



Initiative for Resiliency in
Energy through Vehicles



**INTEGRATING ALTERNATIVE FUEL VEHICLES INTO EMERGENCY PLANS:
A TOOLKIT FOR LANCASTER COUNTY, PENNSYLVANIA**

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Background and Purpose of the iREV Policy and Planning Toolkit

Vehicles that run on alternative fuels – such as biodiesel, electricity, natural gas, and propane – can help build system resilience by diversifying an emergency response fleet. If a storm or other emergency disrupts a state’s primary fuel supply, emergency managers should have a plan to activate fleets that run on alternative fuels to perform essential services. Integrating alternative fuel vehicles into emergency operation plans and related plans allows a jurisdiction to rely on a diversified pool of fuel resources in the event of a petroleum shortage or supply disruption.

The National Association of State Energy Officials has launched a nation-wide program – the [Initiative for Resiliency in Energy through Vehicles \(iREV\)](#) – to help integrate alternative fuel vehicles into emergency operation plans. iREV has developed a series of reports that outline the benefits of alternative fuel vehicles, highlight ways that these fuels have helped states and communities during emergencies, and recommend actions that states and localities can take to integrate alternative fuel vehicles into future emergency plans. Four “case studies” provide basic information on [biodiesel](#), [electric](#), [natural gas](#), and [propane](#) vehicles for emergency planners and provide key context for why alternative fuels should be considered during the emergency planning process, and used during emergencies. A subsequent “[Baseline Assessment](#)” reviews the current status of alternative fuel vehicles in state and local emergency plans, and recommends ways that states may include alternative fuel vehicles in future plans.

iREV’s Alternative Fuel Vehicle and Infrastructure Tracking Tool helps emergency planning entities understand the various alternative fuel vehicle and infrastructure assets and options at their disposal, and optimize planning and investment based on their specific fuel supply, geography, and risk-profile. This “[iREV-Tracking Tool](#)” combines data from the Alternative Fuels Data Center, on-the-ground fleet and infrastructure information relayed through Clean Cities Coalitions, and disaster readiness tools being used at the national level to support critical infrastructure and homeland security.

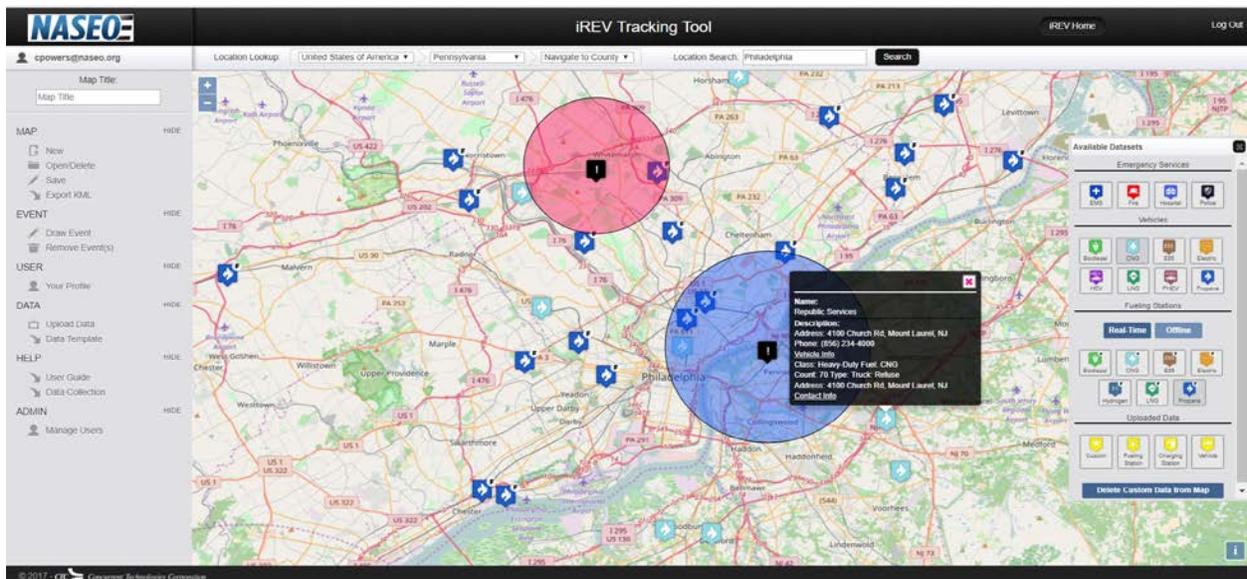


Figure 1: iREV Tracking Tool sample

NASEO has worked with several jurisdictions across the United States to develop Policy and Planning Toolkits that integrate lessons from the above research and provide guidance on ways that communities can incorporate alternative fuel vehicles into their emergency operation plans. Lancaster County, Pennsylvania was selected as a “pilot” community, and NASEO has been working with the Lancaster County Emergency Management Agency and the Eastern Pennsylvania Alliance for Clean Transportation to review local and state emergency operations plans, assess petroleum vulnerabilities and threats to the county, collect data on alternative fuel vehicle and infrastructure locations within the county, and develop recommendations for ways that Lancaster County can integrate alternative fuel vehicles into future emergency plans and support the deployment of alternative fuels generally. This Toolkit summarizes NASEO’s findings and provides guidance for Lancaster County.

The Jurisdiction

Lancaster County, located in the south-central area of the Commonwealth of Pennsylvania, has an estimated population of 530,000 people (based on 2016 data). It is 964 square miles in area and has 60 different municipalities including 18 boroughs, one city and 41 townships. The County is rural in character with some suburban areas, particularly around the City of Lancaster, which is the largest population center with approximately 60,000 residents. The County is comprised of 17 independent school districts and served by 70 fire companies, 34 police departments and 17 Emergency Medical Service (EMS) organizations. The County is governed by 3 Commissioners elected to 4-year terms. An appointed Chief Clerk serves as manager of the 28 departments in County Government.

Lancaster County is the second most flood-prone county in the Commonwealth. It averages one tornado every two years – usually an F-2 or less. The County has, on average, one blizzard every three years and has had six minor earthquakes/tremors with no damage since 1985. (A study conducted by Millersville University found that the County has a 2 percent chance of having a major earthquake in the next 50 years.) There have been five drought emergencies since 1990, and a large storm within the last 10 years resulted in loss of electric power for a week. Uniquely, Lancaster County is one of only five counties in the nation located within ten miles of two nuclear power plants.

Emergency Planning in Lancaster County

The Lancaster County Emergency Management Agency (LEMA), located in Manheim, is responsible for emergency planning for the County. LEMA currently consists of an Emergency Management Coordinator and six full time employees. LEMA (formerly Civil Defense) was created in 1950 with the primary responsibility to plan and prepare for nuclear attack. When the Federal Emergency Management Agency (FEMA) was created in 1979, five federal agencies that were dealing with several types of emergencies were consolidated and many state and local organizations, including Lancaster County, changed to a centralized emergency management structure. By state law, each municipality is required to have an emergency management organization (usually volunteer) reporting to LEMA.

LEMA takes an all-hazards approach to emergency preparedness including attack, natural, and technological threats. LEMA maintains emergency plans for facilities that use or produce hazardous materials, as well as plans for dam failures, flooding, nuclear facilities, and several other types of man-made or natural disasters. The office’s primary responsibility is to provide support and coordination to

local municipalities and all emergency service organizations such as fire, police, and emergency medical services during large and small incidents and events as needed. As part of its mission, LEMA also works with various partner organizations including the Volunteer Organizations Active in Disasters, County Animal Response Team, Medical Reserve Corp, Volunteer Hazardous Materials Response Team, the Red Cross, and the Salvation Army. In addition to LEMA's role, each of the 27 departments that comprise Lancaster County government is required to maintain a Continuity of Operations Plan.

Lancaster County's Emergency Operations Plan (EOP) details emergency response procedures and serves as an emergency management link between local municipalities and state government. The EOP incorporates the federal organizational concepts of the National Response Framework and employs the National Incident Management System which includes incident command structures that local emergency responders use at the scene of emergencies, and other structures to be used at the County's Emergency Operations Center if required. The EOP employs the functional, all-hazards approach that manages the assistance that the County is likely to need or provide by defining 15 Emergency Support Functions (ESFs). The ESFs are the same as those used by Pennsylvania Emergency Management Agency (PEMA) and Federal Emergency Management Agency (FEMA).

The EOP is divided into four sections, all published individually, and follows the format recommended by PEMA. Section I is the *Basic Plan* which describes procedures and principles for organizing emergency response throughout the County. It contains overarching structures and assigns responsibilities to various organizations. The Basic Plan (last updated in 2014) briefly describes responsibilities to be carried out for the Prevention and Preparedness Phases and the Response and Recovery Phases for each of the 15 ESFs. Appendices provide additional information (definitions, explanation of terms, maps, etc.) that are helpful during emergency response.

Section II comprises the *ESF Annexes* which include a separate write-up with more details for each of the 15 ESFs. ESF #12 – Energy, under the direction of LEMA, requires collaboration with the utility and energy industries to facilitate a coordinated restoration of electric, gas, and commodity fuels, as well as energy delivery systems in affected areas. ESF #12 includes the scope of potential emergency operations including the allocation of fuel resources and location of supplemental energy sources, if needed. Support Agencies are listed and include: County Purchasing Departments; Pennsylvania State Agriculture Services; Transportation Providers; and Utility and Energy Companies.

Section III includes *Functional Checklists* for specific tasks to be carried out by the principal coordinator assigned to the Emergency Operations Center for each of the ESFs. The *ESF #12 Checklist* includes several tasks designed to assure, among other things, that adequate supplies of fuel and other commodities are allocated for emergency response, and that incident information and status of activities are provided to energy providers in affected areas and to the public.

Section IV is a *Notification and Resource Manual* that contains a listing of resources, facilities, personnel, equipment, and supplies that are available to the County, along with contact information that will be needed to procure that resource for use during an emergency. It also contains the names of persons and facilities that require special notifications.

In addition to the EOP, LEMA also issues Radiological Emergency Response Procedures for Incidents at

Nuclear Power Plants. The purpose is to establish the procedures and organization of Lancaster County, including public and private organizations, which are used to prepare for and respond to incidents at the nuclear reactors located at the Peach Bottom Atomic Power Station or Three Mile Island Nuclear Generating Station. If an emergency occurs, the Governor may issue an order to evacuate residents and transients within the plume exposure pathway Emergency Planning Zone (EPZ), which is a 10 mile area, 360 degrees of the plant.

The County is required to have procedures in place to evacuate people within the EPZ within 7 hours on a sunny day and 8 ½ hours in inclement weather. The majority of people would be expected to use their own vehicles to move outside of the affected areas. School buses would be used to move students to host schools outside of the EPZ. Other buses would be deployed to move people without transportation options. Ambulances, buses and other vehicles would be made available for non-ambulatory, critically ill hospital patients and other special cases. The County conducts weekly communication drills with the nuclear plants and an annual full scale federally evaluated exercise to assure that appropriate procedures are in place to deal with this type of emergency.

Petroleum Vulnerabilities

The primary petroleum assets in Pennsylvania are petroleum production, refining, inter- and intrastate transmission pipelines, over-the-road delivery systems, and storage. While noticeable disruptions are rare due to robust markets, large finished product reserves do not exist; therefore, energy system outages can have large and immediate system wide effects. In fact, a major disruption of any one key energy system resource may have a cascading effect, causing multiple system failures and the potential need for emergency response by local, state, and federal governments. Initial impacts such as weather events, system failures, or human-caused disruptions, including sabotage, accidents, economic reactions, and political decisions, may combine to cause widespread shortages and energy system failure.

In general, petroleum products in Lancaster County are delivered to centralized fueling facilities and public gas stations via trucks operated by energy delivery companies. These local distributors receive product from storage terminals served by underground pipelines from refineries in the Eastern part of the State. While efforts are underway to further develop the capacity to ship other energy products through pipelines from the Western part of the state, the majority of petroleum entering the county is sourced from these eastern refineries.

The majority of Lancaster County's E-85 (85 percent ethanol, 15 percent gasoline) and biodiesel, as well as gasoline and diesel fuel, is sourced from terminals owned by Buckeye Energy Services located at Sinking Springs and Sun Montello in nearby Dauphin County and Highspire located in neighboring Berks County. Biodiesel and E-85 are either trucked in or arrive by rail and the gasoline and diesel arrive via the Laurel Pipeline which originates near Philadelphia. This pipeline can accept product from local refineries and ships and has a connection to the Colonial pipeline which moves product north from the Gulf coast.

Petroleum availability within the county could be disrupted due to shut-down of the refineries or other breakdowns in the distribution channel caused by weather or other factors. Flooding in the area could

make it difficult for trucks to deliver fuel. While storage of products is robust enough to cover short-term needs, a long-term disruption could impact the availability of fuel for critical transportation functions and the general public.

Shortages of petroleum (gasoline and diesel fuel) could also occur if there is an incident at one of the two nuclear power plants necessitating an evacuation of people within the EPZs. A greater than normal draw on the available fuel supply might occur as people and businesses fill up their vehicles as they prepare to leave the area. Energy companies may not be able to deploy trucks to deliver additional fuel in those areas due to the potential for exposure. Critical transportation functions such as the use of school buses to take children to pre-determined drop off points outside the EPZ may experience fuel shortages in these circumstances.

Additionally, emergencies that result in an influx of people from the East Coast, which is susceptible to damaging storms, may result in a depletion of petroleum resources.

Recommendations

A diversified fuel supply with vehicles capable of running on alternative fuels such as compressed natural gas (CNG), liquefied petroleum gas (propane), biofuels (biodiesel and ethanol) and electricity could mitigate the vulnerability to fuel shortages. Following are recommendations that emergency managers in Lancaster County could consider as part of planning and response to emergencies, and for inclusion in future updates of the County's EOP.

Emergency Support Function (ESF#12)

Emergency Support Function #12 of Lancaster County's Basic EOP calls for the maintenance of a list of energy and utility assets within the County. Petroleum products and alternative fuels are vital energy assets on which citizens, businesses and organizations rely, including the government and non-government agencies that provide important public safety and emergency services. As part of this function, **LEMA should establish and maintain contacts with the petroleum companies and alternative fuel companies that operate storage facilities, terminals and/or fuel delivery services that serve the County, and develop protocols for the companies to notify LEMA staff if disruption in distribution is anticipated due to weather, problems with infrastructure, or other matters.** Having this information in a timely manner will allow LEMA to work with the companies to possibly shift resources among storage facilities or delivery routes if needed to deal with short-term demand. Appendix A is a list of the companies that store and distribute E-85 ethanol, biodiesel, and propane in Lancaster County. LEMA should expand this list to include all companies that deliver petroleum products for vehicular use.

Current Alternative Fuel Vehicles and Fueling Facilities

Alternative fuel vehicles and fueling facilities are assets that could be called upon in the event of a petroleum shortage. As such, it is important to understand where those assets are located and how to contact the people responsible for their operation. The iREV Tracking Tool (Tool) was developed to provide emergency managers and others with an easy-to-use location reference that can be incorporated into the jurisdiction's emergency planning regime. The Tool is an online resource that

shows the location of alternative fuel dispensing facilities, using data from the Alternative Fueling Station Locator maintained on behalf of the U.S. Department of Energy by the Alternative Fuels Data Center (www.afdc.energy.gov). Dispensing facilities for compressed natural gas, propane, E-85 and electric vehicle charging stations are included.

The Tool also includes information on the location of alternative fuel storage facilities and location and composition of alternative fuel vehicle fleets. Appendix B is a screen shot of the Tool for Lancaster County which, in addition to showing locations of fueling facilities, identifies six alternative fuel vehicle fleets that may be more easily deployed in the event of a petroleum shortage than conventionally-fueled vehicles. LEMA staff should be trained on use of the online Tool and how to locate the information needed to update the Tool in the future.

Alternative Fuel Facilities

- Two CNG fueling facilities are located in Lancaster County. The Lancaster County Solid Waste Management Authority operates a CNG fast-fill facility at their 1200 Harrisburg Pike location in Lancaster. A second CNG facility is operated by Martindale Autogas at 251 Commerce Drive in New Holland. Both facilities dispense CNG at 3600 PSI and can accommodate all vehicle sizes and classes.
- Six propane stations are identified on the map: a U-Haul station at 5456 Main Street in Lancaster; WoGo stations at 202 Greenfield Road, Lancaster and 1634 West Main Street in Ephrata; Molly's Convenience Store at 35 Doe Run Road, Manheim; Ferrelgas at 13 Doe Run Road, Mainheim; and the Martinsdale Autogas facility in New Holland.
- The map identifies the three stations in the County that dispense E85 ethanol: Pacific Pride stations in Lititz and Mt. Joy; and Sheetz Store #478 in Ephrata.
- Fourteen electric charging stations are located within the County at various locations, including two DC fast charge facilities.
- While not represented on the map, both Martindale Autogas and Worley & Obetz operate "wet hose" trucks capable of dispensing fuel into vehicles wherever they are located.

Alternative Fuel Fleets

- Lancaster County Solid Waste Municipal Authority operates a fleet of 16 CNG-powered refuse vehicles and two CNG Honda civics.
- 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.
- Rhoads Energy operates 16 vans and pick-up trucks that run on propane.
- Martinsdale Autogas operates 5 pick-up trucks and 3 bobtail trucks that run on CNG.
- Worley & Obetz operates 16 light-duty propane vans, trucks and SUVs.

It is important to identify the capabilities that the current alternative fuel vehicles could provide in the event of a shortage in petroleum. **LEMA should convene the fleet managers of the alternative fuel fleets to discuss how their vehicles and fueling facilities could be used during an emergency.** The goal would be to establish a protocol to be followed if and when the vehicles or fueling assets could be called into service. The results of this activity should be incorporated by reference in the ESF #12 Annex.

Examples of how the current alternative fuel vehicles might be used include:

- The fleet of CNG trucks operated by the LCSWMD could be deployed to remove debris and cart materials.
- Light-duty CNG vehicles operated by the City of Lancaster can be used for various emergency services as needed.
- The propane school buses from Hempfield School District can be used to transport people out of the emergency area as well as deliver goods and personnel into those areas.
- The propane and CNG vehicles operated by the private energy companies could be used for various rescue and relief efforts.

Emergency Back-Up Generators

Gas stations and other fueling facilities rely on electricity to operate fuel pumping and dispensing equipment. If the power goes out due to an emergency or problem in the electric delivery system, these facilities are unable to provide fuel to their customers. Backup power generators, which are available as either diesel-operated or natural gas-operated, are an increasingly common solution to this problem. Gas stations and alternative fueling facilities can invest in the units and on-site fuel storage to operate the units, or install the wiring necessary to connect to a back-up generator that could be delivered to the site through a pre-arranged agreement with a company that provides delivery service. These emergency back-up generators are additional energy assets that should be identified in the EOP.

Initial research has shown that most fueling locations in Lancaster County do not have emergency back-up generators, but do have the capability to connect with back-up power supply. This includes all the petroleum service stations and the alternative fueling stations.

LEMA should work with local petroleum suppliers and groups such as the Pennsylvania Petroleum Marketers & Convenience Store Association to encourage installation of back-up generators that serve gasoline, diesel and alternative fuel stations. Such installations should be integrated into LEMA's inventory of energy assets and added to the iREV-Tracking tool for use in emergency situations.¹ In the event of a long-term power outage, this information could be made available to the public through the county's public notification processes.

Encourage New Uses of Alternative Fuels

Having additional alternative fuel vehicles operating within the county beyond those already identified would provide greater resiliency benefits in the event of an emergency. For example, as noted above, the Radiological Emergency Response Procedures require school districts within the EPZ to coordinate

¹ Pennsylvania Petroleum Association. <http://www.ppmcsa.org>

the availability of school buses for transportation in the event evacuation becomes necessary. These school districts will be called upon to move students to pre-determined host sites outside of the EPZ. A diversity of fuel options for a portion of the school buses would mitigate the potential for shortages of petroleum diesel which may occur due to a mass evacuation.

Propane is prevalent throughout Lancaster County and would be a good alternative fuel source for school buses. Pennsylvania is ranked 3rd in the nation for school buses running on propane, with more than 300 on the road. Thousands of school buses throughout the country now run on propane, which provides both cost-saving and energy security benefits. Building on the success of the Hempfield School District, other districts and organizations that operate buses may be good candidates to convert a portion of their fleet to propane. A list of districts and organizations in Lancaster County and the number of buses in their fleet are shown in Appendix C.

Fleets that provide emergency support, public safety and critical transportation functions are also good candidates for alternative fuels. Examples include local transit and para-transit buses, ambulances, police cars, fire trucks, and light and heavy duty trucks used for road maintenance and repair and for garbage and debris removal. Appendix D is a list of the EMS, police and fire department vehicles operated by various municipalities in Lancaster County.

Efforts should be taken to educate public and private sector fleet managers on the resiliency and cost benefits of converting vehicles to run on alternative fuels or purchasing new alternative fuel vehicles to replace petroleum-fueled vehicles in their fleets. For example, certain medium and heavy duty vehicles may be good candidates for CNG, particularly those with access to existing or planned fueling facilities. As noted above, propane is a viable alternative for certain light- and medium-duty vehicle applications. Biodiesel is another cost-effective option for diesel fleets. The most common blend is B20 (20 percent biodiesel, 80 percent petroleum diesel), but the percentage of biodiesel can be increased in the event that petroleum diesel is in short supply. Electric vehicles are growing in popularity and may be a viable option for certain fleets which operate in a manner compatible with that technology. Fleet managers should be referred to the Pennsylvania Department of Environmental Protection's (PA DEP) Alternative Fuels Incentive Grant (AFIG) website for more information². This program provides up to 50 percent of the incremental cost of the alternative fuel system on most vehicles and, in some cases, can be used for fueling infrastructure.

Join Clean Cities Organization

LEMA should join the Eastern Pennsylvania Alliance for Clean Transportation (EP-ACT) through which emergency management staff and fleet managers can learn more about alternative fuel vehicles and receive assistance to identify fleets that would be good candidates. EP-ACT is one of 90 organizations around the country that are part of the U.S. Department of Energy's Clean Cities Program, which has a mission to reduce petroleum in the transportation sector through use of alternative fuels, vehicle efficiency technologies, and demand management measures. EP-ACT's staff conducts training and

² Details of the AFIG program can be found at:
<http://www.dep.pa.gov/citizens/grantsloansrebates/alternative-fuels-incentive-grant/pages/default.aspx>

provides information and application assistance for funding opportunities issued by PA DEP and other state and federal agencies.³

Coordinate with Regional Planning Organization

LEMA is part of the South Central Task Force, an eight-county collaboration that provides a comprehensive and sustainable all-hazards emergency preparedness program that addresses planning, prevention, response and recovery for events in that region. Membership in the Task Force is open to public and private sector individuals, agencies, and organizations with an emergency preparedness mission. The Task Force works through sub-committees and working groups that address specific topics and is supported by a group of subject matter experts/program managers. Using Lancaster County as a model, the Task Force could play a technical transfer role for its members regarding the opportunity to incorporate alternative fuel vehicles in the emergency plans of the other municipalities in the region.

The Business, Industry and Infrastructure sub-committee, one of 10 standing subcommittees, is comprised of 850 emergency responders, safety and security directors from businesses, energy companies, and other organizations that represent critical infrastructure assets. This subcommittee discusses disaster-preparedness and works out resource sharing and mutual-aid arrangements that would be employed in the event of an emergency. Working with EP-ACT, **this subcommittee could serve as a conduit to advise its members on the benefits of alternative fuel vehicles in an emergency, conduct information-sharing sessions, and provide training on the subject including how to apply the iREV Tracking Tool in other jurisdictions. The Subcommittee could also work with regional businesses to identify alternative fuel vehicles and alternative fuel supplies which can be used in emergencies. In addition, they could develop a protocol for issues such as stocking and distribution of emergency back-up generators and re-deployment of fuel deliveries to deal with short or long term fuel shortages.**

Coordinate with State-level ESF 12 and Energy Assurance Planning

LEMA should become familiar with the staff and resources housed at the Pennsylvania Department of Environmental Protection's (DEP) Office of Pollution Prevention and Energy Assistance. DEP has primary responsibility for administering and updating the state-level Energy Assurance Plan (ENAP), which incorporates the State's ESF #12 function, in coordination with PEMA and other state agencies. The purpose of the ENAP is to facilitate energy emergency preparedness and planning to create a rapid response for recovery from disasters, including a Governor's "Declaration of Disaster Emergency" that is caused by the disruption or shortage of energy supplies. The ENAP outlines when government involvement is warranted, the State's responsibilities during an energy emergency, and the coordination of local, federal and state resources, when required.

As described in the ENAP, DEP is the primary agency responsible for providing information to PEMA relative to the restoration of energy supplies of all types in Pennsylvania during an emergency. They also

³ Tony Bandiero, Executive Director, is the primary point of contact for EP-ACT and will follow-up with LEMA staff to discuss future participation. (For more information on EP-ACT, visit www.ep-act.org.)

will determine the steps for a petroleum shortage response plan and advise PEMA in the event that an emergency is declared.

To assist with planning for a potential shortage of petroleum, in 2016 DEP undertook a project to update key business contacts who have knowledge of the supply and distribution of all fuel types used in Pennsylvania, with a specific focus on liquid fuel suppliers and infrastructure. An interactive website was developed to house a contact database of suppliers and distributors including their designated emergency contacts. **LEMA should coordinate with PA DEP to develop a list of energy assets and contacts that serve its area.**

In addition, a survey of county Emergency Management Agencies was conducted to gauge the knowledge of liquid fuel supply and demand throughout the State. The results of this survey will be used to promote liquid fuel awareness in the future and provide a more streamlined process for accessing liquid fuel in a potential emergency. **LEMA did not participate in the first round of this project, but should consider doing so when DEP administers the survey in the future.** Such participation will help the County assess its assets and better prepare for an emergency, while helping the State collect vital information that can be used more broadly for state-wide planning.

Modifications to Emergency Planning Documents

Following are suggested modifications to LEMA's planning documents in line with the recommendations in this Policy and Planning Toolkit (suggested language is in *italics*).

Emergency Operations Plan (Section I: Basic Plan)

- Modify Section IV (S)(1)(c) and Section IV (S)(2)(b) as follows: Maintain a list of energy and utility assets within the County *including petroleum storage and distribution sites, alternative fuel dispensing facilities, and alternative fuel vehicles that could be deployed in the event of an emergency.*
- Modify Section IV (S) (2) by adding a new item as follows: *Assess need to call upon alternative fuel vehicles to provide critical functions if petroleum distribution is disrupted.*

Emergency Support Function #12 Annex – Energy

- Modify Section II (A) (Situation and Assumptions) by adding *diesel and biofuels (ethanol and biodiesel)* to the list of utility and energy resources.

Energy (ESF #12) Coordinator Checklist

- Modify the following item in the Notification category: Reviewed maps of pipelines, electrical power grids, power substations, pumping stations, hydroelectric facilities, *petroleum and alternative fuel storage and dispensing facilities including electric vehicle charging stations, and alternative fuel vehicle fleet locations.*
- Add the following new items to the Operations category:

- *Monitored petroleum storage and distribution capacity at terminals and fueling sites in order to determine if supplies will be adequate to meet demand*
- *Contacted fuel providers to request re-deployment of fuel sources if needed*
- *Assessed need to call upon alternative fuel vehicle fleets and/or fuel providers to provide critical transportation services in the event that petroleum supplies are disrupted*
- *Provided information on which gas stations and other fueling facilities have installed emergency back-up generators in the event of a long term power outage.*

Conclusion

Lancaster County has a good foundation of alternative fuel assets that could potentially be called upon to address emergencies that result in disruption in the supply of petroleum. By modifying its plans and procedures to recognize the role that alternative fuel vehicles could play, LEMA will be better prepared to take advantage of this opportunity. Further expansion of usage of alternative fuels by public and private fleets in the County will help make the County more resilient.

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