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DEPARTMENT OF ENVIRONMENTAL PROTECTION



Liquid Fuels Shortage Planning Workshop for Local Pennsylvania Governments

February 2020

Tom Wolf, Governor

Patrick McDonnell, Secretary

Workshop Purpose

Provide guidance to county planners on how to anticipate, prepare for, and respond to regional liquid fuels shortages before state and federal resources arrive

Workshop Agenda – General

Morning

Participant Check -In
Workshop Purpose and Goals
Understanding the Liquid Fuels Supply Chain
Buckeye Partners
Pennsylvania Petroleum Association
Break
Guidebook and Template Fuel Shortage
Planning and Response
FEMA/NASEO/DOE

Afternoon

Lunch

Short Group Scenario Discussions
and Brief-Outs
Workshop Evaluation
Closing Remarks and Next Steps



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Energy Programs Office



Energy Assurance

Planning for Energy Security and Resiliency

John Kerecz
Energy Program Specialist
Energy Programs Office

Tom Wolf, Governor

Patrick McDonnell, Secretary

▶ DEP's Energy Programs Office (EPO)

DEP's Energy Programs Office (EPO) supports energy policies and programs that prevent pollution, protect our environment, improve public health, and ensure access to affordable energy options for all Pennsylvanians.

Our shared approach to our mission focuses on:

- Conservation and Efficiency
- Advanced Energy Technologies
- Energy Security and Resiliency
- Education and Outreach
- Climate

Responsibilities – DEP & ENAP

- DEP - Emergency Support Functions 10 & 12 (Energy)
- US DOE SEP Program requires an Energy Assurance Plan (ENAP)
- The ENAP and the contents of the plan facilitates:
 - Preparedness to prevent, mitigate and/or enable a rapid recovery response to the disruption or shortage of energy supplies
- EPO's ENAP assists in fulfilling the requirements assigned to DEP under the Commonwealth Emergency Operations Plan (CEOP) and the Pennsylvania Code.

Fuel Shortage

- One key component of the ENAP is the Liquid Fuel Shortage Response Plan
 - The most frequently used section is waivers:
 - Transportation (includes Weight, Hours, & Distance)
 - Environmental (includes Boutique Fuels*)
 - Agriculture (includes Biofuels)
 - Revenue (Taxes)

Previous Outreach

- DEP's ER Director and EPO staff attended past PEMA IST's and presented on the necessity of energy and liquid fuel assurance planning.
- Highlights from those discussions were:
 - DEP's role in Energy Assurance relative to liquid fuels shortages
 - The current state of planning and response capability at county and local governments levels to assess and respond to short and intermediate term liquid fuels shortages
- Takeaways were that there is inconsistent planning and response capability and there were numerous requests for technical guidance and assistance

Technical Assistance

- To help Counties and local municipalities with their various stages of preparedness DEP contracted ICF to:
 1. Develop an Energy Assurance Emergency Planning Template to assist local governments in develop Energy Assurance Emergency Plans.
 2. Develop a survey tool for local governments to determine liquid-fuel needs and resources available prior to an emergency.
 3. Prepare and deliver materials and training on how to use the planning template and survey tool
- This workshop is delivery of the training to help with your planning & preparedness energy emergency situations



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Energy Programs Office



Thank you!

Contact:

John Kerecz

Energy Program Specialist

Energy Programs Office

jkerecz@pa.gov

DEP Website: www.dep.pa.gov



Understanding the Liquid Fuels Supply Chain

Kevin DeCorla-Souza

Understanding Liquid Fuels

1. Types of Liquid Fuels
2. How the Supply Chain Works
3. Liquid Fuels Interdependencies
4. Case Studies: Past Fuel Shortage Events

Types of Liquid Fuels

Gasoline

Reformulated vs. Conventional
Summer vs. Winter Grade

Diesel

ULSD (15 ppm sulfur) dyed or undyed

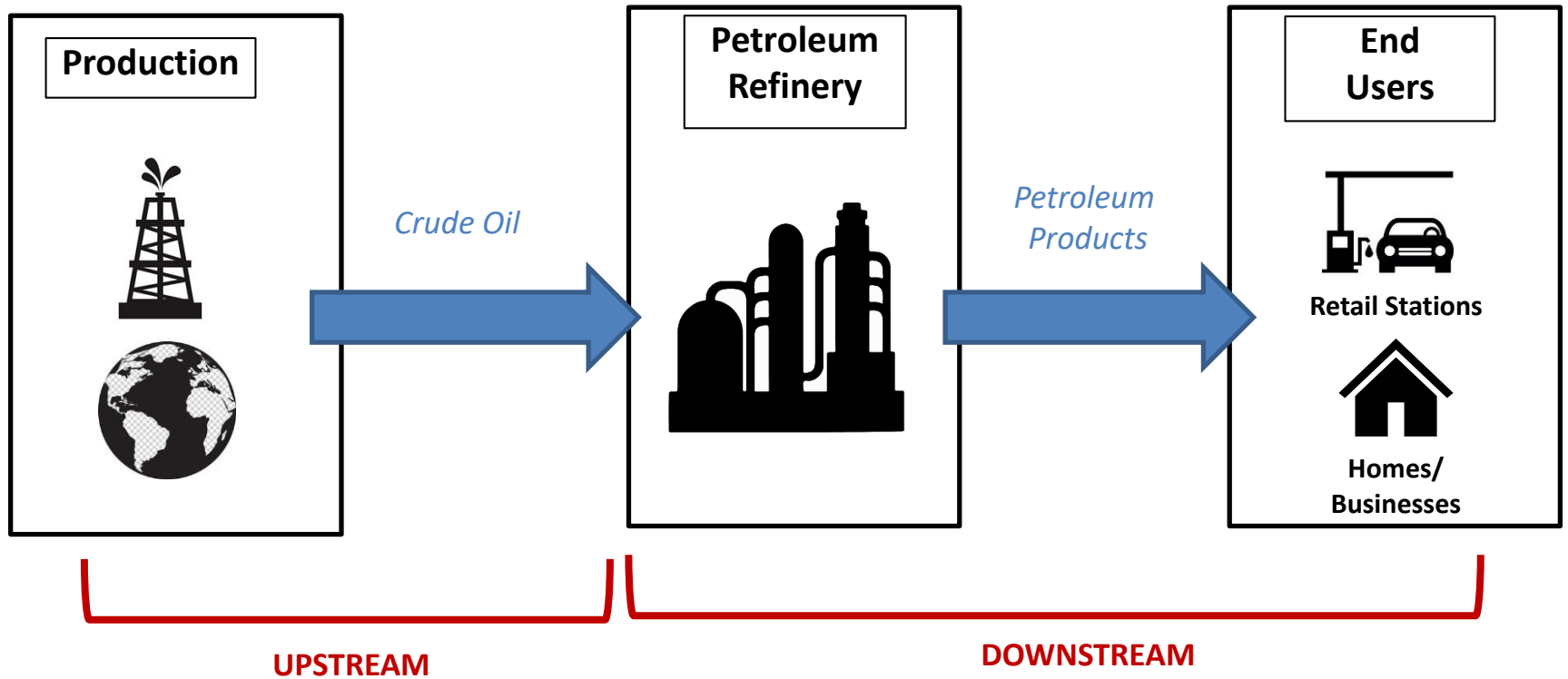
Heating Oil

Same as ULSD starting Sept. 2020

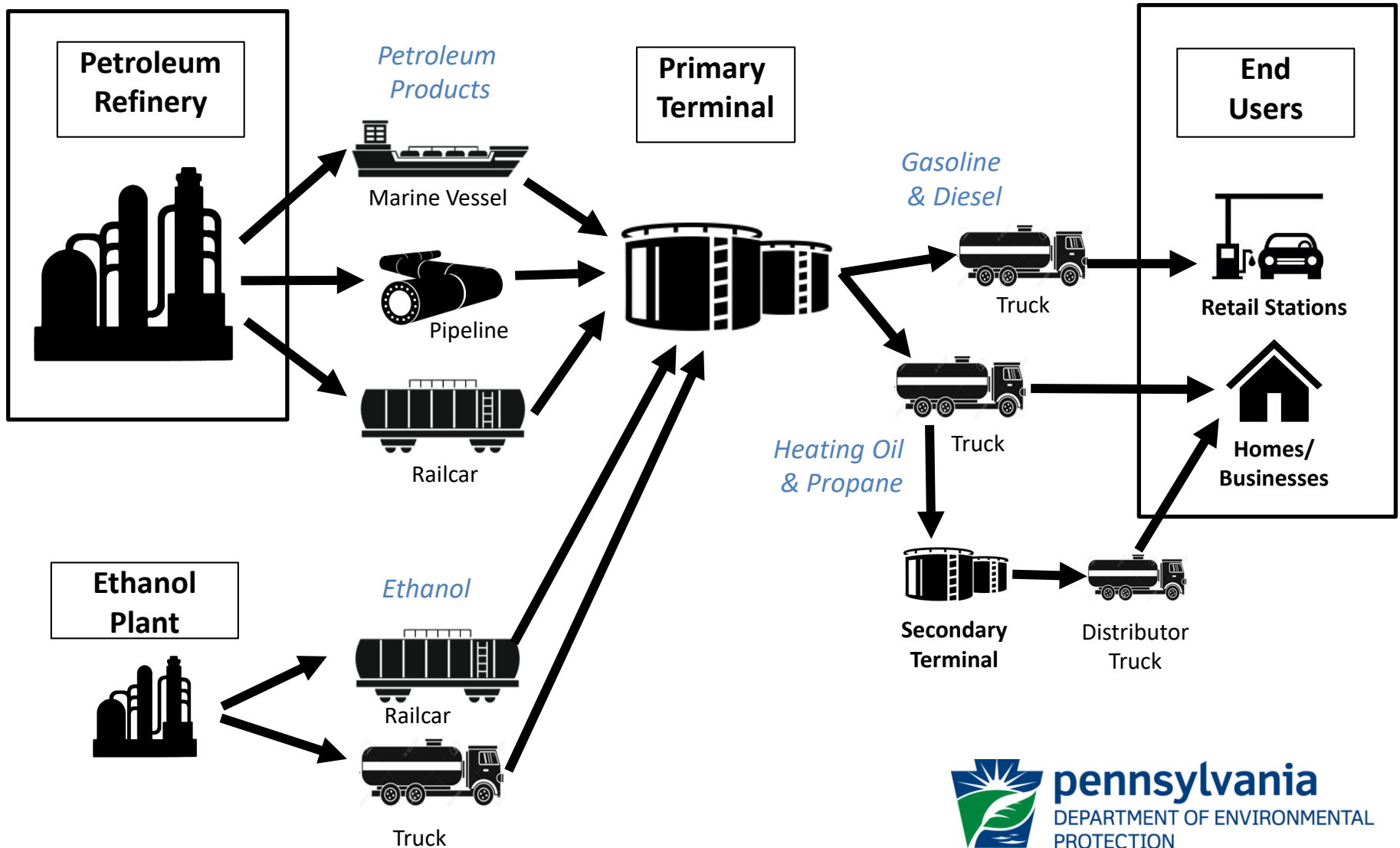
Propane

Used for Heating and Emergency Generators

Liquid Fuels Supply Chain 101



Liquid Fuels Supply Chain 101



Primary vs. Secondary Terminals



Primary Terminal:

- Has a **larger** total bulk storage capacity than secondary terminals
- Usually receives petroleum products by **pipeline, marine tanker, barge, or rail**
- Usually distributes products by **tanker truck**
- Typically has multiple marketers storing and selling fuel



Secondary Terminal:

- **Smaller** storage facility
- Most frequently used for **heating oil and propane**
- Usually receives petroleum product deliveries by **truck**
- Usually distributes products by **smaller tanker trucks**

Fuel Distributors

Distributors **purchase refined products** at the wholesale level (at the terminal) and then **transfer or resell** the product to retailers or end users.



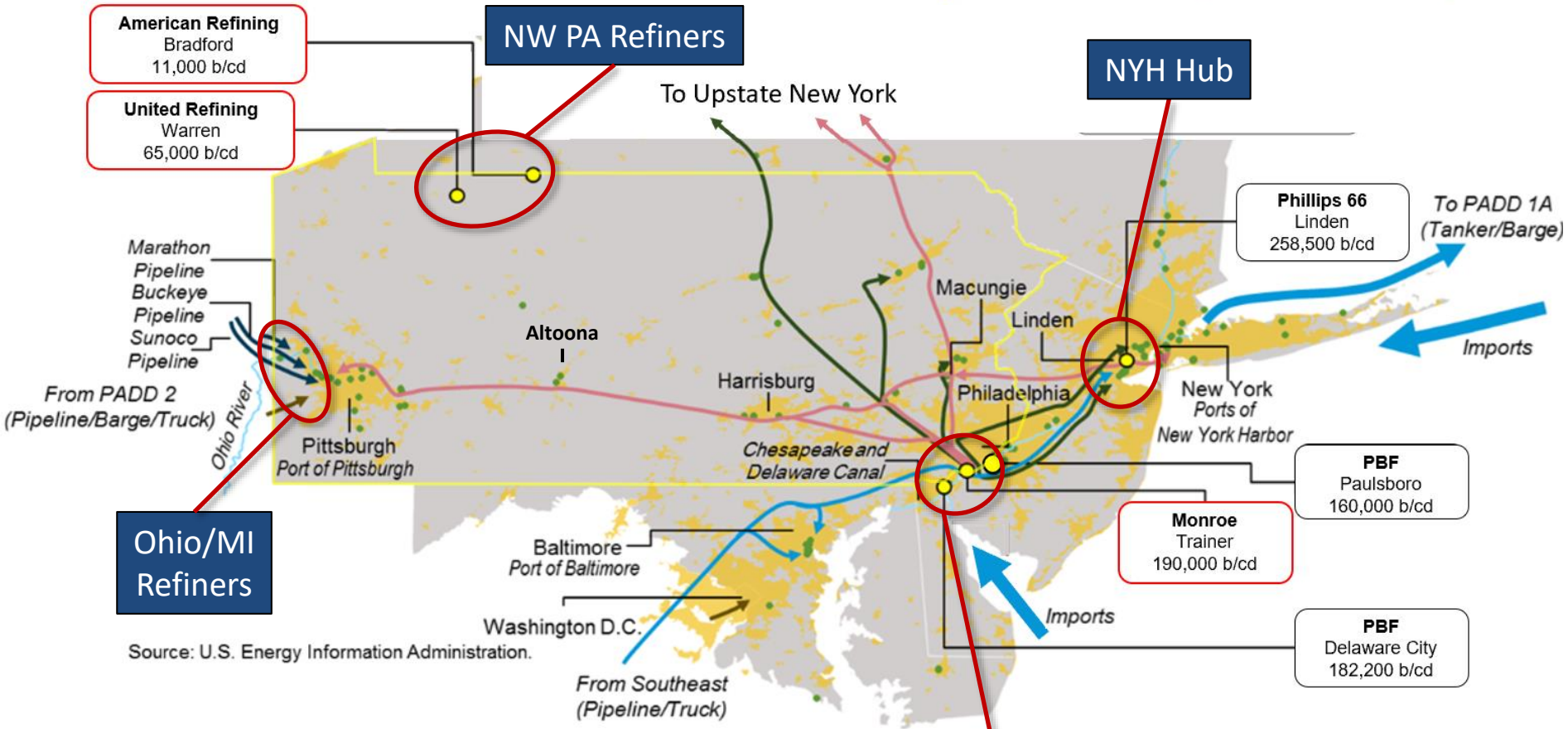
Typically

- **Purchases** fuel at the bulk terminal rack
- Picks up the fuel with **its own fleet of tanker trucks**
- **Sells the fuel to various end user locations**

Sometimes

- **Stores and owns** fuel at the bulk terminal
- **Contracts with a third-party trucking company** to transport fuel (distributor still owns the fuel in the trucks)
- **Owns retail gas stations**, where they sell fuel directly to consumers
- **Owns a secondary terminal** to store fuel, especially heating oil and propane

Pennsylvania Petroleum Fuels Infrastructure



Source: U.S. Energy Information Administration.

Product Supply – Pennsylvania

- = Primary Terminal
- = Refinery
- = Refinery Center
- = Sunoco Pipeline
- = Colonial Pipeline
- = Buckeye Pipeline
- = Product Flows
- = Product pipeline
- = Urban Areas



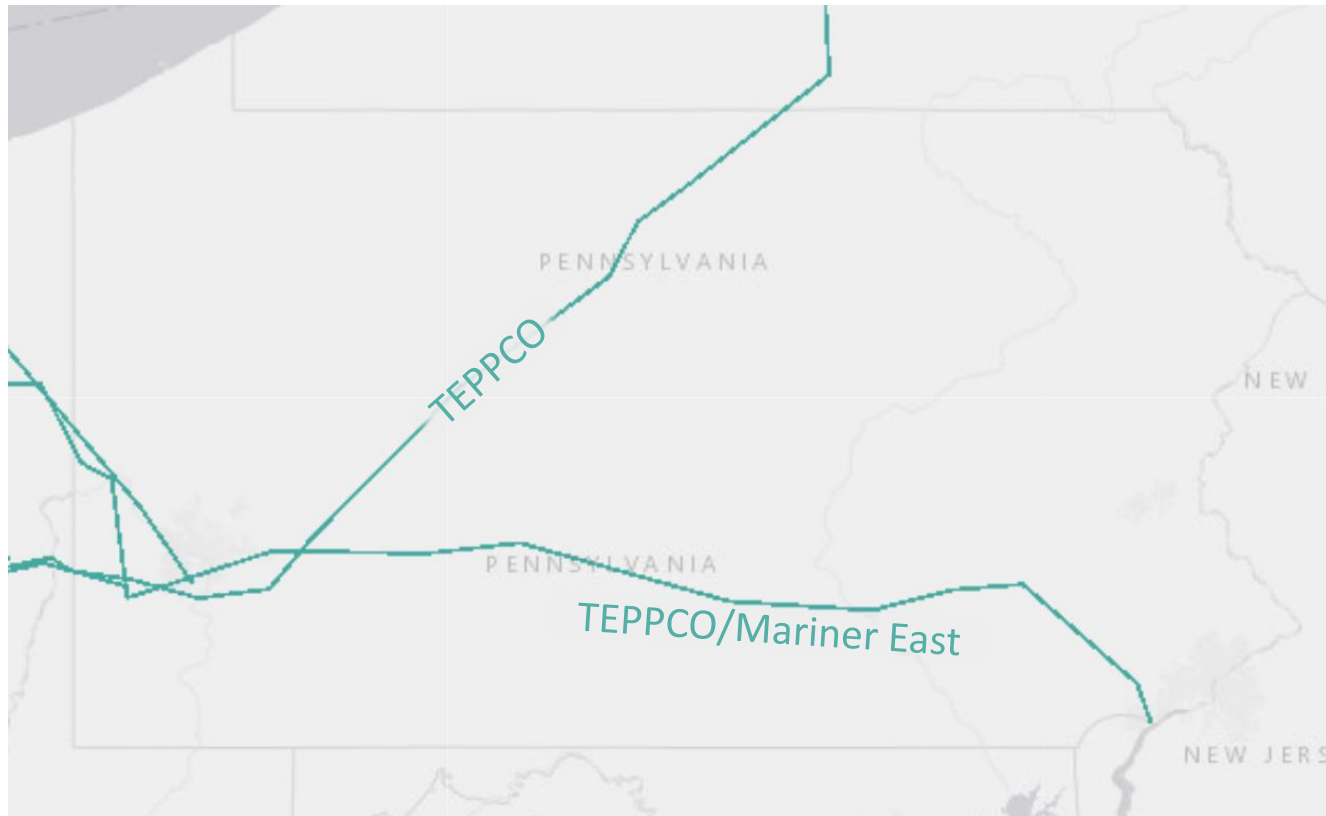
Company Name
Crude Distillation Capacity Barrels per calendar day (b/cd)

Primary Terminal

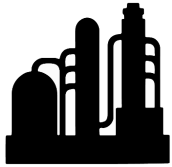


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Propane Logistics in Pennsylvania



PA Liquid Fuels Supply Chain Players (Examples)



Petroleum Refiners



Pipeline and Terminal Operators



Fuel Distributors



Threats and Hazards in Pennsylvania



York County, 2014



Delaware County, 2014



Chester County, 2018

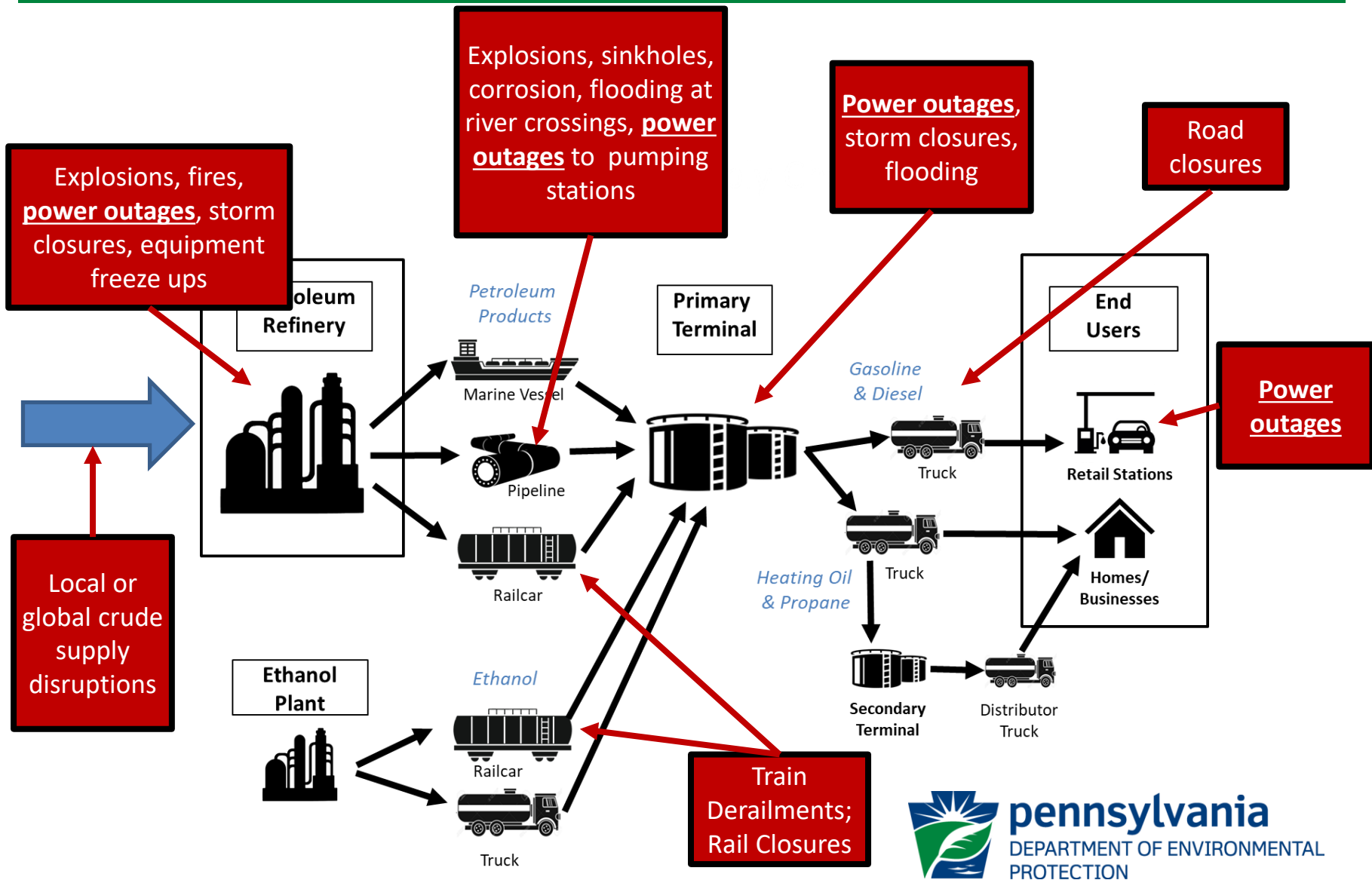


Philadelphia County, 2019

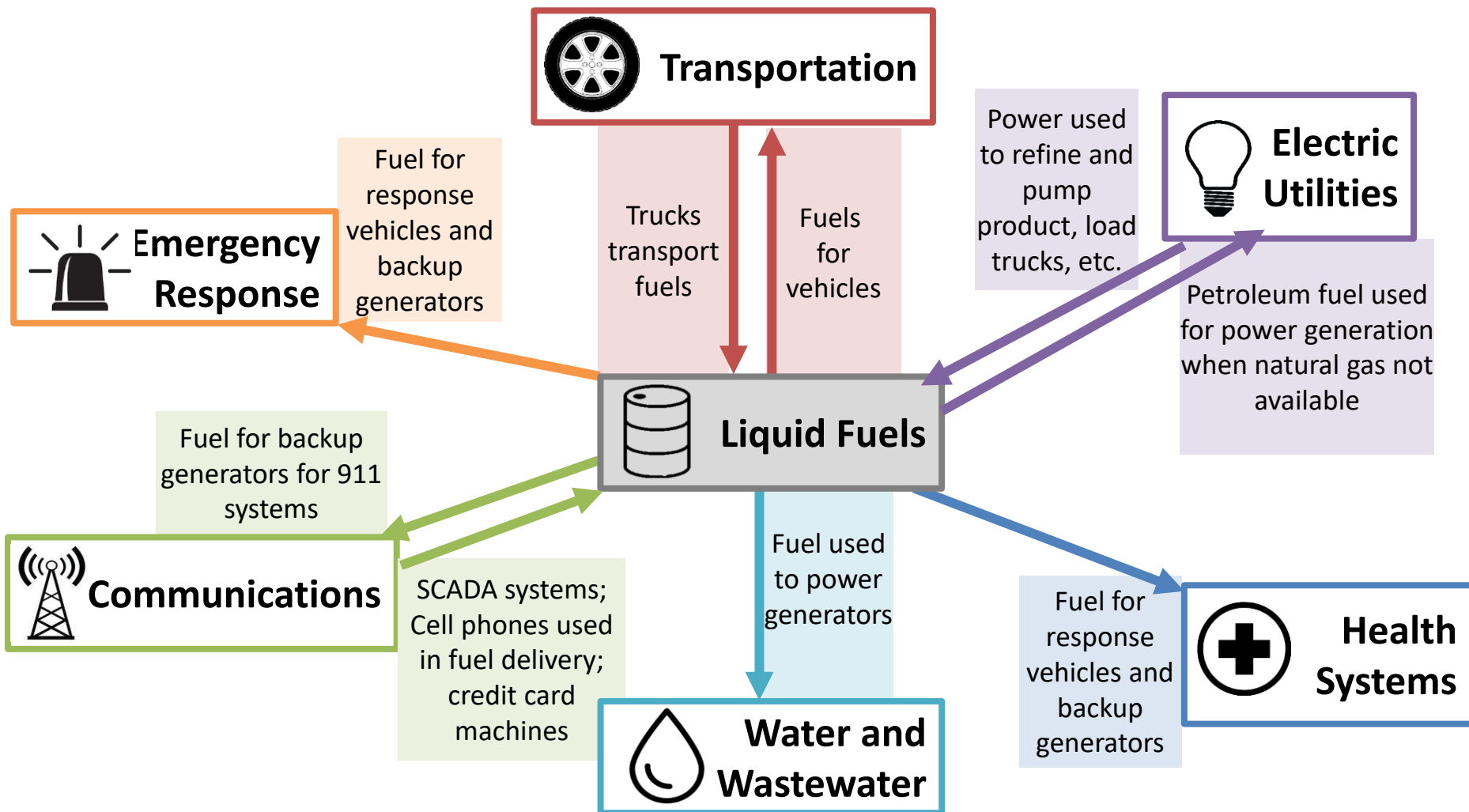


Lancaster County, 2019

Liquid Fuels Supply Chain Vulnerabilities

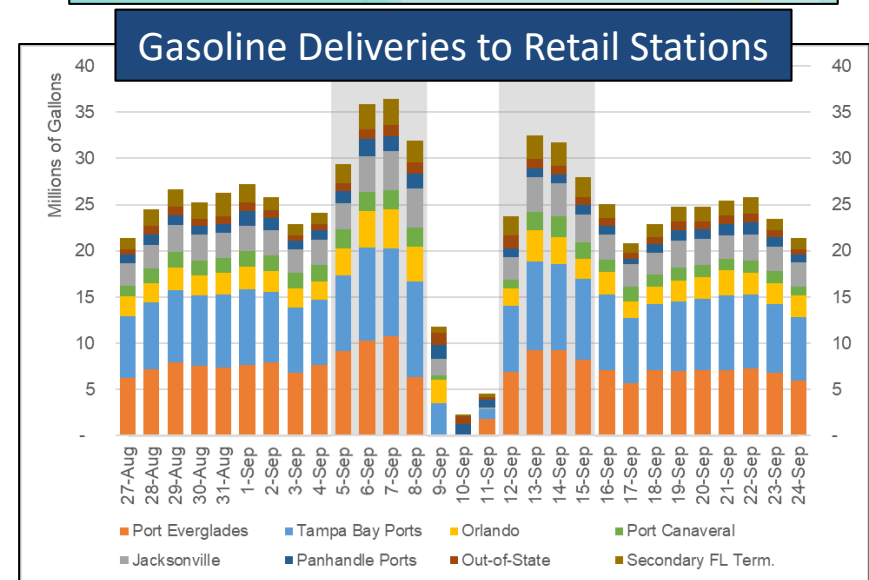
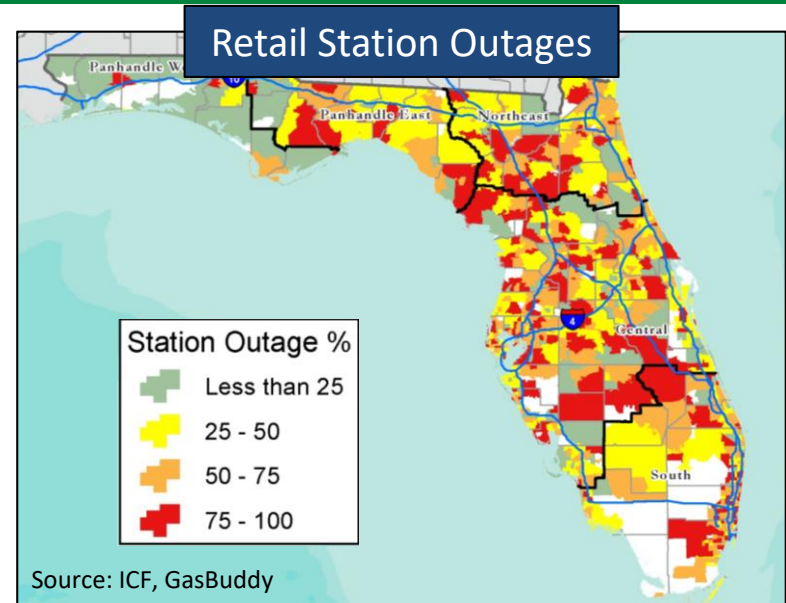


Liquid Fuels Interdependencies



Hurricane Irma: Demand-Driven Shortage (2017)

- Evacuation orders for nearly **7 million people**
 - Consumers filling up for 300+ mile road trips
 - Consumer stockpiling (aka “Panic Buying”)
- Gasoline demand at retail stations is estimated to have **doubled**
- Truck deliveries from fuel terminals to retail stations increased by **30-40%** but not enough keep pace with demand.
- Approximately **50%** the state’s gas stations were without fuel

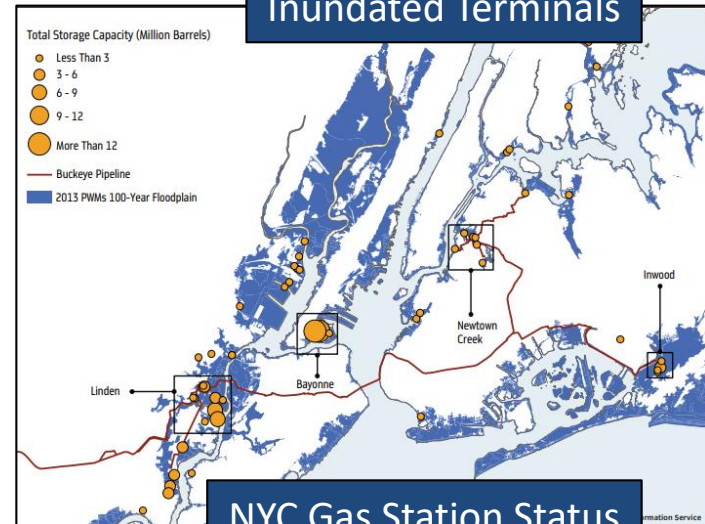


Source: ICF, Florida Dept. of Revenue

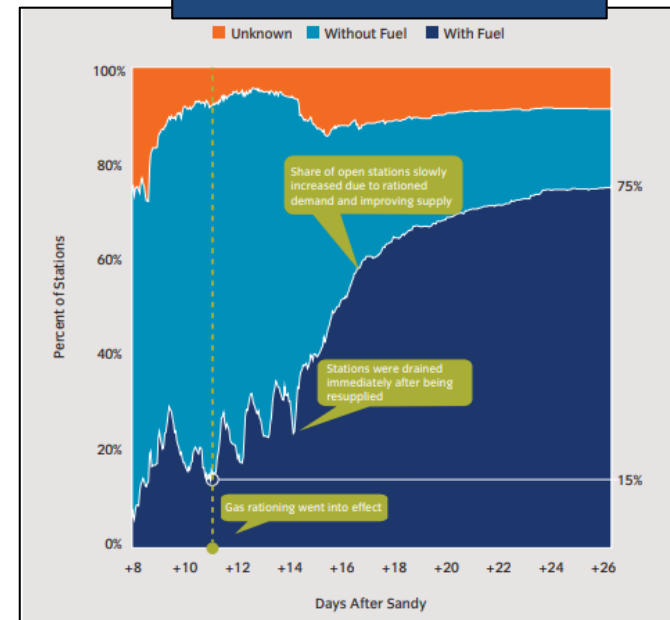
Superstorm Sandy: Supply Chain Disruptions & Power Outages (2012)

- **Storm surge and power outages** disrupted nearly every level of the supply chain, including retail stations and petroleum infrastructure in New York Harbor (refineries, terminals, and pipelines)
- Led to widespread fuel shortages; 2 weeks after Sandy only ~**25%** of NYC gas stations had fuel available

Inundated Terminals



NYC Gas Station Status



Laurel Pipeline Outage: Supply Challenges (2019)

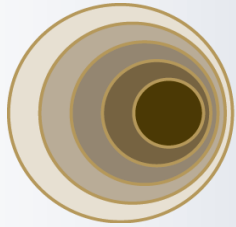
- In May 2019, the Laurel Pipeline system was shut down for several weeks due to an **integrity issue** on a segment under the Ohio River
- Suppliers warned that they were in **danger of running out** of a boutique blend (7.8 RVP) of summer grade gasoline that was required in the Pittsburgh area.
- An **EPA issued a waiver** to allow conventional summer grade gasoline to be used, allowing supply to come in from Ohio and Michigan

Questions?



**BUCKEYE
PARTNERS, L.P.**

Thomas Zeth



BUCKEYE PARTNERS, L.P.

Liquid Fuels Shortage Planning Workshop:
Pipeline Supply Overview

Pennsylvania DEP
February 2020

Agenda: Today's Discussion

- Introduction – Buckeye, Laurel
- Logistical Overview of Pipeline Service
- Potential Disruptions to Service
 - Unplanned Maintenance
 - 3rd Party Damage
- Types of Impacts to Pipeline & Fuel Supply from Events
 - Power Outages
 - Refinery Outage
 - Terminal Outage
 - Pump Station Outage
- Pipeline Response
 - Communication
 - Continuous Improvement



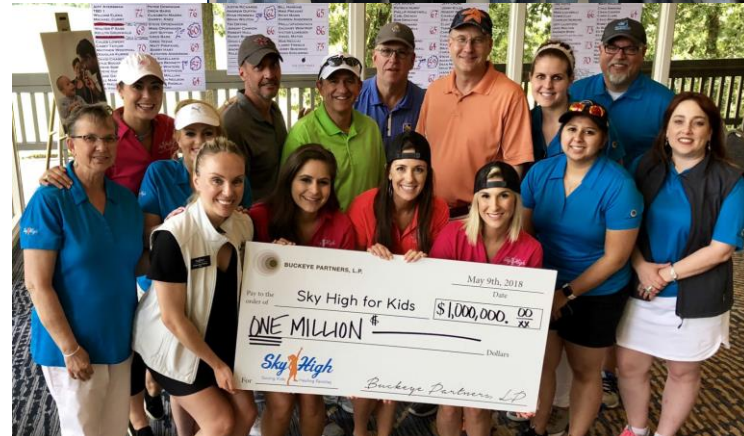
Buckeye Partners L.P.

Who We Are At Buckeye

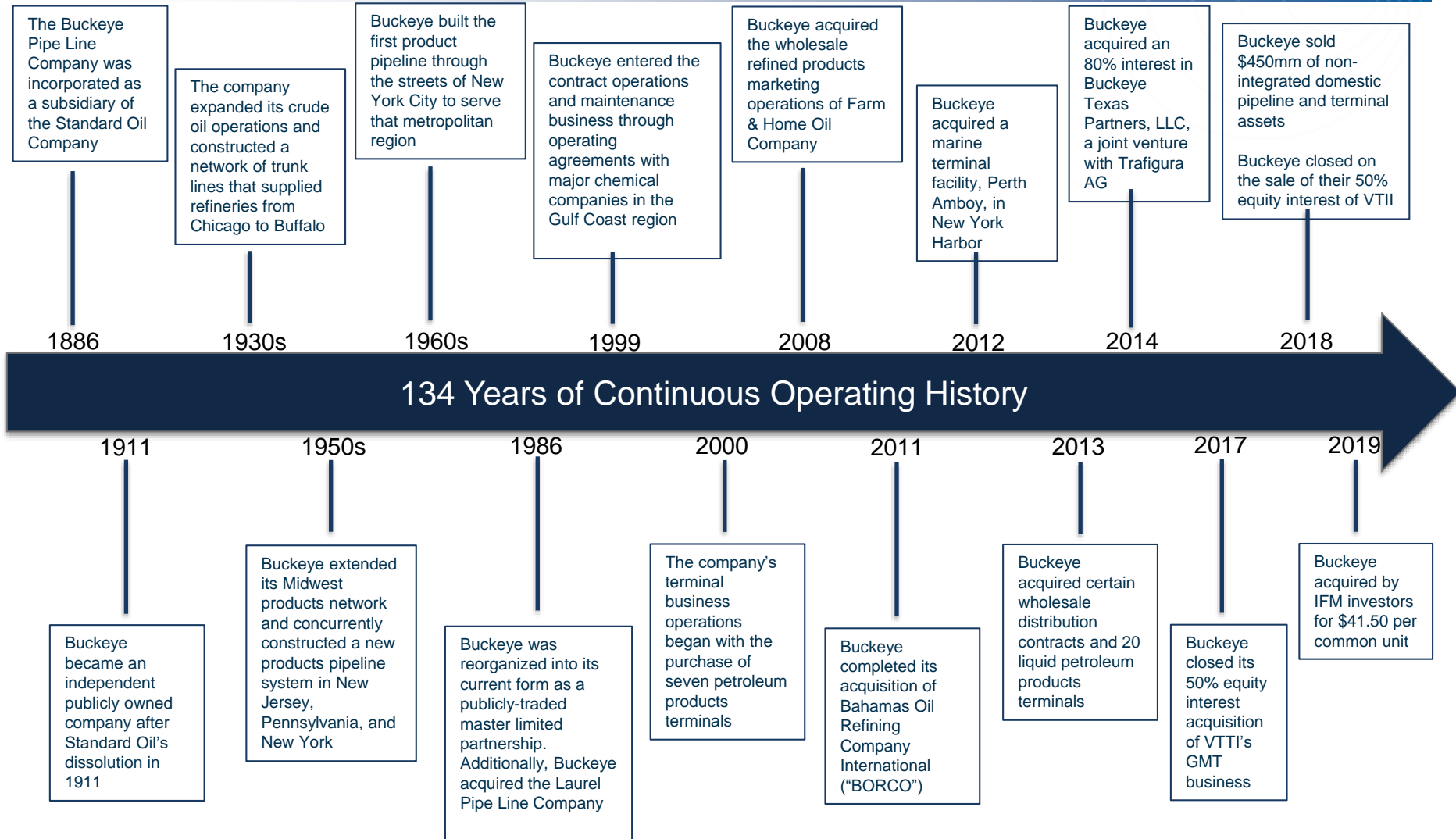
- **Our History** - Buckeye Partners is the oldest independent liquid petroleum pipeline operator in the United States.
- **Our People** - We pride ourselves on safely providing industry-leading service to our customers, operating by a strong set of values and a focused commitment to environmental responsibility and regulatory compliance.
- **Our Values** - Our culture is defined by our commitment to environmental, community and worker safety, regulatory compliance, as well as operational transparency with our stakeholders. At Buckeye, Think Safe, Work Safe, Leave Safe isn't just a slogan or tagline – it's what influences our decisions.
- **Our Governance** - Our Code of Conduct guides us in sustaining an ethical, fair, and safe work culture.

"We care deeply, not only about our people, but also about the communities and environment around us. This drives our rigorous safety standards and causes us to work diligently towards continuous improvement in all aspects of our operations."

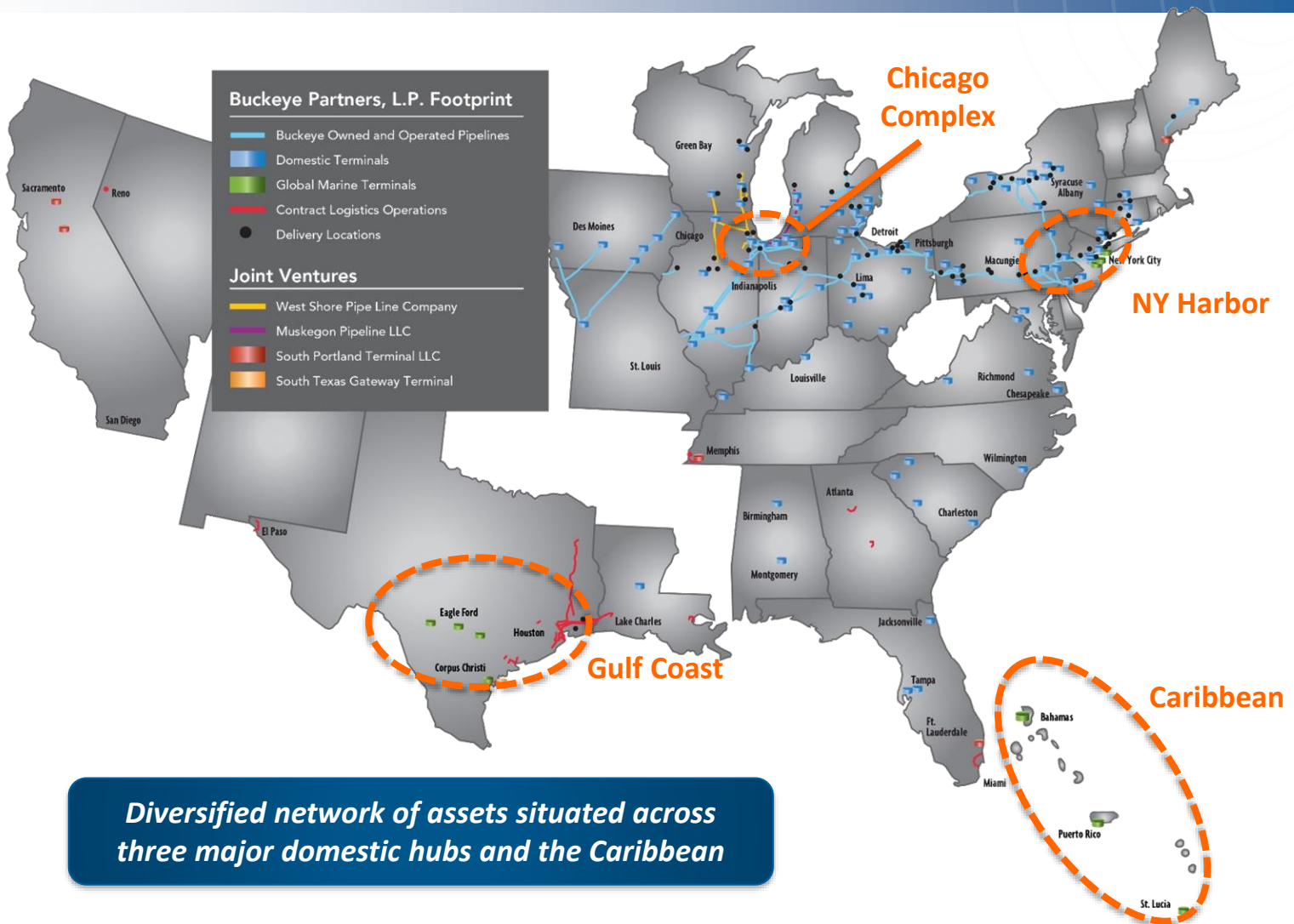
Clark C. Smith
Chairman, President and
Chief Executive Officer



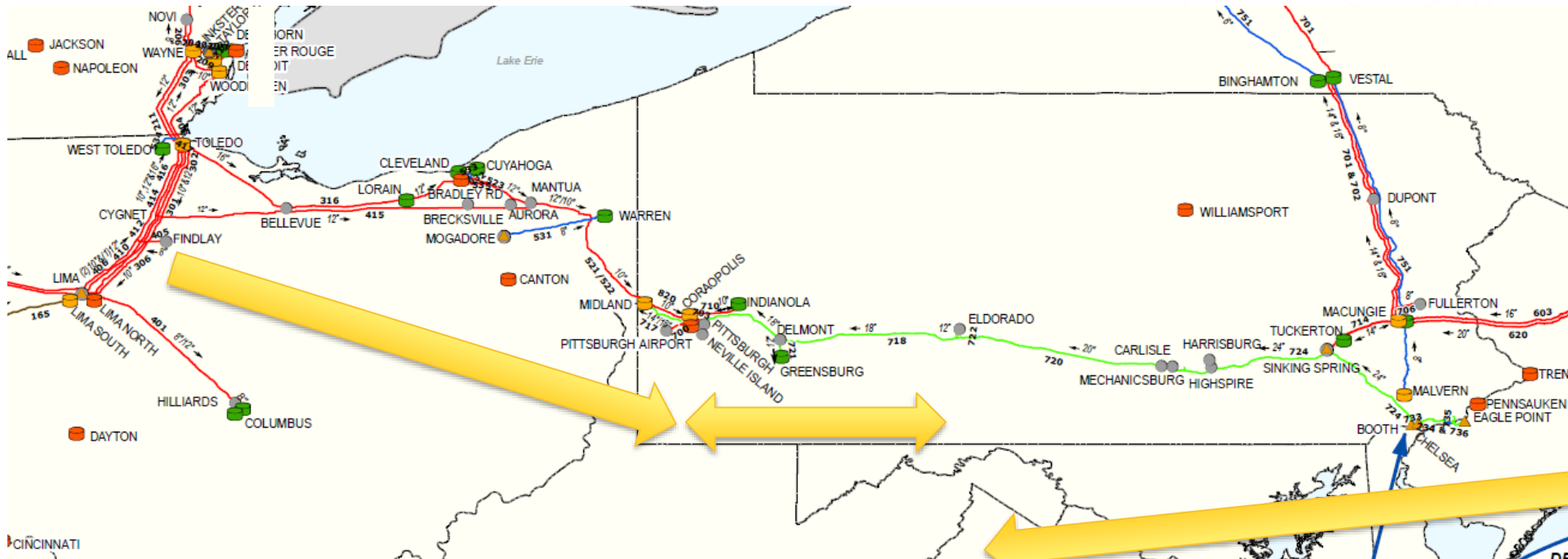
Buckeye History



Buckeye System Map



Buckeye Pennsylvania Supply Infrastructure



- **Midwest Supply:**

- Refineries: Lima, OH; Toledo, OH (2); Detroit, MI; Chicago, IL (3); Wood River, IL
- Pipelines: Explorer; Marathon; Inland

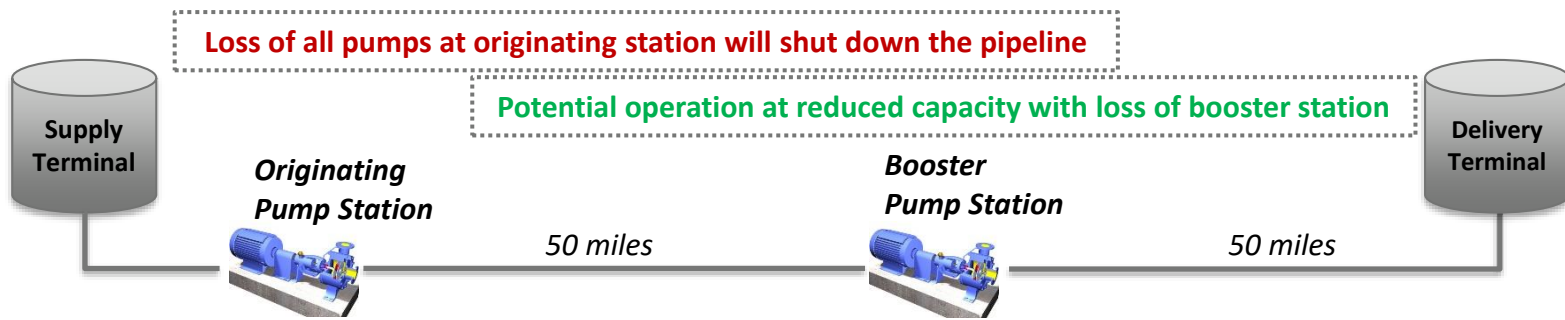
- **Northeast Supply:**

- Refineries: Bayonne, NJ; Trainer, PA; Delaware City, DE; Paulsboro, NJ
- Pipelines: Colonial
- Terminals: NY Harbor Import/Blenders (10)

Pipeline Operations

- Pump Stations – Originating vs Booster

- Originating – pumps utilized to source out of supply tankage
- Booster – pumps utilized to facilitate higher flowrates and/or greater distance

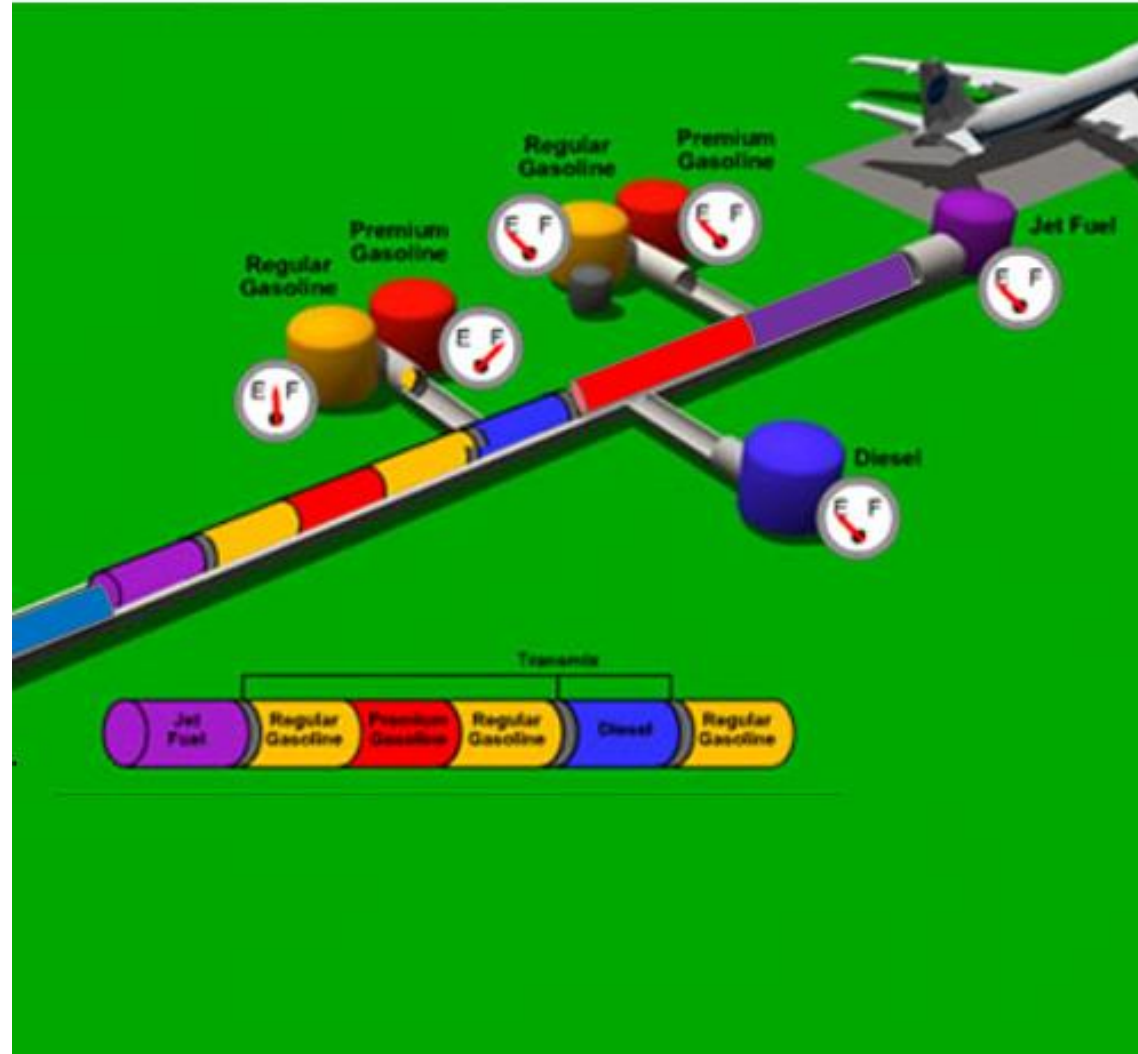


- Delivery Terminals

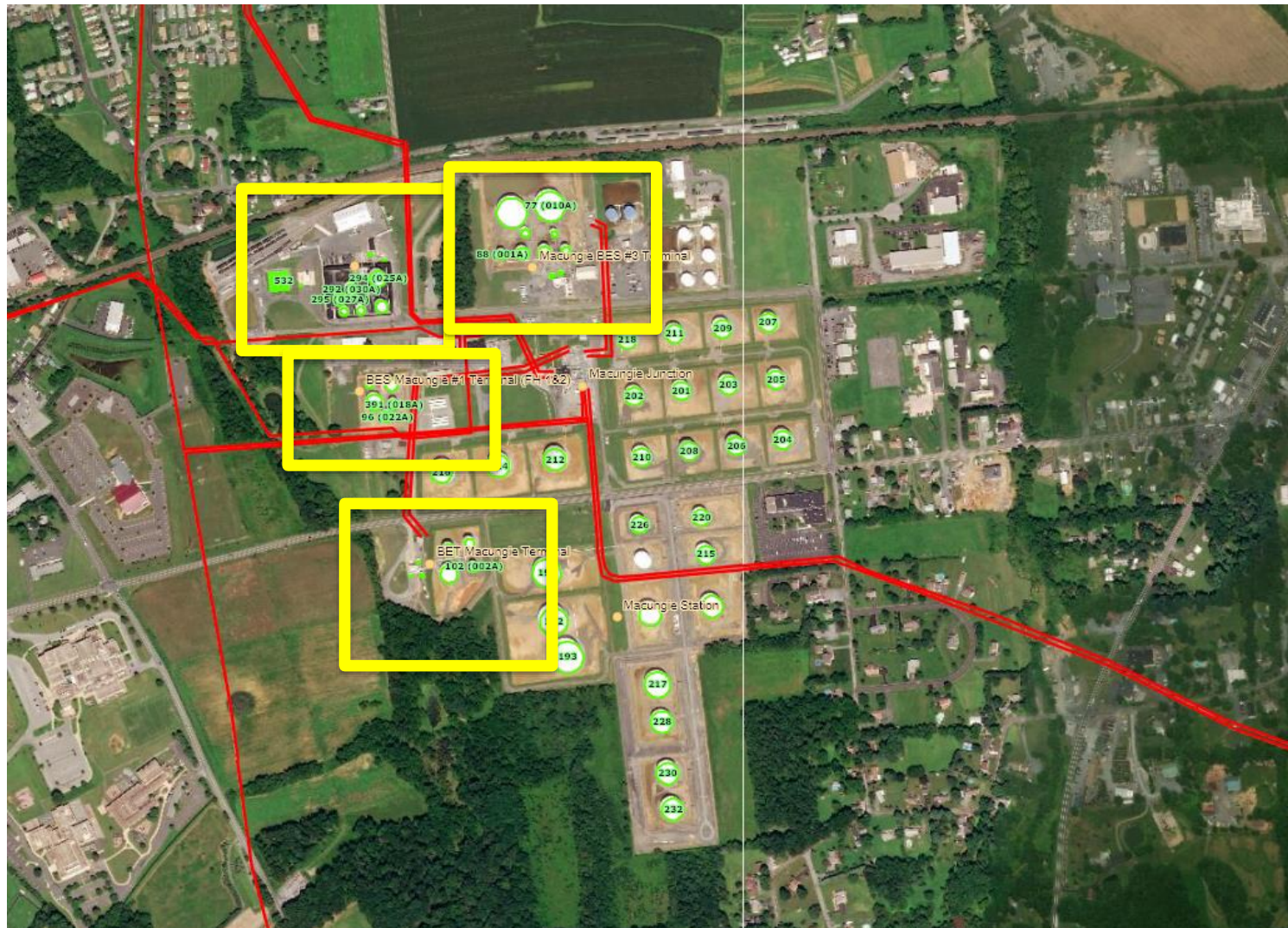
- Most key product markets have multiple terminals available for delivery
- Inability to deliver in one market may affect deliveries to other markets

Delivery Terminals In a Multi-Product System

- Product Acceptance
 - Inability at one terminal to receive product will affect other deliveries
 - Multiple options important to maintaining schedules in a disruption
- Transit Time
 - May take up to 7 days for product to reach destination



Multiple Delivery Terminals In a Market



Potential Disruptions to Service

- Unplanned Maintenance
 - Equipment failure
 - Preventative maintenance (in-line inspection tools)
- 3rd Party Damage
 - Most significant exposure for pipelines is 3rd party damage



Know what's below.
Call before you dig.



Impacts to Pipeline and Fuel Supply

- Power Outages
 - Location/facilities affected dictates severity of outage
 - Regular communications with utilities for restoration of service
- Refinery Outage
 - Multiple supply options to mitigate loss of one source (or region)
- Terminal Outage
 - Multiple terminal options mitigates loss of one terminal
- Pump Station Outage
 - Originating station vs booster
 - Operation at reduced capacity

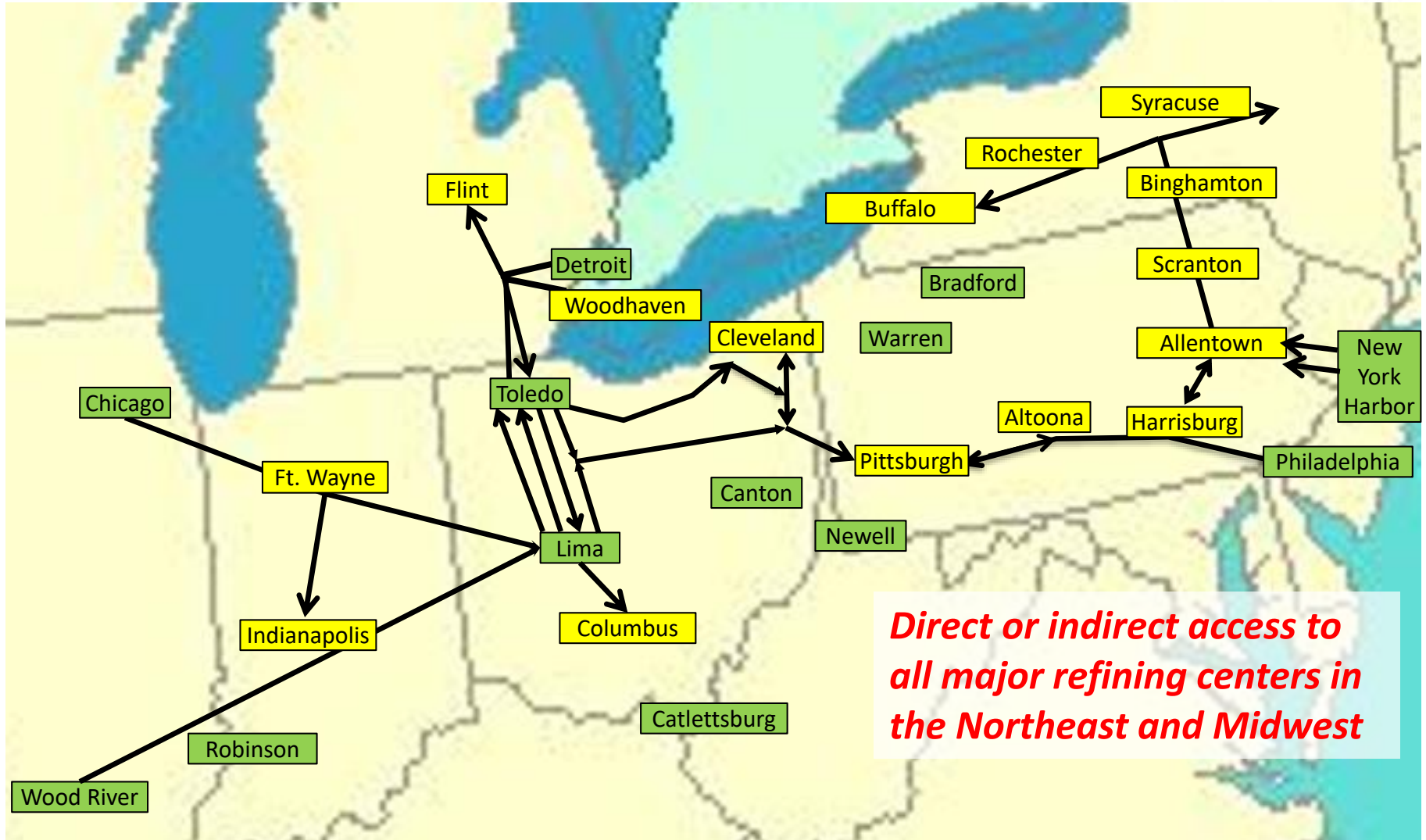


Buckeye Midwest and Eastern Connectivity

(Including Refining Centers and Distribution Markets)

Supply

Delivery



Direct or indirect access to all major refining centers in the Northeast and Midwest

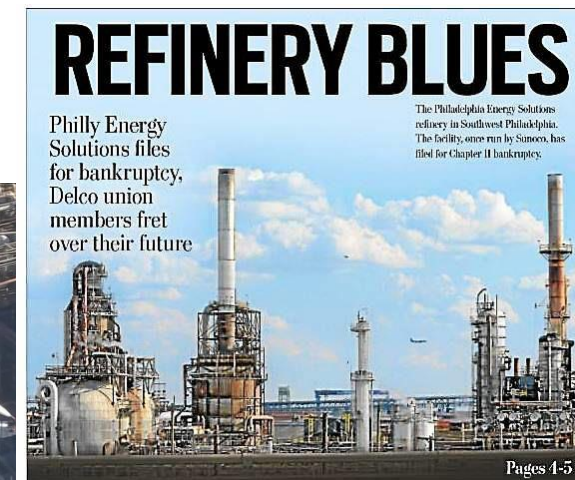
Pipeline Response to Supply Disruptions

- Communication
 - Majority of communications are with Shippers (product owners)
 - *Shippers/stockholders control allocations of product at terminal*
 - In severe pipeline outages, update calls with state officials
 - Not typically engaged directly with Emergency Managers
 - Focus on resolving the issue and/or working alternate product supply options
- Continuous Improvement
 - Open channels of communication (via Buckeye media contacts) to ensure correct information getting to affected groups
 - Information regarding assets (location, description, etc.) available to Emergency Managers upon request
 - Maintained access to facilities for product distribution



Supply Disruption Example – PES Refinery Explosion/Shutdown

- Explosion at the 335kbd Philadelphia refinery in June 2019
- Refinery announced it would shut down operations in July 2019
- Diverse supply options resulted in no supply shortages or runouts



Supply Disruption Example – Laurel Hydrotest

- Pipeline failure during testing resulted in 46-day outage of the pipeline in the Pittsburgh area



- In addition to customer and media updates, Buckeye had several conversations with regulatory agencies regarding status and inventory updates
- Collective efforts of Buckeye and customers resulted in no reported supply shortages or runouts



Questions?



PENNSYLVANIA
PETROLEUM
ASSOCIATION

John Kulik

Pennsylvania Petroleum Association

- Approximately 300 independent companies delivering motor fuel, heating oil, and other petroleum products from terminal racks to end users.

Challenges Facing Industry

- CDL Driver Shortages
- Hours of Service Limitations/Waivers
- Reduction of Secondary Storage
- Interruptible Natural Gas Demand
- Credit Requirements/Suppliers
- Driver Training/Terminals
- Storm Aftermath/Local Delivery Access

Past Experience

- Hurricane Sandy
- Severe Winters

Questions?

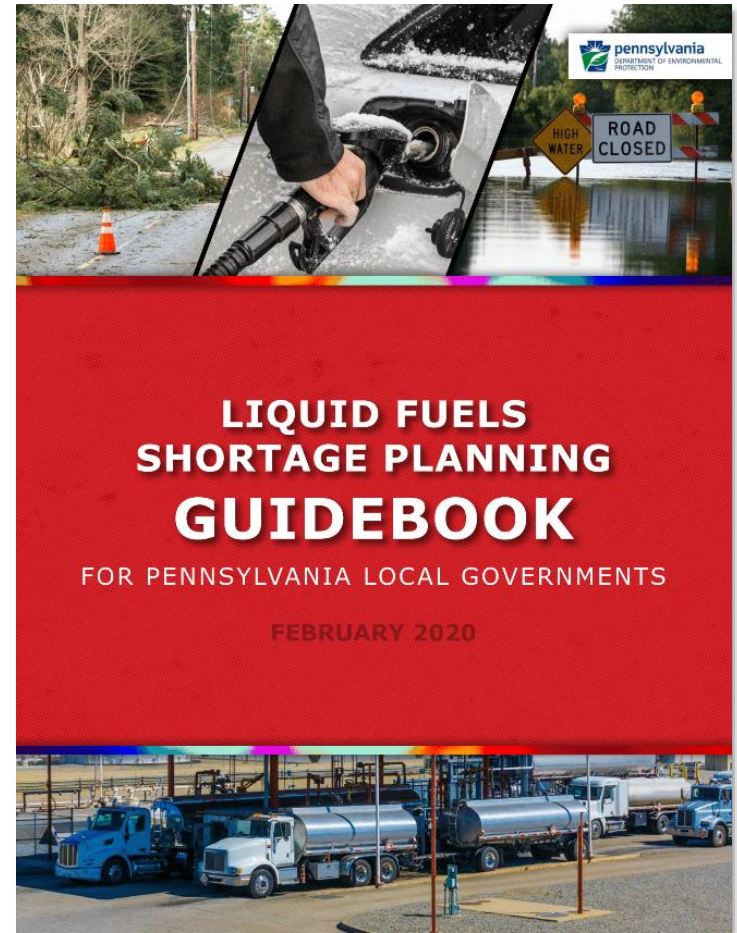


Liquid Fuels Shortage Planning Guidebook and Template

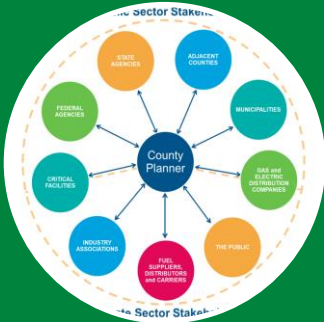
Matt Kelly

Liquid Fuels Shortage Planning Guidebook

- Provides general information on the fuels industry and guidance on energy assurance planning.
- Provides detailed instructions for developing a local Liquid Fuels Shortage Plan.
- Provides links to additional reference material and resources



Liquid Fuels Shortage Planning Guidebook



Section 1: Energy Assurance Planning

- What is Energy Assurance Planning?
- Interacting with Stakeholders



Section 2: Fuel Shortage Planning

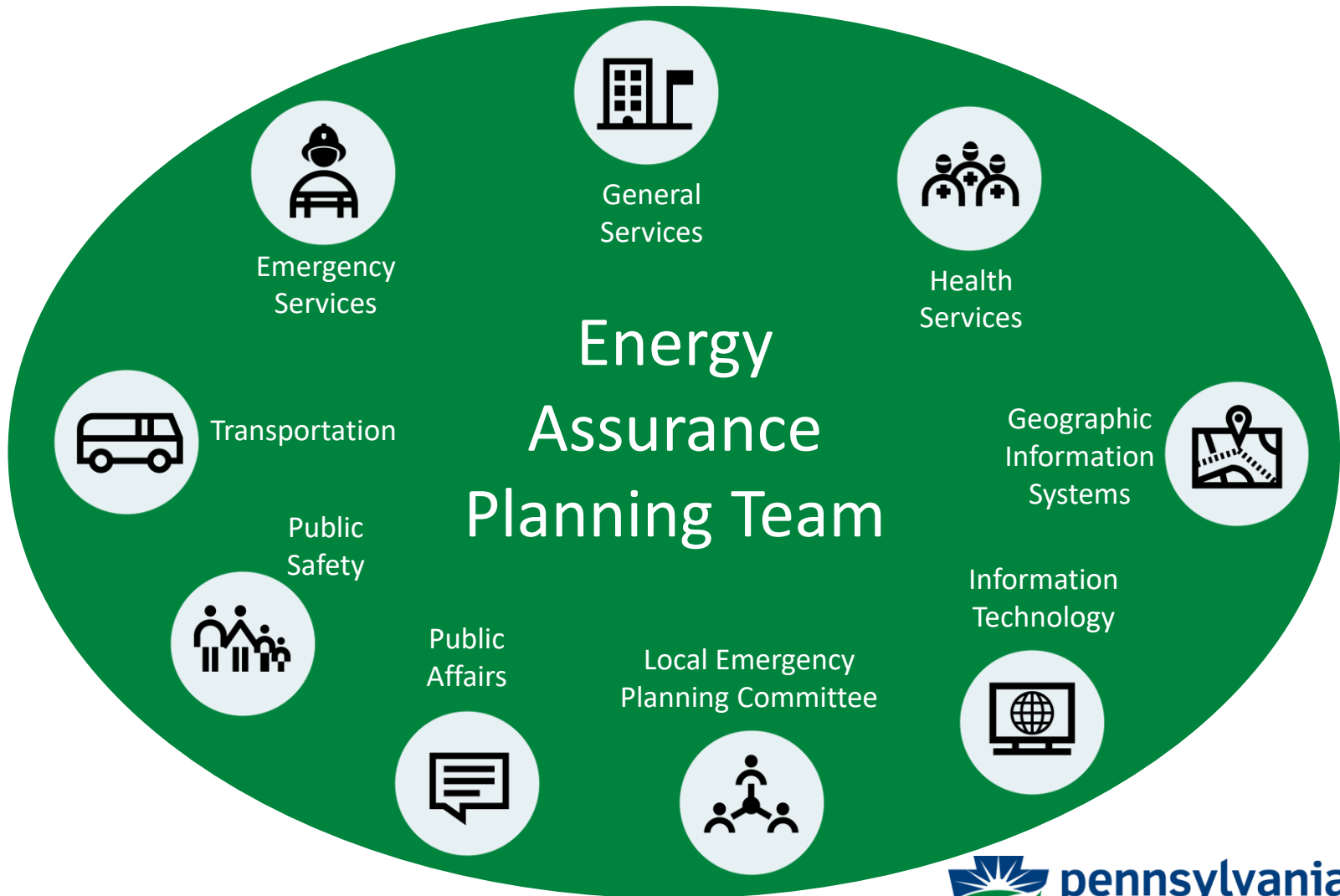


Section 3: Fuel Shortage Response



Section 4: Fuel Resiliency Strategies

Energy Assurance Planning Team



State Government Stakeholders



Interactions

- **Emergency proclamations** by the Governor facilitate emergency processes and funding
- State agencies may ask county officials to verify that shortage situations exist to justify **waiver requests** from industry
- County may coordinate the use of **fuel resources** maintained by state agencies



DEP Contact Information

1. DEP Energy Programs Office Liaison:

717-783-9713

2. DEP Energy Programs Office main number:

717-783-8411

3. DEP 24-hour Emergency Response Hotline:

1-800-541-2050

Federal Government Stakeholders



FEMA



Interactions

- Generally minimal direct communication between county and Federal agencies.
- Counties may participate in **FEMA task forces**.
- Counties may work with EPA directly when in need of **fuel waivers**.



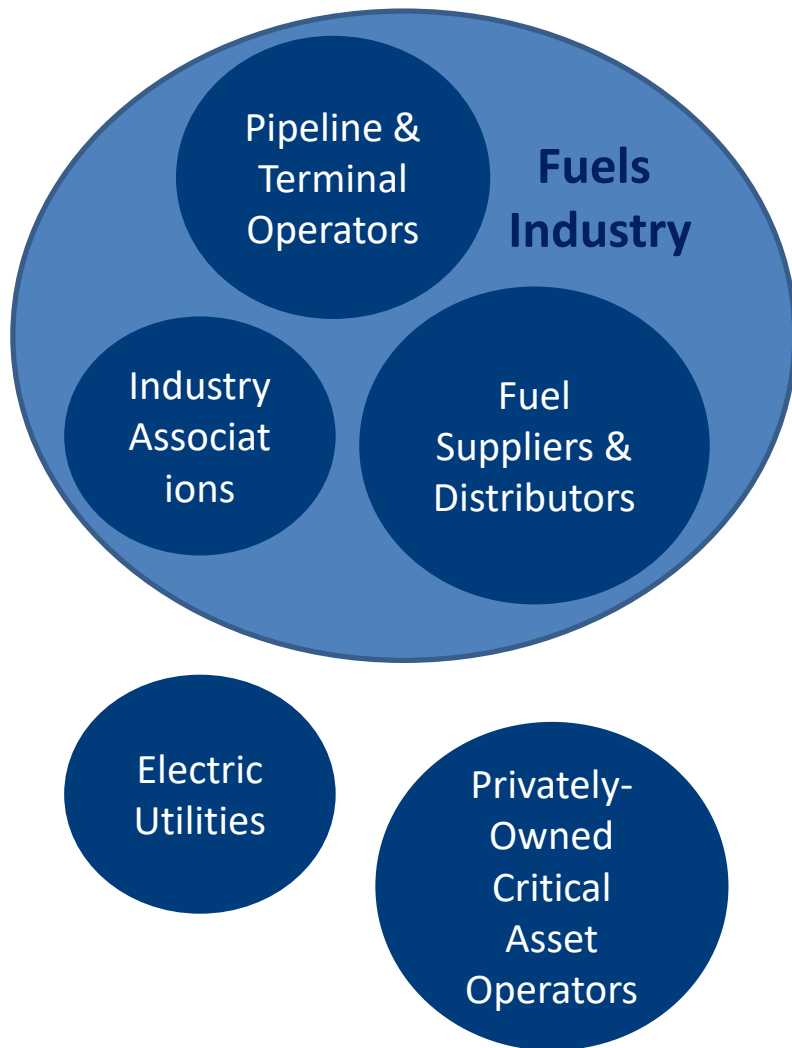
U.S. DEPARTMENT OF
ENERGY



**US Army Corps
of Engineers®**



Private Sector Stakeholders



Interactions

- Pre-event, counties coordinate with privately owned critical asset operators to document **anticipated emergency fuel needs**.
- During an event, counties may provide **situational updates and share information** on fuel supply, road closures, etc.
- During an event, counties may work with electric utilities to **prioritize power restoration** and work with the fuels industry to **identify fuel resources** for critical user.

Liquid Fuels Shortage Planning Guidebook



Section 1: Energy Assurance Planning



Section 2: Fuel Shortage Planning



Section 3: Fuel Shortage Response



Section 4: Fuel Resiliency Strategies

- Hazards & Vulnerabilities
- Fuel Interdependencies
- Planning Template Instructions



Liquid Fuels Shortage Planning Template

- Planning Template is a Microsoft Excel Spreadsheet.
- When filled out with county-specific information, the Template becomes a local **Liquid Fuels Shortage Plan**.
- Completed Plan can be used to:
 1. Understand county and regional **fuel supply infrastructure**
 2. Track **critical fuel users** within the county
 3. Identify available **fuel resources** within the county



The screenshot shows the top of an Excel spreadsheet. The cover image features a car at a gas station with a 'ROAD CLOSED' sign in the background. The text 'LIQUID FUELS SHORTAGE PLANNING TEMPLATE' is overlaid on the image. Below the image, the spreadsheet grid shows the following table of contents:

Tab	Description
Critical Fuel Users	Listing of emergency responders and critical facilities requiring fuel during emergencies, including information on generators, fuel volumes needed, onsite storage and distributors.
Local Government Fuel Storage	Listing of storage tank capacity, average volumes and contract information at local government facilities. Additionally a listing of the fuel distributor supporting these facilities.
Registered Storage Tanks	Listing of facilities with gasoline, diesel, and/or heating oil storage tanks. Dataset includes facilities with aboveground tanks in excess of 250 gallons and underground storage tanks in excess of 110 gallons. Excludes aboveground storage tanks that exceed 21,000 gallons.
Fuel Distributors	Listing of fuel distributors that operate out of nearby petroleum terminals or other bulk storage facilities.
Pennsylvania Terminals	Listing of fuel terminals operating within Pennsylvania. Includes an ID to match to maps displayed on Petroleum Maps tab.
Out-of-State Terminals	Listing of fuel terminals operating in neighboring states. Includes an ID to match to maps displayed on Petroleum Maps tab.
Petroleum Maps	A series of maps that includes petroleum refineries, petroleum pipelines, and terminals in Pennsylvania and the surrounding areas.
Response Activity Checklist	Checklist of emergency response activities that planners may perform during a fuel disruption.

Liquid Fuels Shortage Planning Template

Planners fill in with county-specific info

Reference tabs to filter for county-specific info

Used during and post event

FUEL SHORTAGE PLANNING TEMPLATE	
Tab	Description
Critical Fuel Users	Listing of emergency responders and critical facilities requiring fuel during emergencies, including information on generators, fuel volumes needed, onsite storage and distributors.
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Contents Critical Fuel Users Local Govt Fuel Storage Registered Storage Tanks Fuel Distributors ...

Contents tab

Critical Fuel User Information

A	B	C	D	E	F	G
EXAMPLE Critical User Information						
Priority	User Type	Name of Entity	Primary Address	Point of Contact	Phone Number	Email Address
1	Emergency operations center	Pennsville County Emergency Operations Center	4 Pineview Road, Adamsville, PA	Martha Redding, Emergency coordinator	XXX-XXX-XXXX	
1	Municipal police department-Facility	Washingtonville Police Department	33 Main Street, Washingtonville, PA	Officer Ryan Friendly	XXX-XXX-XXXX	
1	Municipal police department-Fleet	Washingtonville Police Department	33 Main Street, Washingtonville, PA	Officer Ryan Friendly	XXX-XXX-XXXX	

Hospital, law enforcement, etc.

Reenter user on multiple lines if uses several fuels

Preferably a 24-hour phone line

Critical Fuel Users



Hospitals
& Other
Medical
Facilities



Emergency
Responders
(Police,
Fire, EMT)



Emergency
Shelters



Emergency
Communications
Systems



Prisons &
Detention
Centers



Vulnerable
Population
Infrastruct
ure



Water &
Wastewater
Treatment



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Collecting Info on Critical Fuel Users

- When identifying critical fuel users, counties can begin by evaluating their **Critical Infrastructure and Key Resources (CIKR) list**
- Ask critical users via **formal survey or informal conversations** for information
- Use USACE's **Emergency Power Facility Assessment Tool (EPFAT)** for generator information
- **Plan can be filled out in stages over time**

Prioritizing Critical Fuel Users

A	B	C	D	E	F	G
EXAMPLE Critical User Information						
Priority	User Type	Name of Entity	Primary Address	Point of Contact	Phone Number	Email Address
1	Emergency operations center	Pennsville County Emergency Operations Center	4 Pineview Road, Adamsville, PA	Martha Redding, Emergency coordinator	XXX-XXX-XXXX	
1	Municipal police department-Facility	Washingtonville Police Department	33 Main Street, Washingtonville, PA	Officer Ryan Friendly	XXX-XXX-XXXX	
1	Municipal police department-Fleet	Washingtonville Police Department	33 Main Street, Washingtonville, PA	Officer Ryan Friendly	XXX-XXX-XXXX	

When prioritizing, consider:

- Length of time before serious impacts
- Nature of potential impacts
- Number and type of people affected
- User's ability to mitigate impact
- Prioritization of fuel delivery vs. power restoration

Assessing Critical Fuel Users Needs and Storage

C	H	I	J	K	L	M	N
EXAMPLE Critical User Information	Fuel Needs and Storage						
Name of Entity	Type of Fuel	Emergency Demand (Gallons per Day)	Available Storage Capacity (Gallons)	Average Available Inventory (Gallons)	Estimated Fuel Reserve Duration (Days)	Frequency of Fuel Delivery (Days Between Deliveries)	Percentage of Fuel Needs Met by Offsite Filling Locations
Pennsville County Emergency Operations Center	Diesel	100	500	500	5.0	60	
Washingtonville Police Department	Diesel	120	1,000	800	6.7	30	
Washingtonville Police Department	Gasoline	300	250	200	0.7	N/A	100% of fuel purchased offsite as needed

Fuels may include diesel for generators, diesel and/or gasoline for fleets, heating oil, propane, etc.

Storage tanks are usually not filled to maximum capacity on a given day.

$$\frac{\text{Average Available Inventory}}{\text{Emergency Demand}}$$

Documenting Critical Fuel User Generator Information

C	O	P	Q	R	S	T	U
EXAMPLE Critical User Information	Generators						
Name of Entity	Generator Onsite (Y/N)	Generator Power Initiated (Manually/Automatically)	Capacity (kW)	Fuel	Facility Coverage Description	Estimated Burn Rate-Full Load (Gallons/Hour)	Estimated Run Time (Hours)
Pennsville County Emergency Operations Center	Yes	Yes	100 kW	Diesel	Full facility	7.4	67.6
Washingtonville Police Department	Yes	No	60 kW	Diesel	Critical functions only	4.8	166.7
Washingtonville Police Department	No	N/A	N/A	N/A	N/A	N/A	N/A

Estimate using online guides if user is unable to provide

Average Available Inventory
÷
Estimated Burn Rate



Documenting Critical Fuel User Fuel Distributor Information

Include information on the service provided or the contract terms, as relevant

C	V	W	X	Y
EXAMPLE Critical User Information	Fuel Distributor Supplying Facility			
Name of Entity	Distributor	Point of Contact of Distributor	Phone Number of Distributor	Notes
Pennsville County Emergency Operations Center	Smith Brothers Fuel	Reginald Smith	XXX-XXX- XXXX	Have confirmation that user is priority customer during emergency
Washingtonville Police Department	Smith Brothers Fuel	Reginald Smith	XXX-XXX- XXXX	Have backup contract with Reliant Fuels
Washingtonville Police Department	N/A			Receives fuel from the Sunoco on I-80

If a fleet typically fuels at a retail gas station, record that info here

Documenting Local Government Fuel Storage Locations

A	B	C	D	E	F
EXAMPLE Facility Information					
Agency	Facility Name	Facility Address	Point of Contact	Department/ Agency	Phone Number
Adamsville Department of Public Transit	Adamsville bus depot	Lot 66, Adamsville Industrial Park	Randy McNeill		XXX-XXX- XXXX
Pennsville County Emergency Management Agency	Pennsville County emergency storage	Lot 70, Adamsville Industrial Park	Wendy Liu		XXX-XXX- XXXX
United States Postal Service	Adamsville Postal Service	Lot 50, Adamsville Industrial Park	Dale Mann		XXX-XXX- XXXX

May include storage for vehicle fleets associated with transit agencies, postal services, waste collection agencies, schools, etc.

Documenting Fuel Storage and Contract Information

Include information on emergency resupply and whether the facility is a priority customer

EXAMPLE Facility Information	EXAMPLE Fuel Storage and Contract Inform					
Agency	Fuel Type	Available Storage Capacity (Gallons)	Average Inventory (Gallons)	Fuel Contract Volumes (Gallons per Month)	Frequency of Fuel Delivery (Days Between Deliveries)	Contract Terms
Adamsville Department of Public Transit	Diesel	10000	8000	1000	10	Will top off prior to storms
Pennsville County Emergency Management Agency	Diesel	500	500	500	30	Automatic guage installed; Resupply triggered when inventory falls below 50%
United States Postal Service	Diesel	10000	5000	1000	15	Automatic guage installed; Resupply triggered when inventory falls below 30%

Storage tanks are usually not filled to maximum capacity on a given day

Fuel Distributors

Fuel Distributors							Operating Region			Fuels					
Legal Name	Address	City	Zip	State	Count	Phone Number	Confirmed Distributor	West	Centr	East	Gasoli	Dies	Heating	Kerose	Propa
121 POINT BREEZE MANAGEMENT COI	1800 CHAPEL AVE W	CHERRY HILL	08002	NJ	Camden	(856) 486-0550	No information			Yes	X	X	X	X	
7 OIL COMPANY INC	1708 UNION LANDING RD	CINNAMINSON	08077	NJ	Burlington	(856) 786-0707	Yes				X	X	X	X	X
A C & T CO INC	11535 HOPEWELL RD	HAGERSTOWN	21740	MD	Washington	(301) 582-2700	Yes				X	X	X	X	X
ACCENT FUELS INC	250 ROUTE 56 HWY E	HOMER CITY	15748	PA	Indiana	(724) 479-9210	Yes	Yes			X	X	X		
ACE-ROBBINS INC	4022 SR 6	TUNKHANNOCK	18657	PA	Wyoming	(570) 836-3232	Yes		Yes				X		X
ACTION OIL INC	111 WOODVALE ST	DUNBAR	15431	PA	Fayette	(724) 277-8170	Yes	Yes				X	X	X	
ADAPT OIL & MARKETING INC	5670 STATE RD	CLEVELAND	44134	OH	Cuyahoga	(440) 842-8612	No information								
AG ENVIRONMENTAL PRODUCTS LLC	12700 W DODGE RD	OMAHA	68154	NE	Douglas	(402) 492-7797	No								

Zip code and county in which the distributor is based

Regions in which the distributor delivers

Types of fuel the distributor sells

Filter distributors list by location and/or fuel type and save for ease of use

Liquid Fuels Shortage Planning Guidebook



Section 1: Energy Assurance Planning



Section 2: Fuel Shortage Planning



Section 3: Fuel Shortage Response



Section 4: Fuel Resiliency Strategies

- Response Activity Checklist
- Situation Awareness
- Emergency Fuel Supply Mgmt.
- Fuels Industry Ops Support

Response Activity Checklist

Response Activity Checklist for Emergency Managers During an Event				
Actions	When?	Contact Info (Fill in blanks as needed)	County Personnel Involved	Notes
SITUATIONAL AWARENESS / INFORMATION SHARING				
Engage members of Energy Assurance Planning / Response Team	Periodically as necessary			
Engage municipalities to gather information on fuel supply issues	Once initially and as necessary			
Engage neighboring counties to share information on fuel supply issues	Once initially and as necessary			
Engage critical fuel users to:				
Provide county contact info	Once at the onset of an event	Listed in the Critical Fuel Users Tab		
Encourage users to contact county if they have fuel supply concerns				
Engage fuel distributors to:				
Provide county contact info	Once at the onset of an event	Listed in the Critical Fuel Users Tab		
Encourage distributors to contact county if they have operational concerns				
Notify DEP and PEMA of fuel supply issues	Upon receipt of fuel supply concern/request	1. DEP Energy Program Office Liaison: 717-783-9713 2. DEP Energy Program Office Main Number: 717-783-8411 3. DEP 24-hour Emergency Response Hotline: 1-800-541-2050		
Engage public via local news, social media, press release, etc. to:				
Educate and update the public on fuel stores and availability	As necessary			
Request the public voluntarily reduce fuel usage				
EMERGENCY FUEL SUPPLY MANAGEMENT				
1) Assess critical fuel users' needs				
Current fuel inventories	Upon receipt of fuel supply	Listed in the Critical Fuel Users Tab		

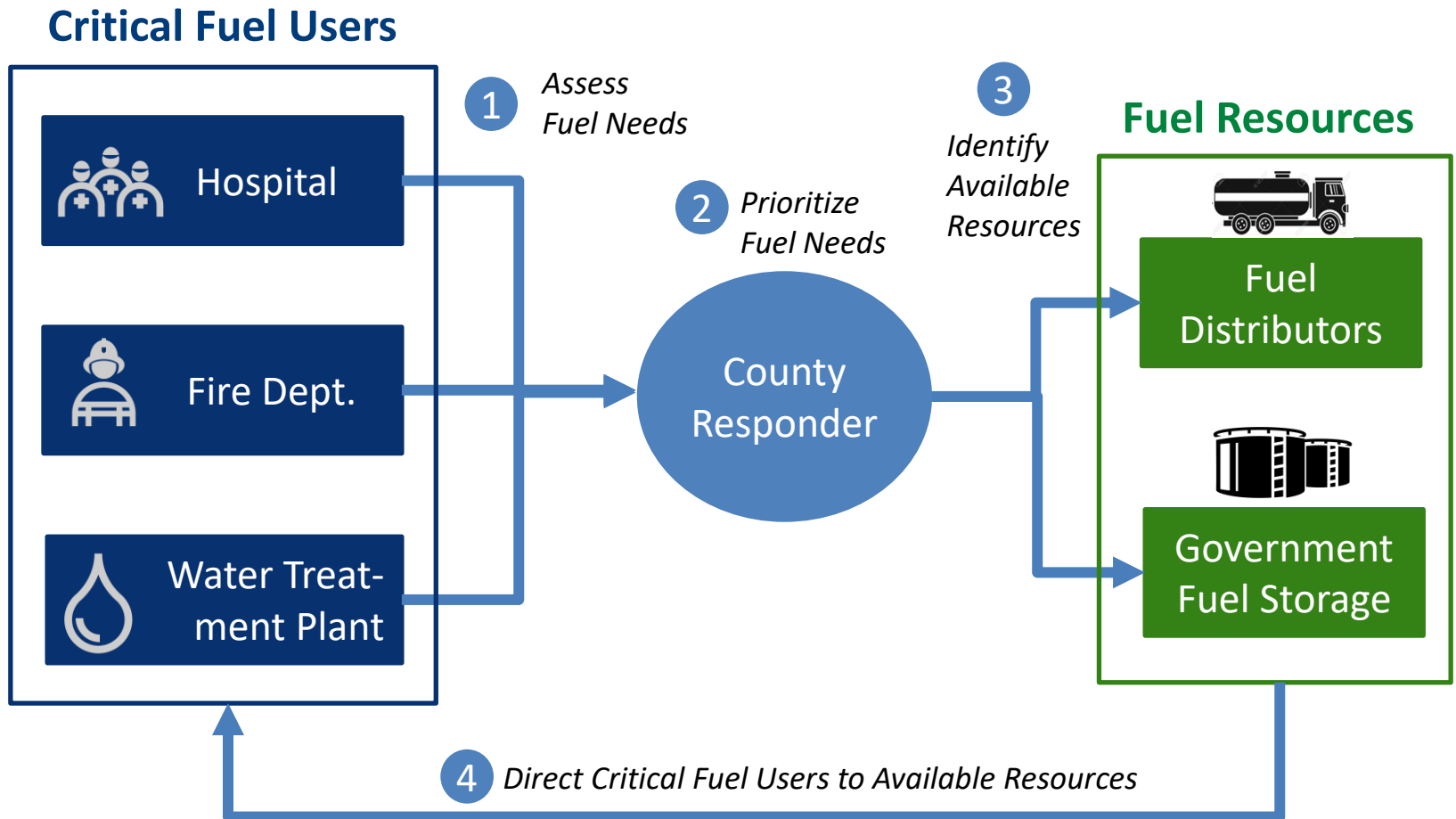
Response Activity Checklist tab

3-part checklist outlines steps to respond to a fuels disruption

Part I: Situational Awareness / Information Sharing

Actions	When?
SITUATIONAL AWARENESS / INFORMATION SHARING	
Engage members of Energy Assurance Planning / Response Team	Periodically as necessary
Engage municipalities to gather information on fuel supply issues	Once initially and as necessary
Engage neighboring counties to share information on fuel supply issues	Once initially and as necessary
Engage critical fuel users to:	Once at the onset of an event
Provide county contact info	
Encourage users to contact county if they have fuel supply concerns	
Engage fuel distributors to:	Once at the onset of an event
Provide county contact info	
Encourage distributors to contact county if they have operational concerns	
Notify DEP and PEMA of fuel supply issues	Upon receipt of fuel supply concern/request
Engage public via local news, social media, press release, etc. to:	As necessary
Educate and update the public on fuel stores and availability	
Request the public voluntarily reduce fuel usage	

Part II: Emergency Fuel Supply Management



Part III: Fuels Industry Operations Support

SUPPORT FUELS INDUSTRY OPERATIONS	When?
Prioritize power restoration to key liquid fuels terminals and service stations used	
Contact utilities to request priority power restoration at these facilities	Upon operational concern/request
Provide generators	
Facilitate road clearing on fuel transport routes	Upon operational concern/request
Support State agencies (as requested) to confirm need for industry waivers	As needed

State Waivers Process and County's Role

Understand and stay informed of critical users' fuel needs to provide accurate information to Commonwealth agencies about fuel needs and resources

1. Fuel industry formally requests waiver relief from relevant Commonwealth agency (DEP)



2. DEP verifies info on the scope of event, urgency, and fuel needs (and may contact county to verify)



3. DEP provides recommendation to **other Commonwealth agencies**, who issue waivers

Waivers Overview

Requirements that can be waived:

- **Hours of Service** (HOS) requirements
- **Interstate vs. intrastate** licenses
- Penalties for using **dyed diesel** for on-road use*
- **Sulfur** and **biodiesel** requirements for diesel
- **Gasoline specifications**

Requirements without a formal waiver process:

- Industry requirements for **driver carding** and **distributor credit checks**
- US DHS **Transportation Worker Identification Credential** (TWIC) cards

Liquid Fuels Shortage Planning Guidebook



Section 1: Energy Assurance Planning



Section 2: Fuel Shortage Planning



Section 3: Fuel Shortage Response



Section 4: Fuel Resiliency Strategies

- Distributor Resilience
- Other Strategies

Choosing a Resilient Distributor

Resiliency Questions to Ask Fuel Distributors

1. How many trucks and drivers do you have? How many additional trucks and drivers can you contract with during an emergency?
2. Are you licensed as an interstate or intrastate company?
3. At which terminals are your drivers credentialed and carded? How far away can you access fuel terminals?
4. How many suppliers do you have?
5. How do you manage supply shortages? What is your allocation process?
6. Do you consider the contract holder to be a priority customer?
7. Does your primary source terminal have a backup generator or a plan to obtain a backup generator during emergencies sufficient to power truck loading operations?
8. Do you anticipate any single point of access issues with the transportation routes between your fuel supply and my facility? How do you plan to deliver fuel if highway restrictions or closures are enacted?



Additional Resilience Strategies

- Open **redundant accounts** with multiple distributors
- Investigate **additional fuel storage** within the county
- Establish **central or mobile fueling locations**
- Establish **partnerships at retail stations** for government fleets

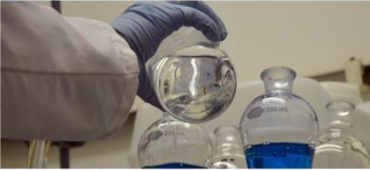


Investing in Long-term Resilience

- Natural gas-powered generators
- Vehicle fleets powered by alternative fuels
- Distributed energy resources
 - Microgrids
 - Energy storage
 - Solar plus batteries
 - Hydrogen fuel cells
 - Fuel cell backup generators



Questions?



FEMA

FEMA Logistics



can deliver M s 2



Hurricanes Harvey, Irma and Maria Fuel Mission Lessons Learned

- Background
 - FEMA Fuel Capabilities
- Hurricane Harvey - Texas
 - Shortages
- Hurricane Irma - Florida
 - Messaging
 - Store 90
- Hurricane Maria - Puerto Rico
 - Long term power outage effect on spot market requirements



FEMA

FEMA Fuel Support to States

FEMA mission assigns the Defense Logistics Agency to provide fuel support to Federal Responders and if requested State/Local Responders and critical infrastructure.



FEMA

Hurricane Harvey : Fuel Shortages in Texas



FEMA

Hurricane Irma : Messaging in Florida



Rick Scott 
@FLGovScott 

I've directed FHP to escort resupply fuel trucks to gas stations—we're aggressively working to get fuel out. [bit.ly/2xS2Lth](https://www.flgov.com/2017/09/07/gov-scott-were-working-aggressively-to-get-more-fuel-to-gas-stations/)

1:18 PM - Sep 7, 2017

♥ 471 💬 362 people are talking about this

Gov. Rick Scott: We are aggressively working around the clock to bring more fuel to Florida gas stations. I have held calls with the federal government, fuel retailers and oil companies to find ways to address this issue. During these calls, I made it clear to retailers and oil companies that I must know exactly what they need so we can work to get fuel to Floridians fast..... To further expedite fuel delivery, I have directed state police to escort fuel trucks to gas stations along evacuation routes. For gas stations in evacuation zones: we need you to stay open as long as possible so people can get out. We will arrange police escorts for your employees so they can get out safely. We need your gas stations to stay open as long as possible



<https://www.flgov.com/2017/09/07/gov-scott-were-working-aggressively-to-get-more-fuel-to-gas-stations/>



Hurricane Irma : Florida Preparedness

DHS Regional Resiliency Assessment Program Florida Fuels 2015

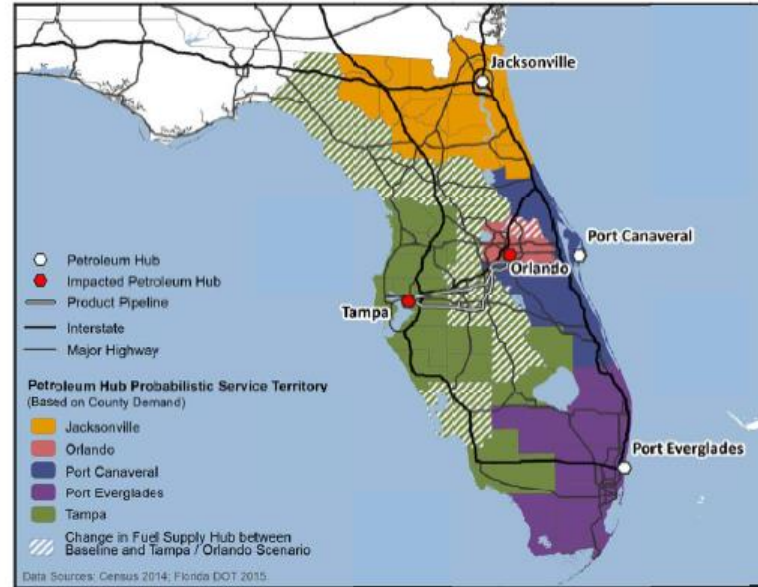
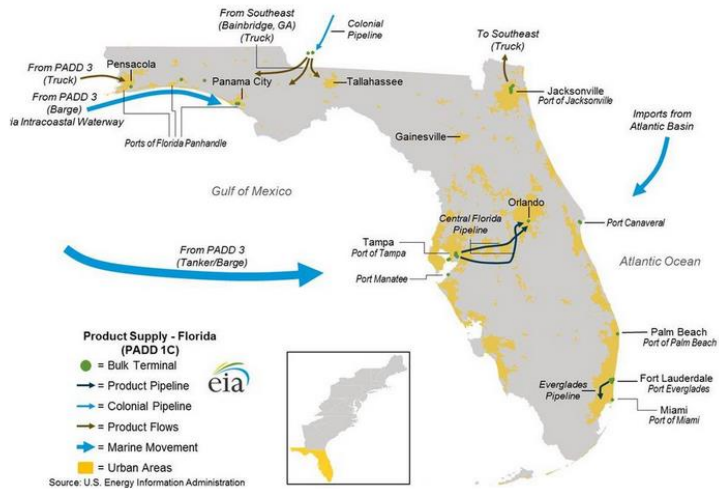
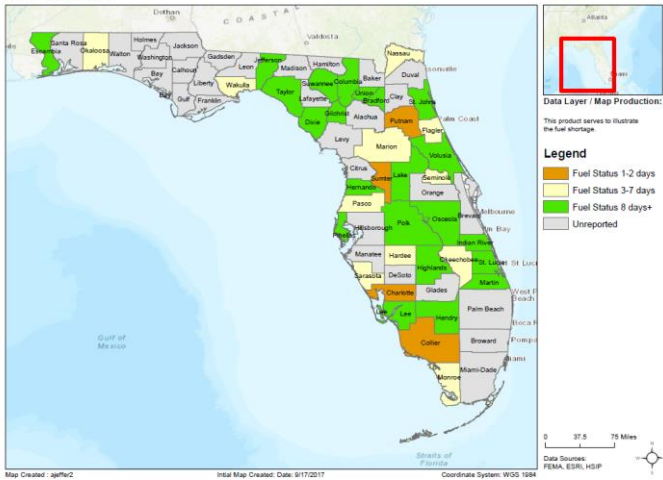


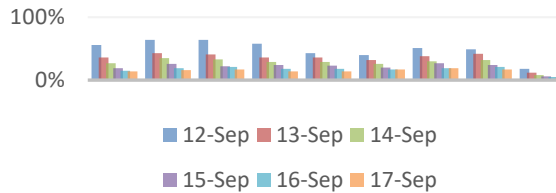
Figure C-3 Tampa Reduction Scenario: County Changes in Gasoline Source Hubs

Hurricane Irma : Florida SA

Florida Fuel Shortage Status: (17 September 2017, 1100 EDT)
 FEMA-4337-DR-FL

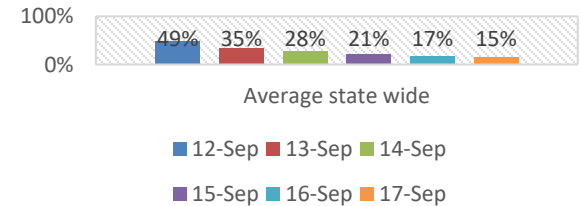


Percentage of Gas Stations without Fuel



Stations Closed	12-Sep	13-Sep	14-Sep	15-Sep	16-Sep	17-Sep
West Palm Beach:	56%	36%	27%	19%	15%	14%
Miami/Fort Lauderdale:	64%	43%	35%	26%	19%	16%
Gainesville:	64%	41%	33%	22%	21%	17%
Tampa/St Pete:	58%	36%	29%	24%	18%	14%
Orlando:	43%	36%	29%	23%	18%	14%
Jacksonville:	40%	32%	26%	20%	17%	17%
Tallahassee:	51%	38%	30%	27%	19%	19%
Fort Myers-Naples:	49%	42%	32%	24%	21%	17%
Panama City:	18%	12%	8%	6%	5%	5%
	12-Sep	13-Sep	14-Sep	15-Sep	16-Sep	17-Sep
Average state wide	49%	35%	28%	21%	17%	15%

Average State Wide



Hurricane Maria : Puerto Rico Logistics

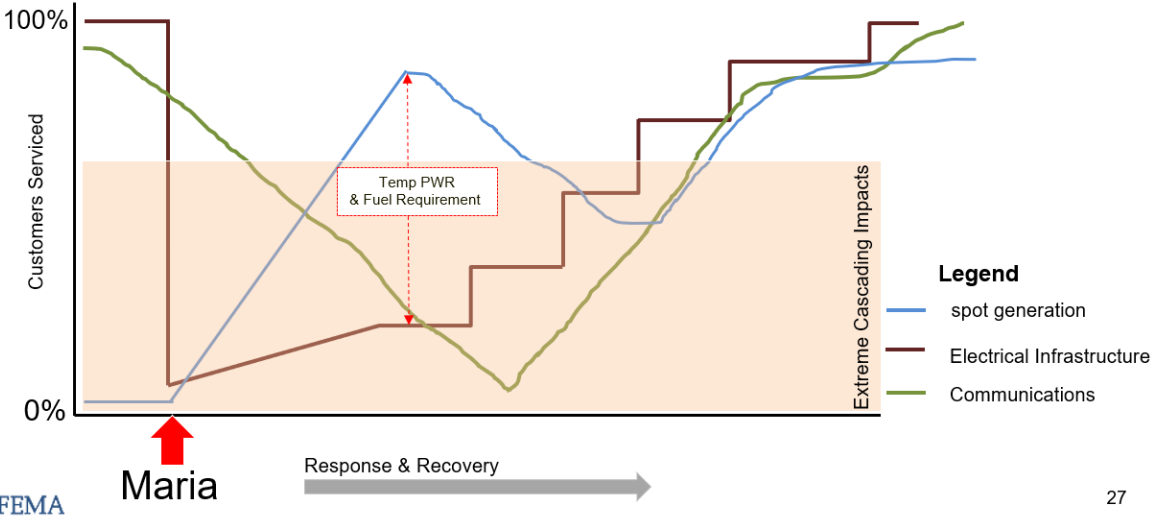
- Logistical Challenges
 - Transportation from CONUS
 - No Communications
 - Thru put of terminals heavily impacted



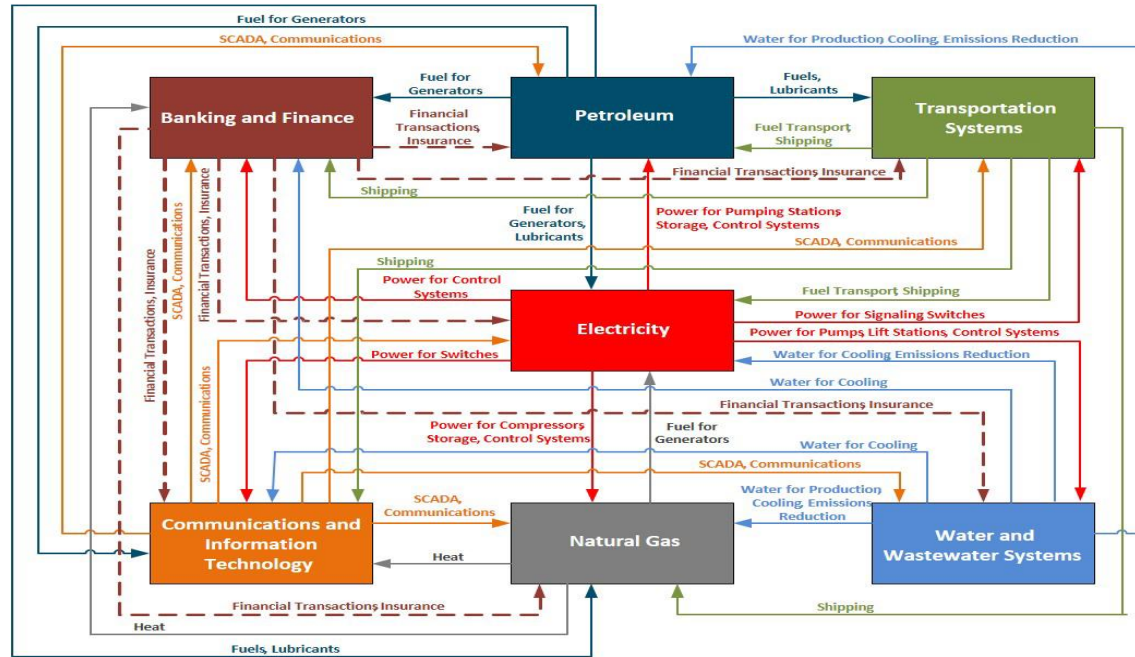
FEMA

Hurricane Maria : Puerto Rico Spot Generation

Power Restoration/Generation/Fuel analysis



Fuel Supply Chain – Interdependencies

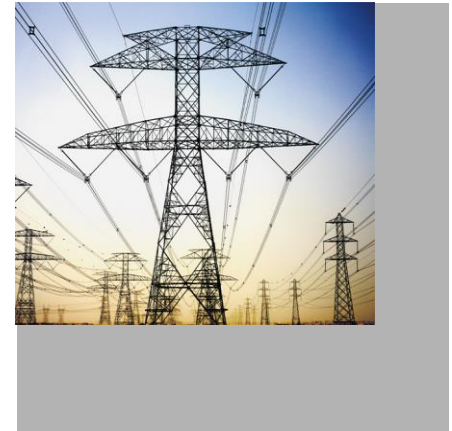
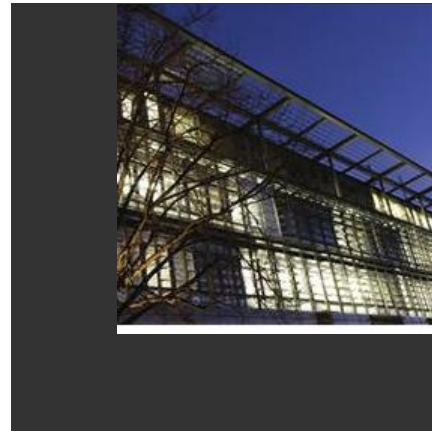


FEMA

Questions?



FEMA



Liquid Fuels Shortage Planning for Pennsylvania Local Governments

Campbell Delahoyde, Senior Program Manager, Energy Security
National Association of State Energy Officials
February 13, 2020



About NASEO

- Formed by the states in 1986
 - See also - President Bill Clinton's video about NASEO's founding
- Membership includes the 56 Governor-designated energy officials from each state and territory, as well as private sector affiliates
- Facilitates peer learning across states to improve the effectiveness of energy programs and policies
- Serves as a resource for and about State and Territory Energy Offices
- Advocates on behalf of the State Energy Offices (SEO) with Congress, federal agencies, and private-sector organizations
- Organized through regional and committee structure





Energy Security is ensuring that energy is:



- 4 A's:
 - *Available*
 - *Affordable*
 - *Accessible*
 - *Acceptable*
- Local, state, and federal government have different roles in defining what each of these mean and are responsible for ensuring each criteria is achieved
- During emergencies, the changing of one of these criteria can change another
 - i.e. lowering fuel standards to increase availability and affordability and lowering environmental quality



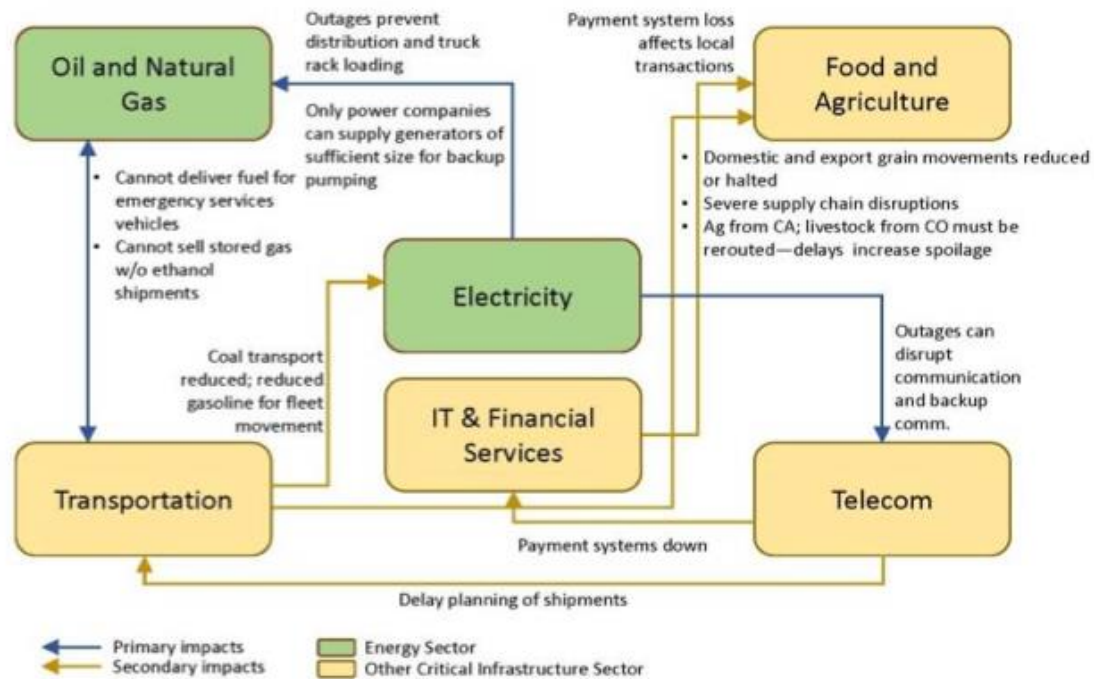
Energy Assurance is the Capability to:

- **Plan and Respond** to events that disrupt energy supply and assuring a rapid return to normal conditions. This is a coordinated effort involving the private energy sector's response, augmented by Local, State and Federal governments as needed
- **Mitigate Risks** through policies, programs and investments that provide for a more secure and resilient energy infrastructure that also reduces interdependencies impacts.
 - *Where risk is a function of consequences, vulnerabilities and threats.*





Severe Storms/Flood Interdependencies





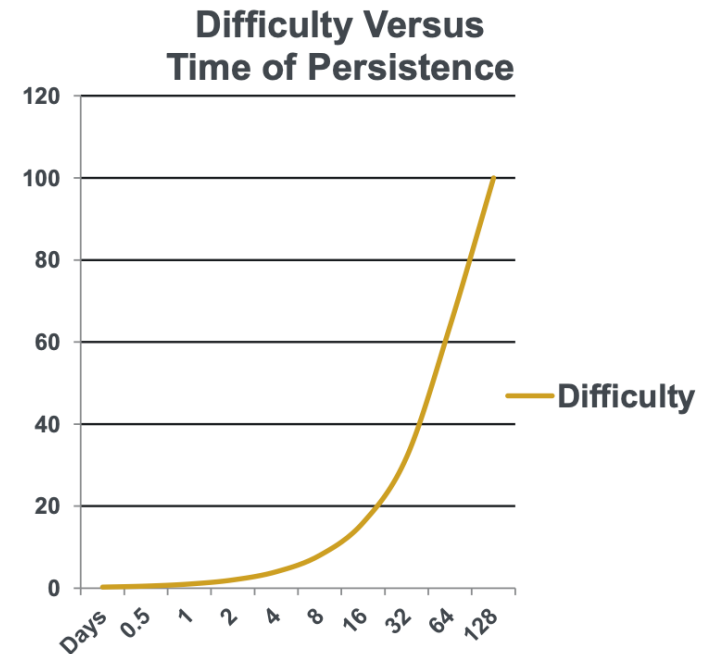
Local Energy Assurance Highlights

- Continuity of Operations Plan (COOP)
- Essential Public Service Needs
 - Priorities
 - Locally determined, may exceed “traditional” needs
 - i.e. a grocery store, community center, dialysis center, church
- Fuel requirements for backup generators
 - Available inventories and demand per hour
 - Fuel resupply priorities
 - Estimated restoration times



Continuity of Operations

- Energy required to support operations plus response and recovery
- Do your critical facilities have back-up power systems? If so, when was the last time you tested your back-up power system under full load?
- If you have renewables on site, do you know if they will work without the grid?
- Federal Energy Management Program: Achieving Energy Security in Federal Buildings
 - Relevant and applicable for local critical facilities





NASEO Guidance on Petroleum Shortage Response Options

Gasoline, Diesel Fuel, #2 Heating Oil, Propane, Ethanol, Biodiesel, Other

- **Managing Supply and Assuring Essential Public Needs**
 - Waivers of Federal Motor Carrier Safety Regulations (driver hours)
 - Raising state and federal truck weight restrictions
 - Fuel specification (environmental waivers)
 - Dyed diesel fuel sales tax waivers
 - Restrict State agency fuel use

- **Mandatory Measures**
 - Minimum purchase requirements or purchase limits
 - Restriction of public events
 - Odd/even day gasoline purchase to reduce the length of lines at gas station should this become a problem
 - Priority End Use Program when suppliers are delivering less than 100% of contract volume
 - State Petroleum Product Set-aside program for longer term fuel shortages



NASEO Guidance on Petroleum Shortage Response Options

Gasoline, Diesel Fuel, #2 Heating Oil, Propane, Ethanol, Biodiesel, Other

- Reducing Demand
 - Flexible work schedules and telecommuting
 - Ridesharing/vanpooling programs
 - Increased use of Alternative Fueled Vehicles
 - Programs to increase the use of mass transit
 - Improved vehicle maintenance
 - Public information emergency conservations actions
 - Home energy saving recommendations (propane, fuel oil)
- Good public messaging can increase the effectiveness of demand reduction actions



Public Information Programs and Media Relations

- Be prepared and know who will talk to the press
 - Establish media contacts before an event
 - If a Joint Information Center (JIC) is established, work through this center
- Assure clear and consistent messages
- Do not speculate, rely on known facts
- Provide authoritative, accurate and timely information
- Provide background information explaining the nature of the problem
- Tell them what you know and don't tell them what you don't know



Regional Response Options

- Supply relocation options
 - Defense Logistics Agency
 - Pennsylvania's geography provides unique response options
 - Marine terminals
 - Jones Act Waivers
 - Northeast Home Heating Reserve can make up for lost volume
 - Northeast Gasoline Supply reserves may be also be accessed
 - Energy Emergency Assurance Coordinators program
 - State energy and emergency management representatives
 - NASEO, NARUC, NGA, NEMA coordinating body
 - Used for rapid peer-to-peer communication and coordination during regional events



Mitigation Actions

- Backup generator planning, acquisition, installation, and maintenance
- Microgrids and other Distributed Energy Resources (DERs) for critical facilities
- FEMA Funding
 - Pre-disaster Mitigation (PDM)/ Building Resilient Infrastructure in Communities (BRIC)
 - Hazard Mitigation Grant Program (HMGP)
- HUD Funding
 - Community Block Grant Development Program
 - Disaster Recovery
 - Mitigation



Initiative for Resiliency in Energy through Vehicles (iREV)



- Integration of alternative fuel vehicles (AFVs) into emergency operations plans, COOP plans, and energy assurance plans
 - Biodiesel, electric, natural gas, propane
- Diversified fuel supply with vehicles capable on running on alternative fuels can reduce the impacts of disruptions to traditional fuel supply
- Some AFVs can be used to perform emergency functions



Integrating Alternative Fuel Vehicles into Emergency Plans: Lancaster County, PA

■ Robust AFV fleet

- The City of Lancaster operates six CNG pick-up trucks.
- The Hempfield School District in Landisville operates 81 school buses on propane (27 minibuses and 54 full size buses). They have on-site fueling with 12,000 gallons of available propane storage.

■ Inventory of existing buildings with backup generators **and** backup-generator-capable buildings

- During petroleum shortages, natural gas-fired generators may still operate. It is important to know which type of generators are where



In conclusion



- All events are local, be prepared
- If the consequence exceeds your resources, it is your job to maintain accurate means of determining and communicating resource needs to the appropriate parties
- Resource requests flow up:
 - Local
 - State
 - Regional
 - National
- Keep emergency contact lists up to date and plans current
- Understand your community sources of fuel
- Know your essential facilities with and without backup power capabilities
- Mitigate risks ahead of time



Questions?

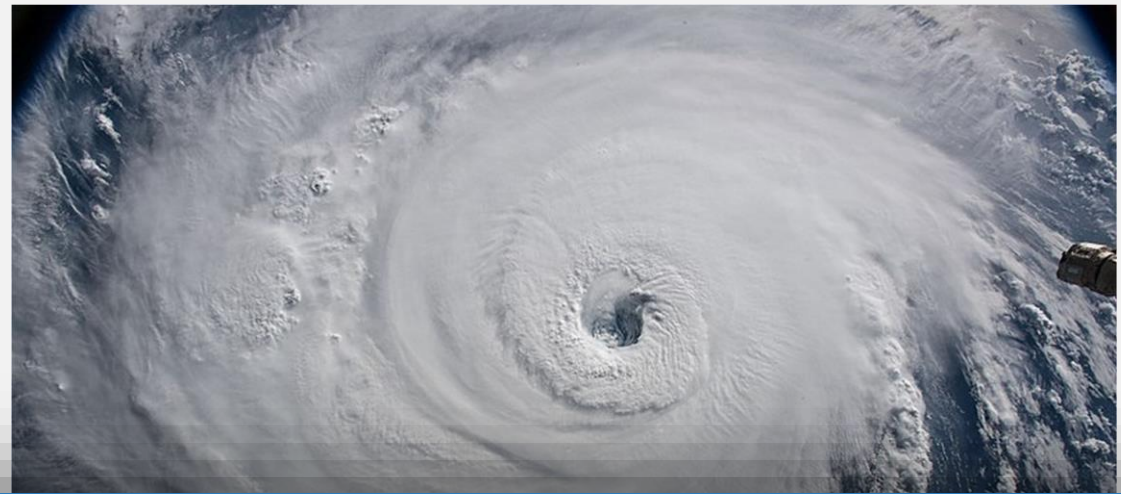


Thank you!

Campbell Delahoyde

cdelahoyde@naseo.org





U.S. DEPARTMENT OF
ENERGY

OFFICE OF
Cybersecurity, Energy Security,
and Emergency Response

PA Liquid Fuels Shortage Planning Workshop

Brandi Martin, Office of Cybersecurity, Energy Security and Emergency Response (CESER)

Wednesday, February 19, 2020



Cyber Threats

“China has the ability to launch cyber attacks that cause localized, temporary disruptive effects on critical infrastructure—such as disruption of a natural gas pipeline for days to weeks—in the United States.”

“Federal departments and agencies, in cooperation with state, local, tribal, and territorial government entities, play a critical role in detecting, preventing, disrupting, and investigating cyber threats to our Nation.”

“Russia has the ability to execute cyber attacks in the United States that generate localized, temporary disruptive effects on critical infrastructure—such as disrupting an electrical distribution network for at least a few hours—similar to those demonstrated in Ukraine in 2015 and 2016.”



CESER's Mission

Cybersecurity, Energy Security, and Emergency Response (CESER) leads the Department of Energy's emergency preparedness and coordinated response to disruptions to the energy sector, including physical and cyber-attacks, natural disasters, and man-made events.



CESER Preparedness and Response

Preparedness and Exercises



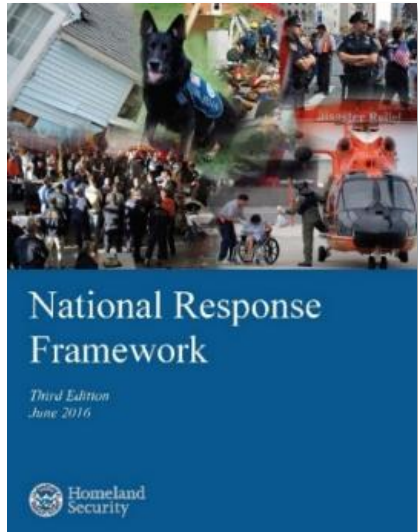
- Energy Sector Exercises
- Energy Assurance
- Sector Specific Agency Responsibilities
- Risk and Hazards Analysis
- International & Defense
- Cyber Preparedness

Emergency Response and Recovery



- Emergency Response
- Cyber Incident Coordination
- Energy Sector Situational Awareness
- Situational Analysis

What is Emergency Support Function (ESF) #12?



ESFs are part of FEMA's National Response Framework

- How the Nation responds to disasters and emergencies
- Built on the National Incident Management System
- Scalable, flexible, and adaptable coordination structures



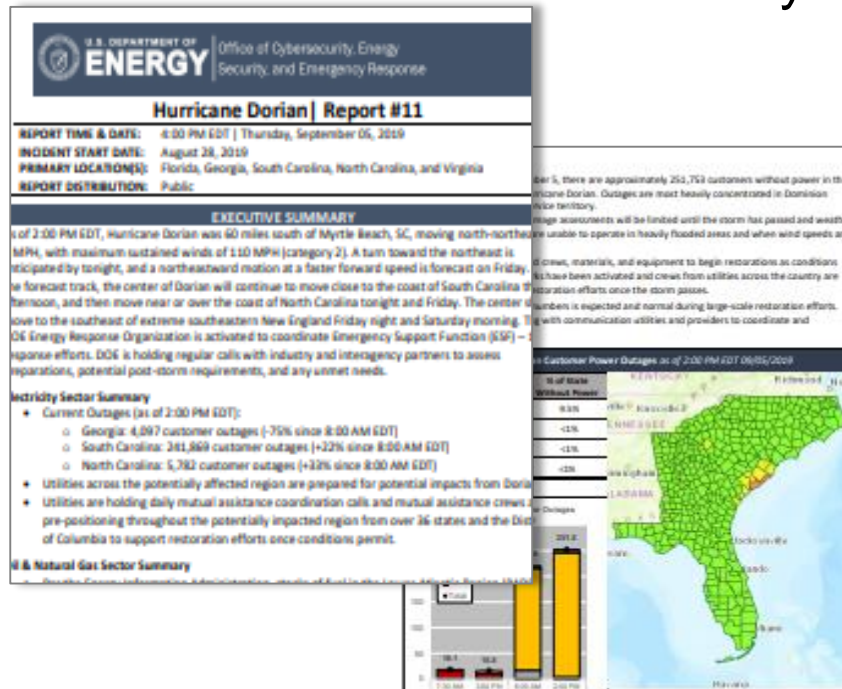
Emergency Support Functions

- | | | | |
|--------|-------------------------------------|----------------|--|
| ➤ ESF1 | Transportation | ➤ ESF9 | Urban Search & Rescue |
| ➤ ESF2 | Communications | ➤ ESF10 | Oil & Hazardous Materials Response |
| ➤ ESF3 | Public Works & Engineering | ➤ ESF11 | Agriculture & Natural Resources |
| ➤ ESF4 | Firefighting | ➤ ESF12 | Energy |
| ➤ ESF5 | Emergency Management | ➤ ESF13 | Public Safety & Security |
| ➤ ESF6 | Mass Care, Housing & Human Services | ➤ ESF14 | Cross-Sector Business & Infrastructure |
| ➤ ESF7 | Resources Support | ➤ ESF15 | External Affairs |
| ➤ ESF8 | Public Health & Medical Services | | |

ESF #12 DOE Functions

Activities

- Situational Awareness
- Damage Assessments
- Restoration Priorities
- Mutual Aid Support
- Unity of Message
- Regulatory Relief Assistance
- Interdependency Analysis
- Cascading Impact Analysis



Coordination



Collaboration Across the Energy Sector

State, Local, Tribal and Territorial (SLTT) Program

NASEO

National Association of State Energy Officials

AMERICAN PUBLIC POWER ASSOCIATION

NGA
NATIONAL GOVERNORS ASSOCIATION

NEMATM



Electricity Subsector Coordinating Council

Who

- Electricity trade associations and their members

Purpose

- Coordinate efforts to prepare for, and respond to, national-level disasters or threats to critical infrastructure.

Working Groups

- Vision and Planning
- Threat Information Sharing
- Industry-Government Coordination
- Research & Development
- Cross-Sector Liaisons



Who

- Oil & natural gas trade associations and their members

Purpose

- Provide a forum to coordinate security strategies, activities, policy and communications across the sector to support the nation's security mission

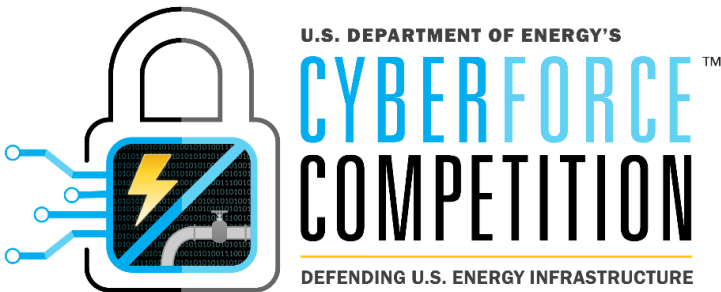
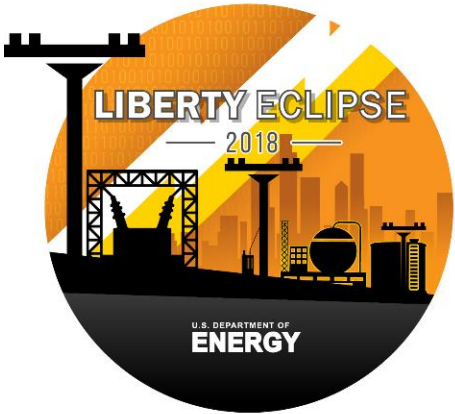
Working Groups

- Cyber
- Information Sharing
- Regulatory Engagement
- Emergency Management
- Law Enforcement Engagement
- Pipeline

U.S. DEPARTMENT OF **ENERGY**

OFFICE OF Cybersecurity, Energy Security, and Emergency Response

Exercises and Trainings



Pennsylvania State Profiles

<https://www.eia.gov/state/?sid=PA>

U.S. DEPARTMENT OF ENERGY

State of Pennsylvania ENERGY SECTOR RISK PROFILE

This State Energy Risk Profile examines the relative magnitude of the risks that the State of Pennsylvania's energy infrastructure routinely encounters in comparison with the probable impacts. Natural and man-made hazards with the potential to cause disruption of the energy infrastructure are identified.

The Risk Profile highlights risk considerations relating to the electric, petroleum and natural gas infrastructures to become more aware of threats to these energy systems and assets.

PENNSYLVANIA STATE FACTS

State Overview	Annual Energy Production
Population: 12.77 million (4% total U.S.)	Electric Power Generation: 23.4 TWh (6% total U.S.)
Housing Units: 5.57 million (4% total U.S.)	Coal: 87.1 TWh, 39% [13.4 GW total capacity]
Business Establishments: 0.30 million (4% total U.S.)	Petroleum: 0.3 TWh, <1% [3 GW total capacity]
	Natural Gas: 53.1 TWh, 24% [13.3 GW total capacity]
	Nuclear: 75.2 TWh, 34% [10 GW total capacity]
	Hydro: 1.8 TWh, <1% [2.3 GW total capacity]
	Other Renewable: 2.1 TWh, <1% [1.5 GW total capacity]
Annual Energy Consumption	Coal: 55,500 MSTN (5% total U.S.)
Electric Power: 144.7 TWh (4% total U.S.)	Natural Gas: 2,260 Bcf (9% total U.S.)
Coal: 43,400 MSTN (5% total U.S.)	Crude Oil: 4,300 Mbarrels (<1% total U.S.)
Natural Gas: 919 Bcf (4% total U.S.)	Ethanol: 2,500 Mbarrels (1% total U.S.)
Motor Gasoline: 85,400 Mbarrels (3% total U.S.)	
Distillate Fuel: 59,000 Mbarrels (4% total U.S.)	

NATURAL HAZARDS OVERVIEW

Annual Frequency of Occurrence of Natural Hazards in Pennsylvania (1996–2014)

Annualized Property Loss due to Natural Hazards in Pennsylvania (1996–2014)

Updates coming soon

eia Beta

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U.S. STATES

Choose State/Territory

OVERVIEW | DATA | RANKINGS

Total energy production and consumption by state, 2017

trillion British thermal units (tBtu)

Consumption

- > 7,500
- 2,000 to 7,500
- 500 to 2,000
- < 500

Production

- > 7,500
- 2,000 to 7,500
- 500 to 2,000
- < 500

U.S. Territories

- American Samoa
- Guam
- Northern Mariana Islands
- Puerto Rico
- U.S. Virgin Islands

https://www.energy.gov/sites/prod/files/2016/09/f33/PA_Energy%20Sector%20Risk%20Profile_0.pdf

Monitoring Petroleum Supply, Demand & Price

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U.S. STATES
PENNSYLVANIA
Choose State/Territory

OVERVIEW DATA ANALYSIS RANKINGS

Pennsylvania

End-use energy consumption 2017, estimates

End-use consumption by source, excluding losses
2,856.3 trillion British thermal units
(percent of total for all sources)

Coal 167.8 (5.9%)	Natural gas 859.3 (30.1%)	Petroleum 1,238.9 (43.4%)	Renewable energy 102.4 (3.6%)	Electricity 487.9 (17.1%)

eia Independent Statistics & Analysis
U.S. Energy Information Administration + Sources & Uses + Topics + Geography

PETROLEUM & OTHER LIQUIDS

OVERVIEW DATA ANALYSIS & PROJECTIONS GLOSSARY FAQs

SEE ALL PETROLEUM & OTHER LIQUIDS REPORTS

This Week in Petroleum

Release date: February 12, 2020 | Next release date: February 20, 2020
Download data | Past Weeks in Petroleum | Release schedule | Print

EIA revises global liquid fuels demand growth down because of the coronavirus

In the February 2020 update of its *Short-Term Energy Outlook* (STEO), the U.S. Energy Information Administration (EIA) forecasts that global liquid fuels demand will average 101.7 million barrels per day (b/d) in 2020, 1.0 million b/d more than the 2019 average. This latest estimate of 2020 global liquid fuels demand is 378,000 b/d less than was forecast in the January 2020 STEO (Figure 1). The difference between the forecasts is driven by a combination of lower-than-expected winter, an expected slowing of economic growth in the particular economic effects of the 2019 novel coronavirus outbreak.

that COVID-19 will reduce China's total petroleum and liquid fuels demand to an average of 190,000 b/d in 2020. This forecast is based on three separate components (Figure 2):

reduction in demand for petroleum and liquid fuels caused by the decline in Chinese economic activity as measured by gross domestic product (GDP);

of foregone jet fuel consumption in China caused by flight

Retail prices (dollars per gallon)

U.S. regular gasoline prices
dollars per gallon

Source: U.S. Energy Information Administration

	Retail prices		Change from last	
	02/10/20	Week	Year	
<input checked="" type="checkbox"/> Gasoline	2.419	-0.036 ↓	0.143 ↑	
<input checked="" type="checkbox"/> Diesel	2.910	-0.046 ↓	-0.056 ↓	
<input checked="" type="checkbox"/> Heating Oil	2.912	-0.022 ↓	-0.269 ↓	
<input checked="" type="checkbox"/> Propane	1.985	-0.003 ↓	-0.446 ↓	

eia Independent Statistics & Analysis
U.S. Energy Information Administration

February 2020

Short-Term Energy Outlook (STEO)

Forecast highlights

Global liquid fuels

- EIA expects global petroleum and liquid fuels demand will average 100.3 million barrels per day (b/d) in the first quarter of 2020. This demand level is 0.9 million b/d less than forecast in the January STEO and reflects both the effects of the coronavirus and warmer-than-normal January temperatures across much of the northern hemisphere. EIA now expects global petroleum and liquid fuels demand will rise by 1.0 million b/d in 2020, which is lower than the forecast increase in the January STEO of 1.3 million b/d in 2020, and by 1.5 million b/d in 2021.

NEMA-NASEO State Petroleum Shortage Response Regional Workshops

State identified areas of improvement:

Social Messaging Plan

- Pre-scripted messages
- Explore use of virtual operations support team (VOST)

Joint Messaging Strategy

- Develop relationships between emergency management, energy offices, associations, and industry
- Coordinate to ensure unified messaging to the public

Waivers

- Develop a waiver playbook with templates and guidance will assist states to prevent delays and ensure timely delivery of fuel

Data

- Identify and understand how to use existing tools and data sources

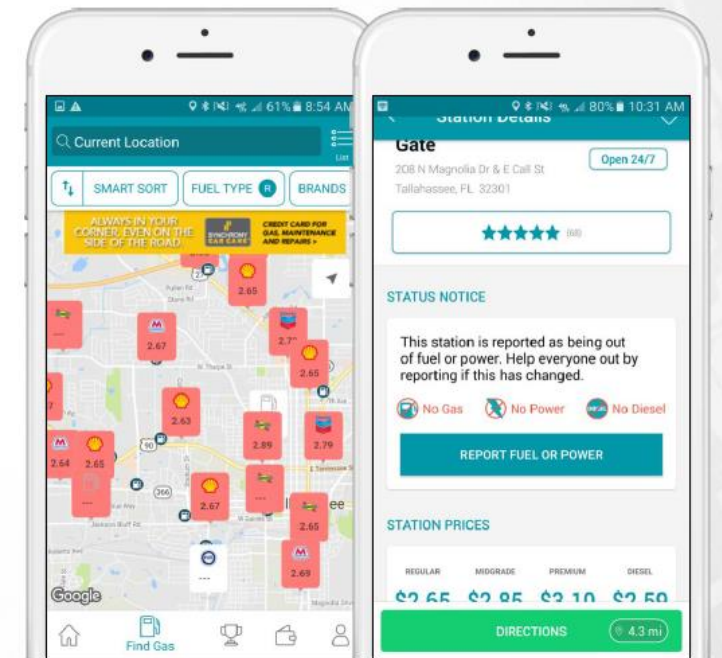
Petroleum Shortage - State Example Actions

- Negotiate priority fuel delivery clauses with fuel distributors
- Educational and grant programs encourage gas stations to install transfer switches, allowing for generator power during emergencies
- For long term / severe disruptions, identify and pre-approve priority fuel users (ESF agencies, county EMAs, etc.)

THE GASBUDDY (EMERGENCY) GAS TRACKER

Allows GasBuddy users to report if stations have gas, diesel, and power

Both in-app and on tracker.gasbuddy.com



Petroleum Shortage Response Planning - Lessons Learned

Internal Communication

- Identify strategies for educating and working with elected and appointed officials on petroleum issues.

External Communication

- Consider social media and rumor control for rapid response. The public message needs to be shaped early in the response and integrated with larger response efforts.
- Increase integration of industry and associations in unified messaging efforts both during and before events.

Coordination

- Engage industry and representative associations in preparedness and after action processes, including state energy security planning.
- Ensure regular communication with cross-agency representatives.

Analysis

- Investigate use of, or templates for, contingent contracts to deal with shortages and disruptions.
- Look for methods to address national truck driver shortages.
- Assess the cyber vulnerability of the fuel storage and distribution infrastructure (i.e., pipelines, rail, terminals, and secondary storage).

Education and Training

- Maintain a robust understanding of state regulations, federal resources/assistance, limitations.
- Understand how a fuel shortage in one area can spread to other areas.
- Provide information on fuel supply contracts.
- Convey the interconnectedness of the petroleum and propane sectors.

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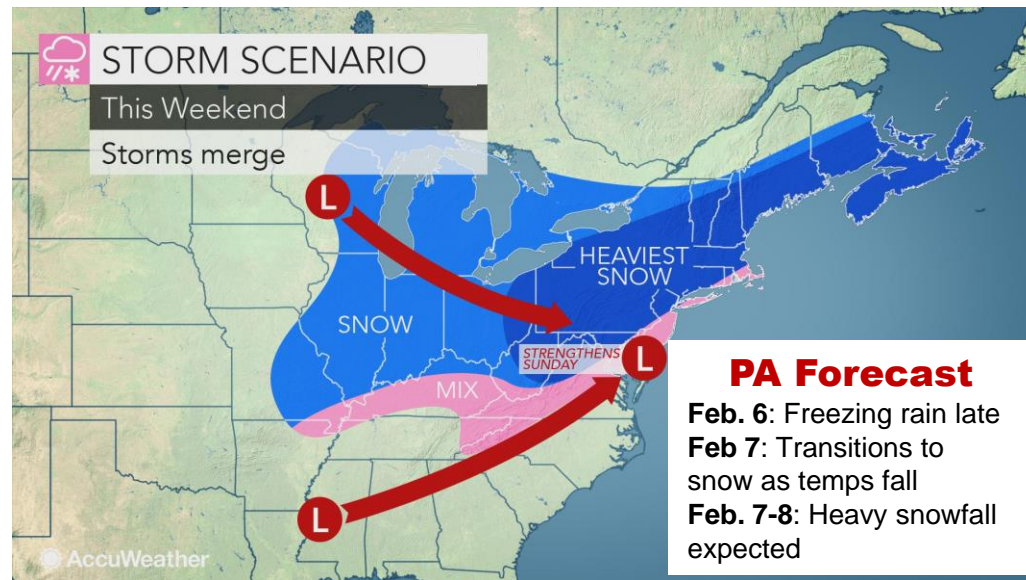
LUNCH

Liquid Fuels Shortage Exercise

Module 1: Pre-Event Planning

Scenario:

- A slow-moving storm is anticipated to reach Commonwealth Wednesday, Feb 6.
- The following days are anticipated to bring freezing rain followed by a drop in temperatures and “significant” snowfall.
- Liquid fuel inventories are at a 5-year low heading into the storm, with some spot shortages of heating oil and gasoline.
- In anticipation of the storm, Governor Wolf has issued a proclamation of disaster emergency due to dangerous weather conditions.



Module 1: Pre-Event Planning

Planning Questions:

Think about your mitigation or prevention actions. What can you do pre-storm?

1. What information would you want to know ahead of the storm? Who would you need to engage with to acquire this information?
2. What pre-event actions would you consider employing?
3. How will you monitor fuel supply issues in your jurisdiction and what would you monitor? What situation/conditions would you be concerned with?
4. How would you prioritize critical fuel users in your county? Describe why they are a priority.

Module 2: Post-Event Response

Scenario:

- Temperatures in single digits.
- Significant ice and snow accumulation
- PennDOT has restricted commercial trucks from using interstates

Impacts:

- Most customers without power
- Available supply can't meet demand
- Most fuel terminals have lost power
- Over half of the gas stations without power
- Significant transportation restrictions due to impassable roads and road closures



Module 2: Post-Event Response

Response Questions:

1. What are your concerns based on the scenario and what actions would you be taking?
2. Who are you anticipating communicating with to better understand the fuel supply impacts? When and how would you plan to engage with them?
3. When and why would you engage with the State?
4. How would you prioritize and handle critical user fuel shortages? If the shortages last longer than a week, would your prioritization considerations change?
5. What stored fuel (if any) do you have access to within your county? Would you use this fuel to handle resource requests?

Hotwash

1. What are some procedures, practices or agreements that your agency/jurisdiction has in place that currently aids or could potential assist you during events that compromise liquid fuel supply?
2. What are your top 3 priorities that need to be addressed based on what you learned today that will help your agency's/jurisdiction's ability to minimize the impacts of a liquid fuel disruption?
3. Describe what information and support you may need to prepare for and respond to liquid fuel disruptions from:
 - Energy sector partners/association
 - State

Workshop Evaluation Forms

Closing Remarks/Next Steps

Appendix Slides

Gasoline Specs in Pennsylvania

- **Reformulated gasoline (“RFG”)** is required in southeastern Pennsylvania (Bucks, Chester, Delaware, Montgomery and Philadelphia counties)
- **Conventional gasoline** is used in the rest of the state
- **Summer grade gasoline** must be used everywhere from May-September 15
- Summer grade gasoline must have a **volatility (“RVP”) less than 9 psi**, although EPA allows 1 psi RVP for gasoline containing 9-10% ethanol

If you need to bring gasoline from out of state or from outside of your county during an emergency, **pay attention to fuel type and RVP.**
EPA may also waive regulations during emergencies.

▶ Heating Oil Specs in Pennsylvania

- Heating oil is similar to diesel fuel but is **not subject to motor fuel taxes** and is **dyed red**
- Since 2016, heating oil must contain **less than 500 ppm sulfur** in PA, although **Philadelphia County** requires heating oil to contain **less than 15 ppm sulfur**
- In April 2019, PA DEP **proposed a rule to limit heating oil sulfur content** to 15 ppm sulfur, although it is unknown when this rule will be finalized and implemented
- However, **most of the heating oil produced and distributed in PA already has a sulfur content of 15 ppm or less**, meaning it meets the same specs as on-road diesel (“ULSD”)

If you need to bring heating oil from out of state during an emergency, **pay attention to sulfur quantity.**

EPA may also waive regulations during emergencies.

Power Restoration

Before event:

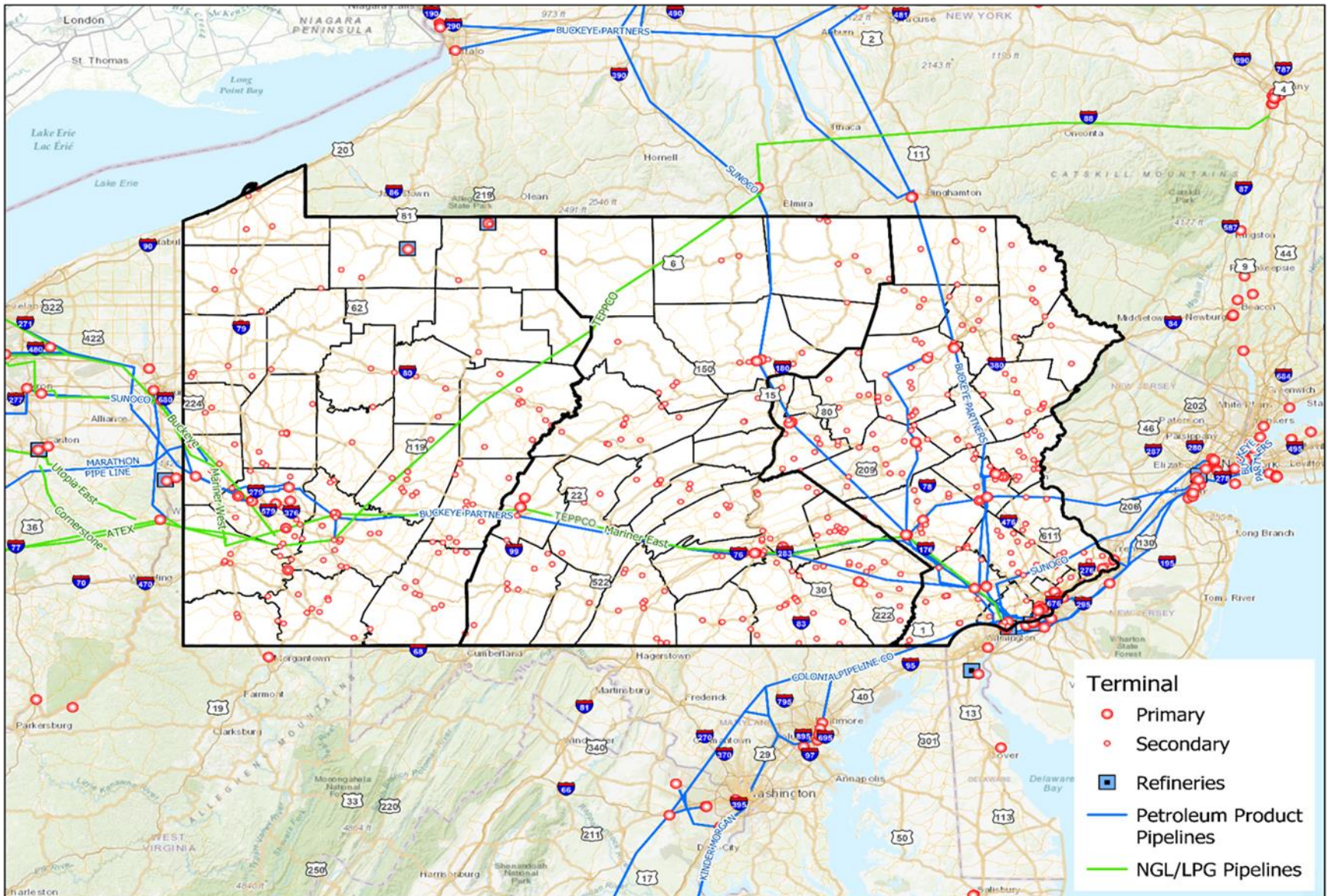
- Coordinate with **electric utilities** to identify a list of critical facilities and encourage power restoration at those sites

During event:

- Elevate concerns to **PEMA** as needed
- Work with the **Public Utility Commission** as needed

For power restoration at Hospitals, coordinate with the **Healthsystem Association of Pennsylvania (HAP)**, which actively monitors hospital needs during power outages.

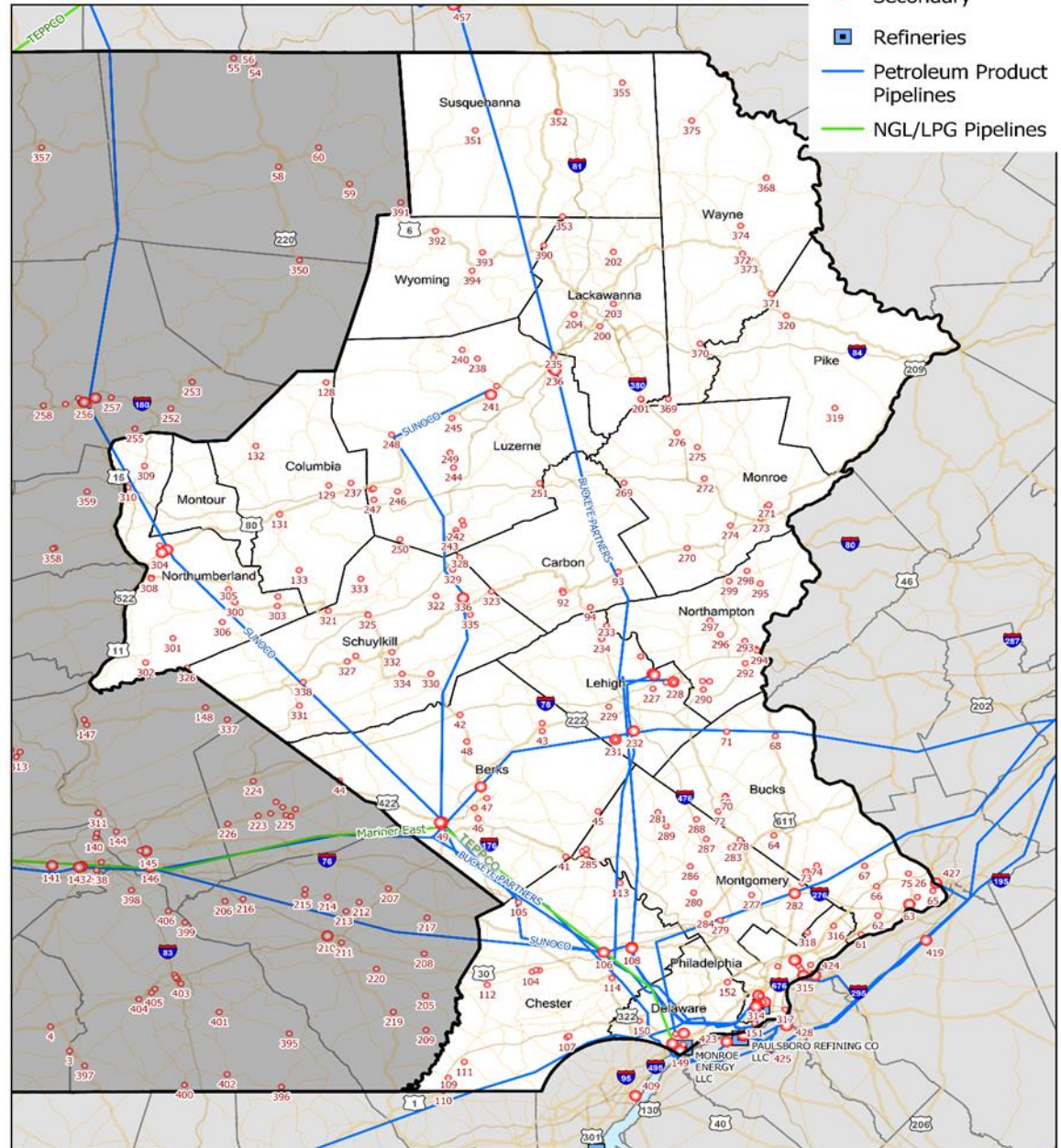
Pennsylvania Petroleum Infrastructure Map



Petroleum Infrastructure: Eastern PEMA Region

Eastern PEMA Region

- Terminal
 - Primary
 - Secondary
- Refineries
- Petroleum Product Pipelines
- NGL/LPG Pipelines

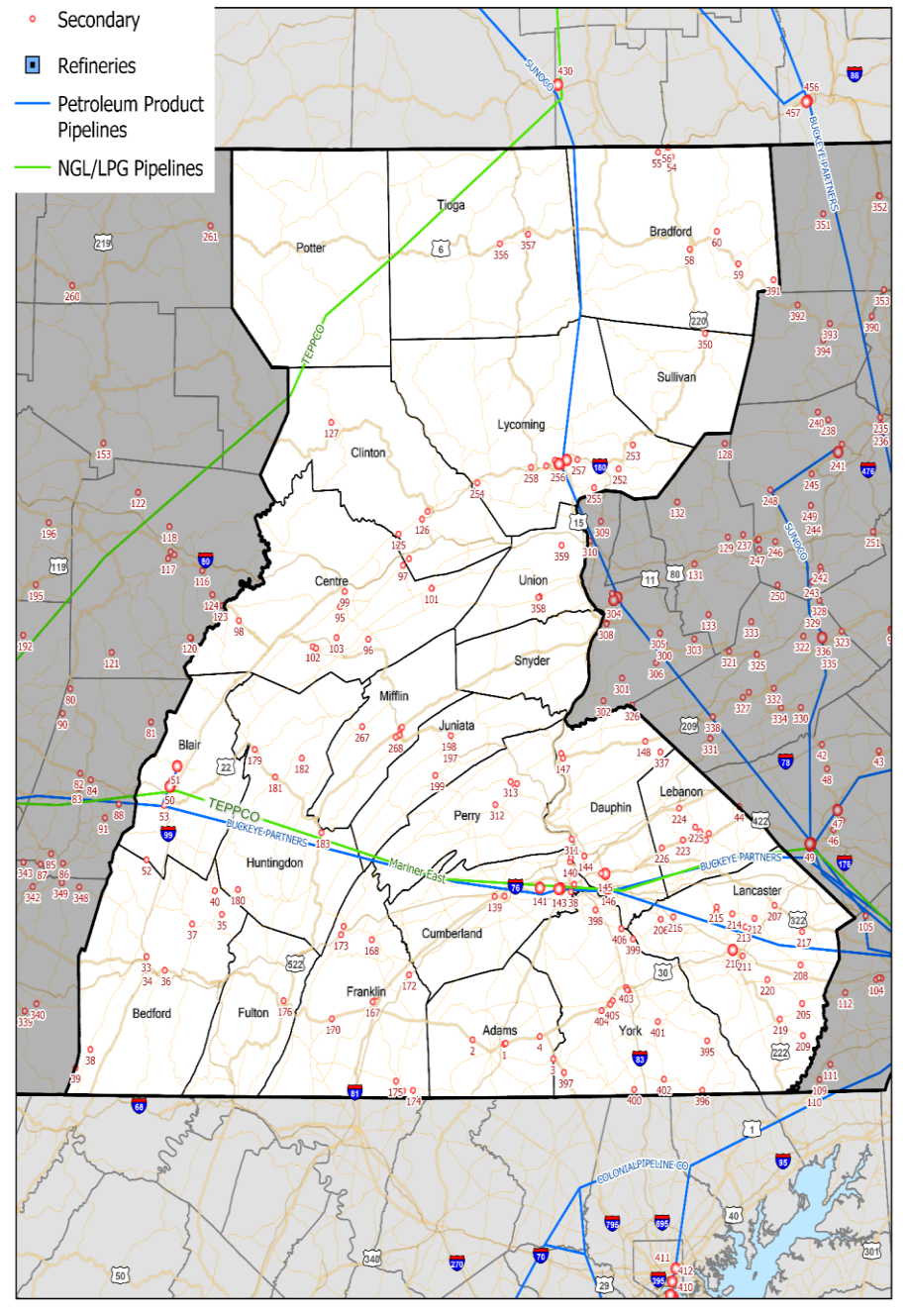


Petroleum Infrastructure: Central PEMA Region

Terminal

- Primary
- Secondary
- Refineries
- Petroleum Product Pipelines
- NGL/LPG Pipelines

Central PEMA Region

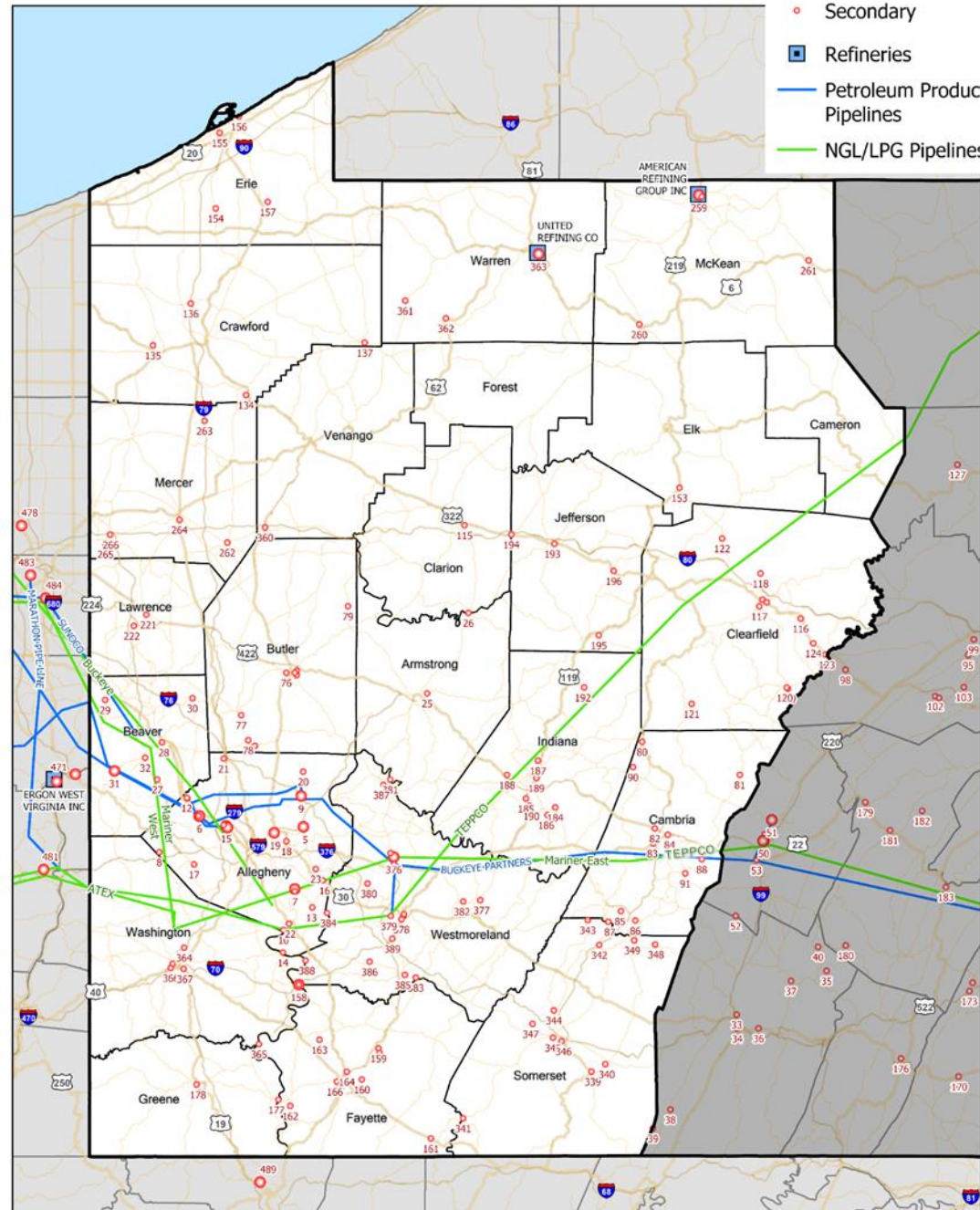


Petroleum Infrastructure: Western PEMA Region

Western PEMA Region

Terminal

- Primary
- Secondary
- Refineries
- Petroleum Product Pipelines
- NGL/LPG Pipelines



Petroleum Infrastructure Information Resources

AutoSave On Fuel Shortage Planning Template... - Saved Search

File Home Insert Draw Page Layout Formulas Data Review View Help Thomson Reuters

110

	A	B
1	FUEL SHORTAGE PLANNING TEMPLATE	
2		
3	Tab	Description
4	Critical Fuel Users	Listing of emergency responders and critical facilities requiring fuel during emergencies, including information on generators, fuel volumes needed, onsite storage and distributors.
5	Local Government Fuel Storage	Listing of storage tank capacity, average volumes and contract information at local government facilities. Additionally a listing of the fuel distributor supporting these facilities.
6	Registered Storage Tanks	Listing of facilities with gasoline, diesel, and/or heating oil storage tanks. Dataset includes facilities with aboveground tanks in excess of 250 gallons and underground storage tanks in excess of 110 gallons. Excludes aboveground storage tanks that exceed 21,000 gallons.
7	Fuel Distributors	Listing of fuel distributors that operate out of nearby petroleum terminals or other bulk storage facilities.
8	Pennsylvania Terminals	Listing of fuel terminals operating within Pennsylvania. Includes an ID to match to maps displayed on Petroleum Maps tab.
9	Out-of-State Terminals	Listing of fuel terminals operating in neighboring states. Includes an ID to match to maps displayed on Petroleum Maps tab.
10	Petroleum Maps	A series of maps that includes petroleum refineries, petroleum pipelines, and terminals in Pennsylvania and the surrounding areas.
11	Response Activity Checklist	Checklist of emergency response activities that planners may perform during a fuel disruption.

Filter these tabs

Planning Template: Identifying Local Terminals

Pennsylvania Terminals

ID	Terminal Classification	PEMA Area	PEMA Region	Owner	Facility Name	County
1	Secondary	South Central PA RTF	Central	SUBURBAN GETTYSBURG PROP LLC	SUBURBAN GETTYSBURG	Adams
1	Secondary	South Central PA RTF	Central	SNIPLEY ENERGY	GETTYSBURG BULK PLT	Adams
2	Secondary	South Central PA RTF	Central	MID ATLANTIC COOP SOLUTIONS INC	SEVEN STARS BULK PLT	Adams

Find ID number on PA maps

Filter list by PEMA region, county name, zip code, etc.



Additional columns with terminal location and contact info are included in the Template

▶ Identifying Registered Storage Tanks

Facility Information							Storage Tank Capacity (gallons) of Approved Tanks that are Designated Currently In Use		
Name	Address	City	Zip	Coun	Municipality	Diesel Fuel	Heating Oil	Gasoline	
NEW OXFORD BULK PLT	6115 YORK RD	NEW OXFORD	17350-946	Adams	Berwick Twp	52,000	-	12,000	
KENNIES MARKETPLACE 0286 8362	3463 BIGLERVILLE RD	BIGLERVILLE	17307-980	Adams	Biglerville Boro	6,000	-	16,000	
FALOONS MINI MKT	45C W HANOVER ST	GETTYSBURG	17325-772	Adams	Bonneauville Boro	-	-	24,000	
KNOUSE BIGLERVILLE PLT	53 E HANOVER ST	BIGLERVILLE	17307	Adams	Butler Twp	15,000	-	1,000	
LAWRENCE E WILKINSON	555 RENTZEL RD	GETTYSBURG	17325-753	Adams	Butler Twp	10,000	-	-	
CARROLL VALLEY BORO MUNI SVC	14 RANCH TRL	FAIRFIELD	17320-848	Adams	Carroll Valley Boro	2,000	-	-	
SKI LIBERTY	78 COUNTRY CLUB TRL	CARROLL VALLEY	17320	Adams	Carroll Valley Boro	10,000	-	1,000	
CONEWAGO ENTERPRISES	660 EDGEGROVE RD	HANOVER	17331	Adams	Conewago Twp	24,000	-	10,000	
CONEWAGO TWP MAINT BLDG	541 OXFORD AVE	HANOVER	17331-774	Adams	Conewago Twp	-	-	4,000	
HANOVER AREA REG WWTF	2000 O'BRIEN LN OFF SECC	MCSHERRYSTOWN	17344	Adams	Conewago Twp	4,000	-	1,000	
KINDIG LANE BULK PLT	100 KINDIG LN	HANOVER	17331	Adams	Conewago Twp	50,000	60,000	-	
7 ELEVEN 40450	1200 DENTRICK DR	GETTYSBURG	17325-695	Adams	Cumberland Twp	-	-	30,000	
CARL G WOERNER	1195 HERRS RIDGE RD	GETTYSBURG	17325-848	Adams	Cumberland Twp	8,000	-	-	
CUMBERLAND TWP SPVR	1370 FAIRFIELD RD	GETTYSBURG	17325-726	Adams	Cumberland Twp	3,000	-	3,000	
GETTYSBURG MUSEUM & VISITOR CTR	1195 BALTIMORE PIKE	GETTYSBURG	17325	Adams	Cumberland Twp	3,000	-	-	
PDQ FOOD MART	1064 CHAMBERSBURG RD	GETTYSBURG	17325-845	Adams	Cumberland Twp	-	-	20,000	
VALLEY QUARRIES	1575 BALTIMORE PIKE	GETTYSBURG	17325-708	Adams	Cumberland Twp	10,000	-	-	
RUTTERS FARM STORE 46	99 ABBOTTS TOWN ST	EAST BERLIN	17316-881	Adams	East Berlin Boro	12,000	-	48,000	
PA 0441 MAIN & S HIGH STREET	2 S HIGH ST	ARENDTSVILLE	17303	Adams	Franklin Twp	-	-	16,000	
SEVEN STARS BULK PLT	2025 CHAMBERSBURG RD	GETTYSBURG	17325-741	Adams	Franklin Twp	20,000	60,000	-	
MASON DIXON FARMS	1750 MASON DIXON RD	GETTYSBURG	17325	Adams	Freedom Twp	10,000	-	6,000	
ADAMS CNTY MAINT FAC	1185 FAIRFIELD RD	GETTYSBURG	17325	Adams	Gettysburg Boro	20,000	-	-	

Likely relevant storage tanks

Documenting Local Government Fuel Distributors

A	M	N	O	P
EXAMPLE Facility Information	Fuel Distributor Supplying Facility			
Agency	Distributor	Point of Contact of Distributor	Phone Number of Distributor	Notes
Adamsville Department of Public Transit	Reliant Fuel	Jessica Vasquez	XXX-XXX- XXXX	
Pennsville County Emergency Management Agency	Smith Brothers Fuel	Reginald Smith	XXX-XXX- XXXX	
United States Postal Service	Reliant Fuel	Jessica Vasquez	XXX-XXX- XXXX	

Include information on the service provided or the contract terms, as relevant

Resources for Identifying Available Fuel Resources

Use these tabs to identify distributors already supplying critical users

Use this tab to identify government stored fuel

Use this tab to find other fuel distributors that operate in the region

FUEL SHORTAGE PLANNING TEMPLATE	
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