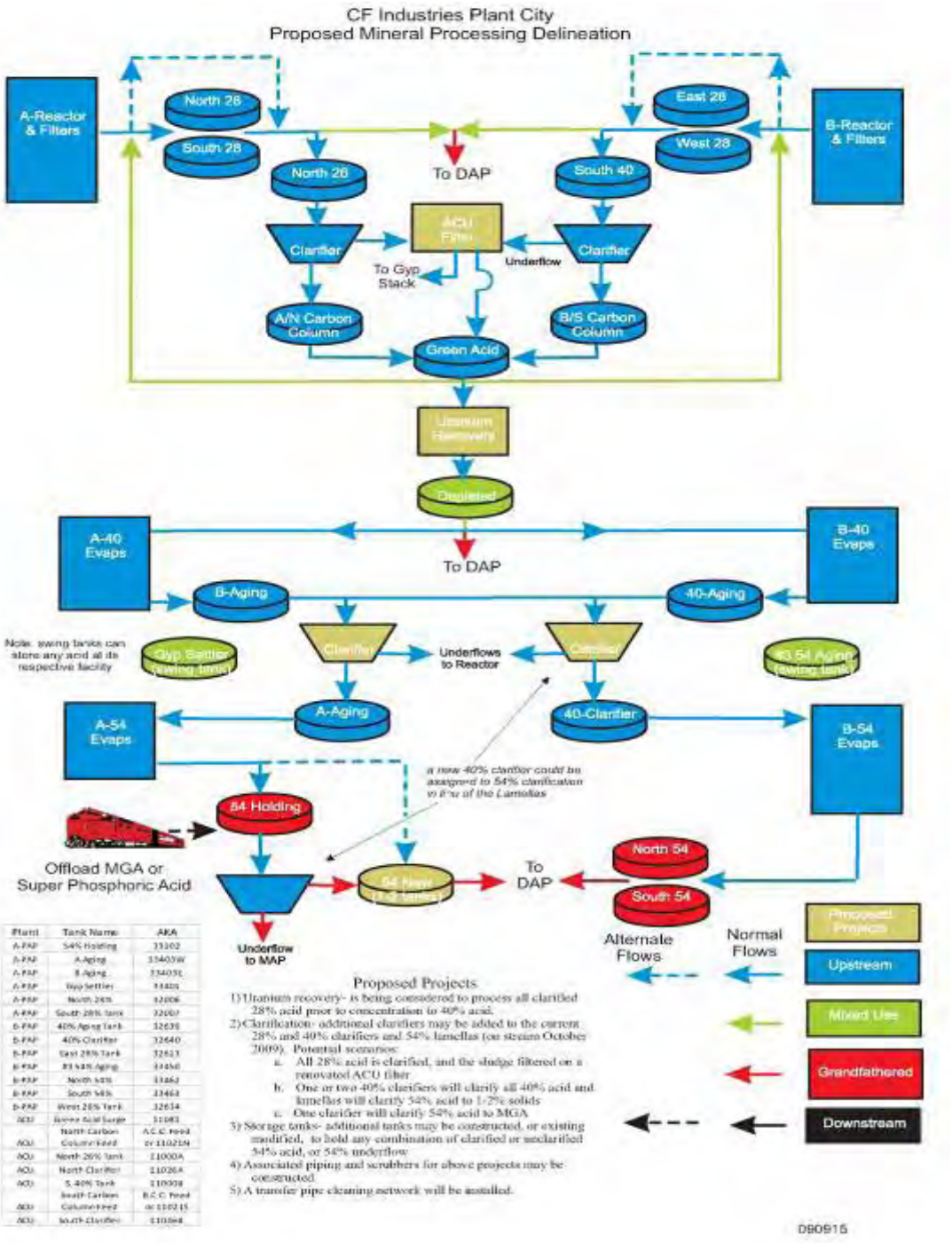


Diagram 14. Proposed designations (post installation of planned projects) for Upstream Units, Mixed-use Units, and Downstream Units (including the subset of Grandfathered Units, the wastes from which may continue to be managed with wastes from Upstream Units).

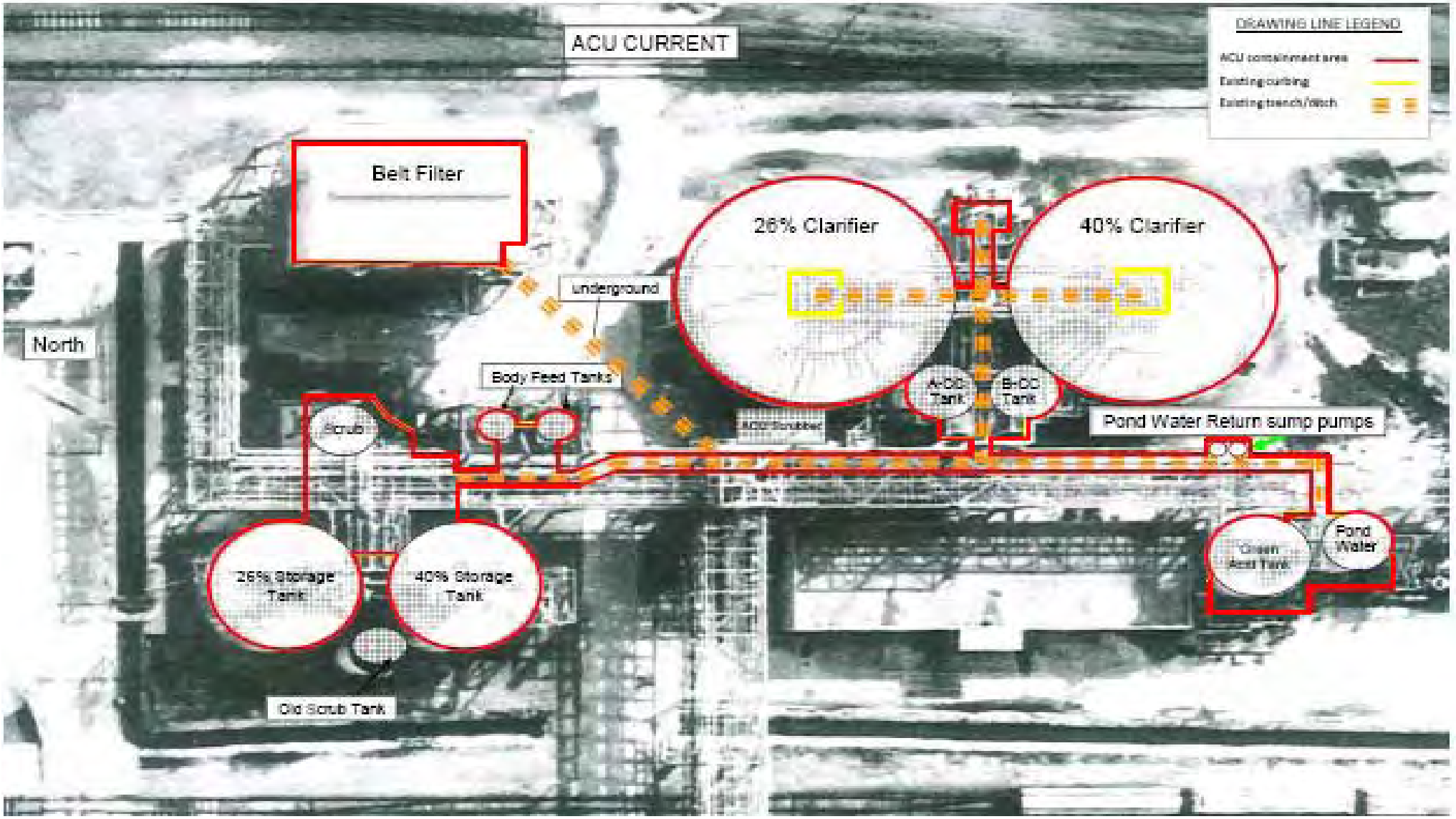


Diagram 15. ACU current containment trenches and curbing.

CF Industries, Inc.
Plant City Phosphate Complex

BMP Program for Management of Phosphoric Acid Plant and Granulation Plant Wastes

(Revised February 16, 2010)

BACKGROUND

Phosphoric Acid Plants

As part of a regulatory settlement with the U.S. Environmental Protection Agency (EPA) and the Florida Department of Environmental Protection (FDEP), CF has agreed to implement specific Best Management Practices (BMPs) to address the proper management, tracking, and reporting of phosphoric acid leaks and spills in contained areas of the phosphoric acid plants, including the Acid Cleanup Unit (ACU). The purpose of these BMPs is to minimize leaks and spills of phosphoric acid within the phosphoric acid production facilities. The existing leak and spill detection procedures (i.e., acidity titrations, differential conductivities, and operator inspections) will be augmented with new data collection requirements. Leak/spill duration will be minimized by recording the discovery and tracking the correction via computer logs. Larger leaks and spills that are above threshold quantities established in the BMP program will be reported to EPA and FDEP and may require additional measures based on relative frequency. As part of this BMP program, CF will also implement revised procedures for (1) phosphoric acid tank heel minimization; (2) phosphoric acid process control sample recovery; and (3) cleaning of piping, tanks, and filters, in which certain aqueous solutions used for cleaning will be co-managed with Bevill exempt wastes, while other aqueous solutions (e.g., dilute sulfuric acid) used for cleaning will be transferred to the granulation plants for continued use in cleaning, where such aqueous solutions will ultimately be neutralized as needed in a new Wastewater Treatment Unit (WTU) to be installed within the contained area of the granulation plants.

Granulation Plants

The purpose of the BMP as applied to the granulation plants is to eliminate contributions of phosphoric acid to the process water system within granulation plant operations, and to further collect and treat leaks and spills of phosphoric acid that fall onto the contained areas of the granulation plants, as well as any hazardous waste streams that result from floor, tank or pipe cleaning. As part of the BMP Program, CF will install a new WTU within the contained area of the granulation plants to manage such wastes. All hazardous wastes generated from cleaning activities and phosphoric acid leaks/spills within the granulation plants will be collected in impervious sumps and pumped or otherwise piped directly to a new WTU. The WTU will treat corrosive and potentially toxic wastewater through neutralization and precipitation (if required), resulting in a non-hazardous effluent with pH above 2. A sampling program will be established to determine wastewater characteristics and to demonstrate proper and effective treatment.

SECTION 1

LEAK/SPILL DETECTION SYSTEMS AND PROCEDURES FOR PHOSPHORIC ACID PLANTS

Process Water Acidity Titrations

As part of the phosphoric acid plant P_2O_5 loss monitoring program, the operators collect samples of several key return process water streams every two hours. These samples are titrated with sodium hydroxide to measure the acidity of the process water sample as described in plant operating procedures. A sodium hydroxide solution is slowly added to the sample/indicator solution, until the mixture holds a pinkish color. The volume of sodium hydroxide solution added is converted to a total acidity value. This value is compared with the value measured from the in-coming pond water sample, which is used as the reference point. These values are logged in the operator electronic log sheets, which are archived on the Plant City Phosphate Complex (Complex) server. If the acidity of the process water stream is higher than the acidity of the pond water coming into the plant, then the operators are trained to recognize that there is a problem with that equipment or area of the plant and that acid is being released into the process water system. The process streams in both phosphoric acid plants that are sampled include: the cooling pond water coming into the plant, each of the evaporator hot wells, the cooling pond water sumps, the flash cooler hot wells, each of the vacuum seal tanks (one per filter), and the fume scrubbers. When an acidity value is above the reference point, the operator reports it to the shift supervisor, and appropriate action is taken to investigate and correct the condition.

At ACU two process streams are sampled every four hours, the incoming cooling pond water and the Area 10 sump, which is the sump that sends the process water out to the cooling pond. These values are monitored the same way as in the phosphoric acid plants.

Differential Conductivity System

In addition to the titration of key process water samples, each key stream is monitored continuously with a differential conductivity system. Each monitored process water stream has a conductivity probe to continuously measure the conductivity of the process water, as well as the incoming cooling pond water as a reference. The difference between the conductivity of the return process water stream and the incoming cooling pond water is automatically calculated and displayed on the operators' computer control panels (see Figures 1 and 2). Operators shall monitor positive differential conductivities through the use of trends, which are automatically generated from the computer control panels when the display value is "clicked" (see Figure 3). These trends assist the operator in identifying positive differentials that indicate acid leaks or spills.

If acid leaks or spills into a process water stream, the conductivity of the process water will increase due to the higher conductivity of the acid. An alarm will sound in each control room (top and bottom floor) if the differential conductivity increases beyond the historical normal difference relative to the reference point. When an alarm sounds, the operator will inspect that piece of equipment or area of the plant for any problems and the appropriate response will be taken. In addition to the process water streams that are sampled for acidity analysis, there are other locations that are monitored by the differential conductivity system. These include all trenches, evaporator hot wells, flash cooler hot wells, fume scrubbers, vacuum seal tanks, cooling pond water sumps, and

the cooling pond water reference. At ACU, there is only one location where the conductivity is monitored; the ACU sump. This process water stream is monitored for increases and decreases in conductivity since there is no reference point measured in this area for comparison. The entire system is maintained by the Instrumentation/Electrical Maintenance Shop and is calibrated and maintained based on the preventative maintenance documentation shown in Appendix A. The most current version of this document will be maintained in the Instrument/Electrical Maintenance Shop.

Figure 1 – A-PAP Conductivity Schematic

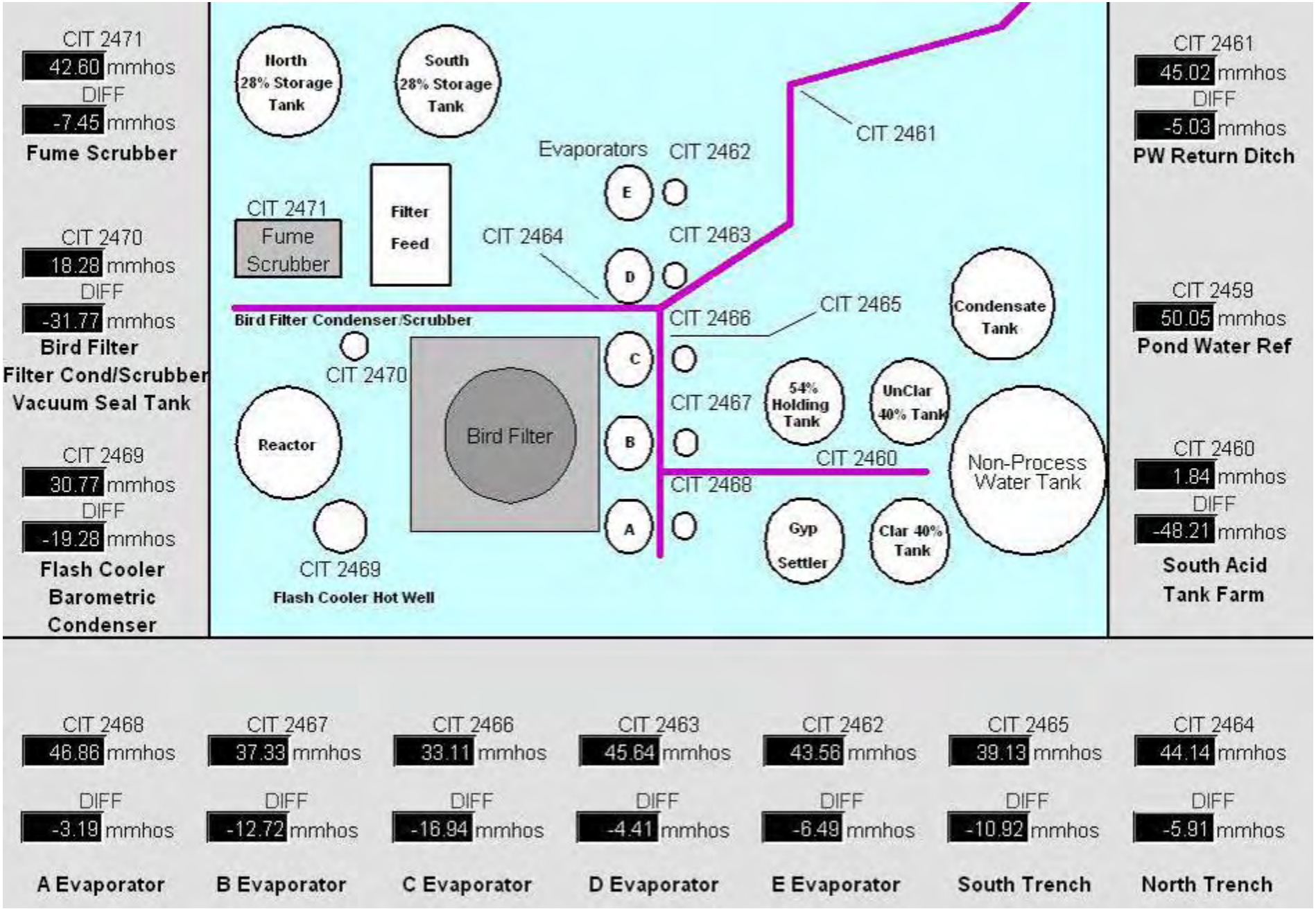


Figure 2 – B-PAP Conductivity System Schematic

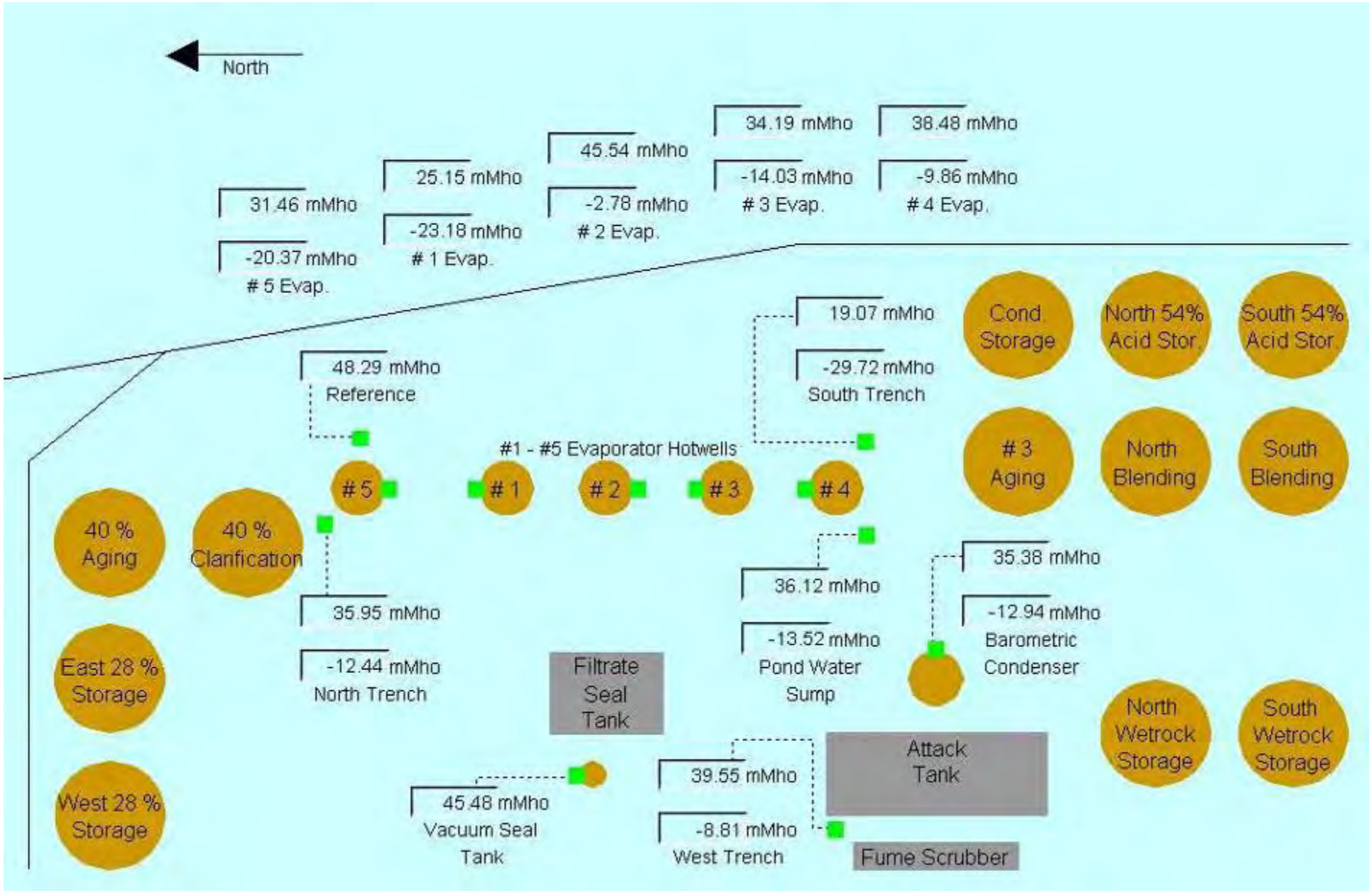


Figure 3 –Sample Differential Conductivity Trend

Inspections

In addition to the differential conductivity titrations and conductivity measurements, the operators will inspect the plant whenever they collect samples. Every two hours in the phosphoric acid plants and every four hours at ACU, the operators make rounds while collecting their samples and inspecting the plant areas for leaking equipment or other conditions in need of correction, maintenance or repair. During these rounds, operators shall immediately correct any leaks from valves, flanges, pumps, or any other piece of equipment that are readily and safely correctible at the time of discovery. Any leaks, spills, or defective equipment that cannot be immediately corrected will be reported to the shift supervisor and recorded in the electronic log sheet to create a permanent record for tracking and correction. Leaks or spills that are immediately corrected by the operator will also be recorded in the electronic log sheet to create a permanent record.

SECTION 2

PHOSPHORIC ACID PLANT CLEANING PROCEDURES

General

Sulfuric acid shall not be added to any aqueous solution for the washing of lines, filters, or other equipment within phosphoric acid or acid cleanup areas without the written approval of the General Manager or Engineering Manager. Upon authorization, if any potentially hazardous cleaning solution, such as condensate/sulfuric acid cleaning solution, is used in the cleaning of lines, tanks, filters or other process equipment, the resulting wastewater shall not be commingled with process water prior to characterization and treatment if hazardous. Such cleaning solutions shall be routed to granulation for further use and/or treatment, as required.

Line Cleaning

All lines will be washed with an aqueous Cleaning Solution (e.g., condensate, pond water, non-process water, fresh water, etc.). The Cleaning Solution may be processed through the lines and filters and returned to the process water system without neutralization. This line and filter cleaning guidance applies to A Phosphoric Acid Plant (A-PAP), B Phosphoric Acid Plant (B-PAP), and ACU. It may also apply to future plant areas, such as uranium recovery, as authorized by the Engineering Manager

Cleaning Solutions used to clean transfer piping from A-PAP, B-PAP, and ACU to the Granulation Plants may be returned to the point of origination or other point inside the boundary of A-PAP, B-PAP or ACU. These solutions may be discharged to the process water cooling pond within the boundaries of A-PAP, B-PAP, or ACU without neutralization.

Evaporator Cleaning

A Phosphoric Acid Plant:

Evaporators will be washed using a two-step process as described below:

Step One, high-level boil, will be performed with a Cleaning Solution, typically condensate with sulfuric acid added. If sulfuric acid or other corrosive additive are added during the high-level boil, the Cleaning Solution from this step shall be transferred to the granulation area for reuse and neutralization prior to discharge to the process water system.

Step Two, condensate/sulfuric acid boil, will be performed with sulfuric acid added to the Cleaning Solution from Step One. A new Evaporator Wash Collection Tank (AWCT) will be installed for Step Two washing purposes. Because the Step Two cleaning solution is corrosive due to the addition of sulfuric acid, this solution must be retained in the evaporator, the AWCT, or associated piping. New pipelines will be installed originating from the 28%, 40%, and 54% tank splitter-boxes and back to the AWCT. This will create a closed loop wash system. Once completed, 28%, 40%, and 54% evaporator pipelines can be washed with a dilute condensate/sulfuric acid solution by circulating the solution between the evaporator and the AWCT. Once Step Two is complete, the resulting cleaning solution must be transferred to the AWCT. Excess condensate/sulfuric acid

cleaning solution from the AWCT shall be transferred to the Area IV granulation plants for use in further cleaning activities prior to neutralization/treatment. Condensate/sulfuric acid cleaning solution shall not be discharged to the process water system without proper characterization and treatment. Per the schedule for the implementation of the Granulation Plant Neutralization Project (see Section 12 herein), CF may continue to discharge condensate/sulfuric acid evaporator cleanout wastes to the Phosphogypsum Stack System until the earlier of: (i) the date the Granulation Neutralization Project is completed or (ii) the "Project Completed" date for this project as set forth in Section 12 herein.

B Phosphoric Acid Plant:

Evaporators will be washed using a two-step process as described below:

Step One, high-level boil, will be performed with a Cleaning Solution, typically condensate with sulfuric acid added. If sulfuric acid or another corrosive additive is added during the high-level boil, the Cleaning Solution from this step shall be transferred to the granulation area for reuse and neutralization prior to discharge to the process water system.

Step Two, condensate/sulfuric acid boil, will be performed with sulfuric acid added to the Cleaning Solution from Step One. The existing Evaporator Wash Collection Tank (BWCT) will be used to collect and reuse the condensate/sulfuric acid cleaning solution. Because the Step Two cleaning solution is corrosive due to the addition of sulfuric acid, this solution must be retained in the evaporator, the BWCT, or associated piping. New pipelines will be installed originating from the 28%, 40%, and 54% tank splitter-boxes and back to the BWCT. This will create a closed loop wash system. Once completed, 28%, 40%, and 54% evaporator pipelines can be washed with a dilute condensate/sulfuric acid solution by circulating the solution between the evaporator and the BWCT. Once Step Two is complete, the resulting cleaning solution must be transferred to the BWCT. Excess condensate/sulfuric acid cleaning solution from the BWCT shall be transferred to the Area IV granulation plants for use in further cleaning activities prior to neutralization. Condensate/sulfuric acid cleaning solution shall not be discharged to the process water system without proper characterization and treatment. Per the schedule for the implementation of the Granulation Plant Neutralization Project (see Section 12 herein), CF may continue to discharge condensate/sulfuric acid evaporator cleanout wastes to the Phosphogypsum Stack System until the earlier of: (i) the date the Granulation Neutralization Project is completed or (ii) the "Project Completed" date for this project as set forth in Section 12 herein.

Tank and Equipment Cleaning

The following steps will be used in the cleaning of any phosphoric acid tank in A-PAP, B-PAP, or ACU:

Step 1 – Empty tank by recovering phosphoric acid and solids back to process or surge tanks.
Step 2 – If Step 1 does not adequately remove residuals, a contractor may be used to recover remaining residual phosphoric acid and solids back to process. The contractor process may use high pressure phosphoric acid provided by CF to wash solids from the tank to CF process equipment.
Step 3 – Wash tank with Cleaning Solution to process water system.

Step 4 – High pressure cleaning with Cleaning Solution can be used to remove hard phosphogypsum scale and buildup or to strip rubber from the tank.
Step 5 – Phosphogypsum solids shall be transferred to gypsum stack using payloaders and/or dump trucks.

Filter Cleaning

A Phosphoric Acid Plant:

A non-hazardous Cleaning Solution will be used to wash filter pans. Typically, condensate will be used to clean filters, filtrate lines, and filtrate vessels. No sulfuric acid shall be added to filter cleaning solutions except as discussed in the General Statement above on page 7.

B Phosphoric Acid Plant (B-PAP):

A non-hazardous Cleaning Solution will be used to wash filter pans. Typically, condensate will be used to clean filters, filtrate lines, and filtrate vessels. No sulfuric acid shall be added to filter cleaning solutions except as discussed in the General Statement above on page 7.

Plant Wash Down

Non- hazardous Cleaning Solution may be used for washing the floors, building, equipment, etc.

SECTION 3

PHOSPHORIC ACID PLANT LEAK/SPILL RECORDING, TRACKING, AND CORRECTIVE ACTION

General

Leaks or spills of phosphoric acid and sulfuric acid within A-PAP, B-PAP and ACU will be managed as set forth below. A record of leaks and spills detected and their corrective action will be maintained in Aspen or other applicable software.

Operator Inspections

Operators in the A-PAP, B-PAP, and ACU will make rounds to complete periodic inspections, obtain samples, and perform other production tasks. Visual inspections in A-PAP and B-PAP are performed every two hours and in ACU every four hours. During these inspections, the operator will take note of the presence of leaks, spills or process upsets resulting in the non-routine addition of phosphoric acid or any sulfuric acid to the plant's containment area.

Inspection of piping between A-PAP, B-PAP, and ACU will be performed by supervisors or operators once per shift. Results of the inspections will be logged on the electronic Spill Recording, Tracking, and Correction (SRTC) form.

Recording

Whenever an operator or other plant personnel identifies a leak or spill resulting in the release of phosphoric acid or sulfuric acid, the release will be communicated to a plant operator located in one of the Area 2 control rooms, and the operator will be responsible for taking any practicable immediate and safe corrective action. The control room operator will be responsible for logging the leak/spill into the electronic SRTC form. A description of the leak/spill will be entered into the software system. The system will automatically generate a time stamp for the event and create a permanent record in the database (refer to SRTC Form, Figure 4). The system will automatically generate a notification email to the Area Maintenance Supervisor. The Area Maintenance Supervisor will be responsible for initiating further corrective action for the item if necessary.

Reportable Leak/Spill Volume Thresholds

Any leak or spill of phosphoric acid within the contained areas of the phosphoric acid plants (including ACU) with a reasonable potential to approach 5,000 gallons within any 24-hour period shall (a) be subject to immediate response and correction, and (b) logged as a potentially reportable leak or spill, to include an initial estimate of the volume of the leak or spill at the time of discovery. Engineering and environmental staff will be notified of such leaks or spills as quickly as possible in order to verify the volume of the leak or spill and ensure that, if the contained leak or spill exceeds 5,000 gallons in 24 hours, it is properly documented and corrected, and subsequently reported in accordance with Section 10.

Any leak or spill of sulfuric acid within the contained areas of the phosphoric acid plants (including ACU) with a reasonable potential to approach 1,000 gallons within any 24 hour period shall (a) be

subject to immediate response and correction, and (b) logged as a potentially reportable leak or spill, to include an initial estimate of the volume of the leak or spill at the time of discovery. Engineering and environmental staff will be notified of such leaks or spills as quickly as possible in order to verify the volume of the leak or spill and ensure that, if the contained leak or spill exceeds 1,000 gallons in 24 hours, it is properly documented and corrected, and subsequently reported in accordance with Section 10.

Any leak or spill of phosphoric acid or sulfuric acid that is not contained within the impervious areas of the plant shall be reported in accordance with applicable state and federal laws and the specific procedures set forth in Section 4.16 of the CF Environmental Compliance Plan contained in the CF Plant City Phosphate Complex E-Manual.

Tracking

The Aspen Data Historian or other applicable software will be used to track the leak or spill. The area production and maintenance supervisors, engineers, and environmental personnel will have the capability to monitor plant operations through the software. Updates on the event and corrective actions can be added to the SRTC form by anyone with access to a computer with access software. The recorded event will remain active on the daily SRTC form until the Area Production Supervisor electronically signs off in the software that the matter has been resolved. On a quarterly basis, a summary report of the leaks and spills recorded and tracked in the software will be generated for review.

Corrective Action Plan

All CF personnel are responsible for initiating appropriate corrective action immediately upon identification of a leak or spill.

Production Department Responsibilities

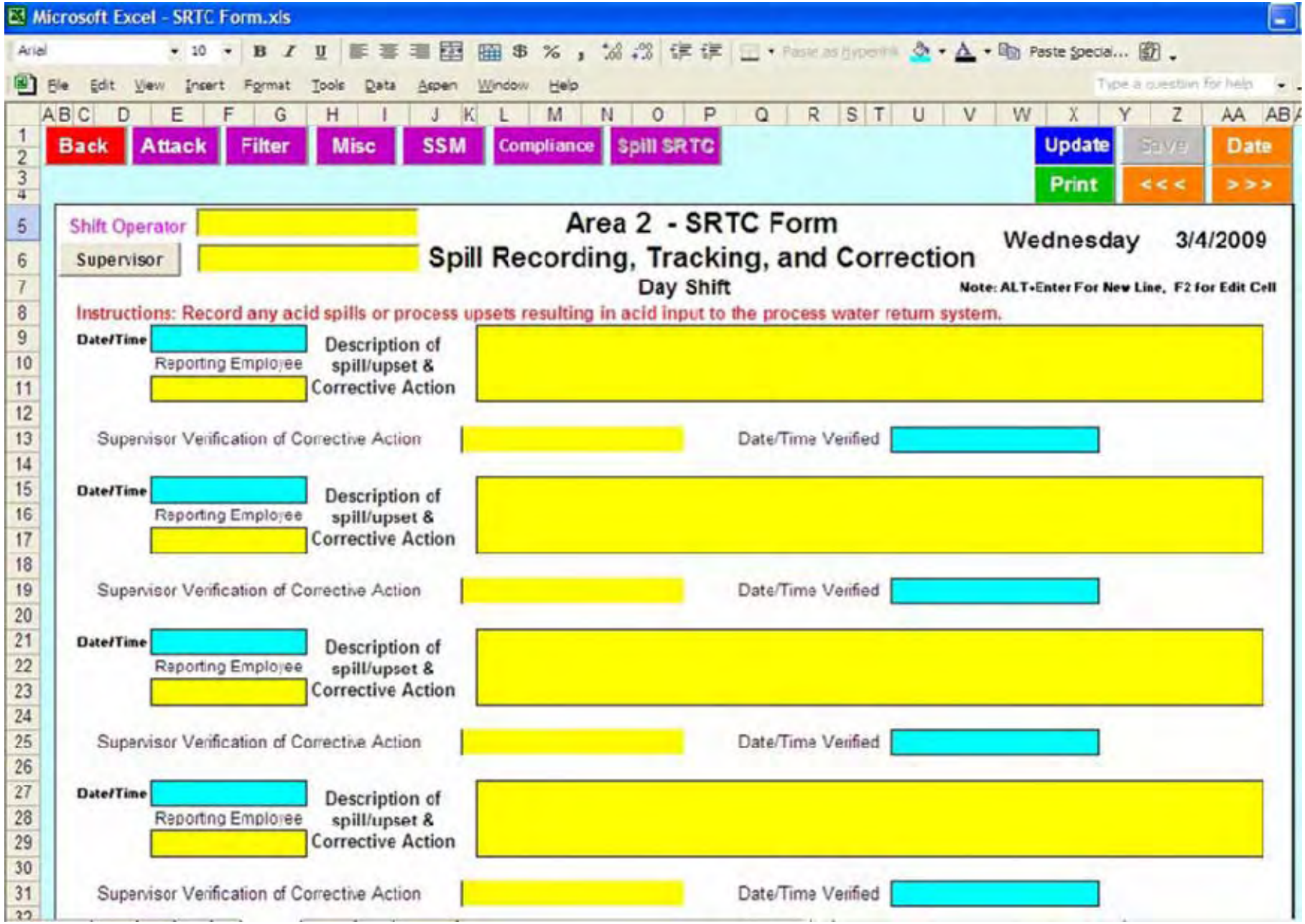
The area Production Department will be responsible for troubleshooting and correcting operational upsets such as evaporator pullover, flash cooler pullover, and tank overflows. The operator covering the plant operation involving the leak, spill or upset will notify his supervisor and begin taking immediate corrective measures.

Leaks or spills due to mechanical failures will be recorded in the software system to initiate the appropriate corrective measure.

Maintenance Department Responsibilities

If the leak or spill is the result of a mechanical failure, the area operator recording the event will be responsible for notifying the Area Maintenance Supervisor. When the Maintenance Department completes the repairs, the Area Production Supervisor will be notified. After confirming that the needed repairs have been completed and the leak/spill has been eliminated, the Area Production Supervisor will electronically sign off on the SRTC log that the matter has been resolved.

Figure 4 – Sample Phosphoric Acid Plants Spill/Leak Recording, Tracking, and Correction Log Sheet



SECTION 4

GRANULATION PLANTS CLEANING PROCEDURES

General

The preferred cleaning solution for the granulation plants is condensate/sulfuric acid which is derived from the cleaning of phosphoric acid plant evaporators. Process water/sulfuric acid cleaning solution may be substituted to clean the scrubber system when condensate/sulfuric acid cleaning solution is unavailable. However, any Cleaning Solution including process water is permissible for use and may be supplemented with sulfuric acid as needed to sustain cleaning effectiveness. All cleaning wastes from the granulation plants will be treated as needed in the WTU prior to transfer to the cooling pond.

Line Cleaning

A tank will be installed in XYZ granulation plant to receive and store condensate/sulfuric acid cleaning solutions from A-PAP and B-PAP evaporator boil-outs. Pumps on the tank will supply condensate/sulfuric acid cleaning solution to the 28% and 54% acid feed line to the preneutralizers, scrubber liquor tanks, and Y-MAP granulator. A cross transfer line will be installed to transfer condensate/sulfuric acid cleaning solution to the A-DAP 28% and 54% feed lines. In addition to the condensate/ sulfuric acid cleaning solution, Cleaning Solution can also be used to wash lines and equipment. All line cleaning wastewater will report to the centralized effluent systems and will be neutralized in the WTU to a pH>2.0, as needed, prior to transfer to the process water cooling pond.

As noted above, Cleaning Solution from A-PAP, B-PAP, and ACU transfer piping may be returned to the point of origin or other point inside the boundary of A-PAP, B-PAP, or ACU. If these solutions enter granulation plant areas downstream of the associated splitter box, they will be neutralized prior to transfer to the process water cooling pond.

Currently, CF uses condensate and/or process water to clean the lines. CF shall continue to attempt to minimize the use of process water and may continue to discharge line cleaning wastewater to the Phosphogypsum Stack System until the Granulation Neutralization Project is completed as set forth in Section 12 herein.

Tank Cleaning

The following steps will be used in the cleaning of any phosphoric acid tank in the granulation plant areas:

Step 1 – Empty tank by recovering phosphoric acid and solids back to process or surge tanks.
Step 2 – If Step 1 does not adequately remove residuals, a contractor may be used to recover remaining residual phosphoric acid and solids back to process. The contractor process may use high pressure phosphoric acid provided by CF to wash solids from the tank to CF process equipment...
Step 3 – Wash tank with Cleaning Solution or condensate/sulfuric acid cleaning solution.
Step 4 – High pressure water cleaning with fresh water or non-process water to remove hard phosphogypsum scale and buildup or to strip rubber from the tank.

Step 5 – Phosphogypsum solids shall be transferred to gypsum stack using payloaders and/or dump trucks after being allowed to drain and de-water.

All tank cleaning wastewater will be routed to the centralized wastewater collection system and will be treated by neutralization in the WTU to a pH>2.0 prior to final transfer to the process water cooling pond.

Upon completion of the Granulation Plant Neutralization Project as set forth in Section 12, all tank cleaning wastewater and spills will be routed to the centralized wastewater collection system and will be treated by neutralization in the WTU to a pH>2.0 prior to final transfer to the process water cooling pond. In the interim, the tank cleaning wastewater and spills will continue to be discharged to the Phosphogypsum Stack System.

Scrubber System Cleaning

The scrubbers are cleaned weekly with a condensate/sulfuric acid cleaning solution. Pumps on the above-referenced storage tank will supply condensate/sulfuric acid cleaning solution to the scrubber liquor tank through the 28% acid feed line. When the scrubber liquor tank is filled, the low and high pressure scrubber liquor pumps are started and the condensate/sulfuric acid cleaning solution is circulated though the venturi scrubbers, acid cyclonic scrubbers, and the dryer and fume secondary cyclonic scrubbers. Cleaning wastewater from the scrubbers returns by gravity to the scrubber liquor tank. At the conclusion of the scrubber cleaning process, wastewater is transferred to the centralized effluent system and neutralized in the WTU to a pH>2.0 prior to transfer to the process water cooling pond.

Wash Down

Cleaning Solutions and condensate/sulfuric acid cleaning solution may be used for wash down of the floors, conveyor belts, and other equipment (Wash Down). All Wash Down water will report to the centralized effluent systems and will be neutralized in the WTU to a pH>2.0 prior to final transfer to the process water cooling pond.

As an interim measure until the Granulation Plant Neutralization Project is completed as set forth in Section 12 herein, CF may: (i) use process water or fresh water for Wash Down; and (ii) continue to wash to the Phosphogypsum Stack System leaks or spills of phosphoric acid within the granulation plant scrubber system area where such leaks or spills cannot be neutralized due to the presence of the preneutralizer sump, acid sumps and process water ditch system

Reduction of Ammonia Inputs to Process Water System

Ammonia inputs to the CF process water system will be reduced by the implementation of the following improvements:

- Converting from ammonia to lime as the neutralizing agent for scrubber system cleaning solutions.

- Installation of DAP/MAP scrubber system modifications to eliminate the use of process water for gas scrubbing.

SECTION 5

GRANULATION PLANTS LEAK/SPILL IDENTIFICATION, RECORDING, TRACKING, AND CORRECTIVE ACTION

General

Leaks or spills of phosphoric acid within the granulation plants will be managed as set forth below. Leaks or spills of sulfuric acid will be managed in accordance with the procedures set forth in Section 4.16 of the CF Environmental Compliance Plan in the CF EManual. In addition, all leaks and spills of phosphoric acid and sulfuric acid to containment areas will be collected and neutralized in the Granulation Plant Neutralization System as described in Section 7.

Inspections

Operators for each of the granulation plants (Area 4) will complete an area walk-through every two hours to obtain samples and record field temperatures and pressures. During these inspections, the operator will take note of leaks, spills or process upsets resulting in the release of phosphoric acid or sulfuric acid to the Area 4 containment area. The employee's supervisor has the initial responsibility for initiating corrective action with appropriate Production or Maintenance personnel.

Recording

When an operator or other plant personnel identifies a leak, spill or potential process upset resulting in the release of phosphoric acid or sulfuric acid, the release incident will be communicated to a plant operator located in one of the Area 4 control rooms. The control room operator will be responsible for logging the release into the electronic SRTC form found on the Aspen or other applicable software system. A description of the condition will be entered into the system. The system will automatically generate a time stamp for the event and record it into the database (see Sample SRTC Form, Figure 5). The database software will automatically generate a notification email to the Area Maintenance Supervisor. The Area Maintenance Supervisor will be responsible for initiating corrective action for the item.

Tracking

The Aspen Data Historian database or other applicable software will be used to track corrective action related to the leak or spill. The area superintendent, management, engineering, and environmental departments will use the database system to monitor the plant operations and will have access to the SRTC forms throughout the Complex. The recorded event will remain active on the daily SRTC form until the Area Production Supervisor electronically signs off in database system that the matter has been resolved. On a quarterly basis, a summary report of the leaks and spills recorded and tracked will be generated for review.

Corrective Action Plan

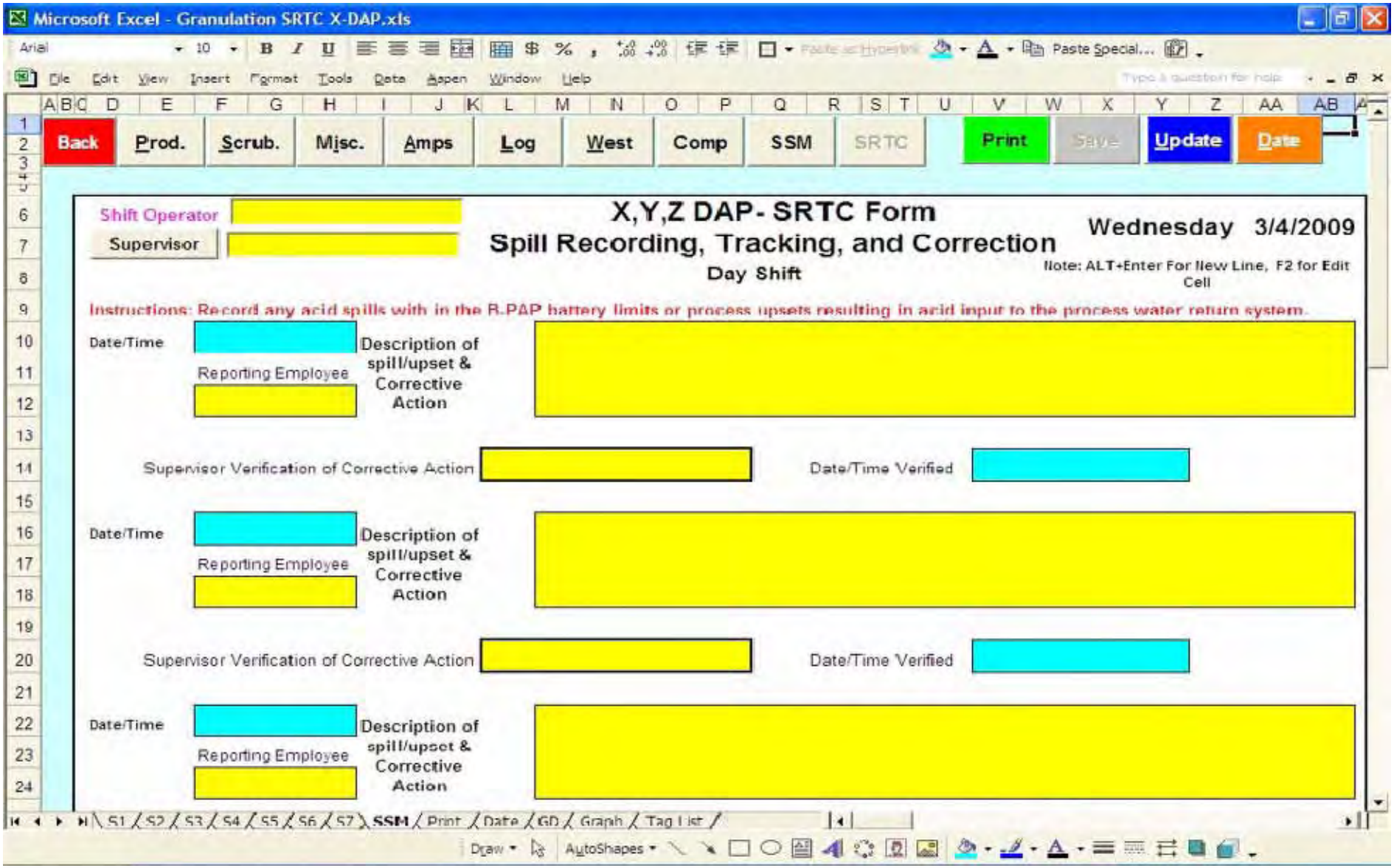
<u>Production Department Responsibilities</u>

The Area Production Department will be responsible for troubleshooting and correcting operational upsets such as tank overflows. The operator covering the plant operation at which the leak, spill or upset occurred will notify his supervisor and begin taking immediate corrective action. When the leak, spill or operating upset has been corrected, the Area Production Supervisor will electronically sign off on the SRTC form that the matter has been resolved.

Maintenance Department Responsibilities

If the leak or spill is the result of a mechanical failure, the area operator recording the event will be responsible for notifying the Area Maintenance Supervisor. When the Maintenance Department completes the repairs, the Area Production Supervisor will be notified. After confirming that the needed repairs have been completed and the leak/spill has been eliminated, the Area Production Supervisor will electronically sign off on the SRTC form that the matter has been resolved.

Figure 5 –Sample Granulation Plants Spill Recording, Tracking, and Correction Log Sheet



SECTION 6

GRANULATION PLANT SECONDARY SCRUBBERS

The X and Z granulation plants utilize a secondary scrubber within the dryer scrubber and fume scrubber. The X and Z granulation plants also utilize product cooler scrubbers. Each of the previously mentioned scrubbers uses process water as the scrubbing media. The DAP/MAP Scrubber System Modifications Project will install piping, seal tanks, valves, and instrumentation to convert from process water gas scrubbing to acid and fresh water gas scrubbing in X, Y, and Z granulation plants. CF may continue to discharge process water used in the aforementioned scrubbers within X and Z granulation plants to the Phosphogypsum Stack System until the DAP/MAP Scrubber System Modifications Project is completed as set forth in Section 12 herein.

SECTION 7

GRANULATION PLANTS NEUTRALIZATION TREATMENT SYSTEM OPERATION

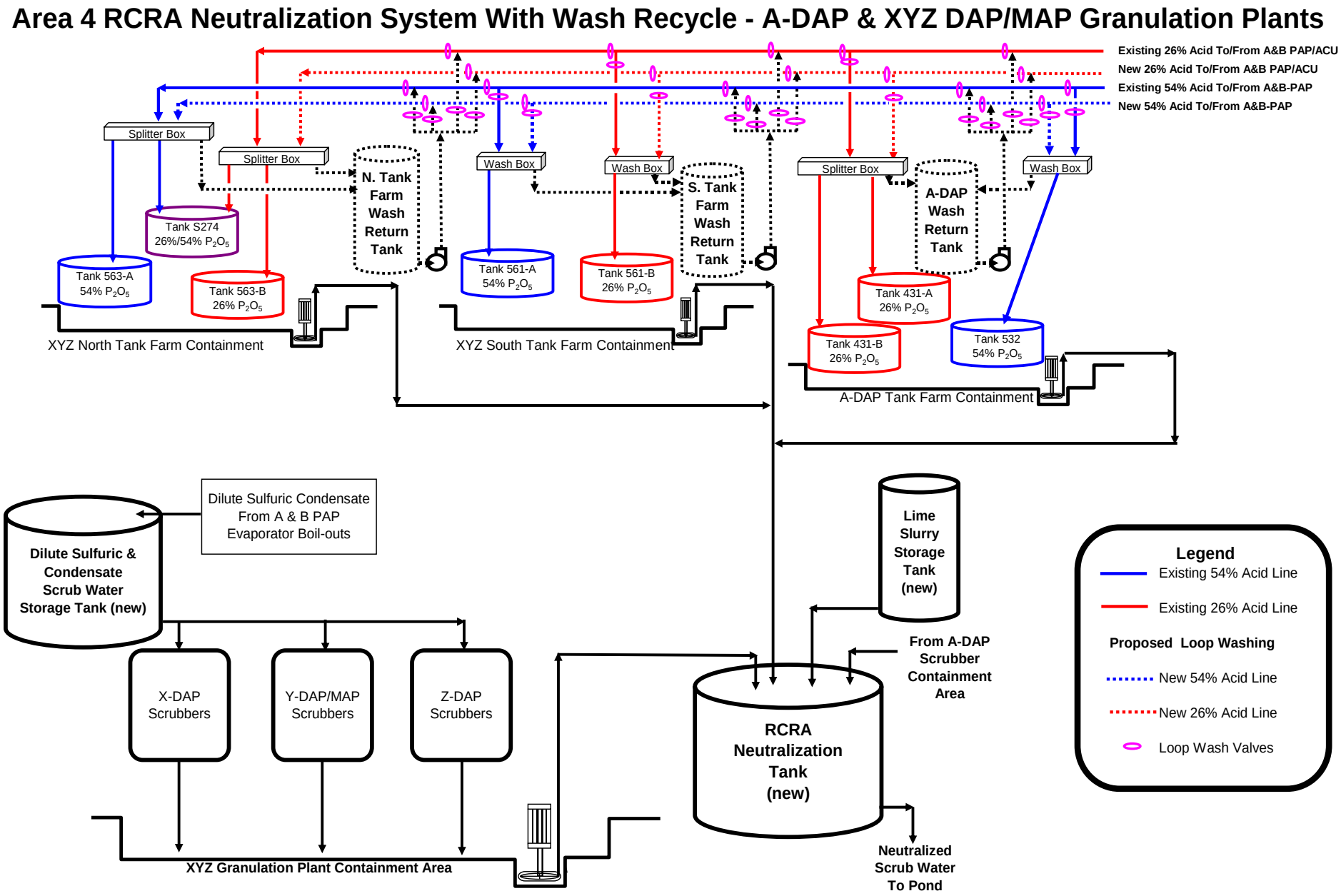
Description

The granulation plants (Area 4) consists of two production centers (A-DAP and XYZ DAP/MAP). Wastewater, area wash down, process spills, and rainfall within the battery limits of each of these production centers report to centralized water return systems. Upon installation of the new neutralization WTU, all the A-DAP effluent water will be transferred to the XYZ effluent water system. Pumps will then transfer the combined water from the XYZ water return system to the WTU. Lime or other neutralizing agents will be added as needed to treat wastewater through neutralization and precipitation (as required), resulting in a non-hazardous wastewater with pH above 2 (see Figure 6). A sampling program will be established to determine wastewater characteristics and to demonstrate proper and effective treatment. Treated wastewater from the WTU will be transferred to the process water cooling pond.

Operating Parameters

The A-DAP and XYZ DAP/MAP wastewater systems will be designed to collect rainfall, spills, leaks, and cleaning solutions within plant areas. The WTU discharge pumps will in turn be designed to pump 100% of the capacity from the A-DAP and XYZ water return systems. The WTU discharge pH will be continuously recorded in the Aspen Data Historian or other applicable software.

Figure 6


Area 4 RCRA Neutralization System With Wash Recycle - A-DAP & XYZ DAP/MAP Granulation Plants
Existing 26% Acid To/From A&B PAP/ACU
New 26% Acid To/From A&B PAP/ACU
Existing 54% Acid To/From A&B-PAP
New 54% Acid To/From A&B-PAP
Splitter Box
Splitter Box
Splitter Box
Wash Box
Wash Box
Wash Box
N. Tank Farm Wash Return Tank
S. Tank Farm Wash Return Tank
A-DAP Wash Return Tank
Tank S274 26%/54% P2O5
Tank 563-A 54% P2O5
Tank 563-B 26% P2O5
Tank 561-A 54% P2O5
Tank 561-B 26% P2O5
Tank 431-A 26% P2O5
Tank 431-B 26% P2O5
Tank 532 54% P2O5
XYZ North Tank Farm Containment
XYZ South Tank Farm Containment
A-DAP Tank Farm Containment
Dilute Sulfuric Condensate From A & B PAP Evaporator Boil-outs
Dilute Sulfuric & Condensate Scrub Water Storage Tank (new)
Lime Slurry Storage Tank (new)
From A-DAP Scrubber Containment Area
X-DAP Scrubbers
Y-DAP/MAP Scrubbers
Z-DAP Scrubbers
RCRA Neutralization Tank (new)
XYZ Granulation Plant Containment Area
Neutralized Scrub Water To Pond
Legend
Existing 54% Acid Line
Existing 26% Acid Line
Proposed Loop Washing
New 54% Acid Line
New 26% Acid Line
Loop Wash Valves

SECTION 8

MINIMIZATION OF OPERATIONAL ACID INPUTS

Background

During normal operation of the Phosphoric Acid Plants and ACU facilities, various activities may result in the operational input of phosphoric acid to the containment areas or process water system. These activities include sample collection, slide gate valve operation, clearing plugged underflow piping, and similar operations. Operators should take appropriate practicable measures to minimize the volume of such inputs. The intermittent operational inputs of phosphoric acid to containment areas or the process water system are unavoidable in connection with the operation of the phosphoric acid plants and shall not be considered leaks or spills as they are not malfunctions requiring correction unless the volume from one of these inputs to the process water system exceeds 5,000 gallons. Any continuing release resulting from these activities may indicate the need for maintenance activity and will be logged into the electronic SRTC form for correction.

Operational Input Minimization

Sample Collection

Samples of phosphoric acid or reactor slurry collected for purposes of plant process control will be returned to the process. Totes or similar containers will be located in A-PAP, B-PAP, and ACU as necessary to provide a centralized collection point.

Clarifier/Valve Operational Releases

Operational inputs of phosphoric acid from clarifier unplugging and gate valve operation will be minimized to the extent practicable.

Releases Outside Containment Areas

All reasonable measures will be taken to avoid releases of phosphoric acid outside plant containment areas. Releases that occur outside the impervious surface containment areas will be responded to in accordance with all state and federal laws and the specific procedures established in the Environmental Compliance Plan as contained in the CF Plant City Phosphate Complex E-Manual.

Emergency Response

The E-Manual also contains guidance for management of environmental spills or releases that may require emergency response measures. Refer to the CF Plant City E-Manual for guidance.

SECTION 9

CONTAINMENT INTEGRITY PLAN

Background

The mechanical integrity of containment systems for phosphoric acid leaks or spills will be managed in accordance with CF Plant City Engineering Specifications V-06 "Specification for Rubber Lined Tank Inspection and Repair" and Q-03 "Concrete Acid Pads". The current version of these specifications will be maintained by the Complex's Engineering Department. Copies of the V-06 and Q-03 specifications are shown in Appendices B and C for general reference only.

Tanks

The mechanical integrity of rubber lined Phosphoric Acid Tanks will be managed in accordance with the current version of CF Plant City Engineering Specification V-06 "Specification for Rubber Lined Tank Inspection and Repair". This specification was initiated to provide increased inspection frequency for rubber lined tanks, or as an option, banding to the tanks with appropriately designed high strength steel bands to prevent a tank failure. The Complex has historically opted to band rubber lined tanks. Currently, 29 of 35 rubber lined tanks have been banded.

Concrete Acid Pads and Ditches

The mechanical integrity of concrete acid pad containment systems for phosphoric acid leaks or spills will be managed in accordance with CF Plant City Engineering Specifications Q-03 "Concrete Acid Pads". The Engineering Department will be responsible for conducting annual inspections of concrete acid pads in A-PAP, B-PAP, ACU, and granulation plant areas. Ditch systems will be inspected during scheduled turnaround periods. Inspection results will be documented in a written report with recommendations.

SECTION 10

BMP PERFORMANCE STANDARDS

Performance Criteria[1]

The intent of the BMP is to minimize non-operating input contributions of phosphoric acid to the process water system, such as those that can occur from leaks, spills and releases of phosphoric acid due to equipment deficiencies occurring in A-PAP, B-PAP, and ACU. Therefore, the primary measures of BMP effectiveness will be trends associated with the number of open repair items and the average item repair time[1]. These two performance criteria will be electronically tracked by the SRTC system. The SRTC system will maintain a continuous graph of the number of open repair items and the average completion time for each repair activity logged. The SRTC system will be available to all persons in the plant with the applicable software.

Operators will manually enter data associated with each repair item, and each item will be time-stamped when this entry is made. The SRTC entry will automatically initiate the corrective action process by notifying the appropriate Maintenance Supervisor via email that an item which needs correction has been identified in the plant. The SRTC will automatically generate graphs of the average daily number of events and the average response time per event. A graph of these averages can be displayed on the SRTC log sheet by pressing the "Rolling Average" button.

BMP Review

An initial data collection period of twelve months will be used to establish baseline performance criteria. After the initial data collection period, performance data will continue to be reviewed quarterly. Review of the BMP Program will be initiated under either of the following circumstances:

- At any time after the baseline period when the daily average number of repair items and the average response time show a quarter to quarter increase of 50%, or an annual overall increase of 30%.
- At any time during a calendar quarter when two or more leak or spill events of phosphoric acid within contained areas of the phosphoric acid plants (including ACU) have occurred that exceed 10,000 gallons in a 24-hour period.
- At any time during a calendar quarter when two or more leak or spill events of sulfuric acid within contained areas of the phosphoric acid plants (including ACU) have occurred that exceed 1,000 gallons in a 24-hour period.

Reporting/Auditing

Reporting will be conducted in accordance with applicable frequencies established in the CF-EPA/FDEP Consent Decree.

[1] The performance criteria set forth herein are not being applied to the granulation plants because the plan for the granulation plants is to capture and manage spills, leaks, and other potentially acidic wastes generated within the granulation plants in accordance with RCRA before such materials are conveyed to the cooling pond system.

Compliance with internal BMP procedures and performance criteria will be audited in accordance with the CF Environmental, Health, and Safety's (EHS) audit policy. Current policy requires a facility-wide audit of all EHS related issues every three years.

Any leak or spill of phosphoric acid to the contained areas of the phosphoric acid plants (including ACU) with a reasonable potential to approach 5,000 gallons within 24 hours shall be reported as soon as possible upon discovery to the employee's supervisor for corrective action. The employee will also record the leak or spill in the SRTC system as an item that has the potential to exceed 5,000 gallons in 24 hours. The employee's supervisor has the first responsibility for initiating corrective action with appropriate Production or Maintenance Department personnel. Any leaks or spills that are determined to exceed the 5,000 gallon volume in 24 hours will be reported to EPA and FDEP as outlined in the CF-EPA/FDEP Consent Decree.

Any leak or spill of sulfuric acid within the contained areas of the phosphoric acid plants (including ACU) with a reasonable potential to approach or exceed 1,000 gallons within 24 hours shall be reported immediately upon discovery to the employee's supervisor for corrective action. The employee will also record the leak or spill in the SRTC system as an item that has the potential to exceed 1,000 gallons in 24 hours. The employee's supervisor has the first responsibility for initiating corrective action with appropriate Production or Maintenance Department personnel. Any leaks or spills that are determined to exceed the 1,000 gallon volume in 24 hours will be reported to EPA and FDEP as outlined in the CF-EPA/FDEP Consent Decree.

SECTION 11

BMP TRAINING

Overview Training

An overview of RCRA and BMP issues and procedures will be conducted annually as part of environmental compliance training conducted by the Complex's Environmental and Engineering staff.

Area Specific Employee Training

Employees will receive initial training on RCRA and the BMP through classes and materials developed by the Environmental and Engineering Departments. Refresher training on RCRA and the BMP will be conducted and documented for all Complex employees every three years. This training will be the responsibility of employee supervisors. Updated training will be provided as BMP Projects are completed.

Contractors

BMP training will be incorporated into the Contractors Site Specific class, which all contractors must complete upon initial entry to the Complex. The Contractors Site Specific training is renewed annually.

SECTION 12

BMP AND PROJECT IMPLEMENTATION SCHEDULE

All milestone timeframes outlined below are established relative to May 1, 2010, prior to the Effective Date of the CF-EPA/FDEP Consent Decree.

Extension Provision: If CF has reason to believe that it will exceed the timeframes set forth in this Appendix to complete the projects detailed herein, CF may request an extension for project completion and implementation in accordance with Paragraph 89 of the Consent Decree.

Project 1
Cleaning Solution Transfer Piping

Description: The Cleaning Solution Transfer Piping Project will install new piping to enable CF to clean piping that transfers phosphoric acid from A-PAP, B-PAP, and ACU to the Granulation Plants, and return the cleaning solutions to the Phosphoric Acid Plants. In addition, new or upgraded pumps, motors, small pump tanks, and instrumentation may be needed to ensure the return of the cleaning solution to the Phosphoric Acid Plants.

Milestones: The following milestones provide a general plan for the implementation and completion of piping systems to return cleaning solutions used to clean transfer piping from A-PAP, B-PAP, and ACU to the Granulation Plants

- Select engineering contractor/initiate permitting as appropriate 2 mos.
- AFE issued for Board approval 8 mos.
- AFE approved/permit(s) issued 11 mos.
- Initiate field construction 18 mos.
- Field construction 50% complete 24 mos.

Completion: The following dates are enforceable dates upon which, following May 1, 2010, CF must complete construction and implement Project 1.

- Project completed 30 mos.
- Documentation of training completed 32 mos.

Project 2
DAP/MAP Scrubber System Modifications

Description: The DAP/MAP Scrubber System Modifications Project will install piping, seal tanks, valves, and instrumentation to convert from process water gas scrubbing to acid and fresh water gas scrubbing in X, Y, and Z Granulation Plants. Capital funds are approved for this project and detailed engineering is complete. The timeframes for final construction completion are based on Granulation Plant turn-around that occurs approximately every 18 months.

Milestones: The following milestones provide a general plan for the implementation and completion of modifications to the Granulation Plants scrubbing systems following May 1, 2010:

- Issue purchase orders for all materials 2 mos.
- Initiate field construction 3 mos.
- Field construction 50% complete 8 mos.

Completion: The following dates are enforceable dates upon which, following May 1, 2010, CF must complete construction and implement Project 2.

- Project completed 12 mos.
- Documentation of training completed 14 mos.

Project 3
Granulation Plant Neutralization System

Description: The Granulation Plant Neutralization System Project will install tanks, lime slaking and/or lime slurry storage, piping, pumps, and instrumentation to collect all Granulation Plant spills, leaks, and cleaning solutions and neutralize those solutions to pH greater than 2.0 and less than 12.5 prior to discharge to the process water system. This will include the conversion from ammonia to lime as the neutralizing agent for scrubber system cleaning solutions. In addition new piping, pumps, tanks, and instrumentation will be installed to collect and transfer Phosphoric Acid Plant evaporator cleaning solutions from the Phosphoric Acid Plants to the Granulation Plants.

Milestones: The following milestones provide a general plan for the implementation and completion of the Granulation Plant Neutralization project following May 1, 2010:

- Select engineering contractor/initiate permitting as appropriate 2 mos.
- AFE issued for Board approval 8 mos.
- AFE approved/permit issued 11 mos.
- Initiate field construction 15 mos.
- Field construction 50% completed 20 mos.

Completion: The following dates are enforceable dates upon which, following May 1, 2010, CF must complete construction and implement Project 3.

- Project completed 24 mos.
- Documentation of training completed 26 mos.

Project 4
Spill Recording, Tracking, and Correction System

Description: The Spill Recording, Tracking, and Correction System (SRTC) Project is a new application software to be utilized by the Production, Maintenance, Engineering, and Environmental Departments to identify, track, and correct spills and leaks as quickly as practical. The SRTC is described in Sections 3 and 5 of the BMP.

Milestones: The following milestones provide a general plan for the implementation and completion of the Spill Recording, Tracking, and Correction System Project following May 1, 2010:

- Develop preliminary system for review 3 mos.
- Implement beta version of system 6 mos.

Completion: The following dates are enforceable dates upon which, following May 1, 2010, CF must complete system design and implement Project 4.

- System completed 9 mos.
- Documentation of system training completed 11 mos.

Project 5
BMP Training

Milestones: The following milestones provide a general plan for the completion of initial employee and contractor training on provisions of the BMP following May 1, 2010:

- Develop preliminary draft presentation and training materials 3 mos.
- Initial training class 4 mos.

Completion: The following date is an enforceable date upon which, following May 1, 2010, CF must complete and implement Project 5.

- Training completed 6 mos.

APPENDIX A

CF Industries Inc.

Loss Monitor System

By Terrell Floyd

The loss monitor system is an early detection system of possible acid leaks in the A & B PAD Plants. It is monitored on the computer control panels in the Station #3 and #4 control rooms and also the top-floor control room.

This system utilizes a network of conductivity transmitters in various locations throughout both A & B Phosphoric Acid plants. The most common transmitter in use in these systems is the Yokogawa Model SC402G (shown in figure 1). This 4-wire, 120 volt powered transmitter is designed for industrial process monitoring and measurement. A Yokogawa SC42 resistance conductivity probe is submerged in the process (pondwater).

As stated earlier, this detection system is designed to show a rise in conductivity in the process which could possibly be an acid leak in the system. The control point of this system is the pondwater reference probe which monitors the flow of water returning into the plant from the cooling ponds, (Gyp dyke). This reading should be between the 40 to 50 MilliSiemens range. Any other readout from transmitters in the system that goes over this reference reading will trigger an alarm stating the location of the problem.

These loss monitor readings are taken on each evaporator, hotwell, ditches, and seal tanks. Any alarm should be investigated by Production Operators and a sample taken for analysis to verify the alarm. If a loss of acid is detected, this unit then can be isolated for correction of the problem.

Each of the evaporators in both A & B Phosphoric Acid Plants (figures 4 & 5). Acid use a large volume of pondwater in the evaporator system. This large volume of water flows through a barometric condenser and eventually to the evaporator hotwell to create a vacuum, necessary to maintain a constant temperature and acid strength. If a broken tube in the evaporator leaks acid, the acid which is of higher conductance will be pulled by this vacuum over into the hotwell and will trigger the alarm in the loss monitor system.

The pondwater overflows from the evaporator hotwells and into the plant ditches, which is returned to the cooling ponds. There are also conductivity probes installed to monitor these ditches for detection of acid tank leaks, pump and/or piping leaks.

The I/E Maintenance shop is responsible for the inspection and calibration of this system. It is calibrated on a monthly basis and recorded on a Preventative Maintenance documentation sheet in the I/E shop.

5.9 Conductivity

What is conductivity and why is it important?

Conductivity is a measure of the ability of water to pass an electrical current. Conductivity in water is affected by the presence of inorganic dissolved solids such as chloride, nitrate, sulfate, and phosphate anions (ions that carry a negative charge) or sodium, magnesium, calcium, iron, and aluminum cations (ions that carry a positive charge). Organic compounds like oil, phenol, alcohol, and sugar do not conduct electrical current very well and therefore have a low conductivity when in water. Conductivity is also affected by temperature: the warmer the water, the higher the conductivity. For this reason, conductivity is reported as conductivity at 25 degrees Celsius (25 C).

Conductivity in streams and rivers is affected primarily by the geology of the area through which the water flows. Streams that run through areas with granite bedrock tend to have lower conductivity because granite is composed of more inert materials that do not ionize (dissolve into ionic components) when washed into the water. On the other hand, streams that run through areas with clay soils tend to have higher conductivity because of the presence of materials that ionize when washed into the water. Ground water inflows can have the same effects depending on the bedrock they flow through.

Discharges to streams can change the conductivity depending on their make-up. A failing sewage system would raise the conductivity because of the presence of chloride, phosphate, and nitrate; an oil spill would lower the conductivity.

The basic unit of measurement of conductivity is the mho or siemens. Conductivity is measured in micromhos per centimeter (µmhos/cm) or microsiemens per centimeter (µs/cm). Distilled water has a conductivity in the range of 0.5 to 3 µmhos/cm. The conductivity of rivers in the United States generally ranges from 50 to 1500 µmhos/cm. Studies of inland fresh waters indicate that streams supporting good mixed fisheries have a range between 150 and 500 µhos/cm. Conductivity outside this range could indicate that the water is not suitable for certain species of fish or macroinvertebrates. Industrial waters can range as high as 10,000 µmhos/cm.

Sampling and equipment Considerations

Conductivity is useful as a general measure of stream water quality. Each stream tends to have a relatively constant range of conductivity that, once established, can be used as a baseline for comparison with regular conductivity measurements. Significant changes in conductivity could then be an indicator that a discharge or some other source of pollution has entered a stream.

Conductivity is measured with a probe and a meter. Voltage is applied between two electrodes in a probe immersed in the sample water. The drop in voltage caused by the resistance of the water is used to calculate the conductivity per centimeter. The meter converts the probe measurement to micromhos per centimeter and displays

Conductivity and Water Quality

Conductivity is a measurement of the ability of an aqueous solution to carry an electrical current. An ion is an atom of an element t as gained or lost an electron which will create a negative or positive state. For example, sodium chloride (table salt) consists of sodium ions (Na+) and chloride ions (Cl-) held together in a crystal. In water it breaks apart into an aqueous solution of sodium and chloride ions. This solution will conduct an electrical current. An equation which shows this is:

Na (atom) + Cl (atom) Na+ Cl - (ionic crystal)

Na+Cl - (in a water solution) = Na+ (ion) + Cl - (ion)

There are several factors that determine the degree to which water will carry an electrical current. These include:

1) the concentration or number of ions;

2) mobility of the ion;

3) oxidation state (valence) and;

4) temperature of the water.

Resistance, which is an electrical measurement expressed in ohms, is the opposite of conductivity. Conductivity is then expressed in reciprocal ohms. A more convenient unit of measurement in the chemical analysis of water is micromhos. The specific conductance or conductivity measurement is related to ionic strength and does not tell us what specific ions are present.

Methodology: The specific conductance of a sample is measured by a self-contained conductivity electrode.

F ronmental Impact: Conductivity is a measurement used to determine a number of applications related to water quality. These a. s follows:

1) determining mineralization: this is commonly called total dissolved solids. Total dissolved solids information is used to determine the overall ionic effect in a water source. Certain physiological effects on plants and animals are often affected by the number of available ions in the water.

2) noting variation or changes in natural water and wastewaters quickly;

3) estimating the sample size necessary for other chemical analyses; and

4) determining amounts of chemical reagents or treatment chemicals to be added to a water sample.

Elevated dissolved solids can cause "mineral tastes" in drinking water. Corrosion or encrustation of metallic surfaces by waters high in dissolved solids causes problems with industrial equipment and boilers as well as domestic plumbing, hot water heaters, toilet flushing mechanisms, faucets, and washing machines and dishwashers.

Indirect effects of excess dissolved solids are primarily the elimination of desirable food plants and habitat-forming plant species. Agricultural uses of water for livestock watering are limited by excessive dissolved solids and high dissolved solids can be a problem in water used for irrigation.

Criteria: Water quality criteria have been established only for the mainstem of the Ohio River. The limit is 800 micromhos/cm or 500 mg/L total dissolved solids.

- ck to Water Quality Parameters List
- ck to River Assessment Monitoring Project Home Page
- Back to Kentucky Water Watch Home Page
- Back to Natural Resources and Environmental Protection Cabinet Home Page

Instruction Manual

Model SC402G
Conductivity and Resistivity Converter

EXA

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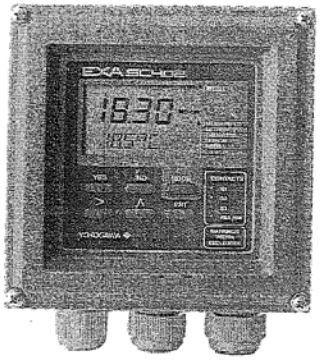

YOKOGAWA

IM 12D7C3-E-H
5th Edition

Figure 1: Conductivity and Resistance Converter

Table 1: B-Phosphoric Acid Plant's conductivity meter locations

B-Phos Acid
Bird Filter (Node 04)
I\O List

10/9/99 Rev-C

LOOP NO	I\O ADDRESS	TAG NAME	DESCRIPTION	I/0 TYPE	FLA	TRANSMITTER RANGE	LOW LOW
3120	N3R02S03C001	CIT3120	PONDWATER REFERENCE CONDUCTIVITY	VA/I		0-50,000 MHMO	
3121	N3R02S03C002	CIT3121	SOUTH TRENCH CONDUCTIVITY	VA/I		0-50,000 MHMO	
3122	N3R02S03C003	CIT3122	#1 EVAPORATOR HOTWELL CONDUCTIVITY	VA/I		0-50,000 MHMO	
3123	N3R02S03C004	CIT3123	#2 EVAPORATOR HOTWELL CONDUCTIVITY	VA/I		0-50,000 MHMO	
3124	N3R02S03C005	CIT3124	#3 EVAPORATOR HOTWELL CONDUCTIVITY	VA/I		0-50,000 MHMO	
3125	N3R02S03C006	CIT3125	#4 EVAPORATOR HOTWELL CONDUCTIVITY	VA/I		0-50,000 MHMO	
3127	N3R02S03C007	CIT3127	NORTH TRENCH CONDUCTIVITY	VA/I		0-50,000 MHMO	
3128	N3R02S03C008	CIT3128	PONDWATER SUMP CONDUCTIVITY	VA/I		0-50,000 MHMO	
3129	N3R02S03C009	CIT3129	VACUUM SEAL TANK CONDUCTIVITY	VA/I		0-50,000 MHMO	
3130	N3R02S03C010	CIT3130	BAROMETRIC CONDENSER CONDUCTIVITY	VA/I		0-50,000 MHMO	
3131	N3R02S03C011	CIT3131	#5 EVAPORATOR HOTWELL CONDUCTIVITY	VA/I		0-50,000 MHMO	
3132	N3R02S03C012	CIT3132	WEST TRENCH CONDUCTIVITY	VA/I		0-50,000 MHMO	
3253	N3R02S03C013	FT3253	MASS STEAM FLOW TO #1 EVAPORATOR HEATER	VA/I			
3053	N3R02S03C014	FT3053	MASS STEAM FLOW TO #2 EVAPORATOR HEATER	VA/I			
	N3R02S03C015			VA/I			
	N3R02S03C016			VA/I			

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bpap io list

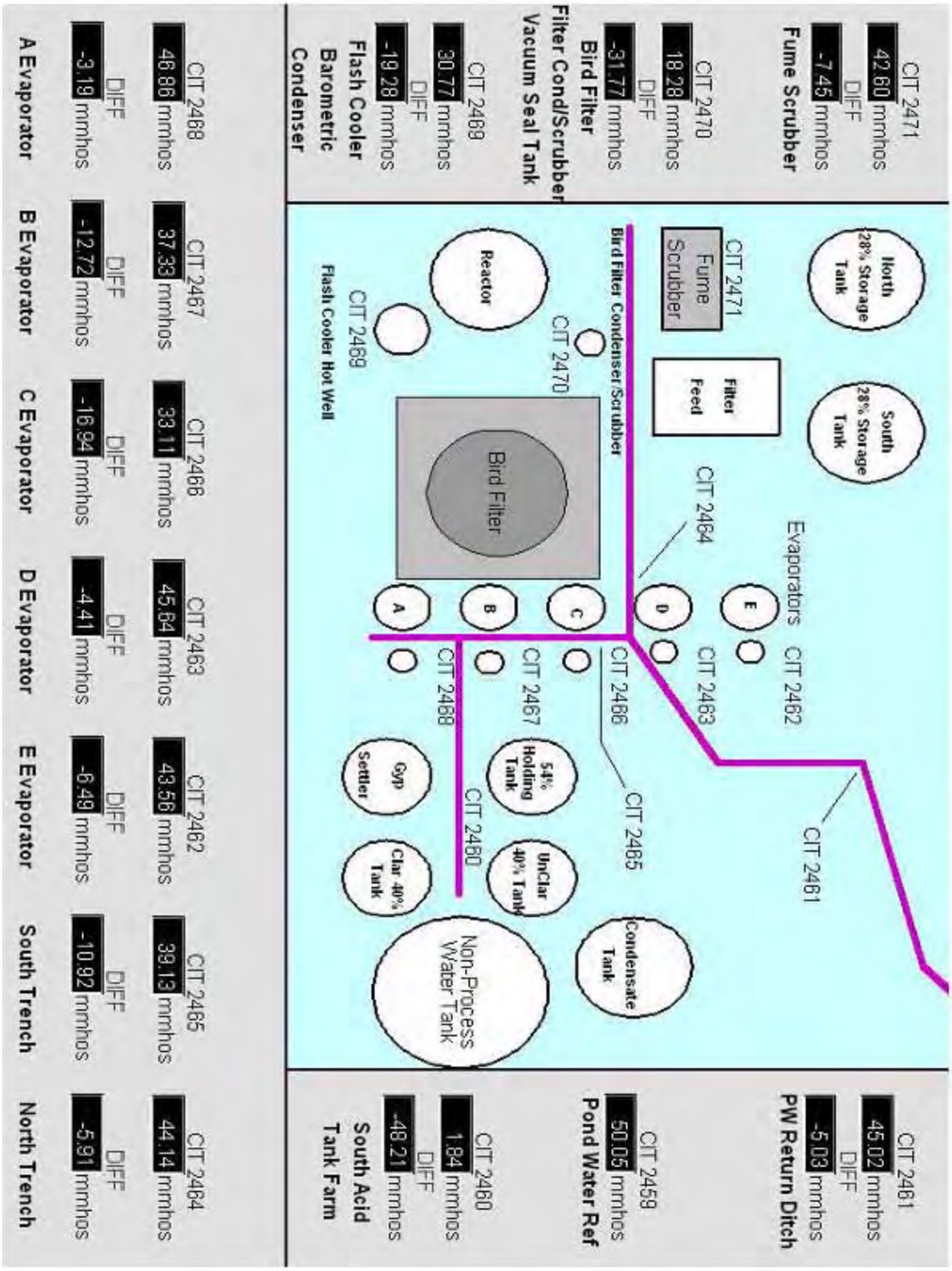


Figure 2: Conductivity System for A-Phosphoric Acid Plant

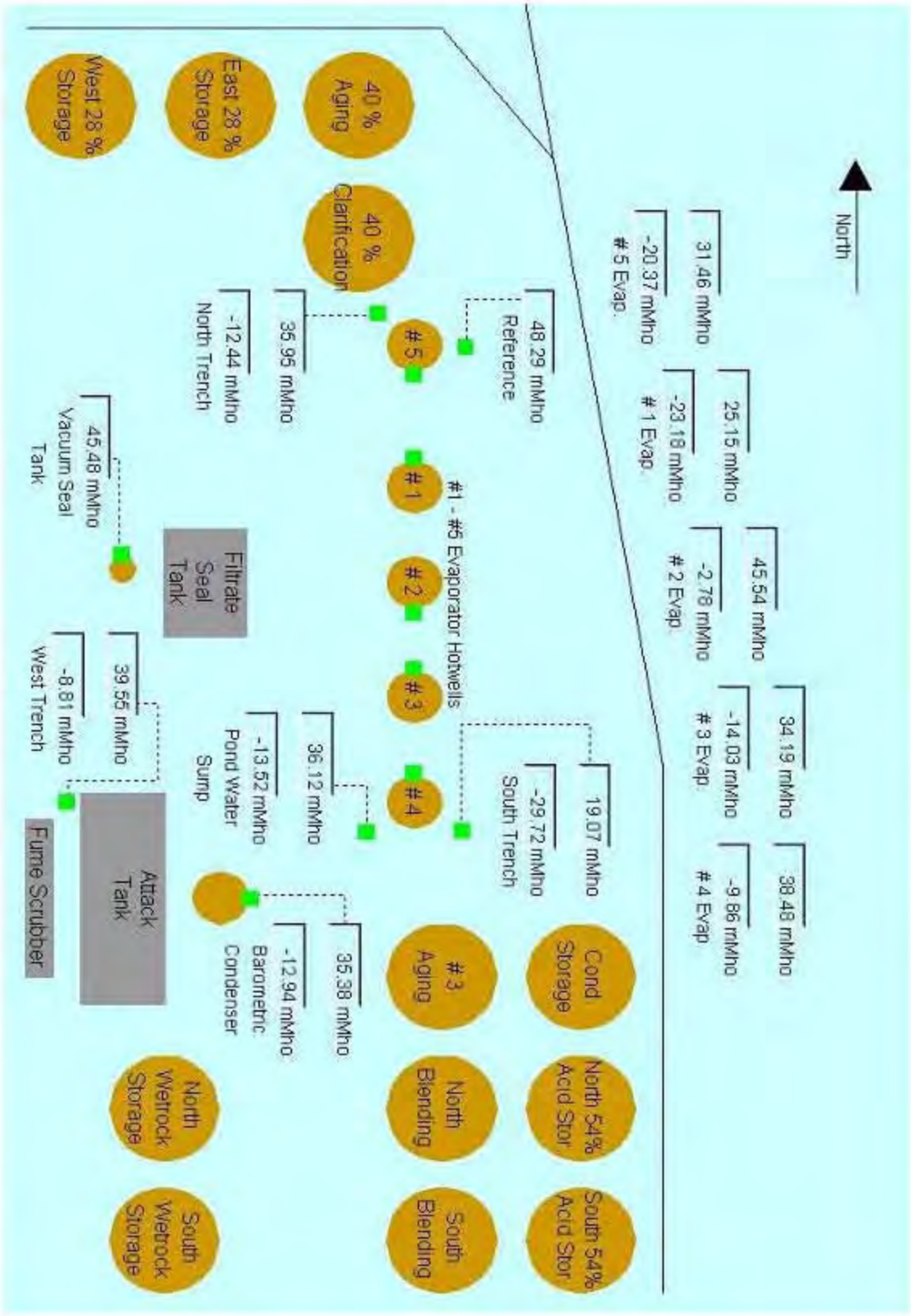


Figure 3: Conductivity system for B-Phosphoric Acid Plant

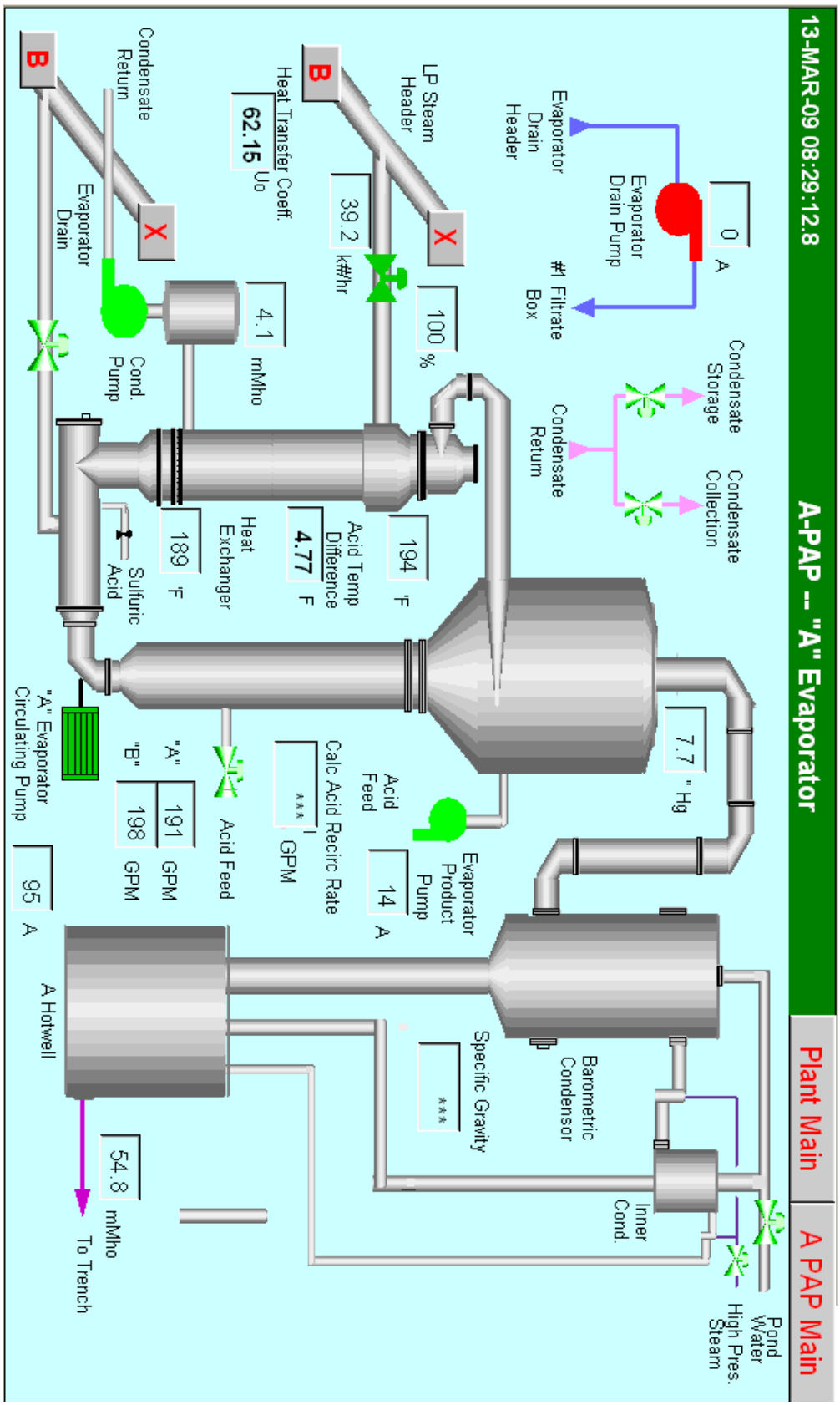


Figure 4: “A” Evaporator for A-Phosphoric Acid Plant

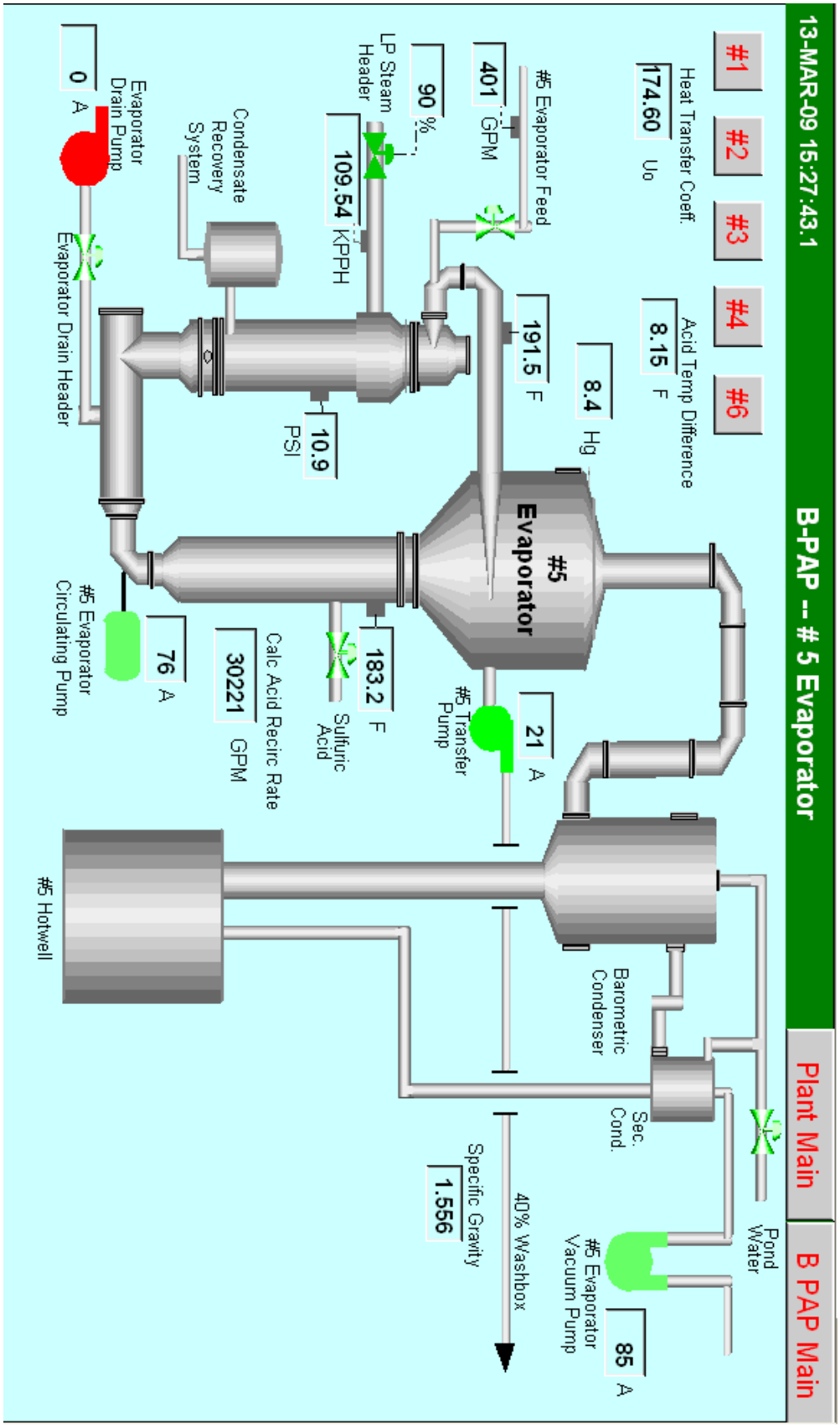


Figure 5: “#5” Evaporator for B-Phosphoric Acid Plant

Sample PM and Calibration Sheets for Conductivity Probes

INSTRUMENT MAINTENANCE PROCEDURE

ASSIGNED TO:_____ **DATE:**_____

LOSS ACID MONITOR MONTHLY PM & INSPECTION ROUTE
Critical Alarms/Instruments Test & Calibration

VERIFY PORTABLE METER AT QC LAB PRIOR TO TESTING & CALIBRATION OF CONDUCTIVITY ANALYZERS/PROBES.

a. Clean probe with demineralized water.

b. Check air zero (+/- 0.1 μs/cm). If zero is good, go to line "d". If adjustment needed go to line "c".

c. Remove screw cover on top of the meter and adjust the pot to calibrate.

d. Check calibration with approximate 40 ms/cm buffer. Correct if needed (+/- 1 ms/cm). If an adjustment is needed, follow the directions on line "c".

e. Record data below.

	Air Zero	40 ms/cm buffer
As Found		
As Left		

f. After loss monitor calibration is complete and before turning portable meter in at tool room clean probe and meter.

Completed By:_____ Date:_____
(Mechanic's Signature)

Reviewed By: _____ Date:_____
(Supervisor's Signature)

INSTRUMENT MAINTENANCE PROCEDURE

CIT 2459 POND WATER REFERENCE TESTING & CALIBRATION

1. Visually inspect all instrumentation for condition of:

a. Mounting Brackets and Hardware
b. Conductivity Probe
c. Conductivity Analyzer
d. Conduit & Sealtite
e. Verify identification tag.
f. Is process sample flowing? **YES** ☐ **NO** ☐

Is probe in process sample? **YES** ☐ **NO** ☐
(If NOT in process and/or submerged, note in comments)

2. Calibration Verification Procedure

a. Is probe submerged? Record transmitter "As Found" reading.
b. Remove probe from process and record "As Found" air zero.
c. Test process sample with portable meter and record "As Found" reading.
d. Clean probe and record "As Left" air zero.
e. Reinstall Probe, after warm up calibrate to grab sample portable reading (if needed) and record "As Left" readings.

*Note: When checking air zero, instrument may indicate a residual reading because of contaminants remaining on the probe. (Do not adjust to zero.) Allowable error is +/- 1 ms/cm.

	Portable Reading ms/cm	**Transmitter Zero Reading µs/cm**	**Transmitter Process Reading ms/cm**	**APACS Process Reading ms/cm**
AS FOUND				
AS LEFT				

COMMENTS:(sample flow, probe location and condition)

_____

_____

_____

TEST CALIBRATED BY: _____ DATE: _____

APPENDIX B

SPECIFICATION FOR RUBBER LINED TANK

INSPECTION AND REPAIR

CFII ENGINEERING STANDARD

SECTION V-06

****

SPECIFICATION: V-06, RUBBER LINED TANK INSPECTION AND REPAIR

REV. 3 DATE 02/97 BY AWH PAGE 1 OF 8

TABLE OF CONTENTS:

I. GENERAL

This procedure covers inspection and repair of rubber lined, welded, carbon steel storage tanks. The design of the carbon steel portion of the rubber lined tanks at CF Industries, Inc., Plant City Phosphate Complex (CFII), is in accordance with API Standard 650, "Welded Steel Tanks for Oil Storage" and with CFII Specification V-01, "Carbon Steel API Coded Storage Tanks". The inspection and repair of the carbon steel portion of these tanks is to be in accordance with API Standard 653, "Tank Inspection, Repair, Alteration, and Reconstruction" and with this specification. Rubber lining design and installation in these tanks is in accordance with CFII Specification Q-05, "Rubber Lining".

Rubber lined carbon steel tanks are used for storage of 26% to 54% phosphoric acid, pond water, treated water or condensate. The inspection and repair procedures contained in this specification are intended to insure the integrity of these tanks. The useful life and quality of a rubber lined tank is often determined by proper installation, adequate cure and proper inspection/maintenance.

A thorough knowledge of the rubber lining specifications, design drawings and lining characteristics is required on new as well as repair work. When repair work is involved, specific attention will be given to the reason for the rubber lining failure. A change in the rubber lining material or a modification of the process conditions may be required for a proper repair.

II. DETERIORATION OF RUBBER LINED CARBON STEEL TANKS

The tank rubber lining may deteriorate because of aging, excessive temperature, physical damage, subjection to hydrocarbons, sunlight exposure, ply separation or loss of adhesion. Localized internal corrosion of the underlying carbon steel portion will occur when the rubber lining does not have complete integrity. Externally the carbon steel roof, shell and floor sections will show signs of corrosion from leakage around nozzles, ducts and piping.

III. PRELIMINARY WORK

A. Tank Information

The previous inspection reports should be reviewed to determine the age of the tank and lining, thickness and type of lining, prior repairs required, reasons for those repairs and any long range recommendations.

B. Inspection Planning

1. Non-Banded Tanks

Complete inspections for tanks that do not have external reinforcing bands installed are scheduled on the following approximate schedule: five years after a new lining is installed, three years after that inspection, and every two years thereafter; unless there is evidence indicating the need for more frequent inspection. Circumstances that might indicate a need for more frequent inspection would include a change in service conditions or the recurrence of leaks.

III. PRELIMINARY WORK (continued)

B. Inspection Planning (continued)

2. Banded Tanks

Inspections are not scheduled on a regular basis for tanks that have been externally banded, due to the potential for cleaning damage when completely removing buildup from the interior and the greatly reduced possibility of a catastrophic shell failure. These tanks should be partially cleaned as needed for a limited inspection and repair for process reasons, when a problem exists or there is evidence indicating the need for more frequent inspection. Circumstances that might indicate a need for more frequent inspection would include a change in service conditions or the recurrence of leaks.

3. The following should be previously arranged and ready when the inspector arrives on site:

a. The tank should have been washed as needed, all remaining water removed and the tank dried if practical.

b. GFCI electric power supply and personnel to move scaffolds and provide manway watch should be available. For proper internal inspection, good illumination and ventilation are essential.

c. Equipment such as scaffolds and/or ladders necessary for physical access to the areas to be inspected should be available. Care should be exercised when erecting or using scaffolds/ladders to avoid damaging the rubber lining.

d. A Confined Space Entry Permit must have been obtained and posted at the tank entrance.

IV. INSPECTION

A. Internal Visual

A visual inspection should be made in all areas (including floor, shell and roof) where the buildup has been removed to check for damage from cleaning, failed previous repair patches, softening, hardening (aging), blistering, splitting, ply separation, and adhesion loss to the steel or at the rubber lining seams. Tapping lightly on previous repair (rubber or epoxy) patches with a chipping hammer will often reveal if the patches have failed.

IV. INSPECTION (continued)

A. Internal Visual (continued)

An inspection of the walls should be made at various levels of the tank. A ladder may be used to check the shell where buildup has been removed. The use of scaffolding requires special care to avoid damaging the floor lining. Visual inspection of the roof from the floor will usually reveal any suspect rubber damage. Ladders or scaffolding will be required for closer inspection.

In addition, tanks that do not have external reinforcing bands installed will be completely cleaned of buildup and the lining will be sandblasted for a through inspection based upon the schedule in the INSPECTION PLANNING section. All shell, floor and dome lining will be spark tested and repaired as necessary.

In cases where the age or condition of the rubber lining warrant complete relining, a complete inspection of the metal should be made after the lining is stripped. This inspection should identify the metal repairs required which will be made in accordance with API-653. A preliminary inspection report with the metal repair recommendations should be completed at this point so the metal work can be quoted. (See Section VI)

B. Durometer Testing

Hardness of the lining will be checked utilizing a calibrated Durometer gauge. This assists in estimating liner damage and in predicting the remaining life of the lining.

C. External

An external visual inspection should be made to determine the condition of the carbon steel sections of the tank, including the floor, shell, roof and nozzles. Ultrasonic thickness readings should be taken (sandblast if necessary) in suspect areas. Ultrasonic thickness readings should also be made in areas adjacent to any leak or significant rubber failure. Usually the metal loss will be very localized at the rubber failure with the adjacent steel still being the original thickness.

Any cracking, settling, spalling or corrosion of the foundation and grillage beams should be noted in the inspection report. Foundation elevations are checked every 5 years, unless conditions warrant more frequent surveys.

V. REPAIRS

Prior to the job beginning, the scope of work (provided with the purchase order) will be discussed with the field foreman or shop foreman to confirm his understanding of the job requirements. A spot check of the surface preparation as well as application of the lining or repair work must be made to confirm adherence to the procedure. After the repair is completed, a final inspection will be made with the foreman to determine conformation to the job requirements.

V. REPAIRS (continued)

Repair practices in rubber lined tanks frequently involve the use of epoxy cement, chemical cure rubber, or precured rubber. There are cases of utilizing steam cured rubber repairs, but this is usually when large areas are involved and the remainder of the lining will not be overly cured by exposure to the steam.

Epoxy cement is used to repair damaged rubber areas which have not exposed the carbon steel. Exposed carbon steel is repaired with chemical cure or precured rubber. Repairs to rubber lined tanks frequently involve metal repairs prior to the actual application of the rubber.

Thickness readings of the metal will be taken in localized areas affected and all metal areas approximately 15% less than the original thickness will be repaired or replaced. If the affected area is larger than one square foot, the metal will be replaced. Repairs involving plate replacement or complete rewelding of existing plate will be radiographed in accordance with API-650 except for the following more stringent requirements:

1. Vertical welds to be 100 % radiographed.
2. All "tees" at vertical and horizontal weld joints to be radiographed.
3. All shell replacement plate horizontal welds to have spot radiography in 10 locations per 360º seam or one every 10' if less than 360º. These are in addition to the "tee" radiographs required.
4. All shell flush patches to be 100% radiographed.
5. All radiograph film to be a minimum of 17" length.

Any new welding on the shell to floor joint should be inspected by applying light diesel oil to the side opposite the first weld pass made. The oil should be allowed to stand at least 4 hours and then the weld inspected for "wicking" action.

After metal repairs are complete, the following tests should be performed: check any new shell-to-floor welds with diesel oil, vacuum test the floor welds, pressure check any new nozzle or manway reinforcing pads per API-650.

After metal repairs are complete, interior surface preparation must be such that installing the rubber lining will not entrap air; such as in voids, undercutting, ripples, weld splatter, etc. In addition, replacement plate sections will be flush with the inside of the vessel, and will have corners rounded to a minimum radius of 6" on the shell and 3" minimum on the floor and dome.

Damaged rubber will be removed at least six inches more in each direction than the metal patch to prevent damage to the remaining good lining when the metal is welded to the vessel. Rubber repair patches must be properly bonded to sound existing rubber. Buff surface of the original lining back 4" from the cut edge. For small areas an inlay of the repair lining should be skived onto the beveled edges of the buffed rubber and then a cover patch used over the inlay (see sketch 1). For large areas it is permissible to use a single thickness of lining over the area to be repaired. The patch should extend 4" over the old rubber (see sketch 2).

VI. REPORTS

A. Preliminary

On a complete relining job the metal should be inspected after the rubber is stripped. A preliminary report should be issued as a guide for the repairs and should include the following

1. Size and location of replacement plate (A-516, gr.70).

2. Approximate number of repair welds on the floor, shell and roof.

3. Size, schedule and specification of any nozzles to be replaced.

B. Final

After repair, a full report should be issued including the following:

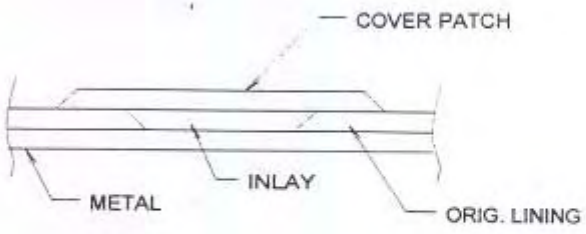
1. The size, age, tank number, service, lining material and original thickness.

2. The visual inspection results with a description of failed areas or problems affecting the tank with sketches, photos and metal thickness readings taken, if applicable. The general overall condition of the rubber lining will be included.

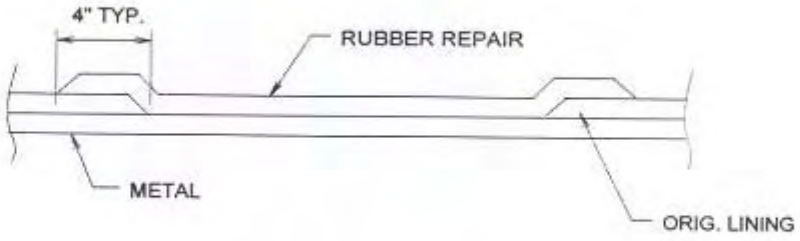
3. Recommendations for repairs to the rubber and size of replacement plate, if it is required. The location, extent, and reasons for repairs will be given. Final inspection after repairs will include an electrostatic test with a machine capable of generating at least 15,000 volts. Rubber Lining Specification Q-05 lists the acceptable rubber linings for original installation and repair.

4. Documentation should include the name of the contractor that made the metal repair and the name of the contractor that made the lining repair. The metal repair documentation should also include a sketch showing the location of the weld repairs made and the certified welders identified for each specific weld.

5. One copy of the report is to be permanently retained in the Equipment Files.



SKETCH 1



SKETCH 2

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SPECIFICATION: V-06, RUBBER LINED TANK INSPECTION AND REPAIR

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APPENDIX C

CONCRETE ACID PADS

CFII ENGINEERING STANDARD

SECTION Q-03

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SPECIFICATION: Q-03, CONCRETE ACID PADS

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*DENOTES LATEST REVISION

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I. GENERAL

This procedure covers the design, installation, inspection and repair of sealing systems for concrete acid pads, necessary to insure that liquids stored, processed or conveyed at CFII's Plant City Phosphate Complex will not contaminate the soil. Concrete acid pads will be installed in all areas which have routine acid spills or leaks. Areas which are exposed only to accidental spills of a non-routine nature can use asphalt paving without under-slab liners and are not subject to this specification.

II. INSPECTION AND REPAIR

Inspection

Periodic inspection of concrete slabs and structures designed to prevent hazardous liquids from contaminating the soil is required in order to maintain their environmental integrity. Immediately prior to major outages, turnarounds, tank cleaning, etc., associated concrete pads should be visually examined and repaired as necessary before the outage or cleaning occurs. At least once per year these concrete pads, foundations, curbs and any corrosion-resistant lining should be thoroughly, visually inspected by Plant Engineering with the condition being documented. In addition, any serious problems with these concrete structures discovered between annual inspections should also be repaired as soon as practical. Trenches are frequently not available for inspection annually and should be inspected during major outages or whenever they can be taken out of service. Some specific problems to watch for include: (1) expansion joint deterioration; (2) cracks in the slab or lining; (3) signs of elevation changes; and (4) concrete or lining failure. All significant damage to the integrity of these concrete structures should be repaired as soon as practical.

Repair

Repairs shall return the damaged area to conformity with this specification and the appropriate drawings. There are two methods of repair defined by this specification. They are (1) crack sealing with bituminous materials and; (2) slab replacement with an under-slab liner. Where repair is to be by replacement of existing slabs with a liner underneath, careful consideration shall be given to the method of sealing the new liner to any existing structures and the ability to tie to the liner for future repairs or replacements.

III. MAINTENANCE OF EXISTING AREAS

A. Concrete Floor Slab Crack Sealing

Where concrete floor slabs are currently installed and are in generally good condition with adequate drainage, they may be left in place and repaired in accordance with this portion of the specification. The repairs defined in this section are to be as per the details of drawing S-SK-18. The upper portion of standard asphalt fiberboard expansion joints in concrete floor slabs shall be removed and replaced using Blome No. 42 hot pour asphalt membrane and No. 40 primer or approved equals. Cracks, construction joints and control joints shall be repaired using the Blome Nos. 42 and 40 products or approved equals. If required, the top portion of the joints shall be chipped or gouged to a depth of approximately one inch for proper adhesion of the sealing material.

In areas where concrete deteriorates rapidly, a 1/8" layer of Semstone no. 145 (for solvent areas), U-Crete (for acid areas) or an approved equal may be applied to the top of the slab. Thicker applications can be made where heavy traffic loading is expected. Termination of the top-coating (if used) at mid-slab is to be per drawing S-SK-20.

III. MAINTENANCE OF EXISTING AREAS (continued)

B. Concrete Floor Slab Replacement With Under-Slab Liner

If significant deterioration to the concrete has occurred or if drainage is inadequate, the concrete slab so affected shall be replaced to provide adequate containment and drainage. Concrete curbs and exaggerated slopes can be utilized to confine and direct the flow of surface liquids where needed. When concrete slabs are to be replaced, contaminated soil is to be removed and replaced with clean fill; neutralization may be allowed with CFII approval.

* Design and installation of replacement or partial replacement concrete slabs with under-slab liners shall be required in an acid environment which subjects the soils to heaving, and shall be as per the new construction details on drawing S-SK-19. Careful consideration should be given to the method of sealing the new liner to any existing structures and the ability to tie to the liner for future repairs or replacements. See Section V for Under-Slab Liner Requirements. Termination of the under-slab liner at mid-slab is to be per drawing S-SK-20.

IV. NEW CONSTRUCTION

New plant equipment that stores, processes or conveys liquids that could potentially contaminate the soil, shall have their foundations and adjacent grade areas designed and installed to prevent soil contamination in the event of leakage. This design will include concrete slabs with adequate drainage and curbing around the pad. Careful consideration will be given to the methods of sealing new construction to existing structures. All expansion, isolation, construction and control joints will be specifically located by the Contractor and submitted to CFII for approval prior to beginning construction. New concrete shall be installed according to CFII Specifications A-02 and A-04, as well as this specification. Details of new construction concrete work are shown on drawing S-SK-19.

* Expansion and isolation joints in new concrete floor slabs should be standard 1/2" asphalt fiberboard, sealed with a layer of Blome No. 42 hot pour asphalt membrane and No. 40 primer or approved equals. Control and construction joints will also be installed using the Blome Nos. 42 and 40 products or approved equals. In addition, a high density polyethylene (HDPE) or other approved flexible membrane of 60 mil, (0.060") minimum thickness, will be installed under all new concrete slabs and small foundations. Larger concrete footers or foundations, of adequate thickness which would normally not be subject to cracking are not required to have underlying liners. See Section V for Under-Slab Liner Requirements.

In areas where concrete is expected to deteriorate rapidly, a 1/8" layer of Semstone no. 145 (for solvent areas), U-Crete (for acid areas) or an approved equal may be applied to the top of the slab. Thicker applications can be made where heavy traffic loading is expected. Termination of the top-coating (if used) at mid-slab is to be per drawing S-SK-20.

***V. UNDER-SLAB LINERS**

*A. Preliminary

Prior to installation, the HDPE geomembrane shall be stored so as to be protected from puncture, dirt, grease, water, mud, mechanical abrasion, excessive heat, or other geomembrane hazards. The rolls shall be stored as close to the job site as possible.

***V. UNDER-SLAB LINERS** (continued)

*A. Preliminary (continued)

The vendor will supply panel placement drawings to indicate the panel configuration and location of seams proposed for the project. These drawings will be submitted prior to installation.

A written warranty shall be obtained from the manufacturer (for material) and the vendor (for workmanship). These documents shall warrant both the quality of the material and workmanship for a specified duration of time.

*B. Site Preparation

Prior to liner installation, the exposed subgrade shall be smooth, clear of all foreign and organic material, angular or sharp objects, roots, or debris of any kind. The subgrade shall be compacted in accordance with design specifications but in no circumstance below the minimum required to provide a firm, unyielding foundation with no abrupt changes in grade. Standing water or excessive moisture shall not be allowed. Subgrades found to have desiccation cracks, or heaving shall be replaced or reworked to remove these defects.

The vendor, if necessary shall sterilize the liner installation area using an effective soil sterilizing agent specifically formulated for vegetation present in the area. The sterilizing agent shall not be harmful to the liner and shall be applied according to the manufacturer's recommendations. Subgrade soil sterilization is required for use with spray-on or trowel-on liners, and is optional with HDPE sheet liners, dependant upon soil conditions.

*C. Installation

When weather conditions are not favorable, the results of the destructive and non-destructive testing will be used to substantiate the seaming process. Geomembrane deployment shall proceed between ambient temperatures of 40 degrees F to 104 degrees F. Placement can proceed below 40 degrees only after it has been verified by the testing that the material can be seamed according to the specification and is approved by CFII. Geomembrane placement shall not be done during any precipitation, in the presence of excessive moisture, fog, rain, dew, or in the presence of excessive winds.

No equipment or tools shall damage the geomembrane by handling, trafficking, or other means. No personnel working on or near the geomembrane shall smoke, wear damaging shoes, or engage in other activities that could damage the geomembrane. The method used to unroll the panels shall not cause scratches or crimps in the geomembrane, and shall not damage the supporting soil. Adequate loading of sand bags or similar items that will not damage the geomembrane shall be placed to prevent uplift by winds. Direct contact with the geomembrane shall be minimized once it is in place.

In corners and odd-shaped geometric locations, the number of field seams shall be minimized. If a "fishmouth" or wrinkle is found, it shall be relieved and cap-stripped.

Panels of geomembrane must have a finished overlap of a minimum of 4 inches for double wedge fusion welding and 3 inches for extrusion welding, but in any event sufficient overlap shall be provided to allow peel and shear tests to be performed on the seam. No solvent or adhesive may be used. The procedure used to temporarily bond adjacent panels together shall not damage the geomembrane; in particular, the temperature of hot air at the nozzle of any spot welding apparatus shall be controlled such that the geomembrane is not damaged.

***V. UNDER-SLAB LINERS** (continued)

*D. Destructive Testing

The vendor shall provide a minimum of one destructive test sample per 500 feet of seam length from a location specified by CFII. Samples shall be cut by the vendor as the seaming progresses. Sampling times and locations shall be determined by CFII. All damage to the geomembrane resulting from obtaining the seam samples shall be repaired. All repairs shall be vacuum tested. The samples shall be 12 inches wide by 24 inches long with the seam centered lengthwise. The sample shall be cut into two equal length pieces, half to be tested by the vendor and the other half to be given to CFII.

Double wedge fusion welder and extrusion welder start-up testing shall be conducted on geomembrane liner to verify that seaming conditions are satisfactory. Start-up tests shall be conducted at the beginning of each seaming period and at CFII's discretion for each seaming apparatus used that day.

All test seams shall be made at a location selected by CFII in the area of the seaming and in contact with the subgrade. The vendor shall use a tensiometer to test these specimens for shear and peel. If a test seam fails to meet field seam specifications, the seaming apparatus and/or seamer shall not be accepted and shall not be used for seaming until the deficiencies are corrected and two consecutive successful full test seams are achieved.

The field seams shall meet the following specifications:

Seam Property	Test Method	Requirements
Shear Strength	ASTM D 3083	>90% of yield strength
Peel Strength	ASTM D 413	>70% of yield strength

Seam specimens are 1 inch wide, grip separation rate is 2 ipm. Both shear seam strength and peel tests shall be run on five replicate specimens. A break through the weld or at the weld-sheet interface shall be considered a (failure) in both seam strength (shear) and peel strength tests. Approved field seaming processes are double wedge fusion welding and extrusion welding. Welding rods or beads used for extrusion welding shall be HDPE and the physical properties shall be the same as those of the resin used in the manufacture of the HDPE geomembrane.

*E. Non-Destructive Testing

The vendor will non-destructively test up to as much as 20% of factory fusion welds in the field to verify factory test results. Additional testing at the vendor's expense will be required if failed tests are obtained in the field.

The vendor shall non-destructively test all field seams over their full length using air pressure or vacuum testing. All test equipment shall be furnished by the vendor. All test data will be documented.

Equipment for air pressure testing double fusion seams:

1. An air pump capable of generating and sustaining a minimum pressure between 25 and 30 psi.
2. A manometer (equipped with a sharp hollow needle used for inserting air into the seam) for measuring the pressure held in the air channel.

***V. UNDER-SLAB LINERS** (continued)

*E. Non-Destructive Testing (continued)

The following air pressure testing procedures shall be followed by the vendor:

1. Seal both ends of the seam to be tested.
2. Insert needle into the air channel created by the double wedge fusion weld.
3. Inflate the air channel to a pressure between 25 and 30 psi, close the valve, and sustain pressure for approximately 2 minutes. This is a period which permits the air pressure, and all contributing factors to stabilize. Maintain pressure and sustain for approximately 5 additional minutes. At this time record the air test data.
4. At the end of the five minute period, cut the seam at the far end of the test area to allow air to escape, therefore, verifying that there was no blockage of the seam being tested.
5. Remove needle and repair both ends.
6. If loss of pressure exceeds 4 psi, or the pressure does not stabilize, locate the area of the leak and repair. Retest the repaired area using vacuum box testing method.

Equipment for vacuum testing extrusion seams:

1. A vacuum box assembly consisting of a rigid housing, a transparent viewing window, a soft gasket attached to the bottom, and a vacuum gauge.
2. A vacuum pump or air pressure eductor.
3. Vacuum or air hose.
4. A plastic bucket and an applicator.
5. A soapy water solution.

The following vacuum testing procedures shall be followed by the vendor:

1. Excess seam overlap shall be trimmed away.
2. Clean the vacuum box viewing window, gasket surfaces and check for leaks.
3. Wet a strip of geomembrane approximately 3 inches larger than the parameter of the box with the soapy water solution.
4. Place the box over the wetted area and compress.
5. Apply the vacuum and maintain an air tight seal.
6. For a period of approximately 15 seconds, examine the seam through the viewing window for the presence of a stream of moving soap bubbles indicating a leak.
7. If no bubbles appear after 15 seconds, shut off the vacuum, move the box over the adjoining area with a minimum 3 inches overlap and repeat the process.
8. All areas where leaks were detected shall be marked, repaired and then retested.

*F. Inspection & Repair

All seams and non-seam areas of the geomembrane shall be inspected for defects, holes, blisters, undispersed raw materials, and any sign of contamination by foreign matter. Because light reflected by the geomembrane helps to detect defects, the surface of the geomembrane shall be reasonably clean at the time of inspection. The geomembrane surface shall be brushed, blown, or washed by the vendor if the amount of dust or mud inhibits inspection.

***V. UNDER-SLAB LINERS** (continued)

*F. Inspection & Repair (continued)

Each suspect location in seam and non-seam areas shall be non-destructively tested. Each location that fails the non-destructive testing shall be marked by the vendor and repaired accordingly.

Defective seams shall be restarted/reseamed as described in these specifications. Small holes shall be repaired by extrusion cap welding. If the hole is larger than 1/4 inch, it shall be patched. Tears shall be repaired by patching. Where the tear is on a slope or an area of stress and has a sharp end it must be rounded prior to patching. Blisters, largeholes, undispersed raw materials, and contamination by foreign matter shall be repaired by patches. Surfaces of HDPE which are to be patched shall be abraded and cleaned no more than 15 minutes prior to the repair. No more than 10% of the thickness shall be removed by the abrading process.

Patches shall be round or oval in shape, made of the same geomembrane, and extend a minimum of 6 inches beyond the edge of defects. All patches shall be of the same compound and thickness as the geomembrane specified. All patches shall have their top edge beveled prior to placement on the geomembrane. Patches shall be applied using approved methods only.

The welding process shall restart by grinding the existing seam and rewelding a new seam. Welding shall commence where the grinding started and must overlap the previous seam by at least 2 inches. Reseaming over an existing seam without regrinding shall not be permitted.

Each repair shall be non-destructively tested, except when CFII requires a destructive seam sample obtained from a repaired seam. Repairs that pass the non-destructive test shall be taken as an indication of an adequate repair. Failed tests indicate that the repair shall be repeated and retested until passing test results are achieved.

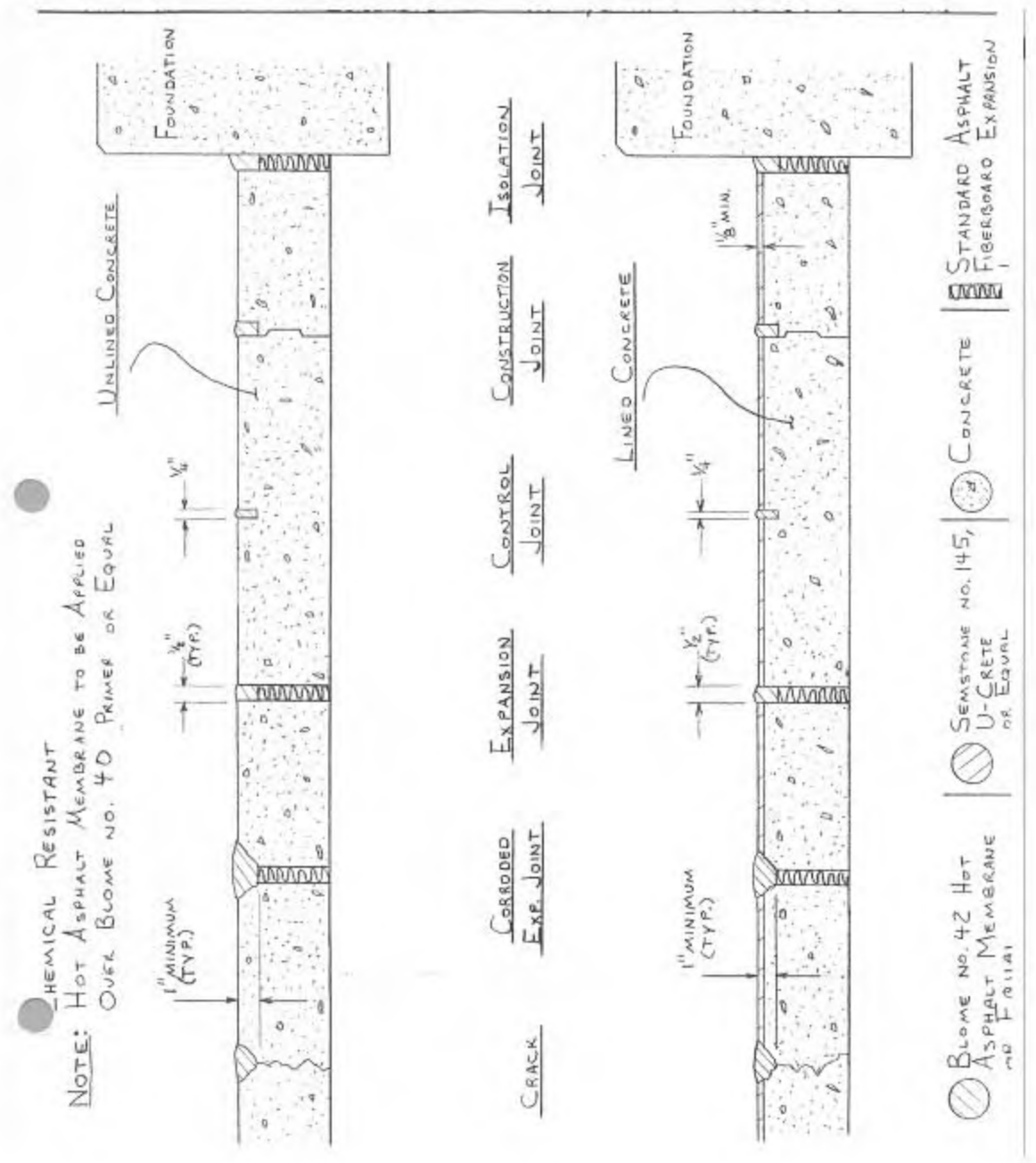
VI. NOTES

*1. Semstone products are manufactured by Sentry Polymers, Freeport, Texas. U-Crete products are manufactured by Thoro Building Products, Pittsburgh, Pennsylvania. Blome products are manufactured by Blome Cements Co., St. Peters, Missouri. The HDPE geomembrane is manufactured by Plastic Fusion Fabricators, Huntsville, Alabama and Reef Industries, Houston, Texas. Spray-on or trowel-on under-slab liners are to be "Membrane #6" manufactured by Environmental Liner Systems (ELS), Marietta, Georgia. Substitution of other materials is acceptable only with prior CFII approval.

2. Application of Semstone or other approved corrosion resistant lining products is to be as per the manufacturer's recommended procedures and this CFII Specification. Conflicts between these will be immediately brought to the attention of CFII for resolution.

3. By reference CFII Specification A-02 "Site Preparation and Earthwork" and Specification A-04 "General Concrete" are included in this specification. Conflicts between these two specifications and CFII Specification Q-03 will be immediately brought to the attention of CFII for resolution.

*4. HDPE and spray-on or trowel-on under-slab linings are to be installed only by vendors specifically approved by CFII and who are trained and licensed to install the manufacturer's geomembrane.



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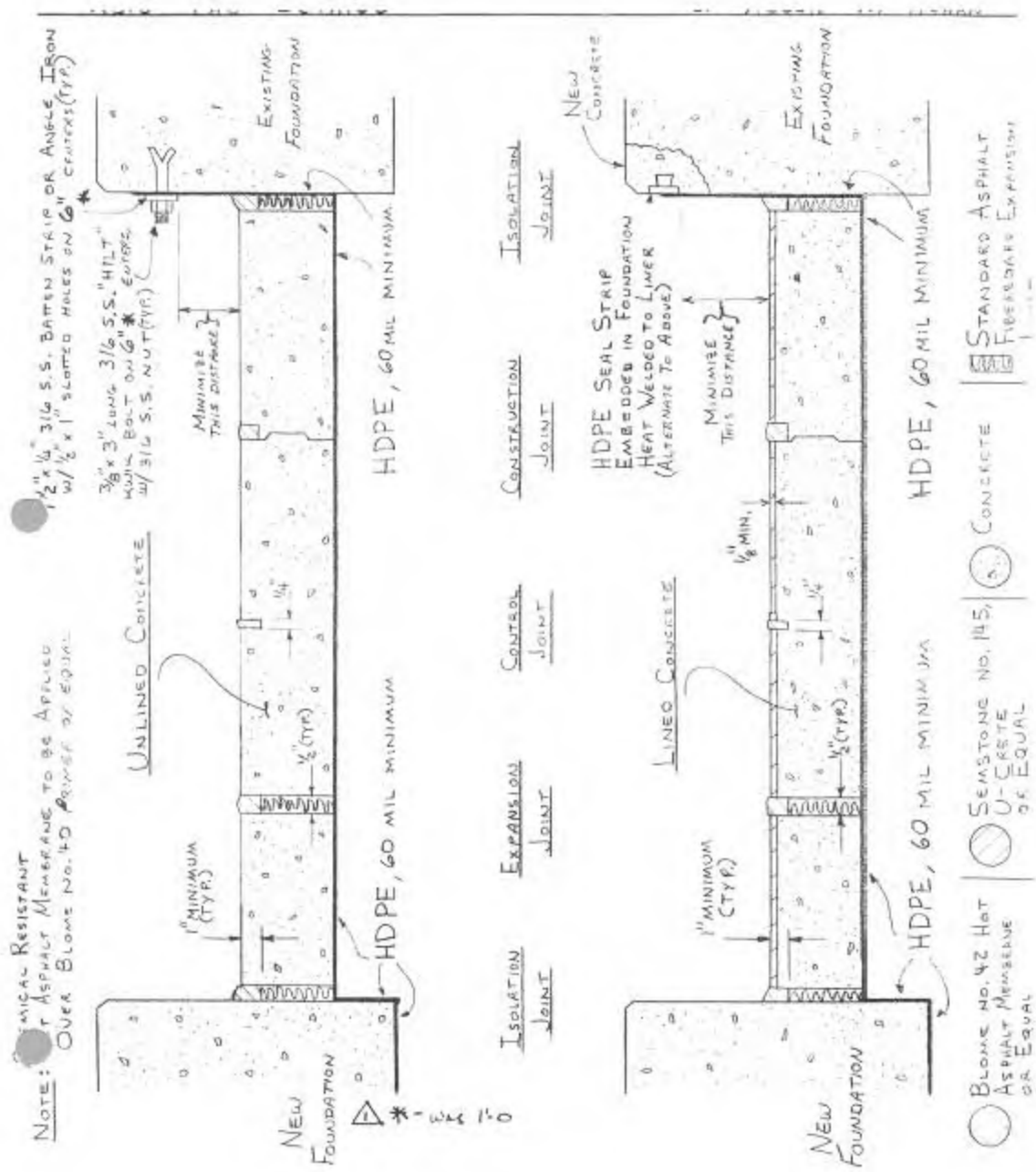

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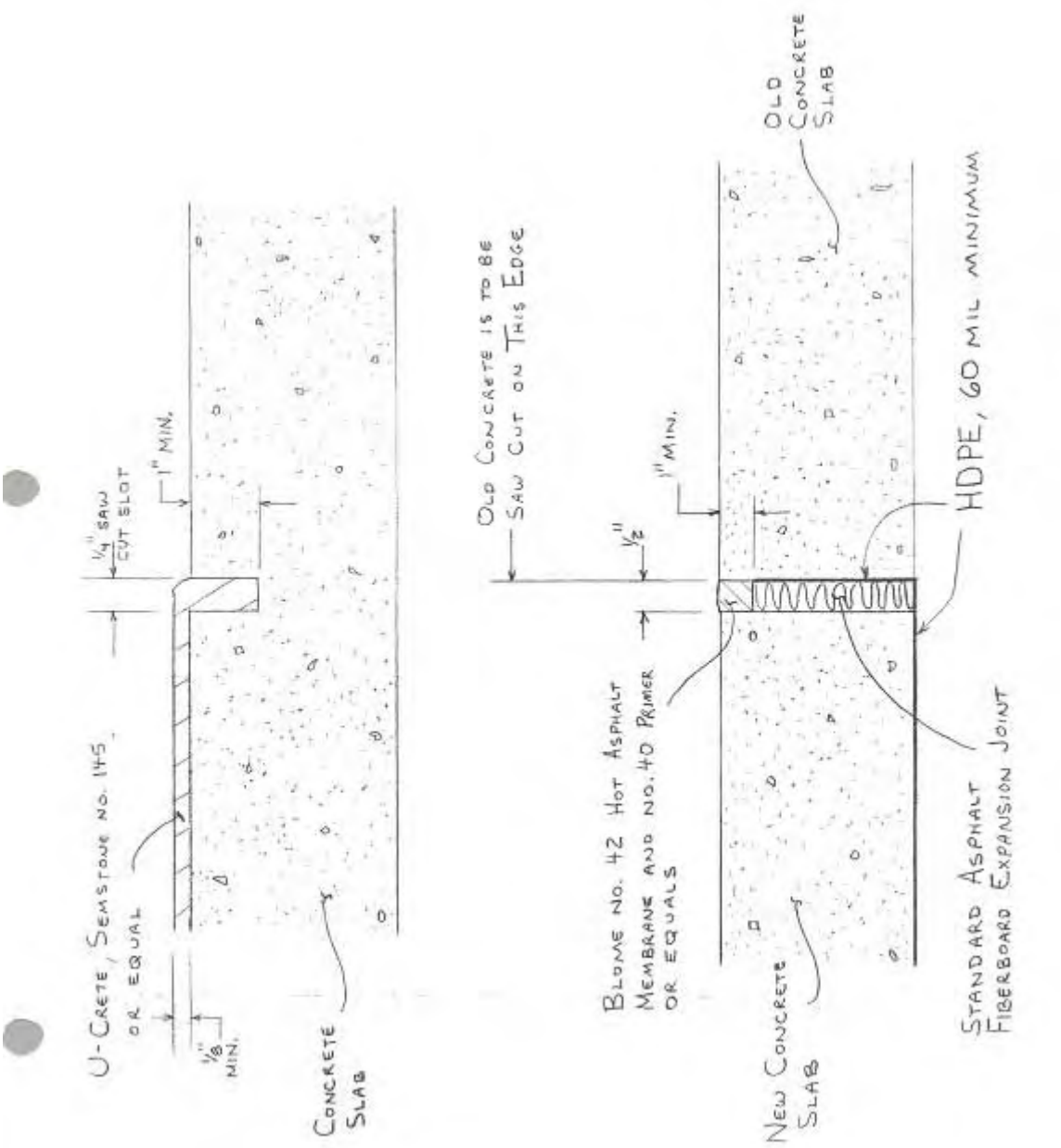

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APPENDIX 6

CFI SOLID AND HAZARDOUS WASTE MANAGEMENT PLAN

CF Industries, Inc. Plant City Phosphate Complex
Sulfuric Acid Plant Maintenance/Turnaround Activities

I. Background

The following plan has been prepared to assist CF Industries, Inc.'s (CFI) personnel in properly managing and characterizing any solid and hazardous wastes that may be generated during Sulfuric Acid Plant Maintenance and Turnaround activities. Of particular concern are sulfate residues that may be generated during such activities. When liquefied, such residues typically represent characteristic hazardous waste under the Resource Conservation and Recovery Act (RCRA) and implementing regulations by exhibiting the hazardous characteristic of corrosivity (i.e., pH < 2). Additionally, certain sulfate residues may also exhibit the hazardous waste characteristic of metals toxicity when either wet or dry. Any such hazardous waste must be treated and disposed at a permitted treatment, storage and disposal (TSD) facility unless onsite treatment and disposal is otherwise allowed under specific RCRA regulations. For example, those wastes that are hazardous solely because of corrosivity can be treated onsite in an Elementary Neutralization Unit (ENU) without a TSD permit. Some that are hazardous for corrosivity and metals toxicity can also be treated on-site without a TSD permit if performed in accordance with 40 C.F.R. § 270.1(c)(2). Onsite treatment and disposal of certain characteristically hazardous sulfate wastes is permissible by adherence to the procedures outlined in this plan.

CFI has determined that, in some instances, it may not be feasible to perform representative sampling and/or decontamination of waste acid brick and packing materials that may be removed from process vessels for disposal as part of these activities. Therefore, CFI has elected to manage all such brick and packing materials contaminated with sulfate residues as "hazardous waste", until and unless the sulfate residues have been specifically determined to be non-hazardous by representative sampling and analysis. Other materials that may be contaminated with hazardous constituents and that cannot be recycled (e.g., candle packing and demisters), can be representatively sampled and characterized analytically to determine whether such materials must be managed as hazardous wastes.

The following procedures and approach will be implemented to ensure that:

- the generation of solid and hazardous wastes is minimized;
- all solid and hazardous wastes that may be generated are properly characterized and managed for recycling or disposal;
- the potential for release of waste materials to the environment is minimized;
- appropriate preventative and response measures are in place prior to implementation of work; and

- personnel safety is not compromised during waste sampling, characterization and management activities.

II. Responsibilities

The Hazardous Waste Coordinator (Chief of Environmental Services) or his designee will be responsible for oversight of EHS compliance and is responsible for ensuring that the hazardous waste containers are properly labeled, inspected, stored, and shipped in accordance with the Container Management Plan. The Hazardous Waste Operators (Area Supervisors) will be responsible for oversight of hazardous waste characterizations and management prior to disposal. There will be an operations person designated to be responsible for controlling the waste containers to ensure that the containers are labeled and properly handled.

This Solid and Hazardous Waste Management Plan will be reviewed with all personnel engaged in the work prior to the implementation of waste generating activities, and such review will be documented. The Plan will be refined as necessary based on new information or changes in the scope of work. Any recommended changes in procedures will be communicated to the appropriate personnel.

III. Liquids

Any free liquid acid encountered that is not recoverable to the manufacturing process shall be characterized for metals toxicity and corrosivity. Those that only exhibit corrosivity shall be neutralized in the tank or vessel of origin prior to generation as a waste or removed from the vessel of origin and neutralized in an ENU prior to disposal. A liquid waste that is both corrosive and toxic as generated may be treated if a procedure is listed in this plan; otherwise, it must be transported to a permitted TSD facility.

IV. Sulfate Residues

All waste sulfate residues generated during maintenance activities will be characterized for metals toxicity. Such residues are potentially present in all acid side and gas side interior portions of the sulfuric acid process plants including:

- Sulfur Furnaces
- Drying and Absorption towers
- Gas ducts
- Pump tanks
- Heat exchangers
- Economizers
- Acid Coolers
- Gas stacks
- Boilers

All non-recyclable waste materials generated during maintenance activities that have been in contact with process gas or acid will also be characterized for metals toxicity. Such materials include:

- Boiler /duct refractory
- Burner /duct refractory
- Drying and Absorption tower demister pad material
- Absorption tower candle mesh material

NOTE: Due to the heterogeneity of brick and packing debris removed from absorption towers, and due to the potential presence of hazardous waste sulfate residues in absorption towers, all brick and packing contaminated with hazardous sulfate residue that is removed from the absorption towers will be managed as hazardous waste, until and unless specifically determined to be non-hazardous by representative sampling and analysis.

V. Cleanout Preparations

1. Prior to beginning any activities that may result in the potential discharge of sulfuric acid/sulfate residues to the environment, plastic sheeting shall be deployed so as to adequately cover the ground around the work area. Particular care and attention shall be paid to any work areas underlain by pervious ground that cannot be avoided. Plastic sheeting shall be ballasted as necessary to ensure that it remains in place during the work, and the edges will be raised to prevent runoff. Additional plastic sheeting will be on hand for emergencies and for the covering and isolation of any open vessel or exposed components that may generate leachate if contacted by rainwater.

2. When connecting ducts and/or piping are to be separated from a tower, all appropriate safety procedures shall be strictly followed, including but not limited to hot work and confined space entry permitting requirements and use of appropriate personal protective equipment (PPE). Only properly trained personnel will perform the work.

3. A portable rinse tank/vat will be placed in the work area to receive and clean solid demister pads and candle mesh removed from the absorption towers.

4. Adequate neutralizing compound will be on hand to maintain an appropriate pH range in the cleaning tank/vat during the course of the work and to respond to an accidental release of acidic wastewater.

5. Clean, empty tanker truck tanks, FRAC tanks, or other suitable portable tanks shall be placed in the work area as a precautionary measure to receive and store any excess liquid wastes or recovered spills that must be contained and characterized for disposal.

6. An adequate supply of new, empty hazmat poly drums will be on hand for the receipt of residual process wastes (principally sulfate) that may be generated during maintenance/turnaround activities. RCRA compliant roll-off dumpsters with liners and covers will be readily available for receipt of bulk waste materials.

7. All waste containers must be numbered and labeled. Pre-labeling and numbering will be done whenever possible. Whenever wastes are put into the drums, the date and type of waste must be written on the containers/labels. A log of all stored waste will be maintained, which shall be used to inventory and inspect wastes, track inventory, and determine monthly generator status.

8. RCRA compliant drums or roll-off dumpsters (depending on volume of material) will be provided to receive candle mesh and demister pads after cleaning until they are reused or disposed.

9. RCRA compliant drums or roll-off dumpsters (depending on volume of material) will be provided to receive sulfate contaminated debris (principally, ceramic packing and brick).

10. Cleaning of candle mesh and demister pads will be done in place as part of the tower washing. The resulting wash solution must be monitored to ensure that corrosive hazardous waste is not generated during the course of the work. The Production Supervisor will ensure that personnel responsible for monitoring and adjusting pH are properly trained in the use and calibration of pH monitoring equipment and the rinsing procedures to be employed. Training will be documented prior to the initiation of work. Automatic sampling devices will be available and on hand for the collection of flow weighted samples of wash streams in accordance with the Waste Management and Characterization Plan.

11. No washing or neutralizing operation will be initiated, and no wastewater, sludge, catalyst, or sulfate residual will be removed or discharged, without the knowledge of the Hazardous Waste Coordinator or prior to coordination with personnel responsible for sample collection and waste characterization during the turnaround.

VI. Waste Management

1. The washing of sulfuric acid absorption and drying towers during a sulfuric acid plant turnaround generates a liquid waste that is corrosive and frequently toxic for chromium. This liquid waste may be treated on-site in a Wastewater Treatment Unit ("WTU"), as set forth in 40 C.F.R. § 270.1(c)(2),without obtaining a Treatment Storage and Disposal permit, by adhering to the following procedures.

   a. Absorption/Drying Towers (See Figure 1)

      i. Care will be taken to avoid the release of any scale or sulfate residue during removal and handling of ancillary ducts and piping. All loose scale and residue

will be physically removed (to the extent practicable) from the recyclable scrap, contained, and placed in poly drums or lined roll-offs. All such scales and residues will be sampled and characterized for proper disposal.

ii. Wastewater generated during tower washings has been determined to be characteristically hazardous for corrosivity, as well as characteristically toxic for chromium. Treatment of tower wash wastewater using lime neutralization in a WTU) has been successfully implemented to reduce corrosivity and toxicity to non-hazardous levels as demonstrated through analytical characterization of the treated effluent and liming solids. Such treated wastes will continue to be characterized as necessary to demonstrate adequate reduction of hazardous waste characteristics.

iii. Wastewater generated during tower washings will be treated in a WTU by neutralizing the wash water with lime slurry (per current practice) to a pH above 2.0 and below 12.5 standard units. The WTU is comprised of a two stage system that consists of two dedicated tanks in series. The pH of the first tank flow will be monitored, and if the pH approaches 2.0, pH can be re-adjusted in the first tank while being adjusted in the second tank to ensure that pH is maintained above 2.0 standard units before it is released to the process water system. The treated wastes will be characterized to document adequate reduction of hazardous waste characteristics. Such characterization will include monitoring for pH and may include composite sampling for chromium and/or other metals as appropriate.

iv. A pH log of the flow from Tank 1 to Tank 2 will be maintained by the operator. This log will serve as the operating log for pH adjustment and will guide the operator in the addition of lime neutralization agent to the tanks. The flow will be monitored at intervals of not less than every 15 minutes for the first 8 hours of tower wash, or until an adequate margin of safety has been established so that maintenance of the final discharge pH above 2.0 and below 12.5 standard units can be assured. Alternatively, a continuous pH monitor and recorder may be used.

v. A pH log of the final effluent from Tank 2 to the process water ditch will be maintained by the operator. This log will serve to demonstrate adequate treatment for reduction of corrosivity. The effluent will be monitored at intervals of not less than every 15 minutes for the first 8 hours of tower wash, or until an adequate margin of safety has been established so that maintenance of the final discharge pH above 2.0 standard units can be assured. Alternatively, a continuous pH monitor and recorder may be used.

vi. If analytical characterization for metals is necessary to demonstrate adequate reduction of toxicity in the final discharge, a composite sample will be collected using an automatic sampler, which will be installed and operated to take a representative composite sample of the entire waste stream discharged during the washing activity. A second automatic sampler will be operated to provide a back up sample if the first sampler malfunctions. The backup sample will be retained.

v. Candles or demister pads removed from the vessel will be rinsed prior to removal when the tower is being washed or in a wash vat if the tower is not being washed and staged on plastic sheeting first for logistical purposes. Any loose residue, if present, should be removed and placed in a waste drum when the candle or demister is removed from the tower.

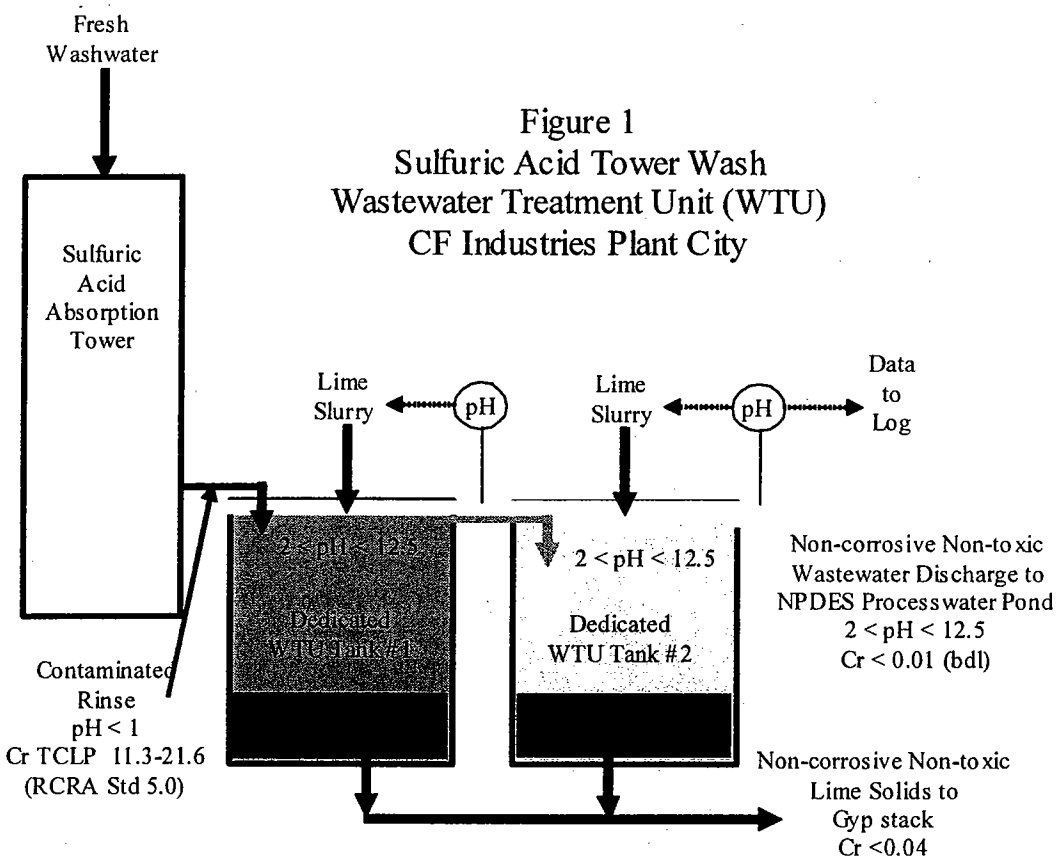

Figure 1
Sulfuric Acid Tower Wash
Wastewater Treatment Unit (WTU)
CF Industries Plant City

b. Vat Washing (pipes, demister pads, etc.)

i. Small equipment, from which residues have been removed and drummed separately, can be rinsed clean in a WTU vat. The components will be dipped/flushed in the wash vat while maintaining pH above 2 and below 12.5 pH units in the wash water. Wash water pH will be monitored at an appropriate frequency to determine successful washing of each component while maintaining pH above 2 units and below 12.5 units. Initially, this monitoring frequency should be not less than every 15 minutes and during the course of the work should be not less than hourly when actively washing components. Water will not be discharged from the wash vat during washing. If necessary to allow time for characterization, the wash will be put into an onsite temporary storage tank (i.e., tanker truck tank or other suitable portable tank) and a fresh wash will be prepared.

ii. Upon completion of cleaning, each candle or pad shall be placed onto plastic sheeting to dry. For demisting media that is to be disposed, non-recyclable mesh and pad materials will be separated from metal frames and will be placed into drums or roll-off dumpsters (depending on volume) for sampling and characterization to determine proper disposal. Mesh and pad materials, frames, and cages that will not be reused will be placed into drums or roll-off dumpsters (depending on volume) for sampling and characterization to determine proper disposal. Cleaned frames, cages, or other parts of the demisters that will be reused will be staged on plastic to dry and sent to a repacking service.

iii. Any incidental residues that are collected on the protective plastic sheeting will be recovered and placed with similar vat washing wastes for sampling and characterization and subsequent proper disposal. All plastic sheeting will be stored for characterization and proper disposal if it is not in a condition to be reused for additional maintenance activities, or upon completion of the work.

iv. Upon completion of all washings, a composite sample of the accumulated washwater will be analyzed for pH and metals toxicity. When the characterization results show the accumulated washwater is non-hazardous for corrosivity and metals, it can be discharged to the NPDES cooling pond system. If the results show the washwater is hazardous it will be treated as hazardous waste.

c. Fixed Equipment Washing (superheaters, economizers, ammonia scrubbers, etc.)

i. Residues will be removed to the maximum extent practicable prior to washing. All generated scales, sludges and residues will be contained, drummed, sampled, and characterized for proper disposal.

ii. Wash liquid will be collected and pumped to a storage tank, sampled, and characterized for proper disposal. Upon completion of all washings, a composite sample of the accumulated washwater will be analyzed for pH and metals toxicity. When the characterization results show the accumulated washwater is non-hazardous for corrosivity and metals, it can be discharged to the NPDES cooling pond system. If the results show the washwater is hazardous it will be treated as hazardous waste

d. Storage Tank Washing

i. All residual liquid acid will be transferred from the storage tank being cleaned using pumps to a storage tank in the sulfuric acid process. Once all residual acid is removed from the tank, a cleaning nozzle will be installed inside the tank, to circulate a neutralization solution. When neutralization is complete, a fresh water rinse will be circulated. The purpose of the neutralization and rinse activities is to remove any acidic materials from the tank walls and floor. All neutralization and rinse materials will be collected for proper characterization. A vacuum truck will

be used to dry out the storage tank to remove any standing liquid from the floor of the tank.

ii. a composite sample of the accumulated washwater will be analyzed for pH and metals toxicity. When the characterization results show the accumulated washwater is non-hazardous for corrosivity and metals, it can be discharged to the NPDES cooling pond system. If the results show the washwater is hazardous it will be treated as hazardous waste

2. Gas Ducts

   a. Any gas duct sections that are removed will be carefully placed in a RCRA compliant lined roll-off dumpster or in a lined holding area and decontaminated of any loose scale and sulfate residues. All scale and residues will be contained, drummed or placed in roll-offs, and subsequently sampled and characterized for proper disposal.

3. Pump Tanks

   a. If characterization of sulfate from pump tanks indicates that pump tank sulfate is not hazardous, brick debris from pump tanks may be disposed in a lined municipal landfill. If segregation of such debris is not practicable, it may be mixed with hazardous debris for disposal at a permitted hazardous waste TSD facility. If sulfate is characterized as hazardous, it must be managed as hazardous debris with the tower brick and packing.

4. Boilers and Burners

   a. Refractory linings in the interiors of boilers, burners, and attached gas ducts may contain heavy metals. This material will be collected in drums, roll-offs or dumpsters (depending on volume) and sampled and characterized for proper disposal.

5. Acid Cooler

   a. Any sulfate residue and scale waste will be drummed, sampled and characterized for proper disposal.

   b. CIL Cooler washings will be contained in the cooler, sampled and characterized for proper disposal. The wash water must be maintained above a 2.0 and below a 12.5 pH.

6. Gas Stacks

   a. Any scale/residue removed from the Gas Stack will be contained, drummed, sampled and characterized for proper disposal.

7. Converter Catalyst

   a. Catalyst that is to be disposed will be screened for size separation, and a composite sample of each cut (i.e. dust, chips, full size) will be collected. This will be accomplished by pulling one off-line sample from each supersack during filling at the time of vacuum removal from the converter. In order to characterize the catalyst for proper disposal, subsamples from each bed cut will be composited for analysis.

   b. Serviceable catalyst that is screened and returned to the converter will not require sampling or characterization. Dust and chips separated from serviceable catalyst for disposal will be bagged and sampled as described above.

   c. All catalyst that is removed for disposal will be placed in supersacks and stored on pallets in a lined or paved area. Each supersack will be shielded from weather with a plastic cover bag and maintained free from rainwater contact.

8. Breaking Flanges

   a. Any time a flange or hose fitting that could drip low pH liquids is taken apart (piping, manways, acid truck unloading hoses, etc.)

      i. If the piping is not over an impervious surface, plastic will be placed below the flange and a neutralizing agent put on the plastic to catch any drippage.
      ii. If the piping is over an impervious surface, a neutralizing agent will be put under the flange and left under the dripping flange until it either stops dripping or it is put back together.
      iii. The neutralized solution will be washed to the lined Area 10 once there is no longer any danger of acid leakage from the flange.

9. Any accidental spills or releases of waste materials that could occur during the performance of the work activities shall be cleaned up as expeditiously as possible, and in no case shall any waste materials be allowed to escape the immediate work area. The spill residues and contaminated materials contacted by the spilled material shall be managed as a hazardous waste until such material is determined not to be characteristically hazardous. Sulfuric acid spills that are not contaminated with any other waste and occur on the impervious pads that drain to the lined Area 10 will be neutralized with a neutralizing agent and washed to the lined Area 10.

10. In the event of an accidental spill of sulfuric acid, the lined Area 10 system allows for the collection and neutralization of low pH liquid waste prior to transfer to the cooling pond.. The pH of the lined Area 10 is monitored and adjusted as necessary to maintain pH between 2 and 12.5.

11. A demineralizer is used as part of the boiler water treatment. The regeneration of the demineralizer produces useable weak sulfuric acid and unusable weak caustic (sodium hydroxide) streams. The caustic stream is neutralized in an ENU with acid, and the neutralized caustic stream goes to the lined Area 10 system. The useable weak sulfuric acid is pumped to the phosphoric acid production facility where it is used in the reactor to produce phosphoric acid.

12. The single absorption sulfuric acid plants use ammonia scrubbing to control emissions from the stack. This produces an ammonium sulfate solution that is either used as a feedstock in DAP production or, after neutralization, is sold as a liquid fertilizer. The excess ammonium sulfate solution is neutralized and stored in a lined pond on top of the phosphogypsum stack. This solution is either sold or used as a liquid fertilizer for the grassed slopes of the phosphogypsum stacks.

13. Discarded welding rods can be a characteristically toxic hazardous waste and shall not be mixed with other solid wastes. Used welding rods must be put into marked containers for metals recycling or proper disposal. DO NOT THROW WELDING RODS ON THE GROUND. If welding rods are encountered when cleaning up the areas, they must be separated and put into the marked containers.

VII. Waste Characterization

1. As indicated by the above procedures, the following wastes will be sampled and analyzed upon generation:

    a. sulfate residues and sludges
    b. duct scales
    c. candle mesh (if removed for disposal)
    d. demister mesh (if removed for disposal)
    e. neutralization wastewater (storage tanks, tankers, neutralization tanks)
    f. neutralization sludge (neutralization tanks)
    g. sulfuric acid catalyst
    h. welding rods intended for disposal

2. For each sample, the precise location at which the sample was taken shall be recorded. Sampling results will be maintained and, where appropriate, will be used to establish future waste characterization by supporting CFI's generator knowledge.

3. All samples collected will be analyzed by a properly certified laboratory for Total RCRA metals (arsenic, cadmium, chromium, mercury, selenium, silver, barium, and lead) using the total metals analysis method. If the totals result for a solid is less than 20 times the TCLP limit, it will be deemed non-hazardous. Sample results for liquids (or mixtures) will be compared to the TCLP limit. If the result is greater, then the liquid (or mixture) shall be analyzed using TCLP. Alternatively, direct analysis for TCLP metals may be performed. Where necessary, to ensure appropriate waste

management and response, rapid turnaround times will be requested for laboratory analyses.

4. Waste profiles will be prepared, as needed, for documentation for disposal of each waste stream.

5. All proper quality assurance, quality control, and chain of custody procedures will be applied and maintained.

6. Appropriate disposal alternatives will be determined based on analytical results. All hazardous waste determinations will be compiled and documented in a final report of sulfuric acid plant turnaround waste management activities, which will be prepared upon completion of the project.

7. Waste characterization analytical data will be evaluated periodically for sufficiency in establishing CFI's generator knowledge of specific waste streams. CFI management may decide to reduce testing frequency upon CFI's establishment of defensible consistency and confidence in waste regulatory status.

VIII. Container Management

1. All hazardous waste storage containers (drums, bins, tankers, etc.) shall be kept closed at all times except when wastes are being added, removed, or sampled. All hazardous waste bins (i.e., roll-offs or dumpsters) shall receive poly liners prior to the placement of waste materials. Tarps shall be used to keep bins covered at all times when not receiving, removing or sampling wastes. All waste storage containers shall be presumed to hold hazardous waste until determined otherwise.

2. All storage containers shall be in good condition, non-leaking, and compatible with the wastes placed inside.

3. All drums shall be uniquely numbered and labeled with weatherproof labels to allow ease of marking and identification. All information written on labels shall be written legibly in waterproof ink.

4. All waste containers shall be labeled with the date that waste is placed inside and the name/type of waste and its origin. (Example: "SULFATE SLUDGE, ECONOMIZER A-SAP"). The container shall be labeled "CF industries" with the address and appropriate 24-hour emergency contact information. Upon sampling for characterization, the date of sampling and words "IN ANALYSIS" shall be applied. Upon determination of regulatory status, the container shall be further labeled with a preprinted RCRA compliant hazardous waste label, if hazardous; or if non-hazardous, it shall be labeled with the words "NON-HAZARDOUS WASTE" or an appropriate non-hazardous waste label will be applied.

5. Only approved DOT hazmat shipping containers shall be used for the shipment of hazardous waste.

6. Upon filling, all drums shall be stored in a covered area out of the weather on pallets, not exceeding 4 drums per pallet. Adequate aisle space shall be maintained to allow inspection, sampling, and emergency response. Emergency contact information and fire extinguishers shall be present and readily identifiable in all waste storage locations.

7. Each super sack bag of catalyst shall be stored on a single pallet, either in a covered area out of the weather or otherwise shielded from all stormwater contact using undamaged plastic cover bags. Each bag shall be individually marked on its exterior with source, media type (i.e., pellets, chips, or dust), and date of generation.

8. All waste storage areas and containers shall be inspected weekly for proper identification of wastes, leaks, and inventory control by properly trained personnel. A written record of all inspections shall be maintained. Any deficiencies noted shall be promptly corrected.

APPENDIX 7

P.O. Drawer L.
Plant City, Florida 33564-9007
Telephone: 813/782-1591

CF Industries, Inc.
Plant City Phosphate Complex

April 17, 2007

Mr. Sam Zamani, P.E.
Program Administrator
Phosphate Management Group
Department of Environmental Protection
Southwest District Office
13051 North Telecom Parkway
Temple Terrace, Florida 33637

Subject: CF Industries, Inc. (CFII)
Plant City Phosphate Complex
Assessment of Existing Perimeter Earthen Dikes

Dear Mr. Zamani:

In accordance with 62-672.620, enclosed are two copies of the "Assessment of Existing Perimeter Earthen Dikes" for the Plant City Phosphate Complexes phosphogypsum stack system.

If you have any questions pertaining to this submittal, please call me at (813) 364-5639.

Sincerely,

J. Michael Messina
Chief, Environmental Services

U:\200762 672.620
JMM/gem

CC: W. Batchelor/HCEPC
R.C. May
T.A. Edwards
G.F. Haeusler

Ardaman & Associates, Inc.

Geotechnical, Environmental and Materials Consultants

April 16, 2007
File Number 07-048

CF Industries, Inc.
Post Office Drawer L
Plant City, Florida 33564-9007

Attention: Mr. Robert C. May

Subject: Assessment of Existing Perimeter Earthen Dikes and Process Water Conveyance and Containment Systems Relative to Requirements of Rule 62-672, Plant City Phosphate Complex, Hillsborough County, Florida

Gentlemen:

Recent revisions to Rule 62-672, Florida Administrative Code (F.A.C.), require that the owner of a phosphogypsum stack system submit documentation to the Florida Department of Environmental Protection (FDEP) within 9 months of July 19, 2006 (i.e., by April 19, 2007) that existing perimeter earthen dikes and process water conveyance and containment systems meet certain minimum design and safety criteria specified in the rule. In particular, Rule Section 62-672.620 states the following:

Perimeter Dikes:

62-672.620(1). Within nine months of July 19, 2006, the owner of a phosphogypsum stack system shall submit to the department documentation that existing perimeter dikes have either been: (a) authorized to be constructed or modified by a permit issued by the department in response to an application that addressed freeboard, dike seepage, factors of safety, and slope stability; or (b) engineered, or retrofitted such that they are deemed by a third-party engineer to be in compliance with the seepage control feature provision of Rule 62-672.300(1)(c), the freeboard provisions of Rule 62-672.600(1)(c), and the design factors of safety and slope stability provisions of Rule 62-672.600(1)(d) and (e); or (c) evaluated by a third-party engineer who certifies the safety and stability of the dikes.

Conveyance Ditches:

62-672.620(3). At the time of the assessment required by Rule 62-672.620(1), a third-party engineer shall also determine whether the existing system is equipped with process water conveyance/containment capabilities that conform to the design requirements set forth in Rule 62-672.600(4).

In that regard and as requested, Ardaman & Associates, Inc. (Ardaman) has reviewed and compiled the required documentation needed to demonstrate compliance of the existing earthen dikes and process water conveyance and containment systems at the Plant City complex with Rule 62-672.620. This report provides a brief discussion of the major components of the Plant City process water system, with required documentation attached.

Existing Perimeter Earthen Dikes

The existing perimeter earthen dikes at the Plant City facility include the lined above-ground cooling pond, the return water ditch and surge pond for the lined gypsum stack expansion area and the perimeter dike of the original cooling pond, which, since closure of the unlined gypsum stack, has been converted to a seepage collection ditch and, during normal operations, is no longer used to

APPENDIX 8

APPENDIX 8
BMP AND PROJECT IMPLEMENTATION SCHEDULE

CF INDUSTRIES, INC
PLANT CITY, FLORIDA COMPLEX
EPA ID NO. FLD 046 088 829

All milestone timeframes outlined below are established relative to May 1, 2010, prior to the Effective Date of the CF-EPA Consent Decree.

Extension Provision: If CF has credible reason to believe that it will exceed the timeframes set forth in this Appendix to complete the projects detailed herein, CF may request an extension for project completion and implementation in accordance with Paragraph 89 of the Consent Decree.

Project 1
Cleaning Solution Transfer Piping

Description: The Cleaning Solution Transfer Piping Project will install new piping to enable CF to clean piping which transfers phosphoric acid from A-PAP, B-PAP, and ACU to the Granulation Plants, and return the cleaning solutions to the Phosphoric Acid Plants. In addition, new or upgraded pumps, motors, small pump tanks, and instrumentation may be needed to ensure the return of the cleaning solution to the Phosphoric Acid Plants.

Milestones: The following milestones provide a general plan for the implementation and completion of piping systems to return cleaning solutions used to clean transfer piping from A-PAP, B-PAP, and ACU to the Granulation Plants

- Select engineering contractor/initiate permitting as appropriate — 2 mos.
- AFE issued for Board approval — 8 mos.
- AFE approved/permit(s) issued — 11 mos.
- Initiate field construction — 18 mos.
- Field construction 50% complete — 24 mos.

Completion: The following dates are enforceable dates upon which, following May 1, 2010, CF must complete construction and implement Project 1.

- Project completed — 30 mos.
- Documentation of training completed — 32 mos.

Project 2
DAP/MAP Scrubber System Modifications

Description: The DAP/MAP Scrubber System Modifications Project will install piping, seal tanks, valves, and instrumentation to convert from process water gas scrubbing to acid and fresh

water gas scrubbing in X, Y, and Z Granulation Plants. Capital funds are approved for this project and detailed engineering is complete. The timeframes for final construction completion are based on Granulation Plant turn-around that occurs approximately every 18 months.

Milestones: The following milestones provide a general plan for the implementation and completion of modifications to the Granulation Plants scrubbing systems following May 1, 2010:

- Issue purchase orders for all materials — 2 mos.
- Initiate field construction — 3 mos.
- Field construction 50% complete — 8 mos.

Completion: The following dates are enforceable dates upon which, following May 1, 2010, CF must complete construction and implement Project 2.

- Project completed — 12 mos.
- Documentation of training completed — 14 mos.

Project 3
Granulation Plant Neutralization System

Description: The Granulation Plant Neutralization System Project will install tanks, lime slaking and/or lime slurry storage, piping, pumps, and instrumentation to collect all Granulation Plant spills, leaks, and cleaning solutions and neutralize those solutions to pH greater than 2.0 and less than 12.5 prior to discharge to the process water system. In addition new piping, pumps, tanks, and instrumentation will be installed to collect and transfer Phosphoric Acid Plant evaporator cleaning solutions from the Phosphoric Acid Plants to the Granulation Plants.

Milestones: The following milestones provide a general plan for the implementation and completion of the Granulation Plant Neutralization project following May 1, 2010:

- Select engineering contractor/initiate permitting as appropriate — 2 mos.
- AFE issued for Board approval — 8 mos.
- AFE approved/permit issued — 11 mos.
- Initiate field construction — 15 mos.
- Field construction 50% completed — 20 mos.

Completion: The following dates are enforceable dates upon which, following May 1, 2010, CF must complete construction and implement Project 3.

- Project completed — 24 mos.
- Documentation of training completed — 26 mos.

Project 4
Spill Recording, Tracking, and Correction System

Description: The Spill Recording, Tracking, and Correction System (SRTC) Project is a new application software to be utilized by the Production, Maintenance, Engineering, and Environmental Departments to identify, track, and correct spills and leaks as quickly as practical. The SRTC is described in Sections 3 and 5 of the BMP.

Milestones: The following milestones provide a general plan for the implementation and completion of the Spill Recording, Tracking, and Correction System Project following May 1, 2010:

- Develop preliminary system for review — 3 mos.
- Implement beta version of system — 6 mos.

Completion: The following dates are enforceable dates upon which, following May 1, 2010, CF must complete system design and implement Project 4.

- System completed — 9 mos.
- Documentation of system training completed — 11 mos.

Project 5
BMP Training

Milestones: The following milestones provide a general plan for the completion of initial employee and contractor training on provisions of the BMP following May 1, 2010:

- Develop preliminary draft presentation and training materials — 3 mos.
- Initial training class — 4 mos.

Completion: The following date is an enforceable date upon which, following May 1, 2010, CF must complete and implement Project 5.

- Training completed — 6 mos.