DuPONT POMPTON LAKES WORKS
PUBLIC AVAILABILITY SESSIONS
MARCH 19, 2014
AGENDA

- Introduction
- Permit Appeal/Dredging
- Bioremediation Pilot Study
- Off-site Groundwater Technology Evaluation
- Hydraulic Surcharging Pilot Study
- Vapor Intrusion (Lakeside Middle School/Board of Education Building & VI Program)
- On-site Soils (Corrective Measures Study)
- Community Involvement Update
STATUS OF PERMIT APPEALS

• Stay of the Permit Extended Until April 30, 2014 Based on Progress of EPA/DuPont Discussions

• DuPont Submitted Work Plan February 26, 2014 That Included Field Mapping of Riverbed/Proposed Sediment Sampling Downstream of Pompton Dam


• Interface with Passaic River Coalition (PRC)
  - Met with PRC in December 2013 Regarding Sediment Sampling/Eco Investigations & Community Engagement
  - Follow-up Meeting to be Scheduled in April 2014 Once Sediment Sampling Report is Fully Evaluated
BIOREMEDIATION PILOT STUDY

Pilot Study Results

- Performance Monitoring Sufficient to Evaluate Pilot System Effectiveness in Terms of:
  - Ability to Deliver Remediation Fluids
    - Low Hydraulic Conductivity Results in Slow Movement to Target Area Which Can Impact System Design
  - Effects on Contaminant Concentrations
    - PCE/TCE Decreasing and Breakdown Products Increasing
    - Further Evaluation Needed to Assess Decrease in Breakdown Products
BIOREMEDIATION PILOT STUDY

Pilot Study Results (Continued)

• Implementation Considerations
  - Required Spacing of Injection/Extraction Points Due to Low Hydraulic Conductivity and Slow Movement of Remedial Fluids
  
  - Biofouling in Extraction Well and Potentially the Aquifer During Full-Scale Implementation
  
  - Further Assessment of Ability to Address Breakdown Products Over Time
BIOREMEDIATION PILOT STUDY

Conclusions/Next Steps

• Appears Enhanced Bioremediation Technology Can Reduce Contaminant Concentrations

• Potential Significant Challenges for Full-Scale Implementation
  - Slow Movement of Remediation Fluids to Contact Contaminants
  - Biofouling
  - Sustaining Full-Scale System to Complete Remediation

• DuPont Preparing Draft Report for EPA/NJDEP Review That Will Include:
  - Pilot Results
  - Evaluation of Implementability
  - Conceptual Full-Scale Design
OFF-SITE GROUNDWATER TECHNOLOGY EVALUATION

- Technical Reps from EPA/CAGs/DuPont Met in May 2013 to Discuss Remedial Technologies to Address Off-site Groundwater Contamination

- Enhanced Anaerobic Bioremediation Pilot Performed June to December 2013

- General Agreement Hydraulic Surcharging of the Shallow Groundwater Zone Had Potential to be Effective
OFF-SITE GROUNDWATER TECHNOLOGY EVALUATION

- In-situ Chemical Oxidation (ISCO) Should be Considered

- DuPont Will Conduct On-site Pilot Study With ISCO

- Next Steps
  - Submit Data Collection Report for Well 13 Area Based on NJDEP/EPA Comments
  - Prepare Pilot Study Work Plan for NJDEP/EPA Approval
  - Meeting with Technical Representatives To Discuss Pilot Study Work Plan
  - DuPont Procures ISCO Vendor
  - Submit/Secure Permit-by-Rule (< 180 Days)
  - Implement NJDEP/EPA Approved Pilot Study Work Plan
HYDRAULIC SURCHARGING PILOT STUDY

- EPA/NJDEP Has Reviewed Draft Hydraulic Surcharging Implementation Work Plan

- DuPont Has a Provided Sequence of Activities:
  - Receive Approval From Railroad (RR) to Conduct Pre-Design Activities & Negotiate/Obtain Property Access Agreement

- RR Reviewing Engineering Drawings/Provided Draft Access Agreements to DuPont

- Agreed to Continue Engineering Review After Concerns About Flooding Received
HYDRAULIC SURCHARGING PILOT STUDY

- Conduct Pre-Design Activities to Complete Final Design (60 Days)

- Submit Final Design to RR/Final Implementation Work Plan to NJDEP/EPA (45 Days From Completion of Pre-Design Work)

- Submit Permit-by-Rule (PBR) to NJDEP (14 Days From Final Design Approval by RR and NJDEP/EPA Approval of Implementation Work Plan)

- NJDEP Public Notice

- Mobilization for Horizontal Well (30 Days From Approval of PBR)
HYDRAULIC SURCHARGING PILOT STUDY
CONSIDERATIONS ABOUT FLOODING

• Surcharging With Treated Water On-going Under Original Remedy and Resulted in Decreases in Contaminant Concentrations

• Previous Modeling/Field Testing Showed That Even Under Maximum Design Flow Rates, Water Table Would Not Rise to Adversely Impact Basements

• Water Levels Monitored Since Inception of Groundwater Extraction/Treatment/Reinjection System (GWET) in 2000 Showed No Rise to a Level That Would Adversely Impact Basements

• Same Amount of Water Currently Re-injected as Part of Existing GWET Would be Discharged 20 Feet Below Ground Along a Greater Distance
HYDRAULIC SURCHARGING PILOT STUDY
CONSIDERATIONS ABOUT FLOODING

• Monitoring Wells Along Horizontal Well to Measure Water Levels

• Pilot Study Can Be Immediately Terminated if Evidence of Rise in Water Levels Threatens Basements

• Existing Infiltration Beds Are Available if Water Needs to be Diverted From the Horizontal Well

• Comments Provided/Resident Concerns to be Addressed During Permit-by-Rule Process
STATUS UPDATE - VAPOR INTRUSION PROGRAM
Changes to Comparison Values - Trichloroethene (TCE)

**SUB-SLAB SOIL GAS**

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**INDOOR AIR**

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STATUS UPDATE - VAPOR INTRUSION PROGRAM
Changes to Comparison Values-Tetrachloroethene (PCE)

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LAKESIDE MIDDLE SCHOOL/BOARD OF EDUCATION

SUB-SLAB SOIL & INDOOR AIR SAMPLING

- Originally Performed by NJDEP in 2009

- Sub-slab/Indoor Air/Ambient Air Tested for DuPont Contaminants of Concern (COCs)

- DuPont Associated COCs Not Detected

- Groundwater Plume is Side-Gradient And to the East of the School

- Based on Community Concern, Vapor Intrusion Sampling Repeated in December 2013 at Same Locations n 2009

- Report Transmitted to Superintendent February 2014
BOARD OF EDUCATION BUILDING
INDOOR AIR SAMPLING RESULTS

- Samples Collected: Indoor Air Sample in Crawlspace (1)/Ambient Air (2)
- EPA-Approved Sampling Methodology/NJDEP-Certified Laboratory
- No DuPont Associated COCs Detected Above NJDEP Indoor Air Screening Levels (IASL)
- Carbon Tetrachloride, a DuPont COC Detected in Crawlspace and Ambient Air Below IASL
- Carbon Tetrachloride Detection in Crawlspace Likely a Result of its Presence in Ambient Air
LAKESIDE MIDDLE SCHOOL
SUB-SLAB SOIL GAS SAMPLING RESULTS

- Samples Collected: Sub-slab Soil Samples at Six Locations Consistent with 2009 NJDEP Sampling

- EPA-Approved Sampling Methodology/NJDEP-Certified Laboratory

- No DuPont Associated COCs Detected Above NJDEP Residential Soil Gas Screening Levels (RSGSL)

- Trichloroethylene (TCE), a DuPont Associated COC Detected in Sub-slab of Art Room Storage Closet Below RSGSL

- TCE Detection Likely a Result of Background Indoor Air Source (e.g. Glue/Adhesive/Paint) in Art Room Storage Closet
**LAKESIDE MIDDLE SCHOOL/BOARD OF EDUCATION**

**VI SAMPLING RESULTS**

- Results posted on Board of Education website
- Letter From Superintendent to School Parents Conveying Results
- Follow-up Sampling Beneath Sub-slab in Art Room Closet to Further Assess Presence of TCE
- Based on the Results, EPA Sees No Public Health Issues Related to Indoor Air Quality at Lakeside Middle School or Board of Education Building
STATUS UPDATE - VAPOR INTRUSION PROGRAM

- Vapor Mitigation Systems Installed
  - 248 (DuPont/O’Brien & Gere)
  - 78 (Third Party Contractor)

- Vapor Mitigation Systems “In Pipeline” For Installation
  - 1 (DuPont/O’Brien & Gere)
  - 5 (Third Party Contractor)
• Revisions to NJDEP Vapor Intrusion Comparison Levels Adopted in March 2013 In Response to Changes in EPA Toxicity Values/Equations

• DuPont Requested Modification of 2008 Vapor Interim Remedial Measure Work Plan (VIRM WP) to Utilize Revised VI Comparison Levels in April 2013

• NJDEP/EPA Requested a Revised Draft VIRM WP in November 2013

• DuPont Submitted Revised Draft VIRM WP in February 2014

• NJDEP/EPA Approved Use of Revised Comparison Levels, But Did Not Approve Draft Revised VIRM WP in February 2014

• Revised Draft VIRM WP Addressing NJDEP/EPA Comments in Final Review
STATUS UPDATE - VAPOR INTRUSION PROGRAM
COMMUNICATION PLAN

• Brief Local Stakeholders

• Convey Elements of Revised VIRM WP Through Public Availability Session(s)

• DuPont Transmits Property-Specific Notification Packages to Property Owners
  - Notification Packages Reviewed by NJDEP/EPA Prior to Transmittal
  - Notification Via Mail/Telephone/Door-to-Door/Individual Meetings

• DuPont/NJDEP/EPA Hold Info Sessions for Individuals/Small Groups

• Info Will Be Available Via EPA/NJDEP Websites, EPA Newsletters, EPA Weekly Availability Sessions, Individual Appointments

3/25/2014
CORRECTIVE MEASURES STUDY

- Covers Eastern/Western/Northern Manufacturing Area
  On-site Soils

- Remedial Options Being Considered
  - Excavation/Off-site Disposal of Select Soil Above Remediation Standards
  - On-site Consolidation/Capping of Select Soil
  - Long-term Monitoring/Maintenance of Capped Areas
  - Institutional Controls
CORRECTIVE MEASURES STUDY

• NJDEP/EPA Comments to DuPont
  - Requires Details on Alternative Evaluation Process
  - Requires Details on Proposed Remedy
  - Technical Review of Proposed Alternative Remediation Standards

• Once Approved, Corrective Measures Study Subject to Permit Modification with Public Notice/Comment

• Target for Permit Modification: Fall 2014
COMMUNITY INVOLVEMENT UPDATE

• EPA Weekly Public Availability Since November 2013

• February 2014 Newsletter

• Meetings with Concerned Residents/Local Officials/CAGs/Local Civic Groups

• Outreach to Local Real Estate and Banking Communities in Spring/Summer 2014