

Purpose

The purpose of this part of the plan is to guide the development and action of an energy response procedure within the U.S. Virgin Islands in order to foster mechanisms by which to cope and recover during times of energy supply disruptions, especially to Territory priority sectors, to the emergency services and to the general public. For general emergencies that are not energy specific, the *U.S. Virgin Islands Emergency Operations Plan* details the response of each agency. Reference should be made to this document for explicit information in a non-energy crisis.

Use of the Operational Section

This part of the plan is considered a functional or operational handbook. As such, it is divided into two main sub-parts, each of which is appropriate, depending upon the severity of the emergency. The two sub-parts consist of Preparatory Emergency Measures and Energy Emergency Measures:

The operational plan is formatted with unnumbered pages to facilitate updates to the operational plan as often as may be necessary to reflect the Territorial contingency plan for emergencies. As plans are further developed, superseded pages may be removed and replaced without disturbing the document. Asterisks denote that specific roles are yet to be defined.

Additionally, Appendix A reflects a listing of agency responsibilities for each measure followed by Appendix B which designates lead and support roles for each agency.

Preparatory Emergency Measures are appropriate to be adopted during times of no emergency. These measures essentially correspond to voluntary demand restraint measures. The effects of a disruption will almost certainly be perceived as less severe if the general public is conservative in their consumption habits, and it is appropriate that this moderation be encouraged as a matter of public policy. These measures include the following:

- PEM-1 Public Information Program
- PEM-2 Database of Energy Related Information
- PEM-3 Building Pre-Emergency Measure
- PEM-4 Infrastructure Reliability Improvements
- PEM-5 Water Demand Reduction-Voluntary Mode
- PEM-6 Renewable Water Purification Methods
- PEM-7 Minimum Acceptable Inventory Level-Voluntary Mode
- PEM-8 Inventory Fuel (Gasoline) Sources
- PEM-9 Inventory Fuel (Oil) Sources
- PEM-10 Allocation of Reduced Supply Volume-Voluntary Mode
- PEM-11 Hot Water Setback-Voluntary Mode
- PEM-12 Building Temperature Adjustments-Voluntary Mode
- PEM-13 Service Reductions-Voluntary Mode
- PEM-14 Designate Park and Ride Areas
- PEM-15 Government Van Pool Measure
- PEM-16 Secure Generators and Backup Power
- PEM-17 Oil Spill Mitigation
- PEM-18 Specific Agency Energy Plans
- PEM-19 Energy Storage Reserves
- PEM-20 Inventory of Priority and Fuel Needs
- PEM-21 Alternative Fuel Supply From Non-VI Sources
- PEM-22 Permanent Waiver of the Defense Production Act

Levels of Energy Emergencies and Emergency Responses

Different degrees of emergency responses are appropriate, depending upon the severity of the emergency. In the absence of an emergency, preparatory measures are taken to assure readiness in the event of an emergency. These measures are essentially demand restraint measures. With public policy efforts of this type in place, the effects of disruption will be less dramatic to moderate consumers.

The sequence of events in anticipation of an energy emergency follows:

- A. When the forecast of short-term demand exceeds supply and such shortages pose danger to public health, safety and welfare, an energy emergency declaration may be warranted.
- B. If the Governor concludes an energy emergency exists, or may soon exist, which warrants Territorial action, he directs VIEO to convene the appropriate Energy Management Team to review the situation and make recommendations.
- C. Once an emergency is declared, the appropriate Energy Management Team will continue to monitor the situation and make recommendations to the Governor. They will choose from among voluntary or mandatory measures which may be used alone or in combination.
- D. Responses will be specific to three levels of shortages determined by reference to various indicators.
 - Level 1- Disruption or Shortage Alert. Prior to major impact: shortage <5% of base supply.
 - Level 2- Slight-to-Moderate. Spot shortages, gas lines: 5%-10% shortage.
 - Level 3- Moderate-to-Severe. Long gas lines, reduced retail sales, decreased revenues in auto-dependent businesses and tourism: Other social and economic disruptions: Shortage >10%.
- E. The declaration of an energy emergency will automatically trigger public information and energy conservation measures (in government) which will, in turn, trigger voluntary implementation of conservation by the private sector and the general public.

The Federal government has classified the three Levels of Energy Emergencies which are characterized by the conditions of the energy supply and economic situation. These levels of energy emergencies include the following: Level I: Disruption or Shortage Alert; Level II: Moderate Shortage (including the Slight to Moderate Shortage and the Severe End of the Moderate Level Shortage); and Level III: Moderate to Severe Shortage. These levels are further detailed below. The Virgin Islands Energy Office (VIEO) continually monitors energy supplies and economic conditions and may advise the Governor, based upon their survey of conditions, that a declaration of emergency is appropriate. Once the emergency has been declared, the emergency measures to mitigate the effects of the disruptions may be invoked.

As the conditions of Moderate Shortage develop, VIEO will prepare to execute the following procedure in the event the energy emergency is declared a Level II: Slight to Moderate Shortage. The procedure is detailed as follows:

1. Formalize and confirm communications network iterated under Disruption or Shortage Alert;
2. Meet with Governor's Office spokesperson to detail explanatory material;
3. Reconfirm protocol developed prior to the Disruption or Shortage Alert regarding information sources;
4. Meet with Territory petroleum representatives and other relevant private sector representatives to exchange information;
5. Augment the monitoring effort to confirm supply/delivery situation with prime suppliers on a daily basis;
6. Have approved energy emergency material duplicated for dissemination;
7. Assemble the appropriate Emergency Management Teams to coordinate response and to determine which energy emergency measures should be invoked and
8. Keep U.S. DOE Office of Energy Emergencies informed of development.

Level II: Moderate Shortage (Severe Level)

The conditions indicating the Severe Level of a Moderate Shortage might include:

1. A localized natural disaster;
2. A reduction in refined product delivery of approximately 5% with no alternate supply readily available;
3. A major equipment failure at any fuel plant in the Territory with no alternate supply readily available;
4. Continuous lines and/or curtailed hours at gasoline service stations;
5. Jobbers at less than five percent of normal base period allocation, seasonally adjusted;
6. Widespread and panic-inducing national and/or local news reports;
7. A significant level of public inquiry regarding the inability to obtain fuel, water or power and
8. Price spikes.

As the Moderate Level Shortage worsens to the Severe Level, the Virgin Islands Energy Office will continue to execute the appropriate energy emergency measures and the following additional procedures:

1. Assemble the applicable Energy Emergency Management Team and present a listing of specific actions to recommend to the Governor;
2. Cancel all employee leave and have staff on call to respond to problems;
3. Review all emergency procedure with VIEO staff;
4. Request implementation of emergency staff and budget if the level of crisis is beyond VIEO staff capabilities;
5. Coordinate with DOE OEE regarding national actions and assistance and
6. Reconfirm contacts with neighboring islands.

Level III: Moderate to Severe Shortage

This condition is characterized by blackouts, water shortages, frequent, long lines at retail gas stations, reduced retail sales, increased absenteeism at work and/or substantially decreased revenues in transportation-dependent businesses and industries (including tourism), possible curtailments of essential goods and services and other serious economic and social disruptions. It is further defined as a shortage of greater than ten percent of base period supply.

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- PEM-6 Renewable Water Purification Methods
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- PEM-8 Inventory Fuel (Gasoline) Sources
- PEM-9 Inventory Fuel (Oil) Sources
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* On the following pages, asterisks reflect that the specific agency or role will be determined at a later date.

PREPARATORY EMERGENCY MEASURES

PEM-1

PEM-1: Public Information Program

Objective: Present to the public well-organized, clear, concise information critical to their roles and functions in an energy emergency

Lead Agency: Virgin Islands Energy Office

- Role:**
- Prepare a camera-ready brochure to be produced in the event of an energy emergency to include proper driving techniques, frequent tune-ups, tire pressure maintenance, and use of radial tires
 - Prepare a brochure outlining preparatory emergency measures that each family and business should undertake
 - Prepare video tapes appropriate for television distribution to help citizens cope with an energy emergency. These tapes will outline various aspects of conservation, safety and other such topics appropriate in an energy emergency
 - Prepare materials for schools, media and other organizations
 - Coordinate with the Governor's Public Relation's Office to ensure that all public relations efforts are coordinated
 - Establish a 24 hour information center
 - Acquire feedback through street response mechanism
 - Increase communication between government and private sector

**Support
Agencies
and Roles:**

Office of the Governor

- Become familiar with the terms relevant to an energy emergency and with the "canned" material that has been prepared

Virgin Islands Territorial Emergency Management Agency

- Establish public awareness programs utilizing various media
- Maintain repeater sites for radio and equipment
- Equip personnel with radio/relays for field work

PREPARATORY EMERGENCY MEASURES

PEM-1(2)

Ad Hoc Committee*

Department of Education*

Department of Property and Procurement (Office of Transportation)

- Special driver training courses offered for owners of vehicle fleets
- Organize meetings where fleet managers exchange information on conservation methods they have found to be effective

Media*

Public Relations*

Virgin Islands Telephone Company

- Design and implement underground telephone system

All Agencies*

Private Sector*

PREPARATORY EMERGENCY MEASURES

PEM-2

PEM-2: Database of Energy Related Information

Objective: Create a database of information relating to energy prices, supply and demand to determine trends and possible effects of an energy emergency

Lead Agency: Virgin Island Energy Office

- Role:**
- Strengthen ties with private sector
 - Maintain phone numbers of contracts both on and off the islands for resources
 - Maintain current information in files
 - Monitor oil price fluctuations and impact on economy; report to the Department of Consumer Affairs and the Governor
 - Make surveys of industries, resources, and facilities within the Territory, both public and private, which may be useful

**Support
Agencies
and Roles:**

Department of Licensing and Consumer Affairs

- Monitor prices and inventories of goods related to the energy emergency

Department of Planning and Natural Resources

- Develop digitized maps for the development of a Geographical Information System for the efficient and effective management of high risk areas and land use
- Identify sites that include:
 - Severe flood areas and drainage ways
 - Suitability for relocation of structures away from flood planes
 - Suitability for relocation of public facilities from hazard prone areas
- Implement conditional use permits to eliminate spot zoning and incompatible land uses

PREPARATORY EMERGENCY MEASURES

PEM-2(2)

Agency(ies) To Be Defined*

- Contribute information to the database

PREPARATORY EMERGENCY MEASURES

PEM-3

PEM-3: Building Pre-Emergency Measures

Objective: Mitigate the effects of an emergency through sound building design

Lead Agency: Department of Planning and Natural Resources

- Role:**
- Ensures strong building code and compliance with code through permit and inspections process
 - Training and dissemination of information through leaflets of building construction to all homeowners, especially on roof integration with the house
 - Adopt building codes for new and existing buildings to reflect emphasis on design criteria for climate conditions, emergencies and natural disasters
 - Determine staffing and training needs for permits and inspections

**Support
Agencies
and Roles:**

Virgin Islands Territorial Emergency Management Agency

- Recommend zoning, building, and other land-use controls, safety measures for securing mobile homes or other nonpermanent or semipermanent structures including watercraft, and preventive and preparedness measures designed to eliminate or reduce the impact of an emergency or major disaster

Virgin Islands Water and Power Authority

- Include information on retrofitting of residential structures on utility bills

PREPARATORY EMERGENCY MEASURES

PEM-4

PEM-4: Infrastructure Reliability Improvements

Objective: Ensure transportation of power and water through a stronger infrastructure

Lead Agency: Virgin Islands Water and Power Authority

- Role:**
- Conduct a study for underground power distribution system for primary and secondary system
 - Develop redundant power systems
 - Create loops within each feeder system
 - Erect additional gravity feed storage tanks
 - Install high wind resistant poles with adequate guy wire support
 - Seek technical assistance from USGS regarding groundwater systems

Support Agencies and Roles: Department of Public Works*

PREPARATORY EMERGENCY MEASURES

PEM-5

PEM-5: Water Demand Reduction-Voluntary Mode

Objective: Reduce the demand for fuel used to desalinate sea water by reducing the demand for water

Lead Agency: Virgin Islands Energy Office

- Role:**
- Publicize impact of wasted water on energy demands
 - Encourage conservation through media/brochures, school programs, volunteer organizations, etc.

**Support
Agencies
and Roles:**

Virgin Islands Water and Power Authority

- Include information on bills concerning methods of water conservation

Department of Planning and Natural Resources

- Monitor groundwater contamination

All Agencies

- Set an example to the public by reducing the amount of water used

Private Sector

- Comply with conservation standards set by VIEO

USGS

- Monitor groundwater contamination

PREPARATORY EMERGENCY MEASURES

PEM-6

PEM-6: Renewable Water Purification Methods

Objective: Reduce dependence upon traditional water desalination technologies in an energy emergency

Lead Agency: Virgin Islands Energy Office

- Role:**
- Investigate the potential for alternative energy water desalination methods and the appropriateness for their use on the Virgin Islands
 - Encourage the acquisition of an emergency supply of appropriate devices, if found, to decrease the citizens' vulnerability to the traditional desalination methods
 - Identify on-off island resource list for alternate desalination devices

Support Agencies and Roles: Agency(ies) To Be Defined*

- Develop and secure plans for water desalination as it becomes economically feasible
- Prepare plan for distribution of water desalination equipment

ENERGY EMERGENCY MEASURES

PEM-7

PEM-7: Minimum Acceptable Inventory Level-Voluntary Mode

Objective: Discourage the stockpiling of fuel and ensure the most equitable distribution of fuel within shortage conditions

Lead Agency: Virgin Islands Energy Office

- Establish a minimum acceptable shortage inventory level for various user classes
- Provide necessary backup information and publicity material to explain this measure and wage compliance
- Provide official sanctions to help distributors who must inform customers of curtailed deliveries based on minimum acceptable inventory level

**Support
Agencies
and Roles:**

Trade Associations

- Advise the VIEO about acceptable minimum inventory levels
- Assist VIEO by informing members of associations and others about delivery curtailment in excess of minimum acceptable inventory level
- Deliver no more than the amount of fuel required to maintain the minimum acceptable inventory level
- Inform VIEO if changes in the minimum acceptable inventory level are recommended or required by shortage conditions (to increase or decrease)

PREPARATORY EMERGENCY MEASURES

PEM-8

PEM-8: Inventory Fuel (Gasoline) Sources

Objective: Monitor fuel availability and price in anticipation of supply disruption in order to mitigate panic that might ensue as a result of shortage reports

Lead Agency: Virgin Islands Energy Office

- Role:**
- Develop public/private energy resource council
 - For each service station in St. Croix, St. Thomas and St. John, construct and maintain database listing all:
 - Price of fuel
 - Capacity
 - Likelihood that they will be able to function during flooding
 - Whether they carry diesel fuel
 - Contact phone number and name
 - Map location
 - Whether they have a generator
 - Compile list of government fuel sites and underground storage capacity, if any
 - Inventory energy supply/storage capabilities of public and private agencies
 - Identify Virgin Islands fuel reserve and contract for backup

**Support
Agencies
and Roles:**

Department of Property and Procurement*

All Agencies*

Private Sector*

PREPARATORY EMERGENCY MEASURES

PEM-9

PEM-9: Inventory Fuel (Oil) Sources

Objective: Monitor oil availability and price in anticipation of supply disruption in order to mitigate panic that might ensue as a result of reports of shortages

Lead Agency: Virgin Islands Energy Office

- Role:**
- For each motor oil distributor in St. Croix, St. Thomas and St. John, construct and maintain database listing all:
 - Price of oil
 - Capacity
 - Likelihood that they will be able to function during flooding
 - Contact phone number and name
 - Map location

Support Agencies and Roles: Private Sector*

PREPARATORY EMERGENCY MEASURES

PEM-10

PEM-10: Allocation of Reduced Supply Volume-Voluntary Mode

Objective: Discourage the stockpiling of fuel, and ensure the most equitable distribution of fuel within shortage conditions

Lead Agency: Virgin Islands Energy Office

- Determine an acceptable and/or needed level and encourage a reduction of delivered supply to non-priority customers to an allocation factor not to exceed the supply allocation factor from primary suppliers to retail distributors in conjunction with the fuel delivery industry and trade associations
- Establish a list of priority customers who may receive delivery of supply in excess of the allocation factor developed in conjunction with the fuel delivery industry and trade associations, and using the Territory Petroleum Set-Aside as a guide
- Encourage conservation efforts in all government buildings to reduce the need for allocation efforts
- Create a plan of rationing
- Create Virgin Islands fuel conversion program to minimize shortages in demand and reduce costs
- Contact Virgin Islands representative to Congress and Federal officials to establish Federal response/restrictions on fuel supplies or availability

**Support
Agencies
and Roles:**

Public Service Commission

- Monitor utility conservation and curtailment plans

Petroleum Wholesalers

- Deliver to customers in accordance with supply allocation levels established in conjunction with VIEO

PREPARATORY EMERGENCY MEASURES

PEM-10(2)

Petroleum Wholesalers (cont.)

- **Maintain records and provide same on request to VIEO to show proof of fair and adequate delivery to all designated consumers**
- **Monitor the situation and inform VIEO of any changes in the supply and/or delivery situation**

PREPARATORY EMERGENCY MEASURES

PEM-11

PEM-11: Hot Water Setback-Voluntary Mode

Objective: Reduce fuel used for direct heating of water by reducing the amount of energy needed to heat water in commercial, governmental and public buildings

Lead Agency: Virgin Islands Energy Office

- Role:**
- Complete assessment of all temperature, facility, and stage of crisis needs pertinent to this measure as with the Building Temperature Adjustments measure PEM-12
 - Inform and advise the public, explain the measure and provide publicity assistance to the spokesperson

**Support
Agencies
and Roles:**

Virgin Islands Water and Power Authority

- Include information concerning hot water setbacks on electric and water bills

Private Sector

- Comply with conservation standards set by VIEO

PREPARATORY EMERGENCY MEASURES

PEM-12

PEM-12: Building Temperature Adjustments - Voluntary Mode

Objective: Reduce fuel used for direct cooling of buildings by reducing the amount of cool air needed to air condition space in commercial, government, and public buildings

Lead Agency: Virgin Islands Energy Office

- Role:**
- Recommend acceptable range of temperatures for announcement by the Governor
 - Prepare notifications, information for press releases and explanatory material for the designated public relations spokesperson
 - Advise public, and publicize permissible exempt buildings such as hospitals, health care facilities, nursing homes, elementary schools, and buildings where special environmental conditions are required to protect human, animal, plant life or certain materials
 - Institute follow-up testing procedure
 - Institute media attention for large institutions to set examples and encourage compliance

**Support
Agencies
and Roles:**

Department of Education

- Take actions similar to health facilities
- Advise VIEO of feasible energy reductions for school buildings

Department of Health

- Assist by providing certifications of exempt health care facilities as needed
- Advise VIEO about what reductions are feasible within the needs of proper health and safety needs

Department of Public Works

- Advise VIEO about facilities with special environmental needs

ENERGY EMERGENCY MEASURES

PEM-12(2)

Trade Associations

- Assist VIEO in disseminating information to members
- Advise VIEO of problems faced by members and assist VIEO in trying to resolve these

PREPARATORY EMERGENCY MEASURES

PEM-13

PEM-13: Service Reductions-Voluntary Mode

Objective: Conserve fuel used for space conditioning and electricity generation by reducing and/or curtailing hours of operation, closing non-essential structures and reducing or eliminating certain designated uses

Lead Agency: Virgin Islands Energy Office

- Role:**
- In conjunction with various industries, government agencies, and trade associations, encourage all commercial, industrial, governmental, institutional and public building operators to voluntarily reduce and/or eliminate self determined nonessential services, buildings and power uses
 - Provide suggestions for reductions including estimates of fuel to be conserved
 - Provide commendations and publicity for compliance to encourage further voluntary reductions

**Support
Agencies
and Roles:** All Agencies

- Assist VIEO in determining voluntary measures
- Assist VIEO through compliance with voluntary measures, publicity, encouragement to appropriate memberships and monitoring

PREPARATORY EMERGENCY MEASURES

PEM-14

PEM-14: Designate Park and Ride Areas

Objective: Establish foundation for ridesharing program to be invoked in an energy emergency

Lead Agency: Department of Public Works

- Role:**
- Evaluate alternatives and appropriate park and ride areas
 - Prepare camera-ready maps showing locations of park and ride areas (in coordination with ridesharing brochure) in anticipation of production for an emergency

**Support
Agencies
and Roles:**

Virgin Islands Energy Office

- Assist Department of Public Works in determining most energy efficient siting and routing

Department of Public Safety

- Assist in determining sites and routing

Private Sector*

PREPARATORY EMERGENCY MEASURES

PEM-15

PEM-15: Government Van Pool Measure

Objective: Ensure that all critical government personnel will have transportation to duty stations in an energy emergency

Lead Agency: Virgin Islands Energy Office

- Role:**
- Request from all critical government agencies a listing of critical personnel, including name, home telephone number, address, work location, and other pertinent information
 - Coordinate with the National Guard to provide backup transportation as needed

**Support
Agencies
and Roles:**

Department of Property and Procurement

- Contract services from taxi association and bus companies

Virgin Islands National Guard

- Coordinate secondary (backup) transportation plan with VIEO

All Agencies

- Prepare the above list of critical personnel
- Prepare a plan to transport personnel in-house and a backup (alternative) to the plan

PREPARATORY EMERGENCY MEASURES

PEM-16

PEM-16: Secure Generators and Backup Power

Objective: Ensure power to life line support sites is reestablished as quickly as possible in the event of a significant interruption; ensure backup power is provided to high priority sites first; assure as high a degree of reliability as possible for backup power

Lead Agency: Virgin Islands Energy Office

- Role:**
- Prepare database containing list of life-line sites, cellular telephone numbers, contact personnel, size of generator required to run minimum operation, and other pertinent information.
 - Prioritize the sites in terms of life support
 - Locate each site on a map to facilitate mobilization
 - Prepare list of generator maintenance shops

**Support
Agencies
and Roles:**

Department of Property and Procurement

- Maintain generators in emergency-ready condition
- Secure minimum of 36 hours of fuel for each generator to be used in the event of mobilization

Department of Public Works

- Train personnel in the safe operation and field repairs of generators