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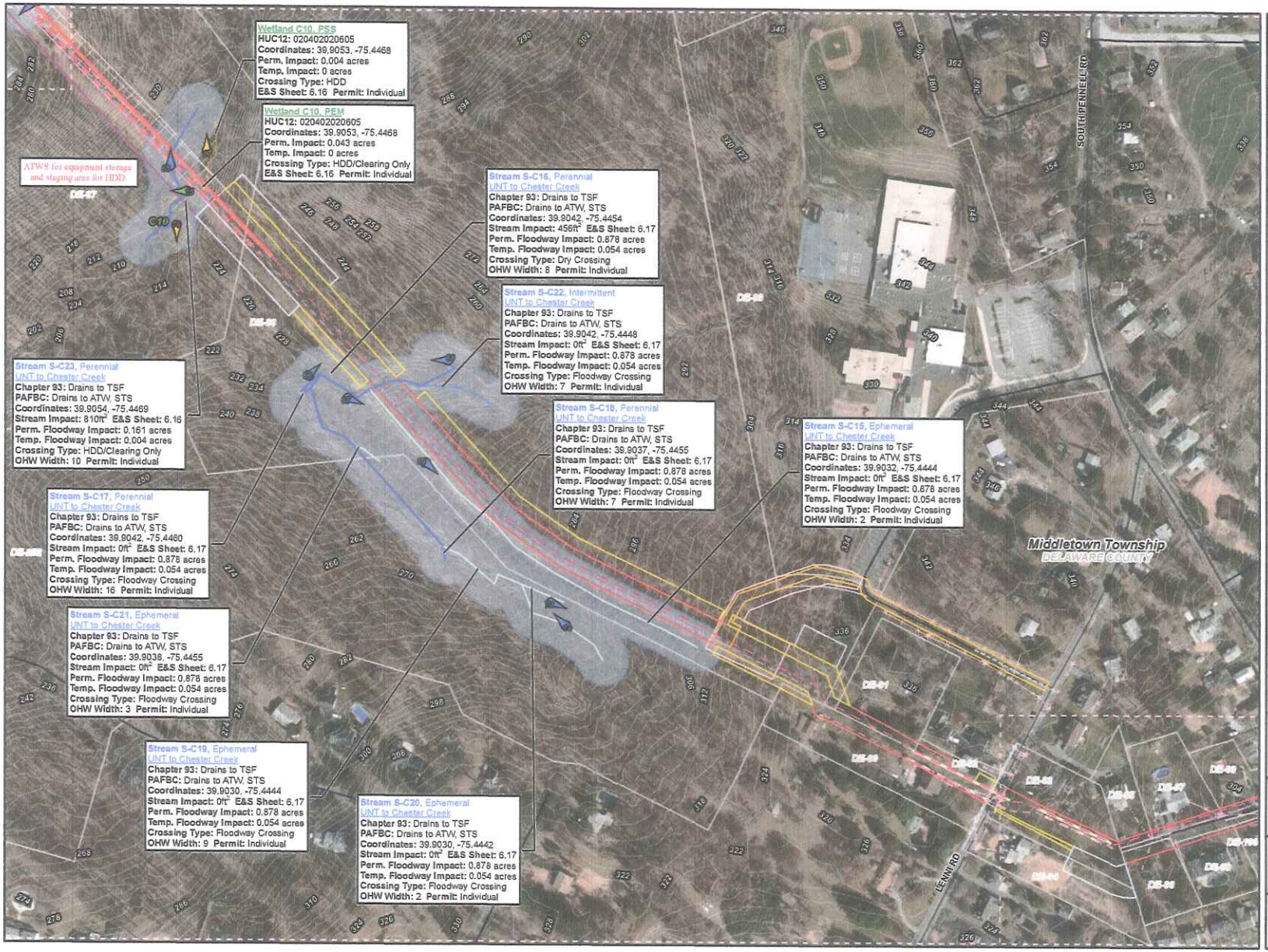
Attorney for Plaintiff

MIDDLETOWN COALITION FOR COMMUNITY SAFETY, et al., Plantiffs	:	COURT OF COMMON PLEAS
	:	DELAWARE COUNTY, PENNSYLVANIA
	:	CIVIL ACTION - LAW
	:	NO.
v.	:	
TOWNSHIP OF MIDDLETOWN, PENNSYLVANIA, et al., Defendants	:	

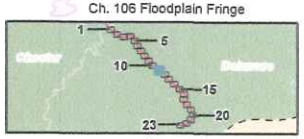
PLAINTIFFS' EXHIBITS

EX. "A"



Legend

- Swedesford Lateral
- PPP 1
- PPP 2
- PPP 1 Bore
- PPP 2 Bore
- PPP 1 HDD
- PPP 2 HDD
- Permanent ROW
- Temporary ROW
- ATWS
- Block Valve Setting LOD
- Existing Block Valve Setting
- Permanent Access Road
- Temporary Access Road
- Clearing Only
- Travel Only
- Permanent Easement (no surface disturbance)
- Stations
- Ephemeral Stream
- Intermittent Stream
- Perennial Stream
- Pond
- PEM Wetland
- PFO Wetland
- PSS Wetland
- Ch. 105 Floodways
- Waived Ch. 105 Floodways
- Ch. 106 Floodplain Fringe



N

0 50 100 200 300 400

1 inch = 200 feet

Site Plan for the Sunoco Pennsylvania Pipeline Project, Delaware County, PA.
Sheet 11 of 23

Prepared By:	Date:
TETRA TECH	5/2016

Base Map: ESRI ArcGIS Online. Roads from NRCS Geospatial Data Giveaway, 100-Year Floodplain from FEMA National Flood Hazard Layer, downloaded 10/2015.

Coordinate System: NAD 83 Stateplane, PA South, Feet

EX. "B"

Operator Information

Site Pages
About Pipelines
Regulatory Oversight
Safety Programs
Public Outreach

State Pipeline Profiles:
Choose One...
Print

Pipeline Operator Information

The operator information available below includes operators with hazardous liquid, gas transmission, and/or gas gathering pipelines who have submitted one or more PHMSA-required annual reports for the 2006-2015 time period. Gas distribution assets are not currently included in these reports. A report may be accessed on a particular operator which provides basic mileage, incident, inspection, and enforcement information covering the last five years. Mileage and incident information is provided for all of the hazardous liquid and/or gas transmission and gathering pipelines operated by a particular operator, whether they involve assets which are inspected by PHMSA (referred to as "Federally-inspected") or assets which are inspected by one of PHMSA's partner state agencies (referred to as "State-inspected"). Inspection and enforcement information, however, is only provided for those assets which are inspected by PHMSA. More information about state agencies and their authorities with respect to "State-inspected" pipelines is available.

Note: New operators who have not yet filed their initial mileage submission to PHMSA are not included in this operator information.

Operator information is gathered from multiple sources including operator reported [1], and internal PHMSA data.[2][3][4]

Operator Information

Enter Operator ID or name keywords to look up operator overview pages.
Filter: Sunoco Pipeline | Show All Available Operators

ID	Operator	System Type	Status	Miles	Incidents 2006-2016YTD	Federal Inspections 2006-2016YTD	Federal Enforcement Actions 2006-2016YTD
18718	SUNOCO PIPELINE L.P.	HL,GT	Active	5,774	269	155	26

Notes

A. [illegible]

Sources

1. [illegible] PHMSA Data and Statistics [illegible]

Sunoco, behind protested Dakota pipeline, tops U.S. crude spill charts

Sep 23, 2016 | 02:09
Company behind protested pipeline has unsafe record
Sunoco, behind protested Dakota pipeline, tops...X
http://reut.rs/2

By Liz Hampton | HOUSTON

Sunoco Logistics (SXL.N), the future operator of the oil pipeline delayed this month after Native American protests in North Dakota, spills crude more often than any of its competitors with more than 200 leaks since 2010, according to a Reuters analysis of government data.

The lands of the Standing Rock Sioux Tribe sit a half mile south of the proposed route of the Dakota Access pipeline. The tribe fears the line could destroy sacred sites during construction and that a future oil spill might pollute its drinking water.

A tribal protest over the $3.7 billion project drew broad support from other Native American tribes, domestic and international environmental groups and Hollywood celebrities.

In response to the tribe's objections, the U.S. government earlier this month called for a temporary halt to construction along a section of the 1,100 mile line in North Dakota near the Missouri River.

While environmental concerns are at the heart of the Standing Rock Sioux protest, there is no reference to the frequency of leaks by Sunoco or its parent Energy Transfer Partners (ETP.N) in a legal complaint filed by the tribe, nor has Sunoco's spill record informed the public debate on the line.

Standing Rock Sioux Chairman Dave Archambault II told Reuters the tribe was aware of the safety record of Energy Transfer, but declined to elaborate.

Sunoco Logistics is one of the largest pipeline operators in the United States. Energy Transfer is constructing the Dakota Access pipeline to pump crude produced at North Dakota's Bakken shale fields to the U.S. Gulf Coast. Once completed, it will hand over the pipeline's operation to Sunoco.

Sunoco acknowledged the data and told Reuters it had taken measures to reduce its spill rate.

"Since the current leadership team took over in 2012, Sunoco Pipeline has enhanced and improved our integrity management program," Sunoco spokesman Jeffrey Shields told Reuters by email.

This significantly cut the amount of barrels lost during incidents, he said.

The U.S. Department of Justice did not make any reference to the company's spill rate when it decided to stall the project. It highlighted the need for reform in the way companies building infrastructure consult with Native American tribes.

Spokespeople for the Departments of Justice and the Interior, and the Army Corps declined to comment to Reuters on whether they were aware of Energy Transfer's leak statistics when they jointly decided to halt construction of the line.

HIGH SPILL RATE

Reuters analyzed data that companies are obliged to disclose to the Pipeline and Hazardous Materials Safety Administration (PHMSA) when they suffer spills and found that Sunoco leaked crude from onshore pipelines at least 203 times over the last six years.

PHMSA data became more detailed in 2010. In its examination, Reuters tallied leaks in the past six years along dedicated onshore crude oil lines and excluded systems that carry natural gas and refined products. The Sunoco data include two of its pipeline units, the West Texas Gulf and Mid-Valley Pipeline.

That made it the operator with the highest number of crude leak incidents, ahead of at least 190 recorded by Enterprise Products Partners (EPD.N) and 167 by Plains All American Pipeline (PAA.N), according to the spill data reported to PHMSA, which is part of the U.S. Department of Transportation.

Enterprise said it has comprehensive safety and integrity programs in place and that many spills happened at its terminals.

Sunoco and Enterprise both said most leaks take place within company facilities and are therefore contained.

Plains All American did not respond to a request for comment.

Sunoco's spill rate shows protestors may have reason to be concerned about potential leaks.

The main option that was considered for routing the line away from the Standing Rock Sioux Tribe reservation was previously discarded because it would involve crossing more water-sensitive areas north of the capital Bismarck, according to the project's environmental assessment.

To be sure, most pipeline spills are small and pipelines are widely seen as a safer way to move fuel than alternatives such as rail.

Sunoco and its units leaked a total of 3,406 net barrels of crude in all the leaks over the last six years, only a fraction of the more than 3 million barrels lost in the largest spill in U.S. history, BP Plc's (BP.L) Macondo well disaster in 2010.

Sunoco said it found that crude lines not in constant use were a significant source of leaks, so it had shut or repaired some of those arteries.

In 2015, 71 percent of pipeline incidents were contained within the operator's facility, according to a report by the Association of Oil Pipe Lines, a trade group.

While total pipeline incidents have increased by 31 percent in the last five years, large spills of 500 barrels or more are down by 32 percent over the same time, the report said.

Sunoco accounted for about 8 percent of the more than 2,600 reported liquids pipeline leaks in the past six years in the United States.

SAFETY OVERHAUL

The company has made previous efforts to improve safety, a former Sunoco employee who declined to be identified said. It overhauled safety culture after a spill in 2000, and did so again another in 2005 that dumped some 6,000 barrels of crude into the Kentucky River from its Mid-Valley Pipeline.

Sunoco acknowledged that some of its pipeline equipment dates back to the 1950s.

A 2014 corrective measure regulators issued for Sunoco's Mid-Valley Pipeline cited "some history of internal corrosion failures" as a potential factor in a leak that sent crude into a Louisiana bayou near an area used for drinking water.

Crude spills on Sunoco's lines in 2009 and 2011 drew a rebuke from the U.S. Environmental Protection Agency in a settlement announced this year.

The EPA said the settlement aimed to "improve the safety of Sunoco's practices and to enhance its oil spill preparedness and response."

In September, Sunoco received another corrective measure for its newly constructed Permian Express II line in Texas, which leaked 800 barrels of oil earlier this month. The company is already contesting a proposed $1.3 million fine from regulators for violations related to welding on that line.

(Additional reporting by Ernest Scheyder; Editing By Terry Wade, Simon Webb and Edward Tobin)

EX. “C”

Middletown Township, Delaware County, Pennsylvania

Emergency Operations Plan

Introduction and Directive

Government at all levels has the responsibility to plan for and respond to disasters resulting from hazards and actions that represent a real or potential threat to the jurisdiction. In addition to our residents and visitors, Middletown Township is the home of a significant number of institutions such as; Elwyn Institute, Fair Acres Geriatric Center, Riddle Memorial Hospital, Sunrise at Granite Run and Residence at Glen Riddle assisted living facilities, Lima Estates, Granite Farm Estates and Riddle Village Life Care facilities and their integral skilled nursing and personal care components, the Delaware County Juvenile Detention Center, The Williamson School, The Easter Seal Society's Old Forge School and the Delaware County Intermediate Unit's Roosevelt School, as well as a number of other public and private schools and day care programs. In view of these facts, Middletown Township has established an Emergency Management Program to provide overall planning and coordination for such emergencies. It is anticipated that the specific institutions and agencies located within Middletown Township, identified above, will prepare and maintain an Emergency Plan for their facility a copy of which will be maintained with the Middletown Township EMC. The Emergency Management Coordinator (EMC) recommended by Township Council and appointed by the Governor is the Township Fire Marshal, John (Jack) McKeown. Emergency Management duties and responsibilities are delegated to the Township Manager, Township Department Heads, staff, and members of the community's emergency response organizations.

Disasters may require the Middletown Township government to operate in a manner different from normal day-to-day routines and have the potential to seriously overextend Township resources. The Emergency Operations Plan (EOP) provides specific guidance Departments during the period of the emergency. The EOP will also serve as an indicator of Township capability; in the event Middletown Township is unable to provide adequate coverage for a particular resource or potential hazard, alternate sources and contingency plans shall be developed within political and budgetary constraints.

The accomplishment of the Emergency Management Program goals and objectives depends on the development and maintenance of competent emergency management staff, adequate funding and on the familiarization of all Township personnel with their emergency responsibilities outlined in this plan. It is hereby directed that review of this EOP and overall responsibilities of all Township departments and personnel be accomplished annually prior to July 1 or as indicated through plan activation or exercises. Thorough familiarity with this EOP will result in the efficient and effective execution of disaster responsibilities and in better service to the citizens of Middletown Township.

Chairman of Township Council

_____

Anticipated Response and Required Actions

Activation of Middletown Township Emergency Management and implementation of the Emergency Operations Plan is likely to be in response to a developing incident that will have already involved the first responding emergency service agencies.

At the time of activation, many of the initial protective measures will have been implemented. Fire suppression, rescue, evacuation, and coordination of response will be initiated through the **Incident Command System and Unified Command principals of operation.** Transfer of strategic functions from a Command Post to the EOC needs to be accomplished seamlessly and with full understanding by on-scene commanders and EOC staff of the specific function each will continue to fulfill.

While continuation of initial actions by the first responders will be the on-scene commander's responsibility, the following support functions are anticipated to be the responsibility of the EOC:

Coordination and Control of overall emergency response

Establishment and Operation of Mass Care Shelters

Coordination and Control with utility services within damage area

Debris removal and disposal

Coordination of EMS Services

Coordination of Fire and Rescue Services

Coordination of Police Services

Coordination of Hazardous Material Response, Mitigation and Clean-up Services

Coordination with Federal, State and County Agencies

Coordination of volunteer and relief services

Initiation of any required action to restore services, return evacuees and to otherwise return to non-emergency conditions

Promulgation

The Attached Emergency Operations Plan Supercedes Previous Middletown Township Plans Developed For Response To A Major Emergency Or Disaster. This Plan Was Adopted By The Township Council Of Middletown Township, Delaware County, Pennsylvania By Resolution No. 2003-58, Dated April 28, 2003..

Township of Middletown

By: *Douglas C. Roger*

Chairman, Township Council

Attest: *W. Bruce Clark*

W. Bruce Clark, Township Secretary

This Plan Was Prepared By The Township Of Middletown Emergency Management Coordinator In Cooperation With The Delaware County Emergency Management Agency And The Pennsylvania Emergency Management Agency To Satisfy The Requirements Of The Pennsylvania Emergency Management Services Code, (35 Pa. C.S. Section 7101 et seq.), As Amended, To Prepare and Maintain A Disaster Emergency Management Plan For Middletown Township.

Attest: *John T. McKeown*

John T. McKeown, Emergency Management Coordinator

Middletown Township

Delaware County, Pennsylvania

Resolution No. 2003-58

Whereas, Section 7503 of the Pennsylvania Emergency Management Services Code, 35 PA. C.S.A. Section 7101 et seq. mandates that Middletown Township prepare, maintain and keep current an Emergency Operations Plan for the prevention and minimization of injury and damage by an emergency or disaster occurring within Middletown Township; and

Whereas, in response to the mandate stated above, Middletown Township has prepared an Emergency Operations Plan to provide prompt and effective emergency response procedures to be followed in the event of a major emergency or disaster; and

Whereas, Middletown Township has also prepared an Emergency Operations Plan to reduce the potential effects of a major emergency or disaster and to protect the health, safety and welfare of the residents of Middletown Township;

Now Therefore Be It Resolved that the Middletown Township Council hereby approves, adopts and places into immediate effect the Emergency Operations Plan of Middletown Township dated _____. This plan shall be reviewed on an annual basis to make certain that it conforms to the requirements of both the Commonwealth of Pennsylvania and County of Delaware's Emergency Planning requirements.

Resolved this 28 day of April, 2003

Township of Middletown

By: *Douglas C. Roger*

Chairman, Township Council

Attest: *W. Bruce Clark*

W. Bruce Clark, Township Secretary

Middletown Township, Delaware County, Pennsylvania

Emergency Operations Plan

Table of Contents

Record of Changes

All changes to this plan shall be so noted on the log form provided below.

Change Number	Date of Change	Effective Date	Change Made By

MIDDLETOWN TOWNSHIP – EMERGENCY OPERATIONS PLAN (EOP)

1. Purpose – It is Middletown Township's policy to conduct its operations with the highest regard for the safety and health of its employees and the public and for the protection and preservation of property and the environment. Specifically, this Plan is intended:

A. To provide for the health, safety and welfare of the residents of Middletown Township in the event of a natural or man-made emergency, terrorism emergency or disaster, in accordance with applicable State and County laws and regulations.

B. To establish procedures to alert residents and the public and provide information and appropriate protective action instruction as necessary, to provide for co-ordination and use of available municipal resources during an emergency.

C. To define the roles and responsibilities of municipal officials and the emergency management coordinator and to assign emergency functions to municipal and volunteer staff.

D. To assure coordination and cooperation with County efforts in accordance with the Delaware County Emergency Operations Plan.

2. Situations and Assumptions: This Emergency Operations Plan is designed to provide an effective state of readiness to prepare for, respond to, mitigate and recover from a range of credible or potential emergencies/disasters which may impact Middletown Township. Refer to Appendix B and C for a detailed vulnerability analysis of threats to Delaware County and Middletown Township.

A. The following threats have been identified to pose potential danger to Middletown Township:

Natural Events	Technology/Industrial Events	Civil/Political Events
Drought	Hazardous Material Releases	Economic
Fire	Explosion/Fire	General Strike
Blizzard	Transportation Accident	Terrorism
Windstorm	Power/Utility Failure	Sabotage
Tornado	Extreme Air Pollution	Hostage Situation
Hurricane	Radiological Accident	Civil Unrest
Biological	Financial Collapse	Eco-terrorism
Extreme Heat/Cold	Fuel/Resource Shortage	Enemy Attack
Earthquake	Strikes, Business Interruption	
Flood		

B. Historically, certain areas and populations are more vulnerable to the effects of specific hazards. One such population and area are the designated flood prone areas and residents adjacent to Chester and Ridley Creeks and their principal feeder streams.

C. Training, response checklists and other accompanying documents are based on the statements in 2A. & B. of this plan.

D. Adjacent municipalities and other governments will render assistance in accordance with the provisions of intergovernmental and mutual aid support agreements in place at the time of the emergency.

E. When municipal resources are overwhelmed, the Delaware County Emergency Management Agency (EMA) is available to coordinate assistance and help satisfy unmet needs. Similarly, if the county requires additional assistance, it can call on mutual aid from adjacent counties, its counter terrorism task force, or from the Commonwealth of Pennsylvania. Ultimately, the Commonwealth can ask the federal government for assistance in dealing with a major disaster or emergency.

3. Concept of Operations/Continuity of Government

A. The Township Council is ultimately responsible for the protection and safety of the public within Middletown Township and will exercise direction and control of its Emergency Management Agency (EMA) and response activity within the Township. For continuity of government procedures are specified in the **Elected Officials Checklist**.

B. At the time of a disaster emergency, the Middletown Township government will continue only those functions and services necessary to protect life and property.

C. The emphasis of any Township operations will be directed to meet basic human needs and to restore essential services as soon as possible.

D. The EMC shall mobilize the primary Emergency Operations Center (EOC) whenever such action is deemed necessary.

E. The Standard Operating Procedures and checklists contained herein in Appendix ___ shall be utilized by the EOC Staff as they function throughout the emergency.

F. Any decision to implement protective actions will be made by Municipal Officials or, in their absence, by the EMC based on advice and direction from the Delaware County, EMC.

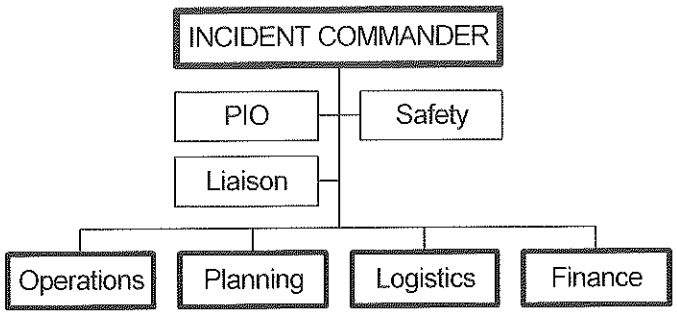
G. If required to evacuate the primary EOC, the seat of government and the EOC will relocate to the designated alternate EOC if that site is outside the impacted area. If possible the EOC will be the last organization to evacuate the hazard area.

H. During the recovery phase, the Township EMA will provide generally the same services as those provided by Staff members and forces during the evacuation. Damage assessment will be a primary function and a report prepared and forwarded to the Delaware County EMA as soon as possible.

I. This plan embraces an "all-hazards" principle: that most emergency response functions are similar, regardless of the hazard. The EMC will mobilize resources and personnel as required by the emergency situation.

J. The EMC and elected officials will develop mutual aid agreements with adjacent municipalities for reciprocal emergency assistance as needed.

K. Whenever possible, emergency response by the municipal government will follow the Incident Management System (IMS) delineated below.



1. The Incident Commander (IC) at the incident site will be from fire, police, or emergency medical services, dependent upon the nature of the incident.
2. The ICS should have:
   a) a manageable span of control (3 to 7 staff; optimum is 5);
   b) personal accountability (each person reports to only one person in the chain of command); and
   c) functional positions staffed only when needed (responsibilities for any positions that are not staffed remain with the IC).

Deleted: ,

3. When the municipal EOC is activated, the EMC or designee will coordinate between the IC and the county EMA. Whenever possible, and to ensure consistency with operations at the incident site, the EOC will also follow an incident command structure. The EMC will assume the role of Command and, initially, all of the remaining roles. As additional staff arrives at the EOC, the EMC may delegate activities to them. Suggested EOC configuration is:

L. When the EMC receives notice of a potential emergency from the federal Homeland Security Advisory System or from National Weather Service watches and warnings, partial activation of the EOC in preparation for the emergency will be considered.

4. Organization and Assignment of Responsibilities.

The emergency responsibilities and functions listed below require actions, which are common to all types of major emergencies and disasters. The EOC staff will prepare, maintain and be guided by SOP's which prescribe implementing procedures or action steps checklists, or both. Individuals assigned to these functions are required to coordinate their actions with the EMC who will coordinate the Township's overall action with Delaware County EMA.

A. Command

Elected Officials:

1. Are responsible for establishing a municipal emergency management organization;
2. Provide for continuity of operations
3. Establish lines of succession for key positions;
4. Designate departmental emergency operating centers and alternatives;
5. Prepare and maintain this EOP in consonance with the county Emergency Operations Plan;
6. Establish, equip and staff an EOC;
7. Recommend an EMC for appointment by the governor who may act on their behalf, if necessary;
8. Issue declarations of disaster emergency if the situation warrants; and
9. Apply for federal post-disaster funds, as available.

Emergency Management Coordinator (EMC)

1. Prepare, maintain and keep current an EOP for the prevention and minimization of injury and damage, for prompt and effective response, for emergency relief and recovery in consonance with the Delaware County EMA for any emergencies caused by a natural or man made disaster.
2. Initiate and maintain coordination and cooperation with the Delaware County EMA and provide requested information promptly.
3. Identify hazards that may effect the municipality. Both a Delaware County and Middletown Township Vulnerability Analysis have been prepared and are incorporated herein as Appendices ___ and ___
4. Identify public and private resources that may be used to respond to an emergency situation. Identify and list any "unmet" needs.
5. Develop and maintain an emergency response organization and a trained staff appropriate for the needs and resources of Middletown Township. An organizational and functional chart has been prepared and is incorporated herein in as Appendices A and A1.
6. Mobilize, direct and coordinate the emergency management staff during the period of an emergency or disaster from an Emergency Operations Center (EOC).
7. Develop SOPs in coordination with the Township Staff and supporting agencies to assist in fulfilling their respective responsibilities and functions, including operation of the EOC.

B. Public Information Officer:

1. Develops and maintains the checklist for the Public Information function;
2. Assists in the development, review and maintenance of the EOP;
3. Responds to the EOC or the field, as needed;
4. Coordinates public information to the media; and
5. Advises elected officials and the EMC about Public Information activities.

C. Operations

Communications and Warning Officer:

1. Develops and maintains the checklist for the Communications and Warning function;
2. Assists in the development, review and maintenance of the EOP;
3. Trains staff members on the operation of communications system;

4. Ensures ability to communicate between the EOC, field operations and the county EMA;
5. Assists with notification of citizens of the municipality;
6. Responds to the EOC or the field, as needed; and
7. Advises elected officials and the EMC about Communications activities.

Police Services - Pennsylvania State Police

At the time of an emergency the Commander of the State Police, Media Barracks will be requested to assign an officer to the EOC for the duration of the emergency. Police responsibilities include;

1. Develops and maintains the checklist for the Police Services function;
2. Assists in the development, review and maintenance of the EOP;
3. Responds to the EOC or the field, as needed;
4. Coordinates security and law enforcement services;
5. Establishes security and protection of critical facilities, including the EOC;
6. Provides traffic and access control in and around affected areas;
7. Assists with route alerting and notification of threatened population;
8. Assists with the evacuation of affected citizens, especially those who are institutionalized, immobilized or injured;
9. Assists in the installation of emergency signs and other traffic movement devices;
10. Assists in search and rescue operations; and
11. Advises elected officials and the EMC about Police Services operations.

Fire and Rescue Services

At the time of an emergency the Chief Fire Officer will be requested to assign a ranking officer to the EOC for the duration of the emergency. Fire and rescue responsibilities include;

1. Develops and maintains the checklist for the Fire & Rescue function;
2. Assists in the development, review and maintenance of the EOP;
3. Responds to the EOC or the field, as needed;
4. Coordinates fire and search and rescue services;
5. **Coordinates decontamination and monitoring of affected citizens and emergency workers after exposure to chemical or radiological hazards;**
6. Assumes primary responsibility for route alerting of the public;
7. Assists with evacuation of affected citizens, especially those who are institutionalized, immobilized or injured;

8. Provides for emergency shutdown of light and power;
9. Provides emergency lights and power generation;
10. Assists in salvage operations and debris clearance, and
11. Advises elected officials and the EMC about fire and rescue activities.

Health/Medical Officer:

At the time of an emergency the Chief Paramedic of Riddle Memorial Hospital will be requested to assign a ranking Paramedic officer to the EOC for the duration of the emergency. EMS responsibilities include;

1. Develops and maintains the checklist for the Health/Medical Services function;
2. Assists in the development, review and maintenance of the EOP;
3. Responds to the EOC or the field, as needed;
4. **Maintains a listing of hearing impaired, handicapped and special needs residents, providing copies to municipal and county EMAs;**
5. Coordinates emergency medical activities within the municipality;
6. Coordinates institutional needs for transportation if evacuation or relocation becomes necessary for hospitals, nursing homes, day care and adult care facilities;
7. Coordinates medical services as needed to support shelter operations;
8. Assists in search and rescue operations;
9. Assists in mortuary services;
10. Assists in provisions of inoculations for the prevention of disease; and
11. Advises elected officials and the EMC about Health/Medical Services activities.

Transportation, Mass Care Services and Shelter Management Officer:

1. Provide and maintain a listing of transportation resources that may be needed at the time of an emergency to support evacuation of the public from impacted areas.
2. Provide a listing of shelter locations and contact names and telephone numbers to activate the opening of a shelter. The American Red Cross has highly trained shelter management teams available. Dependant upon the scope of the disaster, the demand for shelter management assistance may exceed the ability of the Red Cross to provide same in a timely manner.
3. Provide transportation for evacuees who are unable to self evacuate.
4. Coordinate the transportation needs of Township institutions in the event relocation of residents of institutions, life care or assisted living communities becomes necessary.
5. Coordinate all transportation services and resources.
6. Open, supervise and manage mass care shelters.

Radiological Protection Services

Currently an "unmet" need. Request assistance from Delaware County EMA.

Public Works and Utility Services

1. Provide and maintain list of resources, public and private, which may be required to support this service at the time of an emergency.
2. In coordination with the EOC, establish priorities, allocate resources, supervise field activity and direct preventative action and restoration of public utilities and facilities.
3. Identify "unmet" needs and report same to the EOC.
4. Maintain records of resource allocation and expenditures during the emergency.
5. Assist in the creation of situation and damage reports by the EOC. Provide logistical support to Federal, State and County agencies performing assessments of the emergency.

D. Planning & Logistics

Planning and Logistical Support responsibilities are to be shared by the designated Public Information Officer and Communications and Warning Officer.

1. Collects, evaluates and provides information about the incident;
2. Determines status of resources;
3. Establishes information requirements and reporting schedules;
4. Supervises preparation of an Incident Management Plan; and
5. Assembles information on alternative strategies.
6. Provides materials, services and facilities in support of the emergency;
7. Develops procedures for rapidly ordering supplies and equipment and to track their delivery and use; and
8. Participates in the preparation of the Incident Management Plan.

5. Training and Exercises

A. The EMC or designated alternate will participate in Federal, State and County training programs as such are available from time to time, to maintain and enhance the capabilities of the EMC and staff.

B. Formal training and seminars will be augmented by participation in practice exercises including those for the review of plans and procedures, exercises in which elected officials and key staff are presented situations as a learning experience and full scale exercises to evaluate emergency management capabilities.

6. References

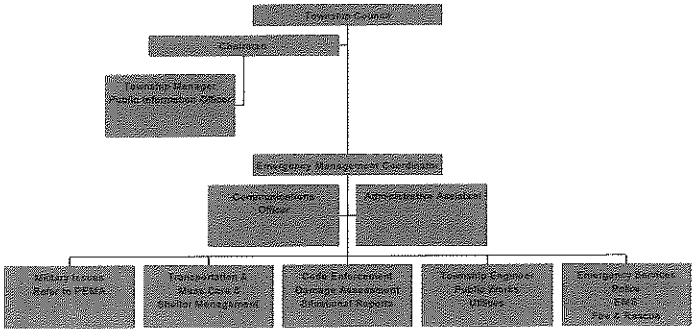
1. The Pennsylvania Emergency Management Services Code 35 Pa. C.S. Section 7101-7707, as amended
2. Pennsylvania Emergency Management Agency, "Commonwealth of Pennsylvania Multi-Hazard Identification and Risk Assessment," July, 2000
3. Commonwealth of Pennsylvania, Emergency Operations Plan, as re-promulgated on October 12, 2001
4. Delaware County Emergency Operations Plan, _____, 2000
5. Delaware County, Hazard Vulnerability Analysis, _____, 2000

7. Distribution

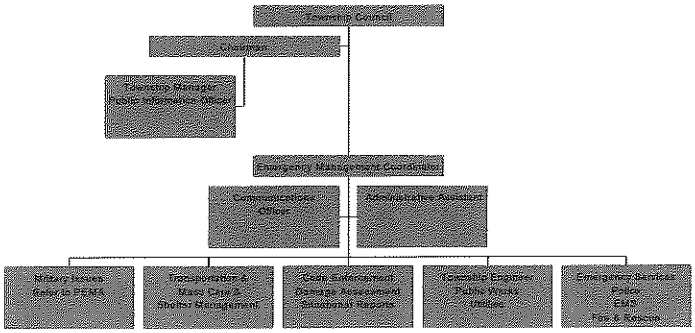
This updated Middletown Township Emergency Operations Plan is being distributed to the following individuals and agencies:

Township Council
Township Solicitor
Township Manager
EMC and Township Staff
Station Commander, PSP Media
Chief Fire Officers
Chief Paramedic, Riddle Memorial Hospital
Rose Tree Media School District
Middletown Township Library
Delaware County EMA
PEMA Eastern Area Office

Emergency Management Organization



Emergency Management Organization



Chester Creek Flood Warning Notification List

Updated as of October 23, 2001

Address		Name	Telephone Number
451-457	Lenni Road	Monridge Construction	610-558-4744
	Responsible Party	Vim Lai	610-558-1174
450	Lenni Road	Westlake Plastics	610-586-3200
245	Lungren Road	Schubert Plastics	610-586-3200
	Responsible Party	Charles Schubert	610-494-3593
394	Parkmount Road	Container Research	610-459-2160
	Responsible Party	Terry Rines	610-358-1311
397	Parkmount Road	Ed Scheivert	610-459-4800
386	Parkmount Road	Blosenski Trash Service	610-459-1135
390	Parkmount Road	John F. Bubel	610-566-7476
236A	Glen Riddle Road	Claire & Michael O'Malley	610-358-1049
236B	Glen Riddle Road	Henry & Carol Ternove	610-358-0585
236C	Glen Riddle Road	William Newcomer	610-358-3208
236D	Glen Riddle Road	Joyce Murray	610-833-5666
236	Glen Riddle Road	Philadelphia Suburban Water Co	610-328-5065
274	Glen Riddle Road	Tunbridge Apartments	610-459-1366
	Responsible Party	Deborah Convery, Manager	610-459-1366
		Multi-occupancy residential	
602	Creek Road	Bruce Patullo	610-891-0788
620	Creek Road	Robert & Alice Kenworthy	610-876-6305
632	Creek Road	Patricia & Bernard Kline	610-490-1108
646	Creek Road	James & Carolyn Golden	610-874-9214
767	Creek Road	Mark Lord, Juliana Flower	610-874-2404
442	Dutton Mill Road	Multi-occupancy residential	610-259-6117
	Responsible Party	Francis Barr, Owner	610-259-6117

Ridley Creek Flood Warning Notification List

Updated As Of October 23, 2001

Address		Name	Telephone Number
571	Barren Road	Ridley Creek State Park	610-892-3900
1200	E. Baltimore Pike	Phila Suburban Water Plant	610-328-5065
350	E. Knowlton Road	Elizabeth Young	610-566-1239
		William DiGirolamo	
361	E. Knowlton Road	James Bostelle	610-565-5868
670	Ridley Creek Road	Wirt Thompson	610-566-0679
		Upper Bank Nursery	

Appendix C

Middletown Township, Delaware County, PA
Hazards/Vulnerability Analysis

This analysis was undertaken to develop an awareness of the potential hazards facing the citizens of the Township as a basis for planning an appropriate response at the time of an emergency. In addition to the natural and man-made emergencies and disasters that may possibly impact on Middletown Township, consideration has been given, for the first time, to terroristic events and events involving chemical, biological, radiological and other weapons of mass destruction (WMD).

Type of Disaster/Emergency	Anticipated Probability	Potential Scope/Severity
Flooding	High	Limited
Chester Creek Ridley Creek Feeder Streams	Business and residential properties PSWCo. Media Treatment Plant Flooded buildings and roads	
Weather Related	High	Moderate
Blizzard/Winter Storm from snow drifting, emergency food, fuel and medical supplies.	Loss of electrical power, heat, inaccessible areas	
Severe Thunder Storm, trees Tornado, Hurricane	Loss of power, flooding, inaccessible areas due to and wires down.	
Earthquake	Low	Moderate/Severe
	Mass casualties, building collapse, entrapment Loss of utilities, roadways, evacuations, sheltering mass care centers.	
Fires, Explosions, Transportation Accidents, Hazardous Materials Release	High	Moderate/Severe
	Fire suppression and rescue, mass casualties, hazardous materials containment, evacuations, sheltering, mass care centers,	
Terroristic, WMD Event, ____ Chemical, Biological, Radiological Release,	Low	Severe
	Delayed knowledge of incident, mass casualties,	

Overtaxed support and response system, evacuations mass care and sheltering, decontamination, mass hysteria.

Civil Unrest, Strikes, Business Interruption, Sabotage, Enemy Attack	Low	Moderate/Severe

Economic disruption, mass hysteria, mass casualties

Appendix _____

Resource Directory

Churches

Calvary Reformed Presbyterian, 613 S. New Middletown Rd.	610-872-6802
Christ United Methodist Church, 600 Dutton's Mill Rd.	610-874-1270
Congregation Beth Israel, 542 S. New Middletown Rd.	610-566-4645
Delaware Valley Church of Christ, 585 N. Old Middletown Rd.	610-566-0997
Lima Methodist Church, 209 N. Middletown Rd.	610-566-7109
Middletown Baptist Church, 28 S. New Middletown Rd.	610-566-0923
Middletown Presbyterian Church, 273 S. Old Middletown Rd.	610-565-4080
St. George Greek Orthodox Church, 30 E. Forge Rd.	610-459-0366

Commonwealth of Pennsylvania

Department of Agriculture	610-489-1003
Department of Environmental Protection	
Conshohocken Office	610-832-6000
Department of Transportation	
Bortondale	610-566-0972 or 610-566-2998
King of Prussia	610-205-6538
Mickey McLaughlin (State Rds. South of Balt. Pk.)	610-587-7867 or 610-237-0286
Mike Murphy (State Rds. North of Balt. Pk.)	610-587-7860 or 610-622-1438
Bob Bansept, Highway Maintenance Manager	610-587-7859 or 610-604-0948
Department of Welfare (Energy Assistance)	610-447-3099
State Police – Media Barracks	484-840-1000

Delaware County

Emergency Management Agency	610-565-8700
Emergency Radio Communications	911
Fire Board (Non Emergency)	610-892-8404
Medical Examiner	610-891-5950

Fire Companies

Co. 50 Middletown Fire Company #1	610-566-0723
Co. 54 Lenni Heights Fire Company	610-459-4432
Co. 69 Lima Fire Company	610-891-3736

*See attached list of Officers and Fire Police

Institutions

Elwyn Institute	610-891-2000
Fair Acres Geriatric Center	610-891-5600
Granite Farms Estates	610-358-3440
Granite Farms Medical Facility	610-358-0510
Juvenile Detention Center	610-565-9640
Lima Estates	610-565-7020
Lima Estates Medical Facility	610-565-8717
Mirmont Alcohol Rehabilitation Center	610-565-9232
The Residence at Glen Riddle	610-358-9933
Riddle Memorial Hospital	610-566-9400
Sunrise	610-566-3535
Riddle Village	610-891-3777
Riddle Village Medical Facility	610-891-3823
YMCA	610-627-9622

Motels/Hotels/Malls

McIntosh Motel, Rt. 1 & Rt. 352	610-565-5800
Granite Run Mall, 1067 W. Baltimore Pk.	610-565-1650

Public Affairs Contact Resource Listing

Print Media

Town Talk Newspapers- Christina Parker, Editor	610-566-6755
Daily Times – Lynn Keyser, Community Editor	610-284-7200
Philadelphia Inquirer	215-563-5000

Television Broadcast Media

KYW-TV Channel 3 – Bill Dean, News Department	215-238-4700
WPVI-TV Channel 6 – News Department	215-878-9700
WCAU-TV Channel 10 – News Department	610-668-5510
WXTF-TV Channel 29	215-925-2929
WHYY-TV Channel 12	215-351-1200

Radio Broadcast Media

WCZN AM	610-358-1400
KWY AM	215-238-4700
WYSP FM	215-625-9460
WIOQ FM 102	215-667-9460
WKSZ FM 100	610-565-8900
WXTU FM 92	215-667-9000
WHYY FM 91	215-351-9204

Schools

Christian Academy, 704 S. Old Middletown Rd.	610-872-7600
Glenwood School, 122 S. Pennell Rd.	610-627-6900
Indian Lane School, 309 S. Old Middletown Rd.	610-627-6200
Penncrest High School, 134 Barren Rd.	610-627-6200
Penn State University, 25 Yearsley Mill Rd.	610-892-1350
Rose Tree Media School District	
Admin. Offices, 309 N. Olive St. Media	610-627-6000
Service Center, Barren Rd.	610-627-6450
Transportation Office, Barren Rd.	610-627-6475
St. Francis DeSales, New Road (Aston Twp.)	610-459-0799
Williamson Trade School, 176 S. New Middletown Rd.	610-566-1776

U.S. Government

Environmental Protection Agency	800-438-2474
Weather Bureau – Philadelphia	610-627-5575
FBI, 7 Campus Blvd. Newtown Square	610-353-4500
US Customs	215-597-4305
US Secret Service	215-861-3300

Utilities

Staples (Township Phone Service)	800-333-3330
Verizon	800-479-1919
Philadelphia Suburban Water Co.	610-891-9171
Water Works	610-565-0862
Middletown Township Sewer Authority	610-566-3087
PA One Call System	800-242-1776
PECO Energy - Electric (See attached list)	800-841-4141
PECO Energy – Gas (See attached list)	800-841-4141 Lobec
Traffic Signal Service	610-544-1144
Comcast Cable	610-499-2270

Other

Hanson Aggregates Forge Rd.		610-459-2492
Dean Keyes Towing		610-566-5621
Lambert's Towing	Day	610-566-2018
	Night	610-565-3372
Weather's Dodge		610-566-5475
Granite Run Pontiac		610-566-1991
Thomas Chevrolet		610-566-8600

PECO Energy
DelChester Region

Private Phone List

County Affairs Representative – Ralph H. Brown, Jr.	
Delaware County Office	610-891-5511
Fax	610-891-6062
Pager	610-581-7091
(Government Liaison and point of contact for constituent concerns)	
County Affairs Representative – Gregory M. Cary	610-380-2518
Fax	610-380-2500
Pager	610-581-7398
(Back up if R. Brown not available)	
Account Manager – Scott A. Neumann	215-841-4035
Pager	215-578-6317
(Institution & Governmental Sector - Municipal Business Related Issues)	
Service Representative – Ed D'Auria	215-841-4618
Pager	215-824-9944
(Institution & Governmental Sector – Municipal Business Related Issues)	
General Customer Service Number (Customer Complaints)	610-690-5600
Electric & Gas Emergency Only	800-841-4141
Emergency Services – Private number to be used by Fire, Police, 911	610-544-9336
Master Reading Issues – Supr. William Spence	610-359-1812
Forestry Issues – Supr. Dave Desimone	610-891-5577
Paving/Lawn Repair – Supr. Ray Reid	610-645-1677
Paving Inspector – Rick Chalmers	610-645-1649

Pipelines

Buckeye Pipe Line	Emergency	800-331-4115
	Donald Hankey	610-770-4410
Columbia Gas Transmission	Emergency	800-835-7191
	Tim Clark	610-269-4440
	Carman Pirolo	717-292-5602
Mobil Pipeline Company	Emergency	214-742-3106
	Linda Tamkus	716-527-6173
PPL Interstate Energy	Emergency	800-747-3375
	Dennis Levine	610-327-5330
Sun Pipe Line	Emergency	800-786-7440
	Art Witwer	610-670-3200
	Mike Gerdeman	215-937-6263
Teppco	Emergency	607-535-2080
	Emergency	800-530-1050
	Rob Martin	607-936-1014
Texas Eastern Transmission	Emergency	800-231-7794
	Emergency	610-845-2121
	Ron Pilcher	610-458-1710

Backup Technical Agency Resources for Hazardous Materials Emergencies

Chemical Transportation Emergency Center (Chemtree)	800-424-9300
National Response Center (U.S. Coast Guard)	800-424-8802
Environmental Protection Agency (NOTE: Federal Notification as required for any oil, oil products, or chemical spills)	800-438-2474
EPA- 24 Hour Response Number	215-597-9898
Hazardous Materials (USGC)	202-426-2296
Association of American Railroads	202-457-7000
American Petroleum Institute	312-939-0770
Bureau of Explosives	202-293-4048
Chlorine Institute	212-682-4324
American Gas Association	703-841-8400
National Poison Control Center	800-845-7633
Institute of Makers of Explosives	202-789-0310
Emergency Response Accident (MIB)	202-426-0556
Classification of Explosives (Military)	202-325-0891
Reports of Incidents (Explosives)	202-342-4874
Transportation Accident (MTB)	202-472-1024
Hazardous Materials Program Mgr. (FAA)	202-426-8417
Explosives Unit Laboratory (FBI)	202-324-2696
National Foam	610-363-1400
Nuclear Regulatory Commission	301-427-4205
Federal Highway Administration	302-734-5323

Backup Technical Agency Resources, cont'd.

Dow Chemical Company	989-636-4400
DuPont Company	302-774-7500
The Fertilizer Institute	202-466-2700
Penna. Emergency Management Agency (PEMA)	800-HBG-PEMA 800-EPA-PEMA

EX. "D"

pennsylvania
DEPARTMENT OF ENVIRONMENTAL
PROTECTION

September 6, 2016

Mr. Matthew L. Gordon
Sunoco Pipeline, L.P.
535 Fritztown Road
Sinking Spring, PA 19608

Re: Technical Deficiency
Pennsylvania Pipeline Project (a.k.a. Mariner East II)
Application No. E23-524
APS No. 879056, AUTH 1087492
Thornbury, Edgmont, Middletown, Aston, and Upper Chichester Townships
and Brookhaven Borough
Delaware County

Dear Mr. Gordon:

The Department of Environmental Protection (DEP) has reviewed the above-referenced application package and has identified the following significant technical deficiencies. ***Chapter 105 Dam Safety and Waterway Management regulations*** includes information that will aid you in responding to some of the deficiencies listed below. The deficiencies are based on Article I, Section 27 of the Pennsylvania Constitution and applicable laws and regulations. The guidance sets forth a means of satisfying the applicable regulatory requirements.

As you are aware, DEP staff in three different regional offices are reviewing sixteen other Chapter 105 permit applications associated with this project. While the regional offices have coordinated the review of the applications and the identification of deficiencies, it is possible that deficiencies raised in DEP's other deficiency letters may be applicable to this permit, even though not stated herein. DEP recommends that Sunoco Pipeline, L.P., evaluates whether any of the deficiencies identified in the other Chapter 105 permit application deficiency letters, beyond those deficiencies identified in this letter, necessitate revisions in this permit application.

Common Technical Deficiencies

1. General Information Form (GIF)/Application:

   a. List the types and amounts of emissions to satisfy question 13.0.1 of the GIF. *[1300-PM-BIT0001 5/2012 Instructions]*

b. The Application and GIF have different titles for M.L. Gordon. Provide consistent titles for Mr. Gordon and a demonstration that he is authorized to sign the Application. *[25 Pa. Code Sections 105.13(i) and 106.12(f)]*

2. Identify the proposed provisions for shut-off in the event of break or rupture for each crossing. Provide locations and description of how this action will be completed in the event a break or rupture occurs. *[25 Pa. Code Section 105.301(9)]*

3. Site Plan, Drawings and Details (including Erosion and Sediment (E&S) Control Plan Drawings):

a. Several of the E&S Plan drawings appear to include design data or refer to the Mariner-1, 8-inch Anomaly Repair Project (see sheet ES-0.11, the dry bypass plan indicates a proposed 8" pipe). Perform a review of all plan drawings and remove all references to past projects. Typical detail data needs to be labeled appropriately and specific location details need to reference specific locations. Typical cross sections need to be revised to indicate the proposed 20" and 16" diameter pipes. Typical trench details needs to indicate the appropriate trench width and include trench boxes, if appropriate for depth. *[25 Pa. Code Section 105.13(e)(1)(i)(C)]*

b. Stream and wetland crossing details are only provided in the "Notes" pages of the E&S Plan. Provide details on how each crossing will be constructed, associated E&S controls installed and how restoration will be accomplished. To facilitate your response this comment can be addressed by developing a table for placement on the drawings containing the requested information. *[25 Pa. Code Sections 105.13(e)(1)(i)(c); 105.13(e)(1)(iii)(A); 105.13(e)(1)(iv); 105.15(a); 105.21(a)(1)]*

c. Provide site plans that depict proposed work for each ATWS within a floodway or floodplain. These plans need to include, at a minimum, the duration of proposed activities, the expected layout, E&S controls, and size or quantity of materials or structures proposed. *[25 Pa. Code Section 105.13(e)(1)(i)(C)]*

d. A number of drawings in the package, for example the auger bore drawings, state that the plans are for permitting purposes only. The plans, specifications, and reports in the application are part of a permit once a permit is issued and are considered final. Remove this language from the plans and provide final plans. *[25 Pa. Code Sections 105.13); 105.44(a)]*

e. The auger bore drawings reference cathodic protection being installed. Provide plans and/or details for any proposed cathodic protection and identify

on the plans where and which type of cathodic protection is proposed to be installed. *[25 Pa. Code Sections 105.3(4); 105.13(e)(1)(i)(C)]*

f. Where cathodic protection is proposed to be installed in wetlands or other areas where vegetation is proposed to be undisturbed or replanted, identify how this cathodic protection will be maintained and replaced without vegetative disturbance. *[25 Pa. Code Sections 105.15(a); 105.13(e)(1)(ix); 105.18a]*

g. For all Bore and Horizontal Directional Drilling (HDD) locations: Identify where all pipe pull back, assembly, lay out, and construction staging areas are located. Identify all temporary crossings and impacts to streams, wetlands, and floodways associated with these areas and revise the application accordingly to include these impacts. Include site-specific plans depicting the impacts and proposed temporary matting. *[25 Pa. Code Sections 105.13(e)(1)(i); 105.13(e)(1)(iii); 105.3(a)(4)]*

h. The site plan sheets and E&S Plan sheets identify the 50-foot assumed floodway boundary to be measured from the centerline of the stream as opposed to the top of bank. Revise the drawings to indicate floodway boundaries that adhere to the definitions in Chapter 105. *[25 Pa. Code Sections 105.13(e)(1)(i)(A) and 105.1]*

i. The Typical Wetland Crossing detail on the E&S Plans, ES-0.09, indicates soil will be stockpiled in the wetland along the trench. Revise the detail to include a means of separating the stockpiled soil from the wetlands, such as geo-fabric and matting, to ensure full removal of the stockpiles soil and minimize impacts. *[25 Pa. Code Sections 105.423; 105.18a(a); 105.18a(b); 105.15(a); 105.14(b)(4); 105.14(b)(11); 105.14(b)(13)]*

j. Installation of the trench plugs as depicted in the Trench Plug Detail is likely to result in adverse impacts to the hydrology of Waters of the Commonwealth. Provide a revised detail showing the trench plug continuing to the bottom of the trench instead of the top of the bedding material. *[25 Pa. Code Sections 105.18a; 105.15(a)]*

k. The Typical Wetland Crossing detail on the E&S Plans states that the detail does not apply to active cultivated or rotated cropland. Revise the detail to apply to all wetland crossings or provide a separate detail for wetland crossings in active cropland. *[25 Pa. Code Sections 105.18a; 105.15(a)]*

l. Provide a description of the expected duration each temporary stream crossing will remain in place. If the temporary stream crossing will be in place for

greater than 1 year, then risk analysis will be necessary. *[25 Pa. Code Section 105.13(1)(iii)(A)]*

m. Additional comments relating to the drawings can be found in specific comments below.

4. There are several comments regarding Agency Coordination, including Pennsylvania Natural Diversity Inventory (PNDI) and Pennsylvania Historical and Museum Commission (PHMC). See specific comments below.

5. There are several comments regarding the Environmental Assessment (EA). See specific comments below.

6. There are several comments regarding the Avoidance, Minimization, and Mitigation Plan. See specific comments below.

7. There are several comments regarding the Alternatives Analysis. See specific comments below.

8. Comprehensive Environmental Evaluation - The following technical deficiencies are related to the overall project comprised by the 17 Chapter 105 Water Obstruction and Encroachment permit applications associated with this pipeline. Provide the Department with a Comprehensive Environmental Assessment of the Entire Pipeline Project as a Whole ("Comprehensive Environmental Evaluation") which, at a minimum, includes the following:

   a. Use the Environmental Assessment Form (3150-PM- BWEW0017, 2/2013) as a guide and provide a detailed narrative and other appropriate documentation that comprehensively evaluates the project as a whole under each of the categories therein (Part 1 – Resource Identification; Part 2 – Project Description – including all the analyses listed in the form, as well as in 25 Pa. Code Sections105.13(f)(1)(vii-x), (2); (3); (g); (j); 105.15; Article I, §27 (Pa. Constitution).

   b. The Comprehensive Environmental Evaluation also needs to provide a detailed narrative and other appropriate documentation that comprehensively evaluates the project as a whole for compliance with the requirements associated with the Department's review of the application listed in 25 Pa. Code Section 105.14 in its entirety, with particular emphasis on:

      i. Antidegradation Analysis - Prepare and submit an analysis and information that addresses consistency with State antidegradation

requirements contained in Chapters 93, 95 and 102 (relating to water quality standards; wastewater treatment requirements; and erosion and sediment control) and the Clean Water Act (33 U.S.C. §§ 1251—1376) for this entire project and other potential or existing projects. [*25 Pa. Code Section 105.14(b)(11)]*

ii. Secondary Impact Analysis – Prepare and submit an analysis and information that addresses secondary impacts associated with but not the direct result of the construction or substantial modification of the water obstruction or encroachment in the areas of the entire project and in areas adjacent thereto and future impacts associated with water obstructions or encroachments, the construction of which would result in the need for additional dams, water obstructions or encroachments to fulfill the project purpose. [*25 Pa. Code Section 105.14(b)(12)]*

iii. Project Wide Cumulative Impacts Analysis. Prepare and submit an analysis and information that addresses the cumulative impact for this entire project and other potential or existing projects. As part of this analysis evaluate whether numerous piecemeal changes associated with all the Chapter 105 applications related to this pipeline project may result in a major impairment of the wetland resources. The analysis must be undertaken for each alternative prepared for the proposed pipelines and facilities of Mariner East II, on a statewide basis and must be completed for the entire project, as a whole referencing each of the applications for the entire project. [*25 Pa. Code Sections 105.14(b)(14); 105.15]*

iv. Comprehensive Evaluation of Compliance with 25 Pa. Code § 105.18a. Prepare and submit an analysis and information that evaluates the project as a whole with all the requirements found in 25 Pa. Code §105.18a for each wetland or wetland complex in or along the project area as a whole. [*25 Pa. Code Section105.18a]*

v. Comprehensive Alternatives Analysis, Avoidance and Minimization and Mitigation. The applicant needs to demonstrate that the alternatives chosen for the entire project will avoid cumulative impacts to the maximum extent practicable, and where such impacts are not avoidable, describe in detail with appropriate supporting documentation, how such impacts will be minimized and mitigated to the satisfaction of the Department. [*25 Pa Code Sections 105.1;* 105.13(e)(1)(viii)-(x)]

Technical Deficiencies

Joint Permit Application Package, Section F. Attachments

1. **GIF**

   No additional comment.

2. **Application Fee and Work-sheet**

   No additional comment.

3. **Act 14 Notifications**

   No additional comment.

4. **Cultural Resources**

   a. Provide clearance or approval from the Pennsylvania Historical and Museum Commission (PHMC) for cultural, archeological, and historic resources for the proposed water obstructions and encroachments and areas necessary to construct the water obstructions and encroachments. *[25 Pa. Code Sections 105.13(e)(1)(x); 105.14(b)(5); 105.15(a); 105.15(a)(1); 105.15(b); 105.14(b)(4); EA Instructions & Joint Permit Application Instructions for a Water Obstruction and Encroachment Permit Application, III., Section F. d. & Implementation of the Pennsylvania State History Code: Policy and Procedures for Applicants for DEP Permits and Plan Approvals, Document No. 012-0700-001]*

   b. The project description provided in the Cultural Resource Notice states that the second pipe is to be installed within 5 years. The application Project Description or other descriptions in the application do not mention that the second pipe will be installed within 5 years. Revise and clarify the application to clearly identify if both pipelines will be installed at the same time, or if they will be installed at separate times. If the pipelines will be installed at separate times, revise the application to indicate this, and identify the temporary and permanent impacts from the second pipeline installation separately, and discuss the alternative of installing them at the same time to avoid and minimize impacts. *[25 Pa. Code Sections 105.13(e)(1)(iii)(A); 105.13(e)(1)(iii)(B); 105.301(7); 105.15(a); 105.15(a)(1); 105.15(b); 105.14(b)(4); 105.18a(a); 105.18a(b);105.13(e)(1)(ix)]*

5. **PASPGP Cumulative Impact Form**

a. PASPGP-4 has expired. Prepare and submit PASPGP-5 Reporting Checklist and Aquatic Impact Table forms and acknowledgement of application of Section 404 Permit Application made to U.S. Army Corps of Engineers. *[25 Pa. Code Section 105.13]*

6. **PNDI and Agency Coordination**

a. Provide a PNDI Search clearance letter from the Pennsylvania Game Commission for threatened and endangered species under their jurisdiction. *[25 Pa. Code Sections 105.13; 105.14; 105.21]*

b. Provide details and clearance status of Migratory Bird issue requested by the U.S. Fish and Wildlife Service. *[25 Pa. Code Sections 105.13, 105.14; 105.21]*

c. Consultations with the agencies [Pennsylvania Game Commission (PGC), Pennsylvania Fish and Boat Commission(PFBC), Pennsylvania Department of Conservation and Natural Resources(DCNR), and the U.S. Fish and Wildlife Service(USFWS)] have resulted in the incorporation of avoidance measures, seasonal restrictions and other recommendations being provided to the applicant in the various clearance letters. In an effort to clarify and implement these measures and restrictions, the applicant needs to prepare a table clearly listing all avoidance measures, seasonal restrictions, and other recommendations, specific to application No. E23-524, and provide this table to DEP as a supplement to their application. These conditions also need to be included in the Notes of the E&S Control Plan. *[25 Pa. Code Sections 105.13; 105.14; 105.16(c)(3); 105.21; 93.4c(a)(2)]*

7. **Site Plans**

a. Provide cross section drawings for all stream crossings and indicate existing and proposed conditions at each crossing site. *[25 Pa. Code Sections 105.13(e)(1)(A) & (G); 105.302; 105.311]*

b. Provide plans and cross sections indicating pipe size, placement, and locations for all wetlands, streams, floodways, and floodplains where the testing discharges are proposed for Mainline Testing and HDD Testing and revise the impact tables to include these impacts. The cross sections need to depict, at a minimum, the proposed structures, resource boundaries, stream bed and banks, water surface elevation. *[25 Pa. Code Sections 105.3(a)(4); 105.11(a); 105.13(e)(1)(i); 105.14(b)(4); 105.301;105.151(1); 105.411(3)]*

c. Provide plans showing the location, type, size, and height of the proposed culvert modifications for piping placed in existing stream culverts and along and within stream channels for the Mainline Testing and HDD Testing. Provide an analysis of the hydraulic capacity demonstrating that the structures do not materially alter the natural regimen of the stream or increase velocities or direct flows in a manner which results in erosion of stream beds and banks. *[25 Pa. Code Sections 105.3(a)(4); 105.11(a); 105.13(e)(1)(i); 105.14(b)(4); 105.301; 105.151(1) & (3);105.161(a)(3) & (4)]*

8. **Location Map**

No additional comment.

9. **Project Description**

a. Descriptions and locations of valve stations are not provided. Provide descriptions and locations of these valve stations located in Delaware County. *[25 Pa. Code Sections 105.13; 105.14]*

b. Provide the shut-off protocol for each project location that is in proximity to any stream or wetland that could potentially be impacted by a break or rupture to protect the environmental resource 25 Pa. Code Section 105.302(5). This protocol needs to be explained in the description and referenced on the drawings.

10. **Color Photographs**

No additional comment.

11. **Environmental Assessment**

a. The application identifies a number of watercourses (streams) as ephemeral (see Table 3, Section F, Attachment 11). No methods for the determination of ephemeral flow status of the streams are provided. It appears that only a desk-top evaluations and/or cursory field observations were utilized. Ephemeral streams are not identified separately in Chapter 105 and are included in the definition of intermittent stream. Revise the application materials accordingly to identify the ephemeral streams as intermittent. *[25 Pa. Code Section 105.1]*

b. The application classifies watercourses as "drains to" and there is no stream classification in 25 Pa. Code Chapter 93 of "drains to." All tributaries not noted separately in Chapter 93 are given the classification of their downstream

reaches and thus receive the appropriate level of protection. Revise relevant tables to include the correct stream classification for all streams and their tributaries. *[25 Pa. Code Section 93.1]*

c. Revise the application to include an analysis on whether the wetlands are "Exceptional Value" (EV) or "Other" wetlands. This needs to include an analysis based on each of the 7 factors listed in 25 Pa. Code Section 105.17 including wetlands associated with EV streams and Wild Trout Streams, habitat for threatened or endangered (T&E) species, wetlands that are hydrologically connected to T&E habitats, wetlands along a public or private water supply including both surface water and groundwater, scenic rivers and, natural or wild areas (see 25 Pa. Code Section 105.17 for complete criteria). Re-evaluate the classification of streams and wetlands based on 25 Pa Code Section 105.17 and then revise Table 2, Section F, Attachment 11 to identify EV and Other wetlands. *[25 Pa. Code Sections 105.1; 105.15(a); 105.17; 105.21(a)(1); 58 Pa. Code Section 57.11(b)(4)]*

d. Provide an assessment of the functions and values of all additional Exceptional Value wetlands as a result of the response to Section 11c. *[25 Pa. Code Sections 105.13(e)(3); 105.14(b)(13); 105.15(a); 105.15(a)(1); 105.15(b)]*

e. *EV wetlands are defined as EV waters by Chapter 93. Therefore, explain the measures the applicant will implement to comply with the anti-degradation requirements of the Department's water quality standards program. [25 Pa. Code Sections 93.4c(b); 93.4c(b)(2); 93.1 (defn. of surface water of exceptional ecological significance); 105.14(b)(11); 105.18a(a)(4); 24 Pa.B. 922 (February 12, 1994)(Incorporation of the Department's Existing Wetlands Protection Program into Water Quality Standards Program)]*

f. Section F, Attachment 11, EA Form, page 2, Item 7 states, "Is the water resource part of or located along a private or public water supply?" The Applicant checked "No." However, no documentation validating this statement is provided in the application. DEP is concerned that private and perhaps public water supply wells are located along crossed stream and wetland water resources and/or along the length of the HDD operations.

The applicant needs to propose measures to protect all public water uses, both surface intakes and groundwater sources, located along and/or downstream of the proposed work areas. Special attention needs to be applied to the potential unplanned impacts that HDD and inadvertent releases (IR) may have on groundwater sources. In addition, where a structure or activity is in a wetland, the applicant must demonstrate that this project will not cause or contribute to the pollution of groundwater or surface water resources or diminution of

resources sufficient to interfere with their uses, including use as a public or private water supply. Your assessment needs to include identification, notification and consultations with water suppliers, and/or well owners. A notification contact list needs to be included in your PPC Plan and Inadvertent Release Plan. *[25 Pa. Code Sections 105.13; 105.14(b)(4); 105.14(b)(5); 105.18a(5); 105.18a(b)(5)]*

g. Item B.2.a of Section F, Attachment11, Enclosure D of the EA states the natural drainage patterns of the wetlands and small or headwater streams will be maintained. However, no information has been provided or detailed contours or cross sections depicting the drainage patterns, or what the drainage patterns are in the wetlands in the existing conditions. Provide site-specific cross sections for the streams, wetlands, and associated drainage patterns which depict the existing and proposed conditions of the streams and wetlands, proposed pipes and depths and, the existing stream bed and banks dimensions. *[25 Pa. Code §§105.13(e)(1)(i)(G); 105.13(e)(1)(x); 105.14(b)(4); 105.14(b)(13); 105.13(e)(1)(ix); 105.1; 105.14(b)(11); 105.15(a); 105.15(a)(1); 105.16(d); 105.18a(a)(1); 105.18a(a)(5); 105.18a(b)(1); 105.18a(b)(5); 105.301(3); 105.301(4); 105.301(5)]*

h. Revise Section A.9 of Enclosure D of the EA to discuss and identify impacts to preserved farms and/or farms with agriculture preservation easements or restrictions. Discuss how the minimization measures would affect preserved farms and how they will be affected, such as not being able to replant an orchard or vineyard. *[25 Pa. Code 105.13(e)(1)(x); 105.21(a)(1); 105.15(a); 105.15(a)(1); 105.14(b)(5); 105.14(b)(4)]*

12. **Erosion and Sedimentation Control Plan**

a. The E&S Plan drawings and, plan sheets that indicate no improvements are proposed for the resource crossings. However, the impact plan drawings and impact tables indicate temporary crossings and bridges are proposed. Revise the application accordingly to be accurate. If temporary crossings are proposed, revise the E&S Plan drawings to depict the impacts. If an existing road with existing obstructions crossing streams or wetlands is proposed to be utilized and no improvements are proposed to the road, then provide color photographs of the resources and existing road crossings. Note: the provided photographs do not depict or clearly depict these crossings. *[25 Pa. Code Sections 105.13(e)(1)(i)(C); 105.13(e)(1)(iii)(A; 105.13(e)(1)(iv);105.15(a); 105.21(a)(1)]*

b. Stream and wetland crossing details are only provided in the "Notes" pages of the E&S Plan. Provide details on how each crossing will be constructed,

associated E&S controls installed and how restoration will be accomplished. To facilitate your response this comment can be addressed by developing a table, specific to application No. E23-524, containing the requested information. *[25 Pa. Code Sections 105.13(e)(1)(i)(C); 105.13(e)(1)(iii)(A); 105.13(e)(1)(iv); 105.15(a); 105.21(a)(1)*

c. The "typical" wetland crossing details shown on the E&S Plans, ES-0.09, indicates Trench Breakers are to be installed in the trench in the wetlands; however, it is not clear what Trench Breakers are or if Trench Plugs are what is meant. Revise this detail to identify if Trench Plugs are meant by this term or provide a detail for trench breakers. In addition, if trench plugs are proposed to maintain wetland hydrology, revise the detail to include trench plugs within the wetland for wetland crossings, and specify the distance increments. Furthermore, the E&S Plan drawings depict trench plugs which are inconsistent with the detail. Revise the site plans to be consistent with the detail. *[25 Pa. Code Sections 105.18a(a)(1); 105.18a(a)(3); 105.18a(a)(4); 105.18a(a)(5); 105.18a(b)(2); 105.18a(b)(3); 105.18a(b)(4); 105.18a(b)(5); 105.15(a)(1); 105.14(b)(4); 105.14(b)(11); 105.14(b)(13); 105.13(e)(1)(i)]*

d. Provide plans showing the location, type, size, and height of any proposed culvert construction and/or modifications of culverts within streams or wetlands. Provide an analysis of the hydraulic capacity demonstrating that the structures do not have: (1) an adverse impact on EV wetlands; (2) a significant adverse impact on Other wetlands; and (3) materially alter the natural regimen of the stream or increase velocities or direct flows in a manner which results in erosion of stream beds and banks. *[25 Pa. Code §§105.18a(a)(1); 105.18a(a)(3); 105.18a(a)(4); 105.18a(a)(5); 105.18a(b)(1);105.18a(b)(2); 105.18a(b)(3); 105.18a(b)(4); 105.18a(b)(5); 105.15(a)(1); 105.14(b)(4); 105.14(b)(11); 105.14(b)(13); 105.13(e)(1)(i)]*

e. Provide site-specific plans and cross sections depicting the size and height for the proposed "Block Valve Settings," their limits of disturbance, permanent access roads, and all other permanent grading and structures located in Waters of the Commonwealth and floodplains. This needs to include plans depicting the size and height of structures located in the floodway and floodplain. *[25 Pa. Code Sections 105.13(1)(i); 106.12(d)(2)]*

f. Sheet ES-0.11 indicates a 8" pipeline is proposed. This cross section needs to be revised to indicate 20" and 16" pipes (w/trench box, if appropriate), and width of trench. *[25 Pa. Code Section 105.13(e)(1)(i)(C)]*

g. Proposed plantings relating to immediate stabilization on restoration plans need to eliminate Crown Vetch (*Coronilla varia*).

13. **Hydrologic and Hydraulic Analysis**

No additional comment.

14. **Stormwater and Floodplain Management Analysis**

a. An Act 167 Stormwater Management Plan has been prepared/adopted by Delaware County under the Stormwater Management Act. Provide an analysis of the project's impact on, and consistency with, the stormwater management plan, along with a letter from the municipalities and county commenting on this analysis. If a letter is not provided, provide all correspondence (including municipal requests for more information) with the county and municipalities on this subject. *[25 Pa. Code Section 105.13(e)(1)(v)]*

b. The proposed project is located within a floodway delineated on the municipal FEMA map. Provide an analysis of the project's consistency with municipal flood plain management programs and provide a letter from each local municipality indicating consistency with their respective municipal flood plain management programs. If a consistency letter is not provided, provide all correspondence (including municipal requests for more information) with the municipalities on this subject. *[25 Pa. Code Section 105.13(e)(1)(vi)]*

15. **Risk Assessment**

No additional comment.

16. **Professional Engineer's Seal/Certification**

No additional comment.

17. **Alternatives Analysis (AA)**

a. The AA needs to include a summary of major actions taken to avoid/minimize impacts. The AA must be a detailed analysis of alternatives, including alternative locations, routings, or designs to avoid or minimize adverse impacts. Document and provide evidence that there is no practicable alternative which would not involve a wetland or that would have less adverse impact on a wetland. Revise the AA to provide a detailed analysis of alternative routings, locations, and designs to avoid and minimize impacts and provide detailed documentation and evidence that there are not practicable alternatives which would further avoid and minimize impacts. *[25 Pa. Code*

Sections 105.13(e)(1)(viii); 105.14(b)(7); 105.18a(a)(2); 105.18a(a)(3); 105.18a(b)(2); 105.18a(b)(3)]

b. According to Table 2, Section F, Attachment 11 within Delaware County, there are nine wetland crossings, three of these are proposed to be made by open cut, seven (7) crossings by HDD. Of these nine crossings, one (C23) is classified as EV wetlands, due to its connection to a wild trout stream, and is proposed to be crossed by open cut. The applicant's AA does not provide any justification for their selection of which water resource (streams and wetlands) crossings will be made by HDD. This information needs to be provided.

It appears, but is not described in the application, that HDD was assumed by the applicant to be the crossing method presenting the least potential impact to water resources and aquatic species. However, their basis for this decision is not provided. It also appears that HDD is proposed only for crossings of known and suspected bog turtle habitats and residential/commercial areas. A full discussion of these HDD issues needs to be provided in the AA. If HDD is the least impactful method, then the applicant needs to provide explanations why all the remaining EV wetlands cannot be crossed by HDD.

Section 105.18a(a) (1 through 7) provide criteria for assessing impacts to EV wetlands. Each of these seven (7) criteria must be fully discussed in AA to justify proposed impacts to EV wetlands. Likewise, Section 105.18a(b) (1 through 7) provide criteria for "Other" wetlands. Each of these seven (7) criteria must also be discussed in the AA to account for proposed impacts to "Other" wetlands. Provide a revised alternatives analysis that incorporates a discussion of alternative crossing techniques (conventional bore, HDD, micro-tunneling, etc.) addressing each EV and Other resource crossing individually, and explaining why trenchless installation methods are or are not appropriate. Provide justification based on Section 105.18a for selecting method of crossings. *[25 Pa. Code Sections 105.13(e)(1)(viii); 105.14(b)(7); 105.18a(a)(2); 105.18a(a)(3); 105.18a(b)(2); 105.18a(b)(3)]*

c. The applicant has selected HDD to cross selected sensitive environmental and residential/commercial areas but has not presented supporting data that documents the suitability of the substrate and geology for HDD utilization. The Revised Bog Turtle Conservation Plan (February 20, 2016) prepared by the applicant includes geotechnical data that was obtained at selected sites. However, similar geotechnical and risk analysis were not included in the application package for all proposed HDD crossings. The applicant needs to submit such data and documentation. In addition, the applicant has not presented contingency plans in the case that HDD fails at certain sites. Such contingency plans must be developed and submitted to DEP. Resultant

impacts of utilizing other construction methods must also be documented and submitted to DEP. *[25 Pa. Code Sections 105.13(e)(1)(viii); 105.14(b)(7); 105.18a(a)(2); 105.18a(a)(3); 105.18a(b)(2); 105.18a(b)(3)]*

18. **Avoidance, Minimization, and Mitigation Plan**

a. The application references stream and wetland restoration, but sufficient details and plans for stream and wetland restorations have not been provided. Provide a mitigation/restoration plan for the impacted streams and wetlands in accordance with Section 105.20a (a) and (b). This plan needs to include all phases of restoration and replacement, including detailed grading plans, stabilization, in-stream control measures, planting plans, schedules, and monitoring plans. *[25 Pa. Code Sections 105.13(e)(1)(ix and x); 105.18(a and b), 105.16(d); 105.20a(a) and (b)]*

b. Revise Enclosures C&D to assess the condition and discuss the condition of and impacts to forested and scrub shrub riparian areas. Revise the enclosures to discuss the primary and secondary impacts, as well as consideration of antidegradation, on watercourses for each watercourse crossing from the riparian vegetation impacts. *[25 Pa. Code Sections 105.15(a); 105.13(E)(1)(x); 105.14(b)(4); 105.14(b)(11); 105.14(b)(12); 105.14(b)(14)]*

i. Evaluate the riparian areas from the top of bank landward 100ft, and if the area utilized is less than 100ft, justification should be given as to why. *[25 Pa. Code Sections 105.15(a); 105.13(E)(1)(x); 105.14(b)(4); 105.14(b)(11); 105.14(b)(12); 105.14(b)(14); Riparian Forest Buffer Guidance, Document # 394-5600-001]*

ii. To avoid and minimize the impacts to the watercourses, provide a plan to replace the vegetation lost in both permanent and temporary ROW and workspaces. Alternatively, where it cannot be replaced and protected from clearing during the proposed project's operation and maintenance, provide an explanation as to why it cannot be replaced. *[25 Pa. Code Sections 105.15(a); 105.13(E)(1)(x); 105.14(b)(4); 105.14(b)(11); 105.14(b)(12); 105.14(b)(14); 105.1; 105.14(b)(7)]*

iii. Revise the application plan drawings and project description, to clearly and specifically state if vegetation clearing, cutting, removal, or other alteration is proposed as part of the proposed projects' construction, operation, and maintenance. Revise the plan drawings to clearly indicate all locations where maintenance clearing, cutting, removal, or other alteration is not part of proposed maintenance activities. *[25 Pa. Code Sections 105.13(e)(1)(ix); 105.14(b)(4); 105.14(b)(12);*

105.14(b)(13); 105.14(b)(14); 105.11(d)]

c. In regards to the mitigation plan, explain how preexisting conditions (bank grades, bank slopes, bed and bank elevations, and habitat) will be documented and used as a basis to restore impacted streams and wetlands to preexisting or better habitat conditions. Explain under what conditions the restoration design based on preexisting design will be modified when the preexisting conditions are degraded (areas of severe bank erosion, bank undercutting, unnatural substrate, and similar conditions). Provide plans and details for the restoration of stream habitat at open cut stream crossings. This needs to include stockpiling and segregation and replacement of native stream bed material. Contingency plans addressing measures to stabilize the work area in the event of sudden precipitation also need to be included. *[25 Pa. Code Sections 105.13(e)(1)(i)(G); 105.13(e)(1)(i)(C); 105.311(2); 105.15(a); 105.14(b)(4); 105.16(d)*]

d. The application states that temporarily impacted Palustrine Scrub Shrub (PSS) and Palustrine Forested Wetlands (PFO) wetlands will be replanted with native trees and shrubs, PSS wetlands in the permanent ROW will be planted with wetland shrubs, and PFO wetlands in the permanent ROW will be allowed to revert to PSS/PEM wetlands. PFO areas in temporary impacted areas, outside the 50-ft right-of-way will be replanted with native forest tree species. Provide planting plans and details for these restoration areas, including the replanting of PFO areas in the permanent ROW. Identify the locations of the plantings and wetlands, the species to be planted, the planting density, the proposed size of the plantings, planting timing, goals and objectives for success, and a monitoring plan to ensure reestablishment. *[25 Pa. Code Sections 105.13(e)(1)(ix); 105.1, Mitigation; 105.14(b)(4);105.14(b)(13); 105.18a(a)(1); 105.18a(a)(3); 105.18a(a)(6); 105.18a(b)(1); 105.18a(b)(2); 105.18a(b)(6)]*

e. Section 2.2.2.1 of the Mitigation Plan identifies that wetlands will be reseeded with a native wetland seed mixture; however, the mixture, application rates and other factors are not specified nor are they proposed on the plans. Revise the application to identify the seed mixture to be used and revise the E&S Plans to indicate its use for wetland restoration. Provide similar information for the replanting of wetland shrubs and forest species (as discussed in 18.c). Note that not planting and allowing natural colonization of impacted areas will likely result in areas dominated by invasive, non-native species and is not an acceptable approach to restoration. *[25 Pa. Code Sections 105.13(e)(1)(ix); 105.1, Mitigation; 105.14(b)(4); 105.14(b)(13); 105.18a(a)(1); 105.18a(a)(3); 105.18a(a)(6); 105.18a(b)(1); 105.18a(b)(2);105.18a(b)(6)]*

f. Section 2.2.2.1 of the Mitigation Plan, entitled "Construction in Wetlands with Unsaturated Soils," conflicts with the rest of the application, which identifies that all wetland crossings will be crossed with mats or pads. Crossing unsaturated wetlands without timber mats would contribute to soil compaction, rutting, and disturbance of the cut vegetation's roots. Therefore, revise the Mitigation Plan to identify that all wetland crossings shall use mats or pads. *[25 Pa. Code Sections 105.21(a)(1); 105.13(e)(1)(ix); 105.13(e)(1)(i); 105.13(e)(1)(iii);105.13(e)(1)(x); 105.14(b)(4); 105.14(b)(13); 105.15(a); 105.15(a)(1); 105.15(b); 105.18a(a)(3); 105.18a(a)(1), 105.18a(b)(1); 105.18a(b)(2); 105.422]*

g. Prepare a monitoring plan verifying that the permittee will monitor the stream and wetland restoration sites for at least 5 years. Monitoring reports should be submitted to DEP every 6 months for the first 2 years after construction and annually for 3 years thereafter. The monitoring reports shall contain information describing the success of the site at the time of inspection, an inventory of the surviving plant species and percent aerial coverage, photographs of the replacement sites with plans showing the location and orientation of each of the photographs, and a written plan to correct any deficiencies identified during the monitoring phase. [*25 Pa. Code Sections 105.20a; 105.18a(a)(7); 105.18a(b)(7); 105.13(e)(1)(ix); 105.16(a); and 105.1 (defn. of mitigation;105.53(4); 105.54)*]

h. DEP disagrees with the statement made in several sections of the application that secondary effects will not occur to impacted wetlands. Secondary (indirect) effects are defined in the EPA Regulations (40 CFR 230.11) as effects on an aquatic ecosystem that are associated with a discharge of dredged or fill materials, but do not result from the actual placement of the dredged or fill material. Secondary effects that may possibly occur on the impacted wetlands include alteration of wildlife and aquatic habitats, changes in hydrology due to factors such as over-compaction of soils, changes in species composition and densities and colonization by invasive species. Address secondary impacts, their monitoring, prevention and, control strategies in the requested restoration and mitigation plan. *[25 Pa. Code Sections 105.14(b)(12); 105.21(a)(1); 105.13(e)(1)(ix); 105.13(e)(1)(i); 105.13(e)(1)(iii); 105.13(e)(1)(x); 105.14(b)(4); 105.14(b)(13); 105.15(a); 105.15(a)(1); 105.15(b); 105.18a(a)(3); 105.18a(a)(1); 105.18a(b)(1); 105.18a(b)(2); 105.53(4); 105.54; 105.422]*

i. Provide details of SPLP's annual Wetland Monitoring and Environmental Inspection Programs. *[25 Pa. Code Sections 105.13(e)(1)(ix); 105.1,*

Mitigation;105.14(b)(4); 105.18a(a)(1); 105.18a(b)(1); 105.18a(b)(2); 105.18a(b)(6); 105.53(4); 105.54]

j. The Mitigation Plan does mention placement of "No Mowing" signs as replanted PSS areas, but this does not provide for long-term protection if repairs are needed, replanting of these areas if accidental mowing occurs, and that such signs could become not visible over time. Provide "No Mowing" stones to demarcate the area. Stones needs to be placed and of size to prevent mowing equipment access. *[25 Pa. Code Sections 105.13(e)(1)(ix); 105.1, Mitigation; 105.14(b)(4); 105.14(b)(13); 105.18a(a)(1); 105.18a(b)(1); 105.18a(b)(2); 105.18a(b)(6)]*

19. **General and Other Comments**

a. The application will need a comprehensive Preparedness Prevention Contingency Plan (PPC) combined with the Inadvertent Release Plan (IRP). The Plan needs to include downstream notification lists of public and other water intakes and public and private water wells along the ROW, noting those water users along areas where HDD will be utilized.

b. The application includes separate documents covering PPC activities. Due to the scope of this project, you must consolidate these plans into one stand-alone document that can be used in the field. This single document will be the primary document used for emergency response, and as such, needs to provide a complete and useable reference for contractors and other on-site personnel. The PPC needs to include the following:

i. Instructions and procedures to facilitate the avoidance and minimization of impacts and provide the framework to investigate and resolve impacts caused by spills, releases, and other pollution events should they occur.

ii. Notification protocols and an up to date list of agencies and local governments. Specifically missing from the current submitted application is the contact information for the U.S. Fish and Wildlife Service, PADEP Southeast Regional Office and Counties in the Southeast Region.

iii. The management of excess drilling mud/liquids that may be encountered at the individual bore pits.

iv. Appendix B needs to be revised to state that all discharges to a stream, wetland or groundwater must be contained, and PADEP must be notified. *[25 Pa. Code Sections 105.2(1 and 2) and 91.33(a) and (b)]*

c. While you provided a narrative discussing how impacts to private water supplies will be investigated and addressed, a formal plan has not been provided. Revise the PPC Plan to include the following on public and private water supplies: *[25 Pa. Code Sections 105.14(b)(4) and 105.14(b)(5)]*

i. A copy of the FERC standards SPLP Plans to use in accepting and investigating landowner complaints of spring and well water supply impairment.

ii. Measures the applicant will take to investigate for the presence of public and private water supplies in areas where HDD crossings are proposed. Utilize the attached instructions for searching eMAP for Public Water Supply locational information. You will not be able to obtain the exact source location, but you will be able to find any in the vicinity and obtain the name of the Public Water Supplier. If any are identified in the vicinity of your project, you need to contact the water supplier to discuss the project with them and work to determine if your project will have an impact on the water supply. Both surface and groundwater supplies need to be evaluated and included in your review and response documents.

iii. Procedures that will be followed to investigate and resolve impacts to public and private water supplies should they occur as a result of the proposed activities. This procedure needs to discuss how water supply owners will be alerted in the event of an inadvertent return.

iv. Here are some options for the pipeline drilling to protect drinking water wells. Most of these suggestions are derived from requirements for new public water wells.

(a) Map where the pipeline crosses sensitive geology and aquifers. Maps are available from the state geologic survey of unconsolidated sand and gravel, carbonate, and known karst feature density.

(b) Location and contact information for drinking water wells in the vicinity of the pipeline. Well contact information can be searched for by location in the eMAP PA's website for public

wells and PAGWIS's website for driller registered private wells.

(c) Within 0.5 mile, wells are potentially vulnerable over a long time period, and within 400 feet wells are vulnerable in short time periods. Some wells may have more accurately modelled protection zones available.

(d) Continuous monitoring of water levels in nearby wells could show a hydraulic connection that may have quantity or quality impacts. Water quality sampling and analysis of nearby wells could monitor for quality impacts.

d. HDD Inadvertent Return Contingency Plan includes profiles identifying Geotechnical profiles; however, no analysis has been provided on the risk of an inadvertent return occurring. Provide an analysis on the risk of an inadvertent return occurring for all proposed HDD crossings. Include in-depth detail, discussion, and data in the analysis of the risk of a return occurring. *[25 Pa. Code Sections 105.14(b)(7); 105.18a(b)(3); 105.18a(b)(4); 105.18a(b)(5), 105.14(b)(4); 105.14(b)(11)]*

i. Provide information/details on previous HDD activities on the prior Mariner East pipeline project where IRs occurred. At a minimum, this needs to include a topographic map with locations and latitude/longitude of each occurrence, description of event, amount of discharge, whether the discharge entered waterways and/or wetlands, mitigation/clean-up measures taken, etc. Also, provide a list of areas where Mariner East 1 had issues with inadvertent returns to the surface when conducting HDD crossings, and discuss how you have taken these historic issues into account in your design of the proposed project.

ii. A stand-alone attachment needs to be created to address the pre-boring geologic evaluation of the existence and potential to impact local drinking water supplies or aquifers around the boring location. The plan needs to include what measures will be employed to verify that no supplies or aquifer are impacted (i.e. pre and post water quality and quantity analysis). The plan also needs to specify what notifications and remediation measures will be employed if there are impacts.

DEP has developed a standardized review process and processing times for all permits or other authorizations that it issues or grants. Pursuant to its Permit Review Process and Permit Decision Guarantee Policy (021-2100-001), DEP guarantees to provide permit decisions

within the published time frames, provided applicants submit complete, technically adequate applications/registrations that address all applicable regulatory and statutory requirements, in the first submission. Since you did not submit a complete and/or technically adequate application, DEP's Permit Decision Guarantee is no longer applicable to your application.

Pursuant to 25 Pa. Code Section 105.13a of DEP's Chapter 105 Rules and Regulations, you must submit a response fully addressing each of the significant technical deficiencies set forth above. Please note that this information must be received in triplicate within sixty (60) calendar days from the date of this letter, on or before November 7, 2016 or DEP may consider the application to be withdrawn by the applicant.

If you believe that any of the stated deficiencies is not significant, instead of submitting a response to that deficiency, you have the option of asking DEP to make a decision based on the information with regard to the subject matter of that deficiency that you have already made available. If you choose this option with regard to any deficiency, you should explain and justify how your current submission satisfies that deficiency. Please keep in mind that if you fail to respond, your application may be withdrawn or denied.

Should you have any questions regarding the identified deficiencies, please call DEP at the phone number located in the first page footer, and refer to Application No. E23-524 to discuss your concerns or to schedule a meeting. The meeting must be scheduled within the 60-day period allotted for your reply, unless otherwise extended by DEP. You may also follow your application through the review process via *eFACTS on the Web* at http://www.ahs2.dep.state.pa.us/eFactsWeb/default.aspx .

Sincerely,

John Hohenstein, P.E.
Chief, Dams and Waterways Section
Waterways and Wetlands

Enclosure

cc: Mr. Schaeffer – Tetra Tech, Inc.
U.S. Army Corps of Engineers, Philadelphia District
U.S. Army Corps of Engineers, Baltimore District
Pennsylvania Fish and Boat Commission, Division of Environmental Services
Pennsylvania DEP, Southwest Regional Office, Waterways and Wetlands Program
Pennsylvania DEP, Southcentral Regional Office, Waterways and Wetlands Program
Delaware County Conservation District
Delaware County Planning Commission

Thornbury Township
Edgmont Township
Middletown Township
Aston Township
Upper Chichester Township
Brookhaven Borough
Mr. R. Brown, PADEP SERO, WAW
Re 30 (GJS16WAW)245-15

EX. “E”

STATEMENT OF BIBIANNA DUSSLING

1. My name is Bibianna Dussling and I live at 76 War Admiral Lane in the Riddlewood subdivision. I have 3 children. My eldest is a 1st grader at Glenwood and the end of the building where her classroom is located was determined to be approximately 860 feet from where the Mariner 2 pipeline is planned to be.

2. Although I'm a civilian and stay at home with my 3 kids now, in a previous life I was a Naval officer and helicopter pilot. We also had "ground jobs" in addition to flying and one of my collateral duties was as Aviation Safety officer. One of my duties was to be responsible for the base's emergency operations and emergency management plans.

3. I know from my own experience there are so many different scenarios to plan for with regard to emergency response and they often require detailed plans that are very specific and tailored to the situation. They rely VERY heavily on communications between all levels of the emergency response chain and an accurate assessment of the incident and its scope. This is one of my biggest concerns with regard to the Mariner 2 project.

4. The Mariner 2 pipeline is of a fundamentally different nature from others already in our area. It is not only the magnitude of the pipeline itself but the fact that it is intended to be located right in the middle of our densely populated area and in close proximity to such sensitive sites as the Glenwood Elementary School and Sleighton Field with its popular soccer fields and new playground.

5. Looking at the township's Emergency Operations Plan ("the Plan"), it would seem an incident with this pipeline would fall under the category of Hazardous Material Release, Chemical Release and possibly Explosion/Fire since the escaped materials would be colorless and odorless, and potential ignition sources abound along its path such as vehicles and doorbells.

6. The Plan identifies possible issues with the category Fires, Explosion, Hazardous Materials Release as Fire suppression and rescue, mass casualties, hazardous materials containment, evacuation, sheltering. And with the category including Chemical release the possible additional issues of delayed knowledge of incident, overtaxed support and response system and decontamination.

7. The Plan mentions training in general from a variety of sources such as federal and state as available. It also acknowledges the heavy reliance on the Incident Commander located at the Incident site and that they will be from fire, police or emergency medical services.

8. All of this is well and good but I would like to know since Council is already considering approval of this project on public lands what specific training has occurred or is currently planned to address the specific challenges and the unique nature of this one?

9. Since the contents from a pipeline leak or rupture are odorless and can be ignited by many sources common throughout its path in our area, how are we addressing along with first responders the challenges of detection, communication in between all the levels identified in the Emergency Response Plan, communication with the public regarding initiating evacuation and

coordinating with either the school board or just Glenwood Elementary staff regarding unique nature of evacuating the elementary school?

10. In addition what plans are in place to educate the public on the ignition hazards of ringing doorbells, using a phone, starting a vehicle or using a garage door opener? How will first responders communicate the need to evacuate to the public? What consideration has been given to typical primary evacuation routes like Routes 1, 352 and 452 being made impassable by the event that drives the need to evacuate? How will first responders and the Incident Commander determine the size and shape of the area to be evacuated?

11. These are all questions that need to be addressed. These are all questions that are not currently addressed by the Plan. Council's suggestion that the Plan currently covers these concerns is simply ill-informed. It does not.

12. I would hope Council would be sure to address these challenges and ensure we already have plans and adequate resources in place to sufficiently handle a possible emergency prior to approving any such use of public land. It is my belief, however, based on my experience, that such a plan cannot be conceived.

13. When Mariner 2 experiences a leak or rupture, no one in Glenwood Elementary will become aware of it at the outset because the spilled liquids are odorless and invisible. The specially commissioned risk assessment plan makes this very clear. With only a 2 mph prevailing wind, the escaped gas – assuming it does not explode – will reach the school in only a matter of minutes and people coming into contact with it will be asphyxiated.

14. While this is happening, what will first responders be doing and how long will it take them to respond? Emergency vehicles could easily ignite the gas and make the situation catastrophically worse. How will Township residents escape once notified? They will have to walk away from the accident site and will not even know which direction to go. That is, if they even become aware of the event. Who is going to inform them?

15. Pipes like Mariner 2 cannot be safely built in close proximity to high density population areas. There will be and cannot be any escape from serious leak or rupture.

16. I hereby verify that the statements made above are true and correct to the best of my knowledge. I understand that false statements herein are made subject to the penalties of 18 Pa.C.S. Section 4904, relating to unsworn falsification to authorities.

/s/ Bibianna Dussling
Bibianna Dussling

EX. "F"

Statement of Seth Kovnat

1. My name is Seth Kovnat. I live at 75 War Trophy Lane with my wife and 2 small children, both of whom will be attending Glenwood Elementary.

2. I have a master's degree in Mechanical Engineering and am the Chief Structural Engineer for Piasecki Aircraft Corporation, a local Delaware County company that specializes in developing new technologies for the aerospace industry. My background in piping is extensive. I led the tubing analysis effort for NASA's Orion space exploration program and have designed, analyzed, and overseen tubing efforts for R&D aircraft.

3. When I first learned of the proposed Mariner East 2 pipeline project that could run through the heart of Middletown Township, I was more than a little concerned considering the sheer size, pressures, and materials involved that rival or exceed anything I've seen in my experience with rocket thrusters.

4. I had an expectation that a pipeline within public range would have more regulations, oversight, and requirements than airplanes or spacecraft. Failure is simply not an acceptable option when the lives and property of so many people are involved. I am appalled to learn that this is simply not the case.

5. Some of the procedures in place are very similar to what I am used to seeing with regard to certified welders, destructive/ non-destructive testing, inspection, and proof testing. However, other factors, such as corrosion, trench digging effects, and emergency protocol are simply not addressed in a serious way.

6. Even if everything is installed perfectly, the risk is still significant, especially since this pipeline will be here "forever", long enough for most citizens to forget about the associated risks. There are always unknown events that can cause pipe failure and on pipes this large and pressurized to these levels, failure is simply catastrophic. Given enough time (and forever is enough), something will happen. Nothing is foolproof, and Sunoco's abysmal safety record indicates that a leak or breach might occur sooner rather than later. The potential consequences of that breach are enormous.

7. Mariner 2 is proposed to be a 20 inch diameter, 1500 PSI pipeline. Let me give a little perspective from an engineering standpoint of what a breach would look like on a 20 inch diameter, 1,500 PSI pipeline containing highly volatile liquids. First, the leak would need to be detected by Sunoco, a company whose operating safety systems have failed to detect at least 25% of the leaks on its pipelines over the last ten years. Next, the valves on either side of the leak would need to be closed. These valves will be at least 6 miles apart. It can take 10-30 minutes from the time a leak is identified to the time the shutoff valves are fully closed.

8. But let's suspend disbelief and imagine for a moment a best case scenario where the leak is identified and the valves are shut off immediately. Even in this case, the entirety of the volatile liquid within that 6 mile pipeline segment, over 500 thousand liquid gallons, will become depressurized, convert from liquid to gas, and escape into the air. When these materials become

gaseous, they increase in volume by about 500 times, meaning over 300 million gallons of heavier-than-air, explosive gas would blanket the surrounding area, potentially asphyxiating anyone in its path even before finding an ignition source.

9. Assuming the gas spreads over 300 acres of flat topography, the 300 million gallons of heavier-than-air-gas would fill up from the ground to a height of about 3 and a half feet, about the size of the children that congregate at nearby Glenwood Elementary School and Sleighton Park. It would completely engulf any lower lying areas in gaseous fuel. One spark to the over 2.5 million pounds of propane, ethane, or butane gas and the entire gas cloud will ignite, creating a 3,600 degree F fire blanket with energy equivalent to over 15 kilotons of TNT and equal to the energy in "Little Boy", the nuclear bomb dropped over Hiroshima.

10. An ignition source could come from anywhere - a car engine, a doorbell, a garage door opener, a cell phone. A leak or explosion in a pipe this large would impact a radius of *at least* half a mile, over 300 acres. Explosions and leaks of this magnitude have occurred in NGL pipelines before. In fact, a leak occurred on a Sunoco pipeline just down the road in Aston this year. None of the escaped gas was recovered. Luckily there was no spark. But counting on luck is not a credible plan.

11, Sunoco's generic emergency protocol suggests that in the event of a known or suspected leak, residents should quickly move away from the pipeline on foot, upwind, to a distance of at least half a mile. *Is this a reasonable plan?* For residents to be able to determine the direction of the wind, and then run through potentially rough terrain, over fences, around buildings, through woods? Now imagine running carrying a small child, or your elderly parent, in the cold, or through a snowstorm, with your lungs filling up with ethane or butane or propane. What if the pipeline is upwind? What if the wind changes direction? How do we evacuate schools or preschools or elder care facilities under this plan? Is evacuation even possible? There is no odorant added to these materials to allow people to even smell the odorless gas, so maybe we don't even know a leak has occurred until it is too late for anyone to run.

12. Sunoco has simultaneously managed to downplay these risks and create a scenario where the public feels we have no choice but to accept these risks. To those who believe this is just another pipeline, I am here to tell you that it is not typical, not a utility, and carries many thousand times the risk of other pipes in the ground, perhaps the lone exception being Mariner East 1.

13. The difference:

1) Propane, ethane, and butane are 10 times more volatile than petroleum products, and they are gaseous, as opposed to liquid, when in the environment, much more difficult to contain when leaks occur.
2) The extreme internal pressures being used put the pipeline under incredible stress, increasing the likelihood of rupture, and making any incident one of epic proportions. The utility gas lines distributing to homes are at pressures 2 orders of magnitude lower and are gas inside the pipe.
3) The large pipe diameter allows an insane amount of liquid NGL to be packed into each pipe segment, ensuring that any leak will be catastrophic with plenty of fuel to feed an

epic explosion. Utility gas lines are typically 2in diameter with 100 times less flow area and 50,000 times less fuel mass since utility gas is transported as a gas.

4) Finally, the proximity to densely populated areas, containing homes, schools, hospitals and businesses means that thousands of people are at risk every day.

14. As an engineer with knowledge of pipes, I know that installation is critical to the performance and longevity of the pipeline. Inadequate installation, including trench digging, welding, inspection, and testing can result in failure of the pipeline during operation. Embrittlement and corrosion can attack inadequately welded joints and sections of pipe with compromised coatings. Compounding things further is that it is unusual to find seamless tubing over 18 inches in diameter. This means that the proposed 20 inch pipe will likely be made from rolled plate that gets seam welded at the steel mill. This seam-welded pipe is not as reliable as continuous-wall or drawn pipe and further increases risk, as recent structural failures have graphically illustrated.

15. Inadequate pipe welds may or may not cause the pipeline to fail proof testing. So it is possible for the pipe to pass proof testing and still be inadequate and fail prematurely. Sunoco claims its procedures are sound. However, there have been numerous times when Sunoco has received major federal enforcement action for not following their own procedures and federal safety regulations. One enforcement action was brought by the federal government against Sunoco in April 2016. The federal regulator found that Sunoco used unqualified personnel to perform 3,000 welding operations on a new pipeline. Rather than rectify the problem, Sunoco attempted to "back-qualify" the welders, some of whom were unable to perform satisfactory welds even after multiple attempts. The federal government has proposed a $1.278 million dollar fine against Sunoco as a result of its investigation.

16. Consistent maintenance over the lifetime of the pipeline is absolutely critical since we are talking about a forever timeline. Corrosion is a real concern as it is a contributor to many pipeline failures that have occurred. Steel corrodes. New high tech coatings provide significant improvements (believe me, I use them every day), but eventually, they will wear away. Smart PIGs and other inspection techniques are able to clean and inspect the inside of the pipe. However, there really is no reliable way to inspect the outside of an underground pipe for cracks and corrosion. Burrowing these pipes into deep trenches or holes, with the pipes scraping along the edges of hollowed out soil will set the pipe on a course for expedited corrosion. Again, this is not a hypothetical concern.

17. Sunoco is the owner of the industry-high number of reported incidents, with 26 having occurred in Pennsylvania. The vast majority of these hazardous liquids leaks were caused by one of three causes: corrosion, incorrect operation, or material/weld/equipment failure. As an example not far from here, a Sunoco petroleum pipeline failed due to corrosion in Edgmont Township. The leak was detected by the property owner, not by Sunoco's operating detection system. Shortly after the leak, Sunoco was delivering bottled water to surrounding residences; a few days later, Sunoco found MTBE, a gasoline additive, in nearby well water. The causes of this event appear to be corrosion; Sunoco's failure to detect the corrosion; and Sunoco's failure to detect the leak.

18. Sunoco claims to have been operating HVL pipelines safely and for a long time. However, they cannot claim that they have never leaked these materials. Consider the following examples:

1) Oregon OH, September 2014
2) Beaumont TX, January 2015
3) Again in Oregon OH, June 2015
4) Again in Beaumont TX
5) Finally, down the road in Aston PA, May 2016

19. I would say that accidentally leaking volatile NGL gas into neighborhoods is not demonstrating safe operation. These leaks did not yield an explosive conclusion. However, there are plenty of examples throughout the US and the world where NGL leaks of similar magnitude have led to devastating explosions. Maybe Sunoco has a different definition of the word "safe."

20, Protecting the installed pipeline from future digging or tampering is imperative to preventing failure in the line. In highly dense areas, the pipeline will be at risk of people digging on their private properties. Although the township provides underground utility marking prior to any excavation project, people sometimes circumvent that process if they themselves deem that it is not important. At any time people living on these lands may not be aware of the pipeline's presence, and could accidentally dig into the pipeline, causing explosive failure. Sunoco also notes the risk of the pipeline being used as a terrorist target in their own literature for first responders. I absolutely agree.

21. In summary, the Mariner East 2 pipeline is a wildly unnecessary public health and safety risk to the residents, businesses, and visitors of Middletown Township. It is a classical industrial pipeline of epic proportions unlike anything currently operating in a densely populated area. Its sole purpose: serving to improve the bottom line of Texas-based Sunoco as this material is shipped overseas. The pipeline is not a sustainable source of jobs. It may introduce a few new local jobs for a minute. Given Sunoco's connections to the Gulf and the downturn in the oil industry down there, even that is not a guarantee.

22. The likeliest long term jobs to result from this proposed project are environmental remediation specialists and pediatric asthma physicians. Regardless, as soon as installation is complete, most jobs will vanish. Our community will be left only with the anxiety of knowing that a ticking time bomb is literally running under our feet, jeopardizing our safety, our quality of life, and our property values, all at the same time. Sunoco has demonstrated time and time again that they are incapable of keeping their materials contained within their pipes, and we simply cannot entrust them with ours and our children's lives, not for any price.

23. I hereby verify that the statements made above are true and correct to the best of my knowledge. I understand that false statements herein are made subject to the penalties of 18 Pa.C.S. Section 4904, relating to unsworn falsification to authorities.

/s/ Seth Kovnat
Seth Kovnat

EX. “G”

Verified Statement of Margaret M. de Marteleire

1. My name is Margaret M. deMarteleire. My husband and I own and live at 225 South Pennell Road in Middletown Township.

2. In August, 2015 I became a plaintiff in a lawsuit against Sunoco Pipeline LP filed in Philadelphia Common Pleas Court to halt construction of the Mariner East 2 pipeline.

3. During Court proceedings, Sunoco agreed that for the duration of the lawsuit its agents would not enter upon our property for any purposes other than routine maintenance of its existing pipelines, although they falsely claimed that I had already given them permission to come onto our property

4. Sunoco has violated its agreement numerous times, its agents crossing our property, placing stakes and small yellow flags in our yard, and most recently beginning to lay out new Mariner easements by installing a large yellow pipeline marker pole on our property.

5. In or around June of 2015 I attended a public meeting hosted by Sunoco in Middletown. At that meeting, a Sunoco representative lied about the $95,000 DEP fine imposed on the company earlier in 2015. He stated that it was for failure to obtain a permit, a technical violation but not an environmental one. In fact, we already knew that Sunoco had entered into a consent decree to pay the fine for polluting waterways and improperly remediating. Sunoco at the meeting also represented that it had a good safety record, despite the fact it has the worst safety record in the industry.

6. I tried to find out from the engineers present at the meeting how far from the pipeline one would have to be to be safe if there was a leak or explosion. None of their staff would even give me an estimate, responding instead with explanations for why there isn't an answer.

7. Based on Sunoco's violations of the Court agreement as well as other false statements made by Sunoco through its spokesman, I believe that Sunoco cannot be trusted and that any reliance upon its representations as to Mariner East 2's safety and emergency evacuation plans would be a serious mistake.

8. The distance from our home to the proposed pipeline is 190 feet according to Sunoco's filings with the DEP. We use our backyard as a playground for our grandchildren for hours at a time during warm weather:

9. In the event of a leak or rupture of the proposed pipeline, our backyard and our home could be devastated. More importantly, our family could be injured or more likely killed. We live right on Route 452; the gases carried in the pipeline are so volatile that even ringing a doorbell could set them off. The traffic on 452 would certainly do so.

10. Without the proposed Mariner East 2 pipeline easements, Sunoco will not be able to operate a pipeline that every day pumps hundreds of thousands of barrels of hazardous, volatile liquids through my neighborhood or near the elementary school my granddaughter will attend in three years.

11. While I am opposed to the pipeline for many reasons, my greatest concern is the safety of my family. For that reason, I simply cannot fathom why the Middletown Township Council will not delay its easement vote on September 26, 2016 and commission proper safety studies to enable it to make a reasoned decision on the proposed easements.

12. I hereby verify that the statements made above are true and correct to the best of my knowledge. I understand that false statements herein are made subject to the penalties of 18 Pa.C.S. Section 4904, relating to unsworn falsification to authorities.

/s/ Margaret M. deMarteleire
Margaret M. deMarteleire

EX. "H"

Gas Arrival Time Assessment of the Sunoco Mariner East II Natural Gas Liquids Pipeline Proposal as Affects a Delaware County, PA Community. (15 minute travel time examined)

Sept. 12, 2016 Presentation

Initial assessment work was completed to characterize worst case gas arrival times using a portion of Delaware County, PA as an example. The scenario analyzed examines community area outward from a failed or ruptured pipeline. This assessment includes factors to be considered relative to public health and safety.

Tonight we will examine data and factors that should be considered in assessing potential risks to family, friends, the community, and the environment. Questions quickly arise. For example, do the benefits of transmitting highly flammable liquids and fuel in close proximity to families outweigh potential risks? Was the planned pipeline location selected to avoid densely populated areas, thereby reducing health and safety risks? Are potential dangers warranted? It should be recognized tonight that these questions will be addressed from a worst case scenario perspective.

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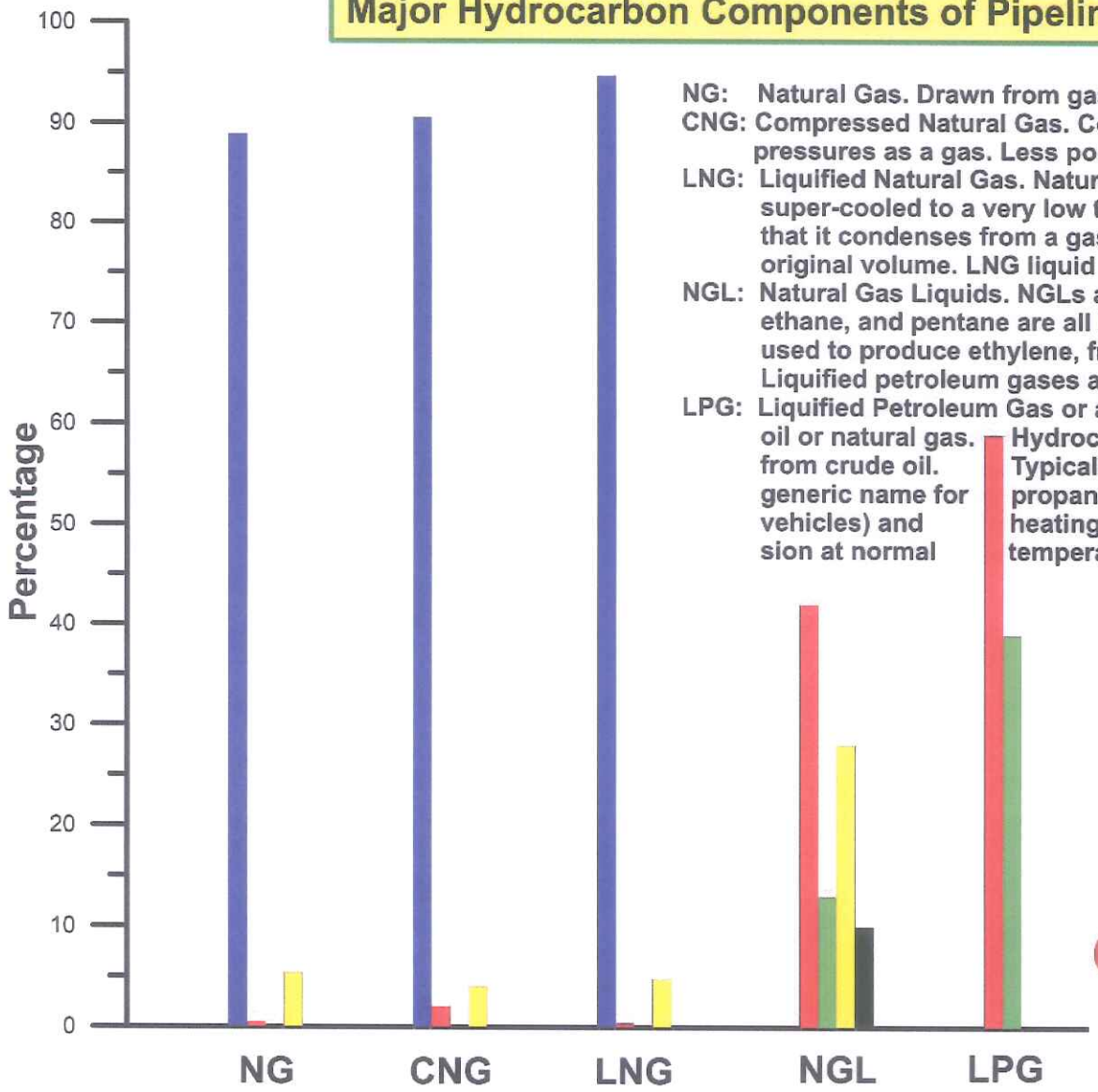
hydroquest@yahoo.com

Much of the Mariner East Pipeline corridor routes through highly populated areas of homes, town houses and assorted businesses.

Middletown Coalition for Community Safety

Major Hydrocarbon Components of Pipeline Gases & Fluids



NG: Natural Gas. Drawn from gas wells, mostly methane. Lighter than air.

CNG: Compressed Natural Gas. Compressed from NG and stored at high pressures as a gas. Less portable than LNG. Lighter than air.

LNG: Liquified Natural Gas. Natural gas (mostly methane) that has been super-cooled to a very low temperature (e.g., -120° C to -170° C) so that it condenses from a gas into a liquid. Volume is 1/600th of its original volume. LNG liquid and vapor initially heavier than air.

NGL: Natural Gas Liquids. NGLs are hydrocarbons. Propane, butane, ethane, and pentane are all NGLs. The high ethane component is used to produce ethylene, from which plastics are produced. Liquified petroleum gases are all heavier than air.

LPG: Liquified Petroleum Gas or autogas. Synthesized by refining crude oil or natural gas. Hydrocarbons removed (condensed) as a liquid from crude oil. Typically has a high % of propane. LPG is a generic name for propane and butane gas used in fuel (e.g., for vehicles) and heating. Gas is liquefied by moderate compression at normal temperatures. Heavier than air.

- Methane (CH4)
- Propane (C3H8)
- Butane (C4H10)
- Ethane (C2H6)
- Pentane (C5H12)

PIPELINE SAFETY COALITION

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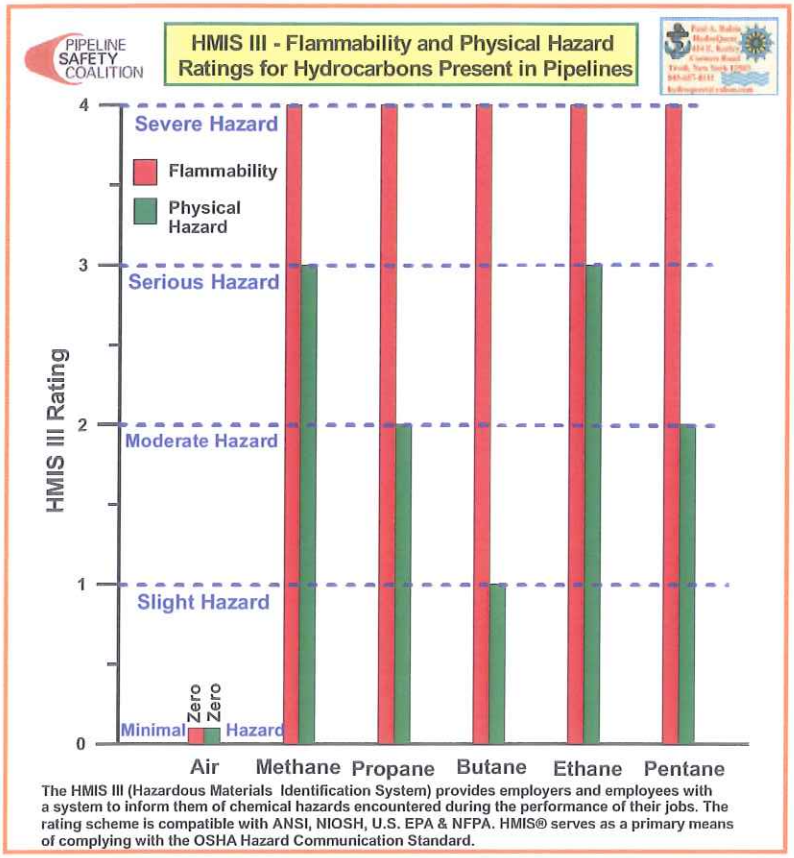
Note: Component percentages are highly variable, sometimes with seasons. NGLs may be mixed with other products.



The HMIS III (Hazardous Materials Identification System) provides employers and employees with a system to inform them of chemical hazards encountered during the performance of their jobs. The rating scheme is compatible with ANSI, NIOSH, U.S. EPA & NFPA. HMIS® serves as a primary means of complying with the OSHA Hazard Communication Standard.

Asphyxiation/suffocation risk associated with inhalation of methane, propane, butane, and ethane is RAPID. Liquified Natural Gas, Natural Gas Liquids, and Liquified Petroleum Gas are all heavier than air. They may accumulate in confined spaces, particularly at or below ground level. Accumulation in home basements may lead to asphyxiation, explosions and death. Pipeline failure and hydrocarbon excursions close to homes pose a real risk to public health and safety. Regardless of their chemical compositions (e.g., high % methane OR propane) - Natural Gas, Compressed Natural Gas, Liquified Natural Gas, Natural Gas Liquids and Liquified Petroleum Gas ALL contain high percentages of extremely flammable and explosive chemicals - making accidents along these hydrocarbon transmission pipelines dangerous and life-threatening.

HMIS III - Flammability Ratings (abridged)

0	Minimal Hazard	Materials that will not burn.
1	Slight Hazard	Materials that must be preheated before ignition will occur.
2	Moderate Hazard	Materials that must be moderately heated or exposed to high ambient temperatures before ignition will occur.
3	Serious Hazard	Materials capable of ignition under almost all normal temperature conditions.
4	Severe Hazard	Flammable gases, or very volatile flammable liquids with flash points below 73 F, and boiling points below 100 F. Materials may ignite spontaneously with air.

HMIS III - Physical Hazard Ratings (abridged)

0	Minimal Hazard	Materials that are normally stable, even under fire conditions ... Non-Explosives.
1	Slight Hazard	Materials that are normally stable but can become unstable (self-react) at high temperatures and pressures.
2	Moderate Hazard	Materials that are unstable and may undergo violent chemical changes at normal temperature and pressures with low risk for explosion.
3	Serious Hazard	Materials that may form explosive mixtures with water and are capable of detonation or explosive reaction in the presence of a strong initiating source.
4	Severe Hazard	Materials that are readily capable of explosive water reaction, detonation or explosive decomposition, polymerization, or self-reaction at normal temperature and pressure.

Examples of Gas Excursion Pathways & Failure Mechanisms

As proposed, Mariner East pipelines would be of large diameters and would be placed under high pressures (to ~ 1,500 psi);

Needed safety distances increase when the internal diameter or the operating pressure of pipelines increases. Nevertheless, safety distance is more sensitive with pipe size rather than operating pressure (Sklavounos & Rigas, 2006);

Liquefied, flammable, gas clouds have been documented as having drifted up to 5 miles before exploding in a "wall of fire" some 1 mile wide (Siberia, Russia - June 4, 1989);

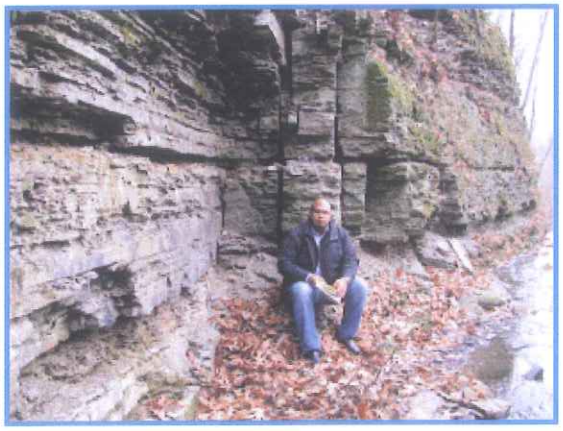
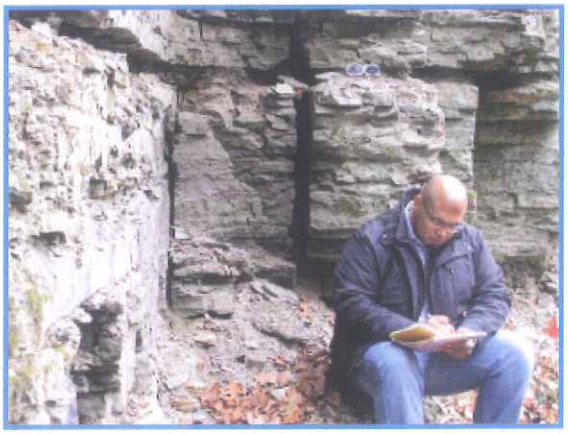
Multiple pipelines with nearly intersecting pathways or placed in close proximity to each other increase health & safety risk.

Causes of documented pipeline failure mechanisms and accidents include (Sklavounos & Rigas, 2006):

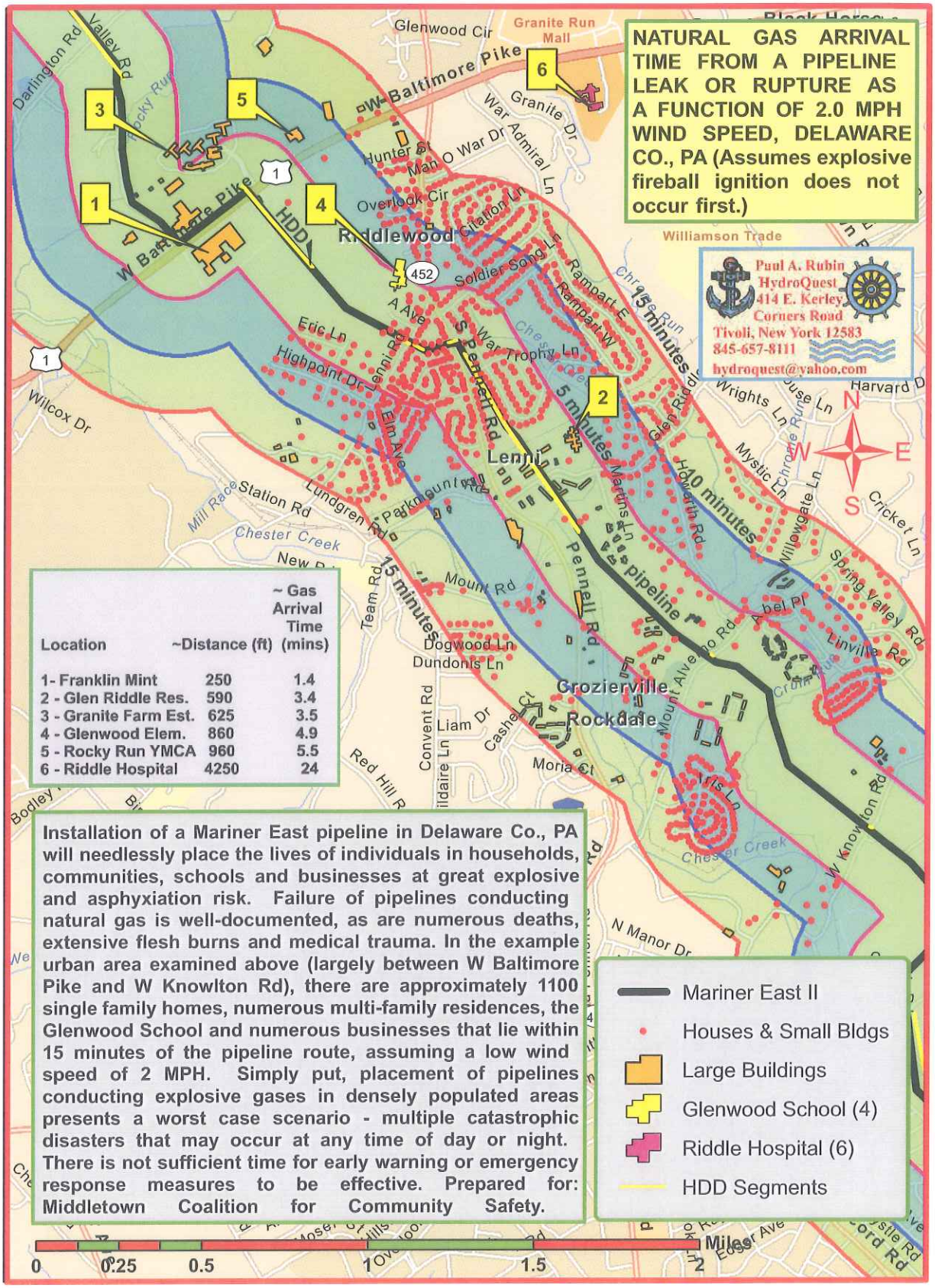
* **External interference or third party activity (e.g., excavator or auger encounters pipeline);**
* **Corrosion;**
* **Construction defect and mechanical or material failure (e.g., cracked & ruptured pipes, pipe joint failure);**
* **Ground movement or generally natural hazards; and**
* **Other or unknown causes.**





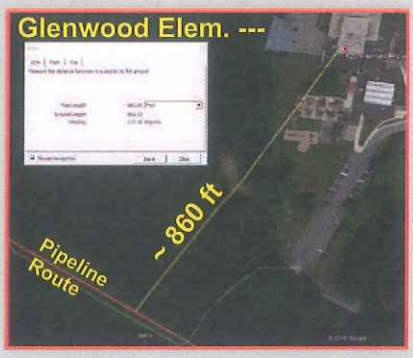
Bedrock joints or fractures present in sedimentary rock layers through which horizontally drilled pipelines are installed provide upward pathways for escaping gas. Additionally, as is the intent of drilling horizontal gas wells, boreholes serve to interconnect numerous joint and fault planes - thus providing increased vectors for escaping gas in the event of pipeline failure due to rupture, failed joints, cracks and corrosion. As depicted, joints are typically near vertical, densely spaced and well interconnected. HydroQuest graphic.



Location	~Distance (ft)	~ Gas Arrival Time (mins)
1- Franklin Mint	250	1.4
2 - Glen Riddle Res.	590	3.4
3 - Granite Farm Est.	625	3.5
4 - Glenwood Elem.	860	4.9
5 - Rocky Run YMCA	960	5.5
6 - Riddle Hospital	4250	24

Installation of a Mariner East pipeline in Delaware Co., PA will needlessly place the lives of individuals in households, communities, schools and businesses at great explosive and asphyxiation risk. Failure of pipelines conducting natural gas is well-documented, as are numerous deaths, extensive flesh burns and medical trauma. In the example urban area examined above (largely between W Baltimore Pike and W Knowlton Rd), there are approximately 1100 single family homes, numerous multi-family residences, the Glenwood School and numerous businesses that lie within 15 minutes of the pipeline route, assuming a low wind speed of 2 MPH. Simply put, placement of pipelines conducting explosive gases in densely populated areas presents a worst case scenario - multiple catastrophic disasters that may occur at any time of day or night. There is not sufficient time for early warning or emergency response measures to be effective. Prepared for: Middletown Coalition for Community Safety.

Area Locations Within 15-Minute Toxic Gas Arrival Time
Delaware County, Pennsylvania



Glenwood Elementary School Classrooms Are About 860 Feet From The Pipeline

Rocky Run YMCA

Sleighton Park

Example Pipeline Accidents

Incident 1: On May 12, 1975, an 8-inch pipeline, which was closed in under pressure ...ruptured near Devers, Texas. Natural Gas Liquids at 1,425 psi pressure erupted from a fracture near the top of the pipe. The liquids vaporized mixed with air, and formed a cloud which drifted to the southwest over U.S. Highway 90. An automobile entered the vapor cloud and ignited the ethane-propane vapors. The resulting explosion and fire killed the four persons in the automobile, melted telephone and electric power lines, warped railroad tracks, burned and scorched adjacent woodlands, and interrupted rail and highway traffic.

Resulting Safety Recommendation P-76-039: Initiate necesssary equipment changes to provide data necessary for the safe operation of the pipeline continuously to the dispatch centers. Overall Status: Closed - Acceptable Action.

Incident 2: On August 4, 1978, propane that had vaporized and spread widely from a ruptured 8-inch liquefied petroleum gas pipeline (i.e., propane & butane) owned ... was ignited by an unknown source in a rural area near Donnellson, Iowa. The intense fire killed two persons and critically burned three others as they fled their homes. One of the critically burned persons later died. A farmhouse and six buildings were destroyed and two adjacent homes were damaged.

Safety Recommendation P-78-066: Update the list of individuals who should be contacted to close specific valves in the event of an emergency and institute a procedure to assure that the list is updated at least annually. Overall Status: Closed - Acceptable Action.

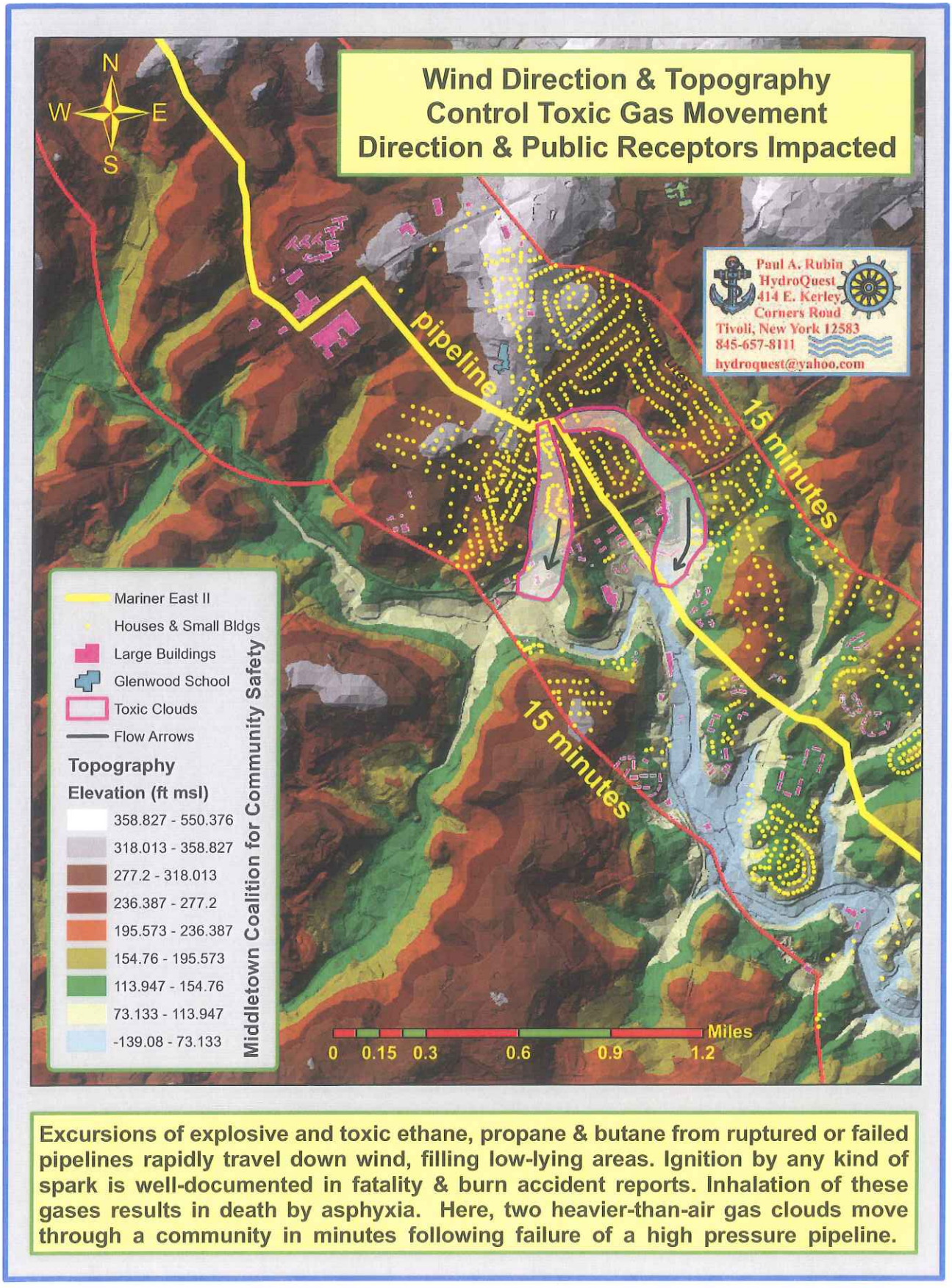
To view more current pipeline accident reports see:

https://en.wikipedia.org/wiki/List_of_pipeline_accidents_in_the_United_States_in_the_21st_century
https://en.wikipedia.org/wiki/List_of_pipeline_accidents
http://www.ntsb.gov/investigations/AccidentReports/Pages/pipeline.aspx
http://mayorscouncilpipelinesafety.com/

Recent Pipeline Accidents

Incident 1: Drawn from the PHMSA CAO: On January 26, 2015, an Enterprise Products pipeline that originates in Pennsylvania structurally failed near Follansbee, West Virginia, resulting in the release of over one million gallons of liquid ethane into a wooded area. The explosion and resulting fire burned approximately five acres of woodlands. The fire in the surrounding area wasn't extinguished until 24 hours later. A house 2,000 feet away suffered thermal damage. This pipeline was brand new, having been put into service just about one year prior to the failure. And the failure was both predictable and predicted: in May 2010, PHMSA issued Advisory Bulletin 2010-0078 on Girth Weld Quality Issues Due to Improper Transitioning, Misalignment, and Welding Practices of Large Diameter Line Pipe. The very issues identified in this Advisory Bulletin were factors in the structural failure of this pipeline.

Incident 2: On Friday April 29, 2016, A large Texas Eastern transmission line — 30 inches in diameter — burst open around 8:15 a.m. in Salem Township, shooting flames into the sky that could be seen for miles. Residents reported hearing a deafening gush of air. The explosion blew a 12 foot deep, 1500 square foot hole and scorched 40 acres. A 24.5 foot section of 30-inch diameter pipe landed 100 feet away. A 26 year old man was hospitalized with third degree burns over 75 percent of his body. "The preliminary investigation has identified evidence of corrosion along two of the circumferential welds: one at the point of failure and another excavated after PHMSA's response to the Failure Site. The pattern of corrosion indicates a possible flaw in the coating material applied to girth weld joints following construction welding procedures in the field at that time."



Excursions of explosive and toxic ethane, propane & butane from ruptured or failed pipelines rapidly travel down wind, filling low-lying areas. Ignition by any kind of spark is well-documented in fatality & burn accident reports. Inhalation of these gases results in death by asphyxia. Here, two heavier-than-air gas clouds move through a community in minutes following failure of a high pressure pipeline.