



# SC DEPARTMENT *of* **ENVIRONMENTAL SERVICES**

## **Bureau of Air Quality Title V Operating Permit**

**Ingevity South Carolina LLC - Charleston Chemical Plant  
5598 Virginia Avenue  
North Charleston, South Carolina 29406  
Charleston County**

In accordance with the provisions of the Pollution Control Act, Sections 48-1-50(5), 48-1-100(A), and 48-1-110(a), the 1976 Code of Laws of South Carolina, as amended, and South Carolina Regulation 61-62, Air Pollution Control Regulations and Standards, the Bureau of Air Quality authorizes the operation of this facility and the equipment specified herein in accordance with valid construction permits, and the plans, specifications, and other information submitted in the Title V permit application received on February 15, 2006, as amended. All official correspondence, plans, permit applications, and written statements are an integral part of the permit. Any false information or misrepresentation in the application for a construction permit may be grounds for permit revocation.

The operation of this facility is subject to and conditioned upon the terms, limitations, standards, and schedules contained herein or as specified by this permit and its accompanying attachments.

**Permit Number: TV-0560-0164 v2.0**

**Agency Air Number: 0560-0164**

**Issue Date: DRAFT**

**Effective Date: DRAFT**

**Expiration Date: DRAFT**

---

**Steve McCaslin, P. E., Director  
Air Permitting Division  
Bureau of Air Quality**



RECORD OF REVISIONS		
Date	Type	Description of Changes

AA Administrative Amendment  
MM Minor Modification  
SM Significant Modification

DRAFT

**Ingevity South Carolina LLC - Charleston Chemical Plant**

**TV-0560-0164 v2.0**

**Page 3 of 32**

<b>A. EMISSION UNIT(S), EQUIPMENT, AND CONTROL DEVICE(S)</b>	
<b>Emission Unit ID</b>	<b>Emission Unit Description</b>
02	South Plant
03	North Plant
04	Asphalt Plant
05	Dispersed Size Plant

Equipment and control device capacities provided under the Description columns of Equipment and Control Device Tables below are not intended to be permit limits unless otherwise specified within the Table "Limitations, Monitoring, and Reporting." However, this condition does not exempt the facility from the construction permitting process, from PSD review, nor from any other applicable requirements that must be addressed prior to increasing production rates.

<b>A.1 EQUIPMENT FOR EMISSION UNIT 02 - SOUTH PLANT</b>				
<b>Equipment ID</b>	<b>Equipment Description</b>	<b>Installation Date</b>	<b>Control Device ID</b>	<b>Emission Point ID</b>
API Basin	API Oil Basin	1974/1991	OH08	R06RB06
B&G Ref	B&G Refinery (C1, C3, C3, C4)	1955	OH08	R06RB06
SW Refinery	SW Refinery (T1, T1A, T3)	1962	OH08	R06RB06
OD1	18,300 gallon Tank D1	1967/1991	OH08	R06RB06
OD2	18,300 gallon Tank D2	1967/1991	OH08	R06RB06
OD3	183,500 gallon Tank D3	1967/1991	OH08	R06RB06
OD4	23,961 gallon Tank D4	1972/1991	OH08	R06RB06
OD5	23,961 gallon Tank D5	1972/1991	OH08	R06RB06
ODF1	Rotary Drum Filter System	1984	None	R10RP02
OH01	3.0 million Btu/hr Heater No. 1 (Natural Gas-Fired)	1987/2024	None	R01RB01
OH02	2.14 million Btu/hr Heater No. 2 (Natural Gas-Fired)	1984/2024	None	R02RB02
OH03	2.14 million Btu/hr Heater No. 2 (Natural Gas-Fired)	1978/2024	None	R03RB03
OH04	2.14 million Btu/hr Heater No. 2 (Natural Gas-Fired)	1981/2024	None	R04RB04
OH07	15.0 million Btu/hr Heater No. 7 (Natural Gas-Fired)	1967/2024	None	R05RB05
OH08	30.0 million Btu/hr Heater No. 8 System (Natural Gas-Fired)	1972/2024	None	R06RB06
OH08S	Heater No. 8 Bypass Stack	1991	None	R68RP05
OK01	12,000 gallon Kettle 1	2015	RP09	OK1RP09STK1 R70RR04
OK03	6,000 gallon Kettle 3	1980	RTO01/RP06 or RP01, RV01	R07RR01 R70RR04
OK04	6,000 gallon Kettle 4	1984/2000	RTO01/RP06 or RV02, RP02	R08RR02 R70RR04

**Ingevity South Carolina LLC - Charleston Chemical Plant**

**TV-0560-0164 v2.0**

**Page 4 of 32**

**A.1 EQUIPMENT FOR EMISSION UNIT 02 – SOUTH PLANT**

<b>Equipment ID</b>	<b>Equipment Description</b>	<b>Installation Date</b>	<b>Control Device ID</b>	<b>Emission Point ID</b>
OK05	6,000 gallon Kettle 5	1976	RTO01/RP06 or RV03, RP03	R09RR03 R70RR04
OT01	29,500 gallon Storage Tank 1	1999	None	R14RT01
OT02	29,500 gallon Storage Tank 2	1998	None	R15RT02
OT06	29,500 gallon Storage Tank 6	1996	None	R19RT06
OT07	25,567 gallon Storage Tank 7	1955	None	R20RT07
OT08	18,472 gallon Storage Tank 8	1994	None	R21RT08
OT16	1,034 gallon Storage Tank 16 (Filter Precoat Tank)	1984	None	R10RP02
OT25	19,904 gallon Storage Tank 25	1993	None	R34RT21
OT30	128,963 gallon Storage Tank 30	1990	None	R39RT26
OT34	39,600 gallon Storage Tank 34	2015	None	OT33STK
OT35	39,600 gallon Storage Tank 35	2015	None	OT33STK
OT36	39,600 gallon Storage Tank 36	2015	None	OT33STK
OT37	39,600 gallon Storage Tank 37	2015	None	OT33STK
OT41	10,152 gallon Storage Tank 41	1993	None	R42RT29
OT61	30, 455 gallon Storage Tank 61	1989	OH08	R06RB06
OT64	10,475 gallon Storage Tank 64	1969	None	R49RT36
OT65	14,783 gallon Process Tank 65	2003	None	R50RP01
OT66	26,157 gallon Storage Tank 66	1985	None	R51RT38
OT69	13,000 gallon Storage Tank 69	1987	None	R54RT41
OT72	9,000 gallon Storage Tank 72	1995	RP05	R67RT60
OT80	10,100 gallon Storage Tank 80	2010	RP08	R80RT80
OT81	1,000 gallon Charge Tank 81	2010	RP04	R75RT68
OT83	10,512 gallon Oil Drying Tank	Pre-1984/1996	OH08	R06RB06
OT84	Odor Control K O Tank	1991	OH08	R06RB06
OT85	530 gallon B&G Collection Tank	1991	OH08	R06RB06

**A.2 CONTROL DEVICE(S) FOR EMISSION UNIT 02 – SOUTH PLANT**

<b>Control Device ID</b>	<b>Control Device Description</b>	<b>Pollutant(s) Controlled</b>	<b>Installation Date</b>	<b>Emission Point ID</b>
OH08	Hot Oil Heater No. 8 (Vent Gases)	VOC	1972/2005	R06RB06
RP01	Kettle 3 Packed Column Scrubber	VOC	Pre1984	R07RR01
RV01	Kettle 3 Wet Venturi Scrubber	VOC	Pre1984	R07RR01
RP02	Kettle 4 Packed Column Scrubber	VOC	Pre1984	R08RR01
RV02	Kettle 4 Wet Venturi Scrubber	VOC	Pre1984	R08RR01
RV03	Kettle 5 Wet Venturi Scrubber	VOC	Pre1984	R09RR03
RP03	Kettle 5 Packed Column Scrubber	VOC	Pre1984	R09RR03
RP04	OT-81 Packed Bed Scrubber	Acrylic Acid	Pre1984/2010	R75RT68
RP05	OT-72 Packed Column Scrubber	Maleic Anhydride	1995	R67RT60

**Ingevity South Carolina LLC - Charleston Chemical Plant**

**TV-0560-0164 v2.0**

**Page 5 of 32**

**A.2 CONTROL DEVICE(S) FOR EMISSION UNIT 02 – SOUTH PLANT**

<b>Control Device ID</b>	<b>Control Device Description</b>	<b>Pollutant(s) Controlled</b>	<b>Installation Date</b>	<b>Emission Point ID</b>
RTO01	Thermal Oxidizer – equipped with 40 million BTU/hr primary burner and 4.0 million BTU/hr auxiliary burner	HAP, VOC, SO <sub>2</sub>	2004	R70RR04
RP06	Packed Bed Caustic Scrubber	VOC, SO <sub>2</sub>	2005	R70RR04
RP08	OT-80 Packed Bed Scrubber	Acrylic Acid	2010	R75RT80
RP09	Packed Bed Scrubber	HAP, VOC	2015	RP09STK1 R70RR04

**A.3 EQUIPMENT FOR EMISSION UNIT 03 – NORTH PLANT**

<b>Equipment ID</b>	<b>Equipment Description</b>	<b>Installation Date</b>	<b>Control Device ID</b>	<b>Emission Point ID</b>
PL01	Lignin Bin	1998	PF01	P069905
PSD1H	45.0 million BTU/hr Spray Dryer (Natural Gas-Fired)	1998/2007	PS01	P01PB01
PT01	320,000 gallon Storage Tank 1	1993	None	P08PT01
PT08	7,500 gallon Ammonia Tank 8	1984	PS03	P14PT08
PT18	27,100 gallon Formaldehyde Tank 18	1975/2020	PS02	P23PT18
PT103	10,000 gallon Tank 103	Pre-1984	None	P03PP02
PT105	48,000 gallon Process Tank 105	1993	None	P34PR01
PT106	33,156 gallon Feed Tank 106	1998	None	P75PR56
PT108	30,000 gallon Process Tank 108	1993	None	P36PR02
PT109	30,000 gallon Process Tank 109	1995	None	P37PR03
PT11	15,000 gallon Storage Tank 11	1987	None	P17PT09
PT110	31,800 gallon Process Tank 110	1995	None	P38PT04
PT111	48,000 gallon Process Tank 111	2019	None	PRC1 PRC2
PT112	10,000 gallon Storage Tank 112	1993/2010	PS08	P07PT112
PT113	10,000 gallon Polyfon Reactor	Pre-1984	PS01 PD01	P1PSD1
PT114	9,800 gallon Storage Tank 114	1975/2003	None	P41PT114
PT115	60,000 gallon Process Tank 115	1992	None	P42PR07
PT116	48,115 gallon Process Tank 116	1976	None	P43PR08
PT117	30,000 gallon Process Tank 117	1993/2010	PS07	P44PR09
PT125	30,000 gallon Process Tank 125	1993	None	P49PPR12
PT127	190 gallon Caustic Mix Tank	1987	None	P51PR15
PT201	27,200 gallon Storage Tank 201	1994/2010	None	P53PT33
PT207	32,000 gallon Storage Tank 207	1998	None	P59PT39
PT213	100,000 gallon Storage Tank 213	1996	None	P73PT53
PT214	100,000 gallon Storage Tank 214	1996	None	P74PT54
PT215	100,000 gallon Storage Tank 215	1996	None	P75PT55

**Ingevity South Carolina LLC - Charleston Chemical Plant**

**TV-0560-0164 v2.0**

**Page 6 of 32**

**A.3 EQUIPMENT FOR EMISSION UNIT 03 – NORTH PLANT**

<b>Equipment ID</b>	<b>Equipment Description</b>	<b>Installation Date</b>	<b>Control Device ID</b>	<b>Emission Point ID</b>
PT24	320,000 gallon Storage Tank 24	1988	None	P28PT20
PT25	276,000 gallon Storage Tank 25	1995	None	P72PT52
PT27	10,365 gallon Storage Tank 27	1990	None	P32PT27
PT28	1,470 gallon Storage Tank 28	1994	None	P33PT28
PT50	15,000 gallon Storage Tank 50	1986	None	P29PT21
PT55	39,788 gallon Storage Tank 55 – tall oil fatty acid polyamine condensates	2012	None	P10PT55
PT56	15,874 gallon Storage Tank 56 – diesel, olefins, parafins	2012	None	P11PT56
OT75	75.0 million Btu/hr natural gas-fired boiler No. 1	2024	None	C_BOL10
OT60	60.0 million Btu/hr natural gas-fired boiler No. 2	2024	None	C_BOL11

**A.4 CONTROL DEVICE(S) FOR EMISSION UNIT 03 – NORTH PLANT**

<b>Control Device ID</b>	<b>Control Device Description</b>	<b>Pollutant(s) Controlled</b>	<b>Installation Date</b>	<b>Emission Point ID</b>
PF01	Lignin Product Bin Fabric Filter	PM, PM <sub>10</sub> , PM <sub>2.5</sub>	1983	P06PP05
PS01	Spray Dryer Wet Scrubber	PM, PM <sub>10</sub> , PM <sub>2.5</sub> , VOC	1982	P01PB01
PD01	Spray Dryer Demister	PM, PM <sub>10</sub> , PM <sub>2.5</sub>	1998	P01PB01
PS07	Packed-Bed Water Scrubber	HAP, VOC	2010	P44PR09
PS08	Packed-Bed Water Scrubber	HAP, VOC	2010	P07PT112
PS02	Packed-Bed Water Scrubber	Formaldehyde, VOC	1975	P23PT18
PS03	Packed-Bed Water Scrubber	Ammonia	Post-1986	P14PT08
PS04	Packed-Bed Water Scrubber	SO <sub>2</sub>	1998	P01PS01

**A.5 EQUIPMENT FOR EMISSION UNIT 04 – ASPHALT PLANT**

<b>Equipment ID</b>	<b>Equipment Description</b>	<b>Installation Date</b>	<b>Control Device ID</b>	<b>Emission Point ID</b>
PH02	10.6 million Btu/hr Hot Oil Boiler (Natural Gas-Fired)	2001/2024	PF01	P03PB03
PK150	8,000 gallon Reactor K150	1986	AS01	P50PR13
PK160	8,000 gallon Reactor K160	2001	AS02	P150PR14
PT151	800 gallon Condensate Collection Tank	1986	AS01	P50PR13
PT161	770 gallon Condensate Collection Tank	2002	AS02	P160PR14
PT162	300 gallon Scrubber Tank	2002	AS02	P160PR14
PT165	Vacuum Pump Tank	2003	AS02	P160PR14
PT166	650 gallon Knock Out Tank	2002	AS02	P160PR14

**Ingevity South Carolina LLC - Charleston Chemical Plant**

**TV-0560-0164 v2.0**

**Page 7 of 32**

**A.5 EQUIPMENT FOR EMISSION UNIT 04 – ASPHALT PLANT**

<b>Equipment ID</b>	<b>Equipment Description</b>	<b>Installation Date</b>	<b>Control Device ID</b>	<b>Emission Point ID</b>
PT167	650 gallon Light Phase Reclaim Tank	2002	AS02	P160PR14
PT190	7,400 gallon blend tank with steam coil	2003	AS05	P92PT190
PT254	14,250 gallon Storage Tank 254	1986	None	P69PT49
PT255	30,000 gallon heated, insulated, nitrogen blanketed atmospheric storage tank	2001	None	P80PT60
PT256	30,000 gallon heated, insulated, nitrogen blanketed atmospheric storage tank	2001	None	P81PT61
PT257	30,000 gallon heated, insulated, nitrogen blanketed atmospheric storage tank	2001	None	P82PT72
PT258	30,000 gallon heated, insulated atmospheric storage tank	2003	None	P83PT258
PT259	30,000 gallon heated, insulated atmospheric storage tank	2003	None	P84PT259
PT260	15,000 gallon heated Storage Tank 260	2002	AS03	P90PT260
PT261	15,000 gallon heated Storage Tank 261	2002	AS03	P91PT261
PT262	15,000 gallon heated Storage Tank 262	2002	None	P87PT262
PT263	15,000 gallon heated Storage Tank 263	2002	None	P88PT263
PT264	15,000 gallon insulated, heated, nitrogen-blanketed atmospheric storage tank	2003	AS04	P91PT264
PT265	15,000 gallon insulated, heated, nitrogen-blanketed atmospheric storage tank	2003	AS04	P91PT264
PT266	15,000 gallon insulated, heated, nitrogen-blanketed atmospheric storage tank	2003	AS04	P91PT264
PT267	15,000 gallon insulated, heated, nitrogen-blanketed atmospheric storage tank	2003	AS04	P91PT264
PT300	1,470 gallon Scrubber Tank	1989	AS01	P50PR13
PT301	15,70 -gallon Scrubber Tank	1994	AS01	P16PT141
LR5N	Loading Rack 5N	2007	AS06	P93PTR5N

**A.6 CONTROL DEVICE(S) FOR EMISSION UNIT 04 – ASPHALT PLANT**

<b>Control Device ID</b>	<b>Control Device Description</b>	<b>Pollutant(s) Controlled</b>	<b>Installation Date</b>	<b>Emission Point ID</b>
AS01	Packed Bed Scrubber	VOC	1986	P50PR13 P16PT141
AS02	Packed Bed Scrubber	VOC	2001	P160PR14
AS03	Packed Bed Scrubber	VOC	2003	P90PT260 P91PT261
AS04	Packed Bed Scrubber	VOC	2003	P91PT264
AS05	Packed Bed Scrubber	VOC	2003	P92PT190
AS06	Packed Bed Scrubber	HAP	2008	P93PTR5N

**Ingevity South Carolina LLC - Charleston Chemical Plant**

**TV-0560-0164 v2.0**

**Page 8 of 32**

**A.7 EQUIPMENT FOR EMISSION UNIT 05 – DISPERSED SIZE PLANT**

<b>Equipment ID</b>	<b>Equipment Description</b>	<b>Installation Date</b>	<b>Control Device ID</b>	<b>Emission Point ID</b>
OT88	<1,000 gallon Dispersant Storage Tank	2007	None	D88DT88
OT89	18,000 gallon Cationic Polymer Storage Tank	1993/2007	None	D89DT89
OT90	20,000 gallon Dispersed Size Storage Tank	2007	None	D90DT90
OT91	15,000 gallon Dispersed Size Storage Tank	2007	None	D91DT91
OT92	15,000 gallon Alum Storage Tank	2007	None	D92DT92
OT93	30,000 gallon Dispersed Size Adduct Storage Tank	2007	None	D93DT93
OT94	30,000 gallon Dispersed Size Process Tank	2007	None	D94DT94
OT95	27,000 Dispersed Size Storage Tank	2007	None	D95DT95
OT96	51,000 gallon Dispersed Size Storage Tank	2007	None	D96DT96
OT97	51,000 gallon Dispersed Size Storage Tank	2007	None	D97DT97
Homogenizer #1	1,200 gallon/hr Homogenizer	2007	None	Fugitive
Homogenizer #2	2,400 gallon/hr Homogenizer	2008	None	Fugitive

**B. LIMITATIONS, MONITORING, AND REPORTING**

<b>Condition Number</b>	<b>Conditions</b>
B.1	<p><b>Emission Unit ID:</b> 02, 03, 04</p> <p><b>Equipment ID:</b> OK03, OK04, OK05, OT72, OT80, OT81, OT83, OT84, OT85, API Basin, B&amp;G Ref, SW Refinery, OD1, OD2, OD3, OD4, OD5, RTO01, PL01, PS01, PSD1H, PT18, PT112, PT113, PT111, PK150, PK160, PT103, PT260, PT261, PT264, PT265, PT266, PT267, PT151, PT161, PT162, PT165, PT166, PT167, PT190, PT300, PT301, LR5N</p> <p><b>Control Device ID:</b> RP01, RV01, RP02, RV02, RP03, RV03, RP04, RP05, RTO01, RP06, RP08, RP09, PF01, PF02, PS01, PD01, PS07, PS08, PS02, PS03, PS04, PS06, AS01, AS02, AS03, AS04, AS05, AS06</p> <p>(S.C. Regulation 61-62.70.6(a)(3)) The owner/operator shall inspect, calibrate, adjust, and maintain continuous monitoring systems, monitoring devices, and gauges in accordance with manufacturer's specifications or good engineering practices. The owner/operator shall maintain on file all measurements including continuous monitoring system or monitoring device performance measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required in a permanent form suitable for inspection by Department personnel.</p> <p>(S.C. Regulation 61-62.1, Section II(J)(1)(d)) Sources required to have continuous emission monitors shall submit reports as specified in applicable parts of the permit, law, regulations, or standards.</p>
B.2	<b>Emission Unit ID:</b> 02, 03, 04



B.	LIMITATIONS, MONITORING, AND REPORTING
Condition Number	Conditions
	<p><b>Equipment ID:</b> OK03, OK04, OK05, OT72, OT80, OT81, OT83, OT84, OT85, API Basin, B&amp;G Ref, SW Refinery, OD1, OD2, OD3, OD4, OD5, RTO01, PL01, PS01, PSD1H, PT18, PT112, PT113, PT111, PK150, PK160, PT103, PT260, PT261, PT264, PT265, PT266, PT267, PT151, PT161, PT162, PT165, PT166, PT167, PT190, PT300, PT301, LR5N</p> <p><b>Control Device ID:</b> RP01, RV01, RP02, RV02, RP03, RV03, RP04, RP05, RTO01, RP06, RP08, RP09, PF01, PF02, PS01, PD01, PS07, PS08, PS02, PS03, PS04, PS06, AS01, AS02, AS03, AS04, AS05, AS06</p> <p>(S.C. Regulation 61-62.1 Section II (J)(2)) All gauges shall be readily accessible and easily read by operating personnel and Department personnel (i.e. on ground level or easily accessible roof level). Monitoring parameter readings (e.g., pressure drop readings, flow rates, etc.) and inspection checks shall be maintained in logs (written or electronic), along with any corrective action taken when deviations occur. Each incidence of operation outside the operational ranges, including date and time, cause, and corrective action taken, shall be recorded and kept on site. Exceedance of operational range shall not be considered a violation of an emission limit of this permit, unless the exceedance is also accompanied by other information demonstrating that a violation of an emission limit has taken place.</p> <p>Reports of these incidences shall be submitted semiannually. If no incidences occurred during the reporting period, then documentation shall be submitted to indicate such. Any alternative method for monitoring control device performance must be preapproved by the Department and shall be incorporated into the permit as set forth in S.C. Regulation 61-62.70.7.</p>
B.3	<p><b>Emission Unit ID:</b> 02, 03, 04</p> <p><b>Equipment ID:</b> OK03, OK04, OK05, OT72 PSD1H, PK150, PK160, PT260, PT261, PT264, PT265, PT266, PT267, PT190</p> <p><b>Control Device ID:</b> RTO01, RP01, RP02, RP03, RV01, RV02, RV03, RP06, RP05, RP06, PS01, AS03, AS04, AS05</p> <p>(S.C. Regulation 61-62.1 Section II (J)(2)) The owner or operator shall continue to operate, and maintain pressure drop indicators and liquid flow meters, on each scrubber module. Each monitored parameter shall be recorded daily during source operation. Facilities with automated data collection may collect monitoring data on a more frequent basis and calculate the daily average. Readings collected when the source is shutdown or not operating may not be used in the calculation. The owner or operator must get approval from the Department for an increased frequency/averaging plan prior to using averaging for parametric monitoring. The owner or operator shall continue to record daily, the calculated monitoring averages using the approved increased frequency/averaging plan unless prior approval is obtained from the Department for changing the plan.</p> <p>Operation and maintenance checks shall be made on at least a monthly basis. The checks and any corrective actions shall be documented and kept on-site. Each scrubber shall be in place and operational whenever processes controlled by it are running, except during periods of scrubber malfunction or mechanical failure.</p>

<b>B. LIMITATIONS, MONITORING, AND REPORTING</b>	
<b>Condition Number</b>	<b>Conditions</b>
B.4	<p><b>Emission Unit ID:</b> 03  <b>Equipment ID:</b> PL01  <b>Control Device ID:</b> PF01</p> <p>(S.C. Regulation 61-62.1 Section II (J)(2)) The owner or operator shall continue to operate and maintain pressure drop gauge(s) on each module of each baghouse. Pressure drop readings for each baghouse shall be recorded daily during source operation. Facilities with automated data collection may collect monitoring data on a more frequent basis and calculate the daily average. Readings collected when the source is shutdown or not operating may not be used in the calculation. The owner or operator must get approval from the Department for an increased frequency/averaging plan prior to using averaging for parametric monitoring. The owner or operator shall continue to record daily, the calculated monitoring averages using the approved increased frequency/averaging plan unless prior approval is obtained from the Department for changing the plan.</p> <p>Operation and maintenance checks shall be made on at least a monthly basis for baghouse cleaning systems, dust collection hoppers and conveying systems for proper operation. The checks and any corrective actions shall be documented and kept on-site. Each baghouse shall be in place and operational whenever processes controlled by it are running, except during periods of baghouse malfunction or mechanical failure.</p>
B.5	<p><b>Emission Unit ID:</b> 03, 04  <b>Equipment ID:</b> PH02, OT75, OT60</p> <p>These sources are subject to New Source Performance Standards (NSPS), 40 CFR 60 and S.C. Regulation 61-62.60 Subpart A, General Provisions and Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units, as applicable. These sources shall comply with all applicable requirements of Subparts A and Dc.</p> <p>40 CFR 60.48c – Reporting and recordkeeping requirements.</p> <p>(a) The owner or operator of each affected facility shall submit notification of the date of construction or reconstruction and actual startup, as provided by 40 CFR 60.7 of this part. This notification shall include:</p> <ul style="list-style-type: none"> <li>(1) The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility.</li> <li>(3) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fueled fired and based on each individual fuel fired.</li> </ul> <p>(g)(1) Except as provided under paragraphs (g)(2) and (g)(3) of this section, the owner or operator of each affected facility shall record and maintain records of the amount of each fuel combusted during each operating day.</p>

<b>B. LIMITATIONS, MONITORING, AND REPORTING</b>	
<b>Condition Number</b>	<b>Conditions</b>
	<p>(2) As an alternative to meeting the requirements of paragraph (g)(1) of this section, the owner or operator of an affected facility that combusts only natural gas, wood, fuels using fuel certification in §60.48c(f) to demonstrate compliance with the SO<sub>2</sub> standard, fuels not subject to an emissions standard (excluding opacity), or a mixture of these fuels may elect to record and maintain records of the amount of each fuel combusted during each calendar month.</p> <p>(i) All records required under this section shall be maintained by the owner or operator of the affected facility for a period of two years following the date of such record.</p>
B.6	<p><b>Emission Unit ID:</b> 02  <b>Equipment ID:</b> OH07  <b>Control Device ID:</b> RTO01</p> <p>(S.C. Regulation 61-62.5, Standard No. 1, Section I) The fuel burning source(s) shall not discharge into the ambient air smoke which exceeds opacity of 40%. The opacity limit may be exceeded for sootblowing, but may not be exceeded for more than 6 minutes in a one hour period nor be exceeded for more than a total of 24 minutes in a 24 hour period. Emissions caused by sootblowing shall not exceed an opacity of 60%.</p> <p>Owners and operators shall, to the extent practicable, maintain and operate any source including associated air pollution control equipment in a manner consistent with good air pollution control practices for minimizing emissions. In addition, the owner or operator shall maintain a log of the time, magnitude, duration, and any other pertinent information to determine periods of startup and shutdown and make available to the Department upon request.</p>
B.7	<p><b>Emission Unit ID:</b> 02, 03  <b>Equipment ID:</b> OH01, OH02, OH03, OH04, OH08, OT75, OT60, PH02, PSD1H  <b>Control Device ID:</b> RTO01</p> <p>(S.C. Regulation 61-62.5, Standard No. 1, Section I) The fuel burning source(s) shall not discharge into the ambient air smoke which exceeds opacity of 20%. The opacity limit may be exceeded for sootblowing, but may not be exceeded for more than 6 minutes in a one hour period nor be exceeded for more than a total of 24 minutes in a 24 hour period. Emissions caused by sootblowing shall not exceed an opacity of 60%.</p> <p>Owners and operators shall, to the extent practicable, maintain and operate any source including associated air pollution control equipment in a manner consistent with good air pollution control practices for minimizing emissions. In addition, the owner or operator shall maintain a log of the time, magnitude, duration, and any other pertinent information to determine periods of startup and shutdown and make available to the Department upon request.</p>
B.8	<p><b>Emission Unit ID:</b> 02, 03  <b>Equipment ID:</b> OH01, OH02, OH03, OH04, OH08, OT75, OT60, PH02, PSD1H  <b>Control Device ID:</b> RTO01</p>

<b>B. LIMITATIONS, MONITORING, AND REPORTING</b>	
<b>Condition Number</b>	<b>Conditions</b>
	(S.C. Regulation 61-62.5, Standard No. 1, Section II) The maximum allowable discharge of particulate matter resulting from these source(s) is 0.6 pounds per million BTU input.
B.9	<p><b>Emission Unit ID:</b> 02, 03  <b>Equipment ID:</b> OH01, OH02, OH03, OH04, OH08, OT75, OT60, PH02, PSD1H  <b>Control Device ID:</b> RTO01</p> <p>(S.C. Regulation 61-62.5, Standard No. 1, Section III) The maximum allowable discharge of sulfur dioxide (SO<sub>2</sub>) resulting from these source(s) is 2.3 pounds per million BTU input.</p>
B.10	<p><b>Emission Unit ID:</b> 02, 03  <b>Equipment ID:</b> OH01, OH02, OH03, OH04, OH08, OT75, OT60, PH02, PSD1H  <b>Control Device ID:</b> RTO01</p> <p>(S.C. Regulation 61-62.1, Section II(J)) These sources are permitted to only burn natural gas as fuel. The use of any other substances as fuel is prohibited without prior written approval from the Department.</p>
B.11	<p><b>Emission Unit ID:</b> 02  <b>Equipment ID:</b> RTO01  <b>Control Device ID:</b> RTO01</p> <p>(S.C. Regulation 61-62.1, Section II(J)) This source is permitted to only burn natural gas as fuel. The use of any other substances as fuel is prohibited without prior written approval from the Department.</p>
B.12	<p><b>Emission Unit ID:</b> 02  <b>Equipment ID:</b> OK03, OK04, OK05  <b>Control Device ID:</b> RTO01</p> <p>(S.C. Regulation 61-62.5, Standard No. 3, Section III(I)(1)) Emissions from these sources shall not exhibit an opacity greater than 20%, each. This is a state only requirement.</p>
B.13	<p><b>Emission Unit ID:</b> 02  <b>Equipment ID:</b> OK03, OK04, OK05  <b>Control Device ID:</b> RTO01</p> <p>(S.C. Regulation 61-62.5, Standard No.3, Section III(I)(2)) Particulate matter emissions from this source shall not exceed 0.5 lb/10<sup>6</sup> Btu total heat input. The total heat input value from waste and virgin fuel used for production shall not exceed the Btus used to affect the combustion of the waste and shall not include any Btu input from auxiliary burners located outside of the primary combustion chamber such as those found in secondary combustion chambers, tertiary combustion chambers or afterburners unless those auxiliary burners are fired with waste. In the case where waste is fired in the auxiliary burners located outside of the primary combustion chamber, only the Btu value of the fuel for the auxiliary burner which is from waste shall be added to the total heat input value. This is a state only requirement</p>
B.14	<b>Emission Unit ID:</b> 02

<b>B. LIMITATIONS, MONITORING, AND REPORTING</b>	
<b>Condition Number</b>	<b>Conditions</b>
	<p><b>Equipment ID:</b> OH01, OH02, OH03, OH04, OH07, OH08, PSD1H, PH02  <b>Control Device ID:</b> PS01, RTO01</p> <p>(S.C. Regulation 61-62.5, Standard No.3, Section VI(C)(2)) The owner/operator shall record the daily waste(s) charge rates of vent gases and hours of operation of the thermal oxidizer on a daily basis. This is a state only requirement.</p>
B.15	<p><b>Emission Unit ID:</b> 02, 03, 04, 05  <b>Equipment ID:</b> OK03, OK04, OK05, OT01, OT02, OT06, OT07, OT08, OT09, OT12, OT17, OT2, OT26, OT28, OT29, OT30, OT41, OT60, OT65, OT66, OT67, OT69, OT70, OT71, OT72, OT75, OT80, OT81, OT83, OT84, OT85, RTO01, API Basin, B&amp;G Refinery, SW Refinery, OD1, OD2, OD3, OD4, OD5, PSD1H, PH02, PK150, PK160, PT103, PT127, PT111, PL01, PL02, PT01, PT105, PT106, PT108, PT109, PT110, PT11, PT112, PT115, PT116, PT111, PT125, PT201, PT207, PT213, PT214, PT215, PT24, PT25, PT55, PT56, PTWW1, PT50, PT51, PT250, PT251, PT252, PT253, PT254, PT255, PT256, PT257, PT258, PT259, PT260, PT261, PT262, PT263, PT264, PT265, PT266, PT267, PT151, PT161, PT162, PT165, PT166, PT167, PT190, PT300, PT301, LR5N, OT88, OT89, OT90, OT91, OT92, OT93, OT94, OT96, OT97, PT114, Homogenizer #1, Homogenizer #2  <b>Control Device ID:</b> RP05, RP08, OH08, RTO01, PF01, PS01, PS04, PS07, AS01, AS02, AS03, AS05, AS05, AS06</p> <p>(S.C. Regulation 61-62.5, Standard No. 4, Section IX) Where construction or modification began after December 31, 1985, emissions from these sources (including fugitive emissions) shall not exhibit an opacity greater than 20%, each.</p>
B.16	<p><b>Emission Unit ID:</b> 02, 03, 04  <b>Equipment ID:</b> ODF1, OT07, OT68, PT103, PT116, PT113  <b>Control Device ID:</b> PS01, PD01</p> <p>(S.C. Regulation 61-62.5, Standard No. 4, Section IX) Where construction or modification began on or before December 31, 1985, emissions from these sources (including fugitive emissions) shall not exhibit an opacity greater than 40%, each.</p>
B.17	<p><b>Emission Unit ID:</b> 02, 03, 04  <b>Equipment ID:</b> OK03, OK04, OK05, PSD1H, PL01  <b>Control Device ID:</b> PS01, PD01, PF01, RP01, RV01, RP02, RV02, RP03, RV03, RP06, RTO01</p> <p>(S.C. Regulation 61-62.5, Standard No. 4, Section VIII) Particulate matter emissions shall be limited to the rate specified by use of the following equations:</p> <p style="padding-left: 40px;">For process weight rates less than or equal to 30 tons per hour  <math display="block">E = (F) 4.10P^{0.67}</math></p> <p style="padding-left: 40px;">For process weight rates greater than 30 tons per hour  <math display="block">E = (F) (55.0P^{0.11} - 40)</math></p> <p style="padding-left: 40px;">Where E = the allowable emission rate in pounds per hour  P = process weight rate in tons per hour  F = effect factor from Table B in S.C. Regulation 61-62.5, Standard No. 4</p>

<b>B. LIMITATIONS, MONITORING, AND REPORTING</b>	
<b>Condition Number</b>	<b>Conditions</b>
	<p>For the purposes of compliance with this condition, the process boundaries are defined as follows:</p> <ul style="list-style-type: none"> <li>OK03, OK04, OK05 - Max Process Weight Rate 2.375 ton/hr each</li> <li>Spray Drying (PSD1H) - Max Process Weight Rate 18.0 ton/hr</li> <li>Lignin Packaging (PL01) - Max Process Weight Rate 6.02 ton/hr</li> </ul>
B.18	<p><b>Emission Unit ID:</b> 02, 03, 04, 05  <b>Equipment ID:</b> OK04, OK05, OT01, OT02, OT06, OT07, OT08, OT09, OT12, OT17, OT2, OT26, OT28, OT29, OT30, OT41, OT60, OT65, OT66, OT67, OT69, OT70, OT71, OT72, OT75, OT80, OT81, OT83, OT84, OT85, RTO01, API Basin, B&amp;G Refinery, SW Refinery, OD1, OD2, OD3, OD4, OD5, PSD1H, PH02, PK150, PK160, PT103, PT127, PT111, PL01, PL02, PT01, PT105, PT106, PT108, PT109, PT110, PT11, PT112, PT115, PT116, PT111, PT125, PT201, PT207, PT213, PT214, PT215, PT24, PT25, PT55, PT56, PTWW1, PT50, PT51, PT250, PT251, PT252, PT253, PT254, PT255, PT256, PT257, PT258, PT259, PT260, PT261, PT262, PT263, PT264, PT265, PT266, PT267, PT151, PT161, PT162, PT165, PT166, PT167, PT190, PT300, PT301, LR5N, OT88, OT89, OT90, OT91, OT92, OT93, OT94, OT96, OT97, PT114, Homogenizer #1, Homogenizer #2, ODF1, OT07, OT68, PT103, PT116, PT113  <b>Control Device ID:</b> RP05, RP08, OH08, RTO01, PF01, PS01, PS04, PS07, AS01, AS02, AS03, AS05, AS06, PS01, PD01</p> <p>(S.C. Regulation 61-62.70.6(a)(3)) The owner or operator shall perform a visual inspection on a semiannual basis of sources subject to opacity limits. The inspection shall occur during normal source operation. No periodic monitoring for opacity will be required for sources during periods that only natural gas or propane are being combusted. Logs shall be kept to record all visual inspections, noting color, duration, density (heavy or light), cause, and corrective action taken for any abnormal emissions. If a source did not operate during the required visual inspection time frame, the log shall indicate such. The owner or operator shall submit semiannual reports. The report shall include records of abnormal emissions, if any, and corrective actions taken. If only natural gas or propane was combusted or if the unit did not operate during the semiannual period, the report shall state so.</p> <p>Visual inspection means a qualitative observation of opacity during daylight hours. The observer does not need to be certified to conduct valid visual inspections. However, at a minimum, the observer should be trained and knowledgeable about the effects on visibility of emissions caused by background contrast, ambient lighting, and observer position relative to lighting, wind, and the presence of uncombined water.</p>
B.19	<p><b>Emission Unit ID:</b> All  <b>Equipment ID:</b> All  <b>Control Device ID:</b> All</p> <p>(S.C. Regulation 61-62.5, Standard No. 5.2) Any existing source where a burner assembly is replaced with another burner assembly after June 25, 2004, regardless of size or age of the burner assembly to be replaced shall be replaced with a low NO<sub>x</sub> burner assembly or equivalent technology, and shall</p>

<b>B. LIMITATIONS, MONITORING, AND REPORTING</b>	
<b>Condition Number</b>	<b>Conditions</b>
	<p>achieve a 30 percent reduction from uncontrolled NO<sub>x</sub> emission levels based upon manufacturer's specifications. An exemption from this requirement shall be granted when a single burner assembly is being replaced in an existing source with multiple burners due to non-routine maintenance. The replacement of individual components such as burner heads, nozzles, or windboxes does not trigger this requirement.</p> <p>The owner or operator shall notify and register the burner assembly replacement with the Department, in writing, within 7 days of replacing the existing burner assembly. Notification will be provided on the Department's <i>Low NO<sub>x</sub> Burner Assembly Replacement Notification</i> Form. Those affected sources that wish to receive an emission reduction credit for the control device will be required to submit a construction permit application. Those affected sources requesting an alternative control methodology must receive written approval prior to burner replacement.</p> <p>If the burner assembly is replaced as detailed above, the owner or operator shall perform tune-ups every twenty-four (24) months in accordance with manufacturer's specifications or with good engineering practices. The first tune-up shall be conducted no more than twenty-four (24) months from replacement of a burner assembly for affected existing sources. Each subsequent tune-up shall be conducted no more than twenty-four (24) months after the previous tune-up.</p> <p>All tune-up records are required to be maintained on site and available for inspection by the Department for a period of five (5) years from the date generated.</p> <p>The owner or operator shall develop and retain a tune-up plan on file.</p>
B.20	<p><b>Emission Unit ID:</b> 03 <b>Equipment ID:</b> OT75, OT60</p> <p>(S.C. Regulation 61-62.5, Standard No. 5.2, Section III) The allowable discharge of NO<sub>x</sub> resulting from these sources is 0.036 lb/MMBtu.</p> <p>(S.C. Regulation 61-62.5, Standard No. 5.2, Section IV) The owner or operator shall perform tune-ups every twenty-four (24) months in accordance with manufacturer's specifications or with good engineering practices. The first tune-up shall be conducted no more than twenty-four (24) months from start-up of operation for affected new sources and no more than twenty-four (24) months from replacement of a burner assembly for affected existing sources. Each subsequent tune-up shall be conducted no more than twenty-four (24) months after the previous tune-up.</p> <p>All tune-up records are required to be maintained on site and available for inspection by the Department for a period of five (5) years from the date generated.</p> <p>The owner or operator shall develop and retain a tune-up plan on file.</p>
B.21	<b>Emission Unit ID:</b> 03



B. LIMITATIONS, MONITORING, AND REPORTING	
Condition Number	Conditions
	<p><b>Equipment ID:</b> OT75, OT60</p> <p>(S.C. Regulation 61-62.5, Standard No. 5.2, Section IV) The owner or operator shall record monthly the amounts and types of each fuel combusted by the affected sources and maintain these records on site.</p> <p>The owner or operator shall maintain records of the occurrence and duration of any malfunction in the operation of an affected source; any malfunction of the air pollution control equipment; and any periods during which a continuous monitoring system or monitoring device is inoperative.</p>
B.22	<p><b>Emission Unit ID:</b> 02  <b>Equipment ID:</b> OK03, OK04, OK05  <b>Control Device ID:</b> RP09, RP01, RV01, RP02, RV02, RP03, RV03, RP06, RTO01</p> <p>(S.C. Regulation 61-62.1, Section II(E); S.C. Regulation 61-62.1, Section II(G)) The owner or operator shall maintain records of all volatile organic compounds (VOC) and hazardous air pollutants (HAP). These records shall include the total amount of each material used, the VOC content in percent by weight of each material, the HAP content in percent by weight of each material, kettle identification, production number, number of batches per month, mass of product each month, and any other records necessary to determine VOC and HAP emissions. VOC, individual HAP and total HAP emissions shall be calculated monthly, and a twelve-month rolling sum shall be calculated monthly. Emissions from malfunctions are required to be quantified and included in the calculations. The twelve-month rolling sum shall be less than 9.0 tons for all three kettles when running non-HAP emitting batches and shall be less than 12.5 tons VOC for all three kettles when running HAP emitting batches. Reports of the calculated values and the twelve-month rolling sum, calculated for each month in the reporting period, shall be submitted semiannually.</p> $Actual\ Emissions = (Emission\ Factor)(Number\ of\ Batches/yr)(Control\ efficiency)$ $Emission\ Factor = \frac{(\sum HAPs) * 0.014}{Avg\ Batch\ Weight\ (lbs)}$ <p>NOTE 0.014 was chosen as the most conservative emission factor from AP-42 Table 1.4-4. Should this change then use the most up to date AP-42 emission factor without permit modification</p>
B.23	<p><b>Emission Unit ID:</b> 02  <b>Equipment ID:</b> OK03, OK04, OK05  <b>Control Device ID:</b> RTO01, RP06</p> <p>(S.C. Regulation 61-62.1, Section II(E)) This facility has established federally enforceable emissions limitations to limit the potential to emit from these sources to less than 40.0 tpy of SO<sub>2</sub> to avoid a PSD Significant Emissions Increase.</p>
B.24	<b>Emission Unit ID:</b> 02



**Ingevity South Carolina LLC - Charleston Chemical Plant**

**TV-0560-0164 v2.0**

**Page 17 of 32**

<b>B. LIMITATIONS, MONITORING, AND REPORTING</b>	
<b>Condition Number</b>	<b>Conditions</b>
	<p><b>Equipment ID:</b> OH08, OH08S  <b>Control Device ID:</b> None</p> <p>(S.C. Regulation 61-62.70.6(a)(9)) The facility shall log any actual time the stack to OH08 is bypassed. The use of the by-pass vent stack shall be limited to ONLY those times boiler OH08 is out of service, under maintenance, or during emergency situations. Summary semi-annual reports of any variances (if there are no variances, state so in the report) from established parameters shall be submitted to the Manager of the Technical Management Section, Bureau of Air Quality postmarked no later than 30 calendar days after the end of the reporting period. Opacity standards shall apply during bypass episodes.</p>
B.25	<p><b>Emission Unit ID:</b> 03  <b>Equipment ID:</b> PSD1H  <b>Control Device ID:</b> PS01</p> <p>(S.C. Regulation 61-62.1, Section II(E); S.C. Regulation 61-62.1, Section II(G)) This source's total emissions of PM/PM<sub>10</sub>/PM<sub>2.5</sub> shall not exceed 26 TPY. Production rates and total production of specified product shall be maintained during the operation of the spray dryer. This information shall be used in conjunction with the established emissions factors to calculate the total amount of PM/PM<sub>10</sub>/PM<sub>2.5</sub> emitted on a monthly basis. This information will be used to maintain a monthly total on a twelve month rolling sum basis. The annual PM/PM<sub>10</sub>/PM<sub>2.5</sub> emissions will be calculated using the emission factors for each product grade class and the production of each product grade class. The calculations are presented as follows:</p> <p>Monthly PM/PM<sub>10</sub> Emissions = Sum of {[Emission Factor<sub>product I</sub>] x Monthly Production<sub>product I</sub>}}</p> <p>Annual PM/PM<sub>10</sub> Emissions = Sum of Monthly Emissions previous 12 months</p> <p>Emission Factor<sub>product I</sub> = Most recent stack test data, at issuance from 2008</p> <p>Note: product I = INDULIN AT, INDULIN W-1, POLYFON H, and REAX 85A</p> <p>These records shall be maintained on-site for a period of at least five (5) years and shall be made available to Department personnel upon request. Summary semi-annual reports any variances (if there are no variances, state so in the report) from established parameters shall be submitted to the department postmarked no later the 30 calendar days after the end of the reporting period.</p>
B.26	<p><b>Emission Unit ID:</b> 02  <b>Equipment ID:</b> PT18  <b>Control Device ID:</b> PS02</p> <p>It has been determined that this facility is subject to S.C. Regulation 61-62.68, Chemical Accident Prevention Provisions, due to in-process storage or use of a regulated substance in quantities above the specified threshold and that a Risk Management Plan (RMP) has already been submitted to the</p>

B.	LIMITATIONS, MONITORING, AND REPORTING
Condition Number	Conditions
	<p>EPA; therefore, the following must be completed:</p> <ul style="list-style-type: none"> <li>• Submittal of subsequent revisions/corrections/updates of the RMP in accordance with S.C. Regulation 61-62.68.190 and 68.195.</li> <li>• For Program 1 processes, the owner or operator shall submit along with the RMP the certification statement provided in Section 68.12(b)(4). For all other covered processes, the owner or operator shall submit along with the RMP a single certification that, to the best of the signer's knowledge, information, and belief formed after reasonable inquiry, the information submitted is true, accurate, and complete.</li> </ul> <p>If it is determined by the implementing agency (or other delegated authority) that additional relevant information is needed, this facility will be required to submit the information in a timely manner.</p>
B.27	<p><b>Emission Unit ID:</b> Facility-Wide  <b>Equipment ID:</b> All  <b>Control Device ID:</b> All</p> <p>(S.C. Regulation 61-62.1, Section II(J)(2)) The following activities shall be allowed, without a construction permit, or without revising or reopening the operating permit unless otherwise specified by S.C. Regulation 61-62.70 or any other State or Federal requirement. The activity will not result in emissions that will exceed any limit in this permit or the facility's potential to emit; the activity itself is not considered a modification under 40 CFR Part 60, 61 or 63 and compliance with S.C. Regulation 61-62.5, Standard No(s) 2 (Ambient Air Quality Standards), 7 (PSD) and 8 (Toxic Air Pollutants) is not affected. 40 CFR 63 (MACT) related activities are not covered under this permitting flexibility condition.</p> <p>As part of this permit flexibility procedure the facility shall keep an on-site implementation log (OSIL) to document all changes made under the procedure. The OSIL shall provide detailed contemporaneous information supporting the changes made under this procedure. The OSIL shall be readily available to the Bureau and submitted semiannually to the Department. If no changes to the OSIL occurred during the reporting period then a letter shall indicate such.</p> <p>The owner or operator must cease implementation of any modification if it is found to be inconsistent with the permit flexibility conditions, and may also be subject to possible enforcement action(s). The owner or operator assumes the risk of any financial loss resulting from implementing the modification(s). Implementation of the modification(s) may be resumed upon receipt of written approval.</p> <ol style="list-style-type: none"> <li>1. Replacement of process equipment such as reactors, storage tanks, etc. with equipment identical in capacity, dimensions, and characteristics or with equipment that will have the same or lower emissions.</li> </ol>

<b>B. LIMITATIONS, MONITORING, AND REPORTING</b>	
<b>Condition Number</b>	<b>Conditions</b>
	<ol style="list-style-type: none"> <li>2. Manufacture of new products in existing equipment.</li> <li>3. Changes in product formulation in existing equipment.</li> <li>4. Additions of new raw material, and changes in raw material usage or formulation including paints and other coatings that do not necessitate construction or modification to existing equipment.</li> <li>5. Addition of control devices for the purpose of hygiene, safety, or other non-creditable decreases in emissions.</li> <li>6. Any activity exempted in S.C. Regulation 61-62.1, Section II.</li> <li>7. Re-routing of stacks or any change in stack parameters (i.e. stack height, orientation, diameter, removal or addition of rain caps).</li> <li>8. Changes in the sequence of process operations.</li> <li>9. Change in the method of raw material addition.</li> <li>10. Change in the method of product packaging.</li> <li>11. The operational changes in the physical dimensions, layout, configuration of equipment, arrangement or locations of process equipment to accommodate production needs as long as it does not affect air emissions or impact modeled stack parameters.</li> <li>12. Changes in the supplier of raw materials, fuels, or paints and other coatings, as long as there are no changes in formulation.</li> <li>13. Change in operating parameters as long as they do not quantitatively affect air emissions or impact modeled stack parameters.</li> <li>14. Temporary discontinuation of use of equipment, including but not limited to dip tanks, holding tanks, mix tanks, solvent tanks, and piping, as long as the period of discontinuation does not exceed 12 months.</li> </ol> <p>The following information shall be recorded and maintained in the OSIL for any of the activities described above on the date the activity is commenced at the facility:</p> <ol style="list-style-type: none"> <li>i. A brief description of the modification(s) and how it relates to the above pre-approved changes including any flow diagrams, equipment identification, etc. that help clarify the proposed changes.</li> <li>ii. The date the modification(s) will occur.</li> <li>iii. Identification of what equipment/emissions units the modification(s) will affect. (Include Operating Permit unit identification, equipment identification, stack identification, etc.)</li> <li>iv. The schedule for the implementation of the modification(s).</li> <li>v. An applicability determination showing the proposed physical or operational change will not be a modification under 40 CFR 60, 40 CFR 61, or 40 CFR 63. An applicability determination showing the proposed physical or operational change will not cause the facility or activity to be subject to S.C. Regulation 61-62.5, Standard No. 7. If the facility is major for PSD and there is any increase in a regulated NSR pollutant, an actual-to-projected-actual applicability test or actual-to-potential test must be performed and documented. The baseline actual emissions, projected actual emissions, and potential emissions used in these tests must include fugitive emissions. A review of recent project activity at the facility must be made and the emissions</li> </ol>

<b>B. LIMITATIONS, MONITORING, AND REPORTING</b>	
<b>Condition Number</b>	<b>Conditions</b>
	<p>from multiple projects that are interrelated must be aggregated. If the difference between the baseline actual and projected actual and/or potential equals or exceeds 50 percent of the applicable NSR significant level, the activity will require a construction permit. The facility shall maintain records of the actual to projected actual or potential emission details as well as the aggregation review and determination and include as part of the OSIL submittal.</p> <p>vi. Emissions calculations for all regulated air pollutants resulting from the activity and demonstration that when added to the existing emissions all permit limits will be met. This should include the increase and the facility-wide PTE emissions totals from the modification(s).</p> <p>vii. An applicability determination showing the proposed physical or operational change will not change the previous air dispersion modeling for the facility, in accordance with S.C. Regulation 61-62.5, Standard No(s) 2, 7 and/or 8. Any changes in the parameters used in the air dispersion modeling may require a review by the Department to determine continuing compliance with these standards. These potential changes include any decrease in stack height, decrease in stack velocity, increase in stack diameter, decrease in stack exit temperature, increase in building height or building additions, increase in emission rates, decrease in distance between stack and property line, changes in vertical stack orientation, and installation of a rain cap that impedes vertical flow. Parameters that are not required in the determination will not invalidate the demonstration if they are modified.</p>

<b>C. NESHAP (40 CFR 61 AND 40 CFR 63)</b>	
<b>Condition Number</b>	<b>Conditions</b>
C.1	(40 CFR §61.04(b); 40 CFR §63.9(a)(4)(ii) and §63.10(a)(4)(ii)) All NESHAP notifications and reports shall be sent to the Department. Electronic submission of notifications or reports to the United States Environmental Protection Agency (US EPA) via CEDRI (Compliance and Emissions Data Reporting Interface) shall serve as the submission to the Department. CEDRI can be accessed through the EPA's Central Data Exchange (CDX).
C.2	(40 CFR §61.04(b); 40 CFR §63.9(a)(4)(ii) and §63.10(a)(4)(ii)) All NESHAP notifications and reports requiring electronic submission to US EPA shall be submitted to EPA via CEDRI. Notifications and reports for specific NESHAP subparts not yet requiring electronic submission may also be submitted via CEDRI. Notifications and the accompanying cover letter for periodic reports not submitted via CEDRI shall be sent to the US EPA Region 4 Air and Radiation Division as required by the applicable subpart.
C.3	Emergency engines less than or equal to 150 kilowatt (kW) rated capacity, emergency engines greater than 150 kW rated capacity designated for emergency use only and operated a total of 500 hours per year or less for testing and maintenance and have a method to record the actual hours of use, such as an hour meter, and diesel engine driven emergency fire pumps that are operated a total of 500 hours per year or less for testing and maintenance and have a method to record the actual hours of

**Ingevity South Carolina LLC - Charleston Chemical Plant**

**TV-0560-0164 v2.0**

**Page 21 of 32**

<b>C. NESHAP (40 CFR 61 AND 40 CFR 63)</b>	
<b>Condition Number</b>	<b>Conditions</b>
	<p>use, such as an hour meter, have been determined to be exempt from construction permitting requirements in accordance with S.C. Regulation 61-62.1.</p> <p>(40 CFR 60; 40 CFR 63) If present, these sources shall still comply with the requirements of all applicable regulations, including but not limited to the following:</p> <p>New Source Performance Standards (NSPS) 40 CFR 60 Subpart A (General Provisions);  NSPS 40 CFR 60 Subpart IIII (Stationary Compression Ignition Internal Combustion Engines);  NSPS 40 CFR 60 Subpart JJJJ (Stationary Spark Ignition Internal Combustion Engines);  National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 CFR 63 Subpart A (General Provisions); and  NESHAP 40 CFR 63 Subpart ZZZZ (Stationary Reciprocating Internal Combustion Engines).</p>
C.4	<p>This facility has processes subject to the provisions of S.C. Regulation 61-62.61 and 40 CFR 61, National Emission Standards for Hazardous Air Pollutants, Subparts A and FF – National Emission Standards for Benzene Waste Operations. Existing affected sources shall be in compliance with the requirements of these Subparts on the compliance date, unless otherwise noted. Any new affected sources shall comply with the requirements of these Subparts upon initial startup unless otherwise noted.</p>
C.5	<p>§ 61.340 Applicability.</p> <p>(a) The provisions of this subpart apply to owners and operators of chemical manufacturing plants, coke by-product recovery plants, and petroleum refineries.</p> <p>(b) The provisions of this subpart apply to owners and operators of hazardous waste treatment, storage, and disposal facilities that treat, store, or dispose of hazardous waste generated by any facility listed in paragraph (a) of this section. The waste streams at hazardous waste treatment, storage, and disposal facilities subject to the provisions of this subpart are the benzene-containing hazardous waste from any facility listed in paragraph (a) of this section. A hazardous waste treatment, storage, and disposal facility is a facility that must obtain a hazardous waste management permit under subtitle C of the Solid Waste Disposal Act.</p> <p>(c) At each facility identified in paragraph (a) or (b) of this section, the following waste is exempt from the requirements of this subpart:</p> <p>(1) Waste in the form of gases or vapors that is emitted from process fluids:</p> <p>(2) Waste that is contained in a segregated stormwater sewer system.</p> <p>(d) At each facility identified in paragraph (a) or (b) of this section, any gaseous stream from a waste management unit, treatment process, or wastewater treatment system routed to a fuel gas system, as defined in § 61.341, is exempt from this subpart. No testing, monitoring, recordkeeping, or reporting is required under this subpart for any gaseous stream from a waste management unit,</p>

<b>C. NESHAP (40 CFR 61 AND 40 CFR 63)</b>	
<b>Condition Number</b>	<b>Conditions</b>
	treatment process, or wastewater treatment unit routed to a fuel gas system.
C.6	<p>§ 61.342 Standards: General.</p> <p>(a) An owner or operator of a facility at which the total annual benzene quantity from facility waste is less than 10 megagrams per year (Mg/yr) (11 ton/yr) shall be exempt from the requirements of paragraphs (b) and (c) of this section. The total annual benzene quantity from facility waste is the sum of the annual benzene quantity for each waste stream at the facility that has a flow-weighted annual average water content greater than 10 percent or that is mixed with water, or other wastes, at any time and the mixture has an annual average water content greater than 10 percent. The benzene quantity in a waste stream is to be counted only once without multiple counting if other waste streams are mixed with or generated from the original waste stream. Other specific requirements for calculating the total annual benzene waste quantity are as follows:</p> <p>(1) Wastes that are exempted from control under §§ 61.342(c)(2) and 61.342(c)(3) are included in the calculation of the total annual benzene quantity if they have an annual average water content greater than 10 percent, or if they are mixed with water or other wastes at any time and the mixture has an annual average water content greater than 10 percent.</p> <p>(2) The benzene in a material subject to this subpart that is sold is included in the calculation of the total annual benzene quantity if the material has an annual average water content greater than 10 percent.</p> <p>(3) Benzene in wastes generated by remediation activities conducted at the facility, such as the excavation of contaminated soil, pumping and treatment of groundwater, and the recovery of product from soil or groundwater, are not included in the calculation of total annual benzene quantity for that facility. If the facility's total annual benzene quantity is 10 Mg/yr (11 ton/yr) or more, wastes generated by remediation activities are subject to the requirements of paragraphs (c) through (h) of this section. If the facility is managing remediation waste generated offsite, the benzene in this waste shall be included in the calculation of total annual benzene quantity in facility waste, if the waste streams have an annual average water content greater than 10 percent, or if they are mixed with water or other wastes at any time and the mixture has an annual average water content greater than 10 percent.</p> <p>(4) The total annual benzene quantity is determined based upon the quantity of benzene in the waste before any waste treatment occurs to remove the benzene except as specified in § 61.355(c)(1)(i) (A) through (C).</p>
C.7	<p>§ 61.356 Recordkeeping requirements.</p> <p>(a) Each owner or operator of a facility subject to the provisions of this subpart shall comply with the recordkeeping requirements of this section. Each record shall be maintained in a readily accessible location at the facility site for a period not less than two years from the date the information is</p>



C.	NESHAP (40 CFR 61 AND 40 CFR 63)
Condition Number	Conditions
	<p>recorded unless otherwise specified.</p> <p>(b) Each owner or operator shall maintain records that identify each waste stream at the facility subject to this subpart, and indicate whether or not the waste stream is controlled for benzene emissions in accordance with this subpart. In addition the owner or operator shall maintain the following records:</p> <p>(1) For each waste stream not controlled for benzene emissions in accordance with this subpart, the records shall include all test results, measurements, calculations, and other documentation used to determine the following information for the waste stream: waste stream identification, water content, whether or not the waste stream is a process wastewater stream, annual waste quantity, range of benzene concentrations, annual average flow-weighted benzene concentration, and annual benzene quantity.</p> <p>(2) For each waste stream exempt from § 61.342(c)(1) in accordance with § 61.342(c)(3), the records shall include:</p> <p>(i) All measurements, calculations, and other documentation used to determine that the continuous flow of process wastewater is less than 0.02 liters (0.005 gallons) per minute or the annual waste quantity of process wastewater is less than 10 Mg/yr (11 ton/yr) in accordance with § 61.342(c)(3)(i), or</p> <p>(ii) All measurements, calculations, and other documentation used to determine that the sum of the total annual benzene quantity in all exempt waste streams does not exceed 2.0 Mg/yr (2.2 ton/yr) in accordance with § 61.342(c)(3)(ii).</p>
C.8	<p>§ 61.357 Reporting requirements.</p> <p>(a) Each owner or operator of a chemical plant, petroleum refinery, coke by-product recovery plant, and any facility managing wastes from these industries shall submit to the Administrator within 90 days after January 7, 1993, or by the initial startup for a new source with an initial startup after the effective date, a report that summarizes the regulatory status of each waste stream subject to § 61.342 and is determined by the procedures specified in § 61.355(c) to contain benzene. Each owner or operator subject to this subpart who has no benzene onsite in wastes, products, by-products, or intermediates shall submit an initial report that is a statement to this effect. For all other owners or operators subject to this subpart, the report shall include the following information:</p> <p>(1) Total annual benzene quantity from facility waste determined in accordance with § 61.355(a) of this subpart.</p> <p>(2) A table identifying each waste stream and whether or not the waste stream will be controlled for benzene emissions in accordance with the requirements of this subpart.</p>

**C. NESHAP (40 CFR 61 AND 40 CFR 63)**

Condition Number	Conditions
	<p>(3) For each waste stream identified as not being controlled for benzene emissions in accordance with the requirements of this subpart the following information shall be added to the table:</p> <p>(i) Whether or not the water content of the waste stream is greater than 10 percent;</p> <p>(ii) Whether or not the waste stream is a process wastewater stream, product tank drawdown, or landfill leachate;</p> <p>(iii) Annual waste quantity for the waste stream;</p> <p>(iv) Range of benzene concentrations for the waste stream;</p> <p>(v) Annual average flow-weighted benzene concentration for the waste stream; and</p> <p>(vi) Annual benzene quantity for the waste stream.</p> <p>(4) The information required in paragraphs (a) (1), (2), and (3) of this section should represent the waste stream characteristics based on current configuration and operating conditions. An owner or operator only needs to list in the report those waste streams that contact materials containing benzene. The report does not need to include a description of the controls to be installed to comply with the standard or other information required in § 61.10(a).</p> <p>(b) If the total annual benzene quantity from facility waste is less than 1 Mg/yr (1.1 ton/yr), then the owner or operator shall submit to the Administrator a report that updates the information listed in paragraphs (a)(1) through (a)(3) of this section whenever there is a change in the process generating the waste stream that could cause the total annual benzene quantity from facility waste to increase to 1 Mg/yr (1.1 ton/yr) or more.</p>

**D. GENERAL FACILITY WIDE**

Condition Number	Conditions
D.1	The owner or operator shall comply with S.C. Regulation 61-62.2, Prohibition of Open Burning.
D.2	The owner or operator shall comply with S.C. Regulation 61-62.3, Air Pollution Episodes.
D.3	The owner or operator shall comply with S.C. Regulation 61-62.4, Hazardous Air Pollution Conditions.
D.4	The owner or operator shall comply with S.C. Regulation 61-62.6, Control of Fugitive Particulate Matter, Section III Control of Fugitive Particulate Matter Statewide.
D.5	The owner or operator shall comply with the standards of performance for asbestos abatement operations pursuant to 40 CFR Part 61.145 and S.C. Regulation 61-86.1, including, but not limited to, requirements governing training, licensing, notification, work practice, cleanup, and disposal.



**Ingevity South Carolina LLC - Charleston Chemical Plant**

**TV-0560-0164 v2.0**

**Page 25 of 32**

<b>D. GENERAL FACILITY WIDE</b>	
<b>Condition Number</b>	<b>Conditions</b>
D.6	The owner or operator shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, Protection of Stratospheric Ozone, Recycling and Emissions Reduction, except as provided for motor vehicle air conditioners (MVACs) in Subpart B. If the owner or operator performs a service on motor vehicles (fleet) that involves ozone-depleting substance refrigerant in MVACs, the owner or operator is subject to all applicable requirements of 40 CFR Part 82, Subpart B, Servicing of MVACs.
D.7	(S.C. Regulation 61-62.70.6(a)(5)) The provisions of this permit are severable, and if any provision of this permit, or application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.
D.8	(S.C. Regulation 61-62.70.6(a)(6)(i)) The owner or operator must comply with all of the conditions of this permit. Any permit noncompliance constitutes a violation of the S.C. Pollution Control Act and/or the Federal Clean Air Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of permit renewal application.
D.9	(S.C. Regulation 61-62.70.6(a)(6)(ii)) It shall not be a defense for an owner or operator in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
D.10	(S.C. Regulation 61-62.70.6(a)(6)(iii)) The permit may be modified, revoked, reopened and reissued, or terminated for cause by the Department. The filing of a request by the owner or operator for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.
D.11	(S.C. Regulation 61-62.70.6(a)(6)(iv)) The permit does not convey any property rights of any sort, or any exclusive privilege.
D.12	(S.C. Regulation 61-62.70.6(a)(6)(v)) The owner or operator shall furnish to the Department, within a reasonable time, any information that the Department may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the owner or operator shall also furnish to the Department copies of records required to be kept by the permit or, for information claimed to be confidential, the owner or operator may furnish such records directly to the Administrator along with a claim of confidentiality. The Department may also request that the owner or operator furnish such records directly to the Administrator along with a claim of confidentiality.
D.13	(S.C. Regulation 61-62.70.6(a)(8)) No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in this permit.
D.14	<p>(S.C. Regulation 61-62.70.6(c)(2)) Upon presentation of credentials and other documents as may be required by law, the owner or operator shall allow the Department or an authorized representative to perform the following:</p> <ol style="list-style-type: none"> <li>1. Enter upon the owner or operator's premises where a Part 70 source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit.</li> <li>2. Have access to and copy, at reasonable times, any records that must be kept under the</li> </ol>

**Ingevity South Carolina LLC - Charleston Chemical Plant**

**TV-0560-0164 v2.0**

**Page 26 of 32**

<b>D. GENERAL FACILITY WIDE</b>	
<b>Condition Number</b>	<b>Conditions</b>
	<p>conditions of the permit.</p> <p>3. Inspect any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.</p> <p>4. As authorized by the Act and/or the S.C. Pollution Control Act, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.</p>
D.15	(S.C. Regulation 61-62.70.6(a)(1)(ii)) Where an applicable requirement of the Act is more stringent than an applicable requirement of regulations promulgated under Title IV of the Act, both provisions shall be incorporated into the permit and shall be enforceable by the Administrator.
D.16	(S.C. Regulation 61-62.70.6(a)(4)) The owner or operator is prohibited from emissions exceeding any allowances that the source lawfully holds under Title IV of the Act or the regulations promulgated thereunder. No permit revision shall be required for increases in emissions that are authorized by allowances acquired pursuant to the acid rain program, provided that such increases do not require a permit revision under any other applicable requirement. No limit shall be placed on the number of allowances held by a source. The source may not, however, use allowances as a defense to noncompliance with any other applicable requirement. Any such allowances shall be accounted for according to the procedures established in regulations promulgated under Title IV of the Act.
D.17	(S.C. Regulation 61-62.70.7(c)(1)(ii)) Permit expiration terminates the source's right to operate unless a timely and complete renewal application has been submitted consistent with S.C. Regulation 61-62.70.5(a)(1)(iii), 62.70.5(a)(2)(iv), and 62.70.7(b). In this case, the permit shall not expire until the renewal permit has been issued or denied. All terms and conditions of the permit including any permit shield that may be granted pursuant to S.C. Regulation 61-62.70.6(f) shall remain in effect until the renewal permit has been issued or denied.
D.18	(S.C. Regulation 61-62.70.7) Requests for permit modification and amendments shall be submitted on the appropriate Department approved Title V Modification Form(s).
D.19	(S.C. Regulation 61-62.70.6(a)(7)) The owners or operators of Part 70 sources shall pay fees to the Department consistent with the fee schedule approved pursuant to S.C. Regulation 61-62.70.9; and in accordance with S.C. Regulation 61-30, Environmental Protection Fees. Failure to pay applicable fees can be considered grounds for permit revocation.
D.20	<p>(S.C. Regulation 61-62.1, Section III) The owners or operators of Part 70 sources shall complete and submit a new updated emissions inventory consistent with the schedule approved pursuant to S.C. Regulation 61-62.1, Section III. These reports shall be submitted to the Department.</p> <p>This requirement notwithstanding, an emissions inventory may be required at any time in order to determine the compliance status of any facility.</p>
D.21	This permit expressly incorporates insignificant activities. Emissions from insignificant activities shall be included in the emissions inventory submittals as required by S.C. Regulation 61-62.1, Section III(B)(2)(g).
D.22	(S.C. Regulation 61-62.1, Section II(J)(1)(a)) No applicable law, regulation, or standard will be contravened.

**Ingevity South Carolina LLC - Charleston Chemical Plant****TV-0560-0164 v2.0****Page 27 of 32**

<b>D. GENERAL FACILITY WIDE</b>	
<b>Condition Number</b>	<b>Conditions</b>
D.23	(S.C. Regulation 61-62.1, Section II(J)(1)(e)) Any owner or operator who constructs or operates a source or modification not in accordance with the application submitted pursuant to S.C. Regulation 61-62.1 or with the terms of any approval to construct, or who commences construction after the effective date of S.C. Regulation 61-62.1 without applying for and receiving approval hereunder, shall be subject to enforcement action.

<b>E. GENERAL RECORD KEEPING AND REPORTING</b>	
<b>Condition Number</b>	<b>Conditions</b>
E.1	(S.C. Regulation 61-62.1, Section II(J)(1)(g)) A copy of the Department issued construction and/or operating permit must be kept readily available at the facility at all times. The owner or operator shall maintain such operational records; make reports; install, use, and maintain monitoring equipment or methods; sample and analyze emissions or discharges in accordance with prescribed methods at locations, intervals, and procedures as the Department shall prescribe; and provide such other information as the Department reasonably may require. All records required to demonstrate compliance with the limits established under this permit shall be maintained on site for a period of at least five (5) years from the date the record was generated and shall be made available to a Department representative upon request.
E.2	(S.C. Regulation 61-62.70.6(a)(3)(iii)(A)) The owner or operator shall submit reports required in this permit in a timely manner and according to the reporting schedule that has previously been established through the Department's approved electronic permitting system.  All required reports must be certified by a responsible official consistent with S.C. Regulation 61-62.70.5(d).
E.3	(S.C. Regulation 61-62.70.6(a)(3)(iii)) All reports and notifications required under this permit shall be submitted to the Department.
E.4	(S.C. Regulation 61-62.70.6(c)(5)(iv)) All Title V Annual Compliance Certifications shall be sent to the US EPA, Region 4, Air Enforcement Branch and to the Department. These reports can be submitted electronically to EPA through CEDRI.
E.5	(S.C. Regulation 61-62.70.6(a)(3)(ii)) The owner or operator shall comply, where applicable, with the following monitoring/support information collection and retention record keeping requirements:  1. Records of required monitoring information shall include the following:  a. The date, place as defined in the permit, and time of sampling or measurements;  b. The date(s) analyses were performed;  c. The company or entity that performed the analyses;  d. The analytical techniques or methods used;

E.	GENERAL RECORD KEEPING AND REPORTING
Condition Number	Conditions
	<p>e. The results of such analyses; and</p> <p>f. The operating conditions as existing at the time of sampling or measurement;</p> <p>2. Records of all required monitoring data and support information shall be retained for a period of at least five (5) years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.</p>
E.6	<p>(S.C. Regulation 61-62.1, Section II(J)(1)(c)) For sources not required to have continuous emission monitors, any malfunction of air pollution control equipment or system, process upset, or other equipment failure which results in discharges of air contaminants lasting for one (1) hour or more and which are greater than those discharges described for normal operation in the permit application, shall be reported to the Department within twenty-four (24) hours after the beginning of the occurrence and a written report shall be submitted to the Department within thirty (30) days. The written report shall include, at a minimum, the following:</p> <ol style="list-style-type: none"> <li>1. The identity of the stack and/or emission point where the excess emissions occurred;</li> <li>2. The magnitude of excess emissions expressed in the units of the applicable emission limitation and the operating data and calculations used in determining the excess emissions;</li> <li>3. The time and duration of excess emissions;</li> <li>4. The identity of the equipment causing the excess emissions;</li> <li>5. The nature and cause of such excess emissions;</li> <li>6. The steps taken to remedy the malfunction and the steps taken or planned to prevent the recurrence of such malfunction;</li> <li>7. The steps taken to limit the excess emissions; and,</li> <li>8. Documentation that the air pollution control equipment, process equipment, or processes were at all times maintained and operated, to the maximum extent practicable, in a manner consistent with good practice for minimizing emissions.</li> </ol> <p>The initial twenty-four (24) hour notification should be made to the Department's local Regional Office.</p> <p>The written report should be sent to the Department.</p>
E.7	<p>(S.C. Regulation 61-62.70.6(c)(5)(iii)) The responsible official shall certify annually, compliance with the conditions of this permit as required under S.C. Regulation 61-62.70.6(c). The compliance certification shall include the following:</p> <ol style="list-style-type: none"> <li>1. The identification of each term or condition of the permit that is the basis of the certification.</li> </ol>

**E. GENERAL RECORD KEEPING AND REPORTING**

Condition Number	Conditions
	<p>2. The identification of the method(s) or means used by the owner or operator for determining the compliance status with each term and condition of the permit during the certification period.</p> <p>3. The status of compliance with the terms and conditions of the permit for the period covered by the certification, including whether compliance during the period was continuous or intermittent. The certification shall be based on the method or means designated in S.C. Regulation 61-62.70.6(c)(5)(iii)(B). The certification shall identify each deviation and take it into account in the compliance certification.</p> <p>4. Such other facts as the Department may require to determine the compliance status of the source.</p>
E.8	(S.C. Regulation 61-62.1, Section II(M)) Within thirty (30) days of the transfer of ownership/operation of a facility, the current permit holder and prospective new owner or operator shall submit to the Department a written request for transfer of the source operating or construction permits. The written request for transfer of the source operating or construction permit shall include any changes pertaining to the facility name and mailing address; the name, mailing address, and telephone number of the owner or operator for the facility; and any proposed changes to the permitted activities of the source. Transfer of the operating or construction permits will be effective upon written approval by the Department.

**F. INSIGNIFICANT ACTIVITIES**

Condition Number	Conditions
F.1	The facility may install, remove, and modify insignificant activities as defined in S.C. Regulation 61-62.70.5(c), without revising or reopening the Title V Operating Permit. A list of insignificant activities/exempt sources must be maintained on site, along with any necessary documentation to support the determination that the activity is insignificant and shall be made available to a Department representative upon request. The list shall be submitted with the next renewal application.

**G. PERMIT SHIELD**

Condition Number	Conditions
G.1	(S.C. Regulation 61-62.70.6(f)) A copy of the "applicability determination" submitted with the Part 70 permit application is included as Applicable and Non-Applicable Federal and State Regulations. With the exception of those listed below, compliance with the terms and conditions of this permit shall be

**Ingevity South Carolina LLC - Charleston Chemical Plant**

**TV-0560-0164 v2.0**

**Page 30 of 32**

<b>G. PERMIT SHIELD</b>	
<b>Condition Number</b>	<b>Conditions</b>
	<p>deemed compliance with the applicable requirements specified in Applicable and Non-Applicable Federal and State Regulations as of the date of permit issuance provided that such applicable requirements are included and are specifically identified in the permit. The owner or operator shall also be shielded from the non-applicable requirements specified in Applicable and Non-Applicable Federal and State Regulations. Exceptions to this are stated below in the Permit Shield Exceptions Table. This permit shield does not extend to applicable requirements which are promulgated after permit issuance, unless the permit has been appropriately modified to reflect such new requirements.</p> <p>Nothing in the permit shield or in any Part 70 permit shall alter or affect the provisions of Section 303 of the Act, Emergency Orders of the Clean Air Act; the liability of the owner or operator for any violation of applicable requirements prior to or at the time of permit issuance; the applicable requirements of the Acid Rain Program, consistent with Section 408(a) of the Clean Air Act; or the ability of US EPA to obtain information from a source pursuant to Section 114 of the Clean Air Act. In addition, the permit shield shall not apply to emission units in noncompliance at the time of permit issuance, minor permit modifications (S.C. Regulation 61-62.70.7(e)(2)), group processing of minor permit modifications (S.C. Regulation 61-62.70.7(e)(3)), or operational flexibility (S.C. Regulation 61-62.70.7(e)(5)(i)), except as specified in S.C. Regulation 61-62.70.7(e)(5)(iii).</p>
<b>Permit Shield Exceptions</b>	
SC Regulation 61-62.1, Definitions and General Requirements	
SC Regulation 61-62.5, Std. No. 5 Volatile Organic Compounds	
SC Regulation 61-62.5, Std. No. 7 Prevention of Significant Deterioration	
SC Regulation 61-62.60 SC Designated Facility Plan and NSPS (Subparts A – OOOO)	
SC Regulation 61-62.63 National Emission Standards for Hazardous Air Pollutants (Subparts A – HHHHHHH)	
40 CFR 60 subpart K Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978	
40 CFR 60 subpart Kb Volatile Organic Liquid Storage Vessels for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984	
40 CFR 61 subpart M Asbestos	
40 CFR 61 subpart V Equipment Leaks (Fugitive Emission Source)	
40 CFR 63 subpart HHHH Wetted Formed Fiberglass Mat Production	
40 CFR 63 subpart HHHHH Misc. Coating Manufacturing	
40 CFR 63 Subpart JJJJJ Industrial, Commercial, and Institutional Boilers Area Sources	
40 CFR 64 Compliance Assurance Monitoring	
40 CFR 72 Subpart A Acid Rain Program General Provisions	
40 CFR 72 Subpart B Designated Representative	
40 CFR 72 Subpart C Acid Rain Permit Applications	
40 CFR 72 Subpart D Acid Compliance Plan and Compliance Options	
40 CFR 72 Subpart E Acid Rain Permit Contents	
40 CFR 72 Subpart F Federal Acid Rain Permit Issuance Procedures	
40 CFR 72 Subpart G Acid Rain Phase II Implementation	



Permit Shield Exceptions
40 CFR 72 Subpart H Permit Revisions
40 CFR 72 Subpart I Compliance Certification
40 CFR 73 Allowance System
40 CFR 73 Subpart A Background and Summary
40 CFR 73 Subpart B Allowance Allocations
40 CFR 73 Subpart C Allowance Tracking System
40 CFR 73 Subpart D Allowance Transfers
40 CFR 73 Subpart E Actions, Direct Sales, and Independent Power Producers Written Guarantee
40 CFR 73 Subpart F Energy Conservation and Renewable Energy Reserve
40 CFR 73 Subpart G Small Diesel Refineries
40 CFR 74 Subparts A-G Sulfur Dioxide Opt-Ins
40 CFR 75 Continuous Emission Monitoring
40 CFR 75 Subpart A General
40 CFR 75 Subpart B Monitoring Provisions
40 CFR 75 Subpart C Operation and Maintenance Requirements
40 CFR 75 Subpart D Missing Data Substitution Procedures
40 CFR 75 Subpart E Alternative Monitoring Systems
40 CFR 75 Subpart F Recordkeeping Requirements
40 CFR 75 Subpart G Reporting Requirements
40 CFR 75 Subpart H NO <sub>x</sub> Mass Emissions Provisions
40 CFR 76 Acid Rain Nitrogen Oxides Emission Reduction Program
40 CFR 82 Protection of Stratospheric Ozone
40 CFR 96 Subparts A-I NO <sub>x</sub> Budget Trading Program and CAIR NO <sub>x</sub> and SO <sub>2</sub> Trading Programs for State Implementation Plans
40 CFR 96 Subpart AA CAIR NO <sub>x</sub> Annual Trading Program General Provisions
40 CFR 96 Subpart BB CAIR Designated Representatives for CAIR NO <sub>x</sub> Sources
40 CFR 96 Subpart CC Permits
40 CFR 96 Subpart EE CAIR NO <sub>x</sub> Allowance Allocations
40 CFR 96 Subpart FF CAIR NO <sub>x</sub> Allowance Tracking System
40 CFR 96 Subpart GG CAIR NO <sub>x</sub> Allowance Transfers
40 CFR 96 Subpart HH Monitoring and Reporting
40 CFR 96 Subpart II CAIR NO <sub>x</sub> Opt-in Units
40 CFR 96 Subpart AAA CAIR SO <sub>2</sub> Trading Program General Provisions
40 CFR 96 Subpart BBB CAIR Designated Representative for CAIR SO <sub>2</sub> Sources
40 CFR 96 Subpart CCC Permits
40 CFR 96 Subpart FFF CAIR SO <sub>2</sub> Allowance Tracking System
40 CFR 96 Subpart GGG SO <sub>2</sub> Allowance Transfers
40 CFR 96 Subpart HHH Monitoring and Reporting
40 CFR 96 Subpart III CAIR SO <sub>2</sub> Opt-In Units
40 CFR 96 Subpart AAAA CAIR NO <sub>x</sub> Ozone Season Trading Program General Provisions
40 CFR 96 Subpart BBBB CAIR Designated Representative for CAIR NO <sub>x</sub> Ozone Season Sources
40 CFR 96 Subpart CCCC Permits
40 CFR 96 Subpart EEEE CAIR NO <sub>x</sub> Ozone Season Allowance Allocations

**Ingevity South Carolina LLC - Charleston Chemical Plant****TV-0560-0164 v2.0****Page 32 of 32**

<b>Permit Shield Exceptions</b>
40 CFR 96 Subpart FFFF CAIR NO <sub>x</sub> Ozone Season Allowance Tracking System
40 CFR 96 Subpart GGGG CAIR NO <sub>x</sub> Ozone Season Allowance Transfers
40 CFR 96 Subpart HHHH Monitoring and Reporting
40 CFR 96 Subpart IIII CAIR NO <sub>x</sub> Ozone Season Opt-In Units
40 CFR 98 Subparts A, C-I, K, L, N-Z, AA-JJ, LL-UU Mandatory Reporting of Greenhouse Gases

**H. AMBIENT AIR STANDARDS**

<b>Condition Number</b>	<b>Conditions</b>
H.1	<p>(S.C. Regulation 61-62.1, Section II(J)(2)) Air dispersion modeling (or other method) has previously demonstrated that this facility's operation will not interfere with the attainment and maintenance of any state or federal ambient air standard. Any changes in the parameters used in this demonstration may require a review by the facility to determine continuing compliance with these standards. These potential changes include any decrease in stack height, decrease in stack velocity, increase in stack diameter, decrease in stack exit temperature, increase in building height or building additions, increase in emission rates, decrease in distance between stack and property line, changes in vertical stack orientation, and installation of a rain cap that impedes vertical flow. Parameters that are not required in the determination will not invalidate the demonstration if they are modified. Variations from the input parameters in the demonstration shall not constitute a violation unless the maximum allowable ambient concentrations identified in the standard are exceeded.</p> <p>The owner or operator shall maintain this facility at or below the emission rates used in the most recent air dispersion modeling (or other method) demonstration submitted to and approved by the Department, not to exceed the pollutant limitations of this permit. Should the facility wish to increase the emission rates used in the demonstration, not to exceed the pollutant limitations in the body of this permit, it may do so by submitting a new demonstration for approval. This condition along with the referenced modeling demonstration will also serve to meet the intent of S.C. Regulation 61-62.5, Standard No. 8, Section II(D). This is a State Only enforceable requirement.</p>

**I. COMPLIANCE SCHEDULE - RESERVED**