STATE OF CONNECTICUT

Office of Policy and Management

February 10, 2010

U. S. Department of Energy
National Energy Technology Laboratory
Pittsburgh Campus
626 Cochrans Mill Road
PO Box 10940
Pittsburgh, PA 15236-0940

Dear Katherine Kweder:

Attached herewith is the State of Connecticut's Energy Assurance Plan – Initial (Deliverable 3.0; henceforth referred to as "draft EAP") as required under the terms of the grant entitled "Enhancing State Government Energy Assurance Capabilities and Planning for Smart Grid Resiliency" awarded by the Department of Energy (DOE) to the State of Connecticut as part of the American Recovery and Reinvestment Act of 2009 (ARRA).

Additionally, DOE's email of December 2, 2010 entitled "Guidance for State Energy Assurance Planning Deliverables 3.0 and 5.0" indicated that the submitted document (i.e., the draft EAP deliverable) should identify, in the language of the email, the following items:

- Address all the relevant energy sectors in your State including renewables
- Identify level of completion (i.e. complete draft, partial completion, fully complete final plan minus exercise lessons learned, etc.)
- Indicate if the EAP deliverable submission is a completely new document or a revision to an existing plan
- Provide a time line or outline of planned enhancements to be included in the final EAP submission at the end of the project performance period
- Identify the State agency(s) responsible for housing and maintaining the EAP and how the EAP will be incorporated into the State's emergency response/management plan

Address all the relevant energy sectors in your State including renewables

This draft EAP, in its current format, is structured to be a broad, all-inclusive energy resource emergency response plan – i.e., response irrespective of the energy resource involved, be it petroleum, natural gas, electricity or renewable resources. The draft EAP is also designed to address specific energy resources in greater detail – recognizing that energy emergency response assets, and subsequent response measures, deployed to mitigate an energy emergency will be contingent upon the specific energy resource experiencing a disruption.

Identify level of completion (i.e. complete draft, partial completion, fully complete final plan minus exercise lessons learned, etc.)

This draft EAP is considered a partially complete draft – additional enhancements and refinements are planned for the final EAP.

Indicate if the EAP deliverable submission is a completely new document or a revision to an existing plan

This EAP is a completely new document.

Provide a time line or outline of planned enhancements to be included in the final EAP submission at the end of the project performance period

A variety of enhancements still need to be incorporated into the final EAP to be submitted to DOE in August 2012, including, but not limited to, the following:

- Complete development of energy resource specific information sections for natural gas and electricity and renewable resources (February – April 2011)
- Complete revision of Energy Supply Disruption Tracking Process (February – April 2011)
- Continue to incorporate input, and solicit additional comment, from stakeholders regarding versions of the draft EAP (February – September 2011)
- Review information and data for accuracy, citation acknowledgement, and modify accordingly (February – September 2011)
- Incorporate lessons learned from the completed Inter- and Intra- State EAE – i.e., Deliverable 5.0 (June – September 2011)
- Incorporate DOE comments regarding the draft EAP
- Settle on the final format of the EAP (i.e., restructure EAP to mirror format of ESF #12 or State Natural Disaster Plan or use existing draft EAP format) (February – September 2011)
- Submit EAP to Connecticut General Assembly for review (anticipated February 2012)

Identify the State agency(s) responsible for housing and maintaining the EAP and how the EAP will be incorporated into the State's emergency response/management plan

Presently, the Office of Policy and Management (designated the State Energy Office), is the state agency with responsibility for housing and maintaining the EAP.

If you have any questions, please don't hesitate to contact me. I look forward to DOE's comments regarding improvements to the draft EAP.

Sincerely,

Raymond Wilson, Director
State Energy Office
Connecticut

ENERGY ASSURANCE PLAN – INITIAL/DRAFT

Recovery Act – Energy Assurance Planning – State of Connecticut

February 10, 2011

WORK PERFORMED UNDER AGREEMENT

DE-OE0000103

SUBMITTED BY

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STATE OF CONNECTICUT

ENERGY ASSURANCE PLAN

February 12, 2011

DRAFT DRAFT DRAFT

Prepared by

State of Connecticut

Office of Policy and Management

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ACKNOWLEDGEMENT OF FEDERAL SUPPORT AND FEDERAL DISCLAIMER

Acknowledgement

This material is based upon work supported by the Department of Energy under Award Number(s) *DE-OE0000103*.

Disclaimer

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ENERGY EMERGENCY PLAN DISTRIBUTION LIST AND DATE OF DISTRIBUTION

ORGANIZATION	DATE OF DISTRIBUTION
FEDERAL	
US Department of Energy	anticipated August 2012
STATE	
Office of the Governor	anticipated August 2012
Connecticut General Assembly	anticipated August 2012
Connecticut Department of Public Utility Control	anticipated August 2012
Connecticut Department of Emergency Management and Homeland Security	anticipated August 2012
MUNICIPAL	
[to be determined]	[provided as requested]
NON-GOVERNMENT ORGANIZATIONS	
[assorted – to be determined]	[provided as requested]

ENERGY EMERGENCY PLAN HISTORY OF UPDATES

ENERGY EMERGENCY PLAN NAME	DATE
State of Connecticut Energy Emergency Plan August 2012	anticipated August 2012
Connecticut Energy Emergency Preparedness Plan Update of 1994	October 1994
Connecticut Energy Emergency Plan of 1980 Amendments	1980
Connecticut Energy Emergency Plan of 1975	January 1975

PREFACE

In August 2009, the State of Connecticut was awarded a formulaic grant of $521,500 from the U.S. Department of Energy (DOE) as part of the American Recovery and Reinvestment Act of 2009 (ARRA), for a project entitled "Enhancing State Government Energy Assurance Capabilities and Planning for Smart Grid Resiliency" (EA). The Connecticut Office of Policy and Management (OPM), housing the State's Energy Office, is responsible for overseeing this grant award. This preface serves as a means of:

- Providing a summary, and current status, of the EA ARRA grant award in its entirety
- Describing the goals for this draft of the Energy Assurance Plan (EAP)
- Describing the planned enhancements to be incorporated into the final EAP

Please note that the terms "energy *assurance* plan" and "energy *emergency* plan" are used interchangeably throughout this draft document. "Energy *assurance* plan" is the terminology used by the EA ARRA grant award to describe a plan that DOE previously referred to as an "energy *emergency* plan" and that is defined in Connecticut General Statutes as an "energy *emergency* plan".

EA ARRA Grant Award: Summary and Current Status

The objectives, as defined by DOE, of the EA project are to: first, strengthen and expand State and local government energy assurance planning and resiliency efforts by incorporating response actions for new energy portfolios and Smart Grid applications; second, create jobs; and, third, build in-house State and local government energy assurance expertise. Additionally, the project is intended to support the building of regional energy assurance capability to allow the State to better coordinate and communicate state-wide, and with other states, on energy security, reliability and emergency response issues.

The grant award requires the State to submit to DOE for approval a variety of deliverables, and periodic reports, including, but not limited to, the following:

- **Project Management Plan (PMP)**
  - submitted in October 2009; approved in November 2009
- **Workforce Development Plan (WDP)**
  - submitted in November 2009; approved in November 2009
- **Energy Supply Disruption Tracking Process (ESDTP)**
  - submitted in August 2010; approved in October 2010
- **Energy Assurance Plan – Initial** (henceforth called the draft EAP)
  - submitted in February 2011
- **Energy Assurance Plan – Final** (henceforth called the final EAP)
  - anticipated completion and submission to DOE in August 2012
- **Energy Assurance Exercises – Inter- and Intra-State (EAE)**
  - anticipated completion in June/July and August/September 2011, respectively

Draft EAP: Goals

With regard to the EAP, the State is required, per DOE's grant award, to develop a new, or substantially refine its existing, EAP to incorporate response actions for new energy portfolios, including Smart Grid technologies. The EAP shall address, at a minimum, Smart Grid applications and vulnerabilities, critical infrastructure interdependencies, cyber security, energy supply systems, energy data analysis, and communications. The State will revise appropriate State policies, procedures and practices to reflect the State's EAP. The State will append its Energy Assurance Plan to the State Energy Program, as appropriate.

In addition to satisfying the EAP requirements described above for the final EAP, OPM was focused on three particular objectives for the draft EAP. First, EAP information should be assembled and presented in an intuitive format/framework that took into account:

- Organization: users should be able to quickly find relevant information
- Progression: each EAP section should follow logically from the previous section
- Consistency: each EAP section should be arranged with the same logical series of elements
- Adaptability: each EAP section should easily be moved or modified without requiring a substantial rewrite of the entire EAP

Second, the information collected and presented should accurately and clearly identify, describe and document the existing roles and responsibilities of federal, state and municipal government agencies, as well as non-government organizations and private entities, with regard to energy emergency planning and response – and, more broadly, emergency management. Accordingly, established and existing relationships between and amongst state government agencies and private industry that have been developed over time by means of shared working experience and response to incidents, and which are evidently working well, should not be altered (e.g., DEHMS and DPUC relationships with state-regulated electric distribution companies).

Third, if areas of state energy emergency planning and response activities are noticeably ambiguous or are not adequately addressed by existing resources – then those areas should be focused upon and clarified (e.g., state energy emergency planning regarding petroleum).

Final EAP: Planned Enhancements

The final EAP will build upon the format established and information presented with the draft EAP. The draft EAP's format allows for a review of the information presented, with the goal of identifying subject matter and information that is missing, requires correction, or should be expanded or condensed for the final EAP due to DOE in August 2012. For the final EAP, a variety of enhancements still need to be appropriately incorporated, including, but not limited to, the following:

- Complete development of energy resource specific information sections for natural gas and electricity and renewable resources (February – April 2011)
- Complete revision of Energy Supply Disruption Tracking Process (February – April 2011)

- Continue to incorporate input, and solicit additional comment, from stakeholders regarding versions of the draft EAP (February – September 2011)
- Review information and data for accuracy, citation acknowledge, and modify accordingly (February – September 2011)
- Incorporate lessons learned from the completed Inter- and Intra- State EAE (June – September 2011)
- Incorporate DOE comments regarding the draft EAP
- Settle on the final format of the EAP (i.e., restructure EAP to mirror format of ESF #12 or State Natural Disaster Plan or use existing draft EAP format) (February – September 2011)
- Submit EAP to Connecticut General Assembly for review (anticipated February 2012)

On a final note, the work of the many stakeholders who are participating in the development of the EAP must be acknowledged. These stakeholders have taken part in hundreds of hours of interviews, meetings, and reviews of previous versions of the draft EAP (as well as various aspects of the PMP, WDP and ESDTP). The valuable knowledge that they have provided is still being absorbed and reviewed for inclusion into the final EAP. Their time, insight, and industry expertise are very much appreciated.

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EXECUTIVE SUMMARY

[…under development…to be included in final EAP…]

PART A:

ENERGY ASSURANCE PLAN

SECTION 01: INTRODUCTION

Introduction

In this section of the energy assurance plan (EAP), topics addressed include the purpose and scope and the organizational structure of the document.

Purpose and Scope

The purpose of the EAP is to describe the state's approach for responding to and mitigating an energy emergency. Additionally, the EAP satisfies federal and state requirements to prepare an energy emergency plan.

The scope of the EAP extends from defining an energy emergency to response measures for specific energy resources to recovery measures that are presently available. The EAP devotes considerable attention to an energy emergency pertaining to petroleum. The EAP is designed to augment, not to supplant or redefine, existing emergency, and energy emergency, response planning and measures. To better understand the purpose and scope of this document, it may be helpful to understand what this document does do and what it does not do.

What does this document do?

It describes the energy emergency planning authority, roles and responsibilities of the State of Connecticut, from energy emergency plan requirements to defining and declaring an energy emergency.

It describes the management and organization with and within federal, state, municipal, non-government organizations and private entities regarding energy emergency planning and response – it reflects the current arrangement of resources and response capabilities.

It describes how energy emergency planning and response relates to the broader emergency management framework.

It describes an energy supply disruption tracking process that can be employed prior to, during, or after an energy emergency to track the impact and duration of an energy emergency as well as judge the effectiveness of response measures.

It provides a brief overview of each major energy resource, as well as alternative energy resources, in Connecticut, including such subject matter as: authorities; critical infrastructure; cyber security; supply, demand and consumption characteristics; past energy emergency incidents; specific response measures for dealing with an energy supply shortage; and, resources currently available during recovery.

What does this document not do?

It's not an emergency management plan – the Connecticut Department of Emergency Management and Homeland Security (DEMHS) retains and maintains that role; and, additional state agencies augment

DEMHS's emergency response role as necessary for specific emergency events (e.g., debris management, mass evacuation, toxic spills and releases, forest fires, pandemics, etc.).

It's not an operational response plan for short time-frame events (e.g., electricity outages) having to do with electricity, natural gas, and to a certain extent petroleum.

It's not an energy emergency plan that addresses how state agencies, and their facilities, would deal with energy supply shortages.

It's not a policy document regarding energy issues – i.e., it doesn't address policy topics (e.g., Peak Oil) and it doesn't advocate for the allocation of state resources, energy or otherwise, in a specific manner.

Organizational Structure of the Energy Assurance Plan

This Energy Assurance Plan is organized into 3 broad parts:

- Part A: Energy Assurance Plan
- Part B: Energy Resource Specific Information
- Part C: Appendices and End Notes

Part A: Energy Assurance Plan, addresses such topics as the development and maintenance of the energy assurance plan; defining an energy emergency; declaring an energy emergency; exemptions from orders issued during a declared energy emergency; violations of energy emergency orders; organization and management of energy emergency response; energy emergency response measures; and, energy supply disruption tracking process.

Part B: Energy Resource Specific Information, addresses the individual energy resources of petroleum, propane, natural gas, electricity and renewable energy and such topics as industry structure and marketplace; federal, state, municipal and non-government organization authorities; physical (critical) assets; cyber security and smart grid; supply data; demand/consumption data; data monitoring and analysis; declaring an energy emergency; energy emergency response measures; risk management/assessment; past supply disruptions/constraints; recovery measures; and, stakeholders.

Lastly, Part C: Appendices and End Notes, addresses supplemental information to the energy assurance plan.

SECTION 02: DEVELOPMENT AND MAINTENANCE OF ENERGY EMERGENCY PLAN

Introduction

In this section of the energy assurance plan (EAP), topics discussed include who has responsibility for the development and maintenance of energy emergency planning, and the federal and state requirements for the development of an energy emergency plan including what is required to be included in the plan, how often the plan must be updated, who and by when is required to approve the plan, and when was the last time the plan was submitted.

Table [#]: Summary of Energy Emergency Plan Development and Maintenance

	State Requirement	Federal Requirement
Who is responsible for developing and maintaining the plan?	OPM	
Statutory/Regulatory Development and Maintenance Requirement?	CGS 16a-9	Energy Policy and Conservation Act – 42 USC §6323e; 10 CFR 420.13
Required to be included in plan?	[see below]	[see below]
Required to update (when/how often) the plan?	Not explicit; but as Secretary of OPM deems necessary (within 15 days of start of Session)	Not explicit; but required as a supplement to SEP
Requirement for approving (by who and when) the plan?	E&T Committee (within 15 days); CGA (within 45 calendar???days)	Secretary of US DOE for informational purposes but Secretary need not approve
What is history (when was last time) plan being prepared/submitted to gov't?	Unknown?	July 25, 2006 (to US DOE SEP)

Responsibility (who) for Development and Maintenance of an Energy Emergency Plan

The Secretary of the State of Connecticut Office of Policy and Management (OPM), pursuant to CGS 16a-13, is responsible for the conduct and administration of energy emergency planning and preparedness activities generally, including the coordination of such activities [under this title with other state emergency planning conducted under any other provisions of the general statutes or special acts and with energy emergency planning or preparedness activities undertaken by the federal government, other states and regional or interstate organizations, and is responsible for coordinating, under the direction of the office of the Governor, the adoption and implementation of emergency measures by state departments during any energy emergency proclaimed [under section 16a-11 or section 16a-12], including the coordination of state, federal, regional and interstate activities.

Within OPM, the Energy Unit serves as the State Energy Office and is specifically tasked with responsibility for energy emergency planning functions.

Requirement for Development and Maintenance/Preparation of an Energy Emergency Plan

There are both state and federal statutory, regulatory and programmatic requirements to develop and maintain an energy emergency plan.

State Requirement

At the state level, there is a statutory requirement for OPM to prepare and maintain an energy emergency plan pursuant to CGS 16a-9.

What is required to be included in the plan?

At the state level, the energy emergency plan, pursuant to CGS 16a-9, may include, but not be limited to, the following:

1) Establishment of programs, controls, standards, priorities and quotas for the allocation, rationing, conservation, distribution and consumption of available energy resources,

2) Suspension and modification of existing statutes, standards and requirements affecting or affected by the use of energy resources,

3) Adoption of measures affecting the type and composition and production and distribution of energy resources,

4) Imposition of price restrictions on energy resources,

5) Adoption of measures affecting the hours and days on which public buildings and commercial and industrial establishments may be or are required to remain open or closed and

6) Establishment and implementation of regional programs and agreements for the purpose of coordinating energy resource programs and actions of the state with those of the federal government and of other states and localities.

Additionally, the plan **shall** include such levels of energy emergency as the Secretary of OPM shall establish.

What is the requirement for updating (when/how often) the plan?

There is not an explicit state statutory requirement in CGS 16a-9 to modify the energy emergency plan by a specific date or at specific intervals/times (e.g., annually). However, CGS 16a-9 does direct [shall] the Secretary of OPM to prepare amendments [changes] to the energy emergency plan as the Secretary may deem necessary.

What is the requirement for approving (by who and when) the plan?

Upon preparing amendments [changes] to the energy emergency plan, CGS 16a-9 directs [shall] the Secretary of OPM to submit such amendments to the Connecticut General Assembly no later than fifteen [15] days after the convening of any regular session of the General Assembly. The joint standing committee of the General Assembly [the Energy and Technology Committee] having cognizance of matters relating to energy shall review such amendments and report its recommendations within fifteen [15] days to the General Assembly. The General Assembly may by joint resolution disapprove or reject

any section or sections of such amendments within forty-five [45] days after the submittal of such amendments.

What is the history (when was the last time) of the plan being prepared/submitted at the state level?
The Energy Emergency Plan for Connecticut was first prepared in 1975 and subsequently amended in December 1980, and then updated in October 1994.

Federal Requirement

At the federal level, there is a statutory requirement for the State to submit to the Secretary of the US Department of Energy (DOE) an energy emergency plan pursuant to the Energy Policy and Conservation Act – 42 United States Code (USC) § 6323e [Title 42, Chapter 77, Subchapter III, Part B, Section 6323].
Additionally, there is a consequent federal regulatory requirement for the State to submit an energy emergency plan pursuant to 10 Code of Federal Regulations (CFR) 420.13.b.9 [Title 10, Chapter II, Part 420.13].

What is required to be included in the plan?
At the federal level, the energy emergency plan, pursuant to 42 USC § 6323e, and 10 CFR 420.13.b.9, shall include, but not be limited to, an energy emergency planning program for an energy supply disruption, as designed by the State consistent with applicable Federal and State law which shall include an implementation strategy or strategies (including regional coordination) for dealing with energy emergencies.

What is the requirement for updating (when/how often) the plan?
There is not an explicit federal statutory requirement in 42 USC § 6323e, or 10 CFR 420.13.b.9, to modify the energy emergency plan by a specific date or at a specific intervals/times (e.g., annually). However, 42 USC § 6323e, and 10 CFR 420.13.b.9, does direct [shall] the State to submit to the Secretary of US DOE an energy emergency plan as a supplement to the State Energy Program (SEP).

What is the requirement for approving (by who and when) the plan?
The submission of an energy emergency plan, pursuant to 42 USC § 6323e, to the Secretary of US DOE shall be for informational purposes only and without any requirement of approval by the Secretary of DOE and, pursuant to CFR…, not subject to DOE review.

What is the history (when was the last time) of the plan being prepared/submitted at the federal level?
The State Energy Emergency Plan was last submitted to the US DOE on July 25, 2006.

03: ENERGY EMERGENCY DEFINED (WHAT IS AN ENERGY EMERGENCY?)

Introduction

In this section of the energy assurance plan (EAP), topics discussed include the definition of an energy emergency and additional considerations.

Table [#]: Energy Emergency Defined

Energy Emergency	A situation where the health, safety or welfare of the citizens of the state is threatened by an actual or impending acute **shortage** in usable energy resources

Connecticut General Statutes

This EAP adheres to the broad definition of an energy emergency as defined in Connecticut General Statutes (CGS).

Energy emergency, pursuant to CGS 16a-2(e), means a situation where the health, safety or welfare of the citizens of the state is threatened by an actual or impending acute **shortage** in usable energy resources.

Energy resource, pursuant to CGS 16a-2(f), means natural gas, petroleum products, coal and coal products, wood fuels, geothermal sources, radioactive materials and any other resource yielding energy.

Additional Considerations

The supply, and interrelationship, of various energy resources (refined petroleum products, natural gas, electricity) is contingent upon an assortment of influential factors which include, but are not limited to, differing critical infrastructure delivery systems, marketplace (price and cost) dynamics, consumption patterns, time of year, weather conditions, and duration of the anticipated or actual shortage of an energy resource. That being the case, this EAP does not arbitrarily establish that a shortage of a particular amount of energy resource supply constitutes an energy emergency. Rather, the EAP recognizes that the totality of the supply shortage situation must be taken into account in making a determination of the existence of an energy emergency for a particular energy resource. For example, this plan does not arbitrarily establish that a 10% reduction in gasoline supply to the state constitutes an energy emergency – recognizing that a 10% supply reduction in and of itself may not be, or result in, a supply shortage, and must be coupled with a variety of other factors, such as weather, time, current stocks, etc., in determining the existence of an energy emergency. Factors to consider when making a determination to declare an energy emergency are described in more detail for each energy resource in the “Declaring an Energy Emergency” subsections in part B of this document.

04: PROCLAIMING/DECLARING AN ENERGY EMERGENCY

Introduction

In this section of the energy assurance plan (EAP), topics discussed are proclaiming and declaring an energy emergency that is, and is not, covered by the state energy emergency plan, including the authority to proclaim, who can proclaim, when to proclaim, how to proclaim, review and disapproval, duration and termination of the proclamation.

Table [#]: Summary of Proclaiming / Declaring an Energy Emergency

	Energy Emergency Covered by State Plan	**Energy Emergency NOT Covered by State Plan**
Authority?	CGS 16a-11	CGS 16a-12
Who?	Governor	Governor
When?	Energy Emergency	Energy Emergency
Written Finding Required?	**NO**	**YES**
How?	Proclamation submitted to office of the SOS; Proclamation published in full in newspaper	Proclamation submitted to office of the SOS; Proclamation published in full in newspaper
Review and Disapproval?	Proclamation may be disapproved by E&T within 72 hours of filing with SOS; Disapproval shall be by majority vote provided at least 1 minority leader votes for disapproval; E&T shall meet every 60 days until energy emergency ends and may disapprove by simple majority vote	Proclamation may be disapproved by E&T within 72 hours of filing with SOS; Disapproval shall be by majority vote provided at least 1 minority leader votes for disapproval; E&T shall meet every 60 days until energy emergency ends and may disapprove by simple majority vote
Duration?	Notwithstanding disapproval by E&T, proclamation valid and effective from time Governor files such proclamation until such time as E&T files its disapproval with SOS; Any proclamation not disapproved shall remain in effect for 300 days after the date of the proclamation	Notwithstanding disapproval by E&T, proclamation valid and effective from time Governor files such proclamation until such time as E&T files its disapproval with SOS; Any proclamation not disapproved shall remain in effect for 300 days after the date of the proclamation
Termination?	Any order shall remain in effect until termination by further order of the Governor; Order published in full in newspaper	Any order shall remain in effect until termination by further order of the Governor; Order published in full in newspaper

Energy Emergency Covered by the State Energy Emergency Plan

Where is the authority to proclaim provided for?
The authority to proclaim an energy emergency is provided by CGS 16a-11.

Who can proclaim?
The Governor of the State is provided, pursuant to CGS 16a-11(a), the authority to proclaim the existence of an energy emergency.

When to proclaim?
In the event of an energy emergency, pursuant to CGS 16a-11(a), the Governor may proclaim that such emergency exists.

How to proclaim?
The Governor, pursuant to CGS 16a-11(a), may proclaim that such emergency exists and designate by order all or any part of the emergency plan that the Governor intends to implement and the effective date thereof. Any such order by the Governor shall become effective upon filing said proclamation and designation in the office of the Secretary of State. Such proclamation and any such designation shall be published in full at least once in a newspaper having general circulation in each county; failure to publish shall not impair the validity of such proclamation or designation. An example of Governor's proclamation/order can found in Appendix [#].

Review [and Approval] and/or Disapproval of the proclamation
Any proclamation may be disapproved, pursuant to CGS 16a-11(b), by the joint legislative committee (i.e., the Energy and Technology Committee) having cognizance of matters relating to energy at a meeting which shall be held within seventy-two [72] hours after the filing of such proclamation in the office of the Secretary of the State. Such disapproval shall be by a majority vote, provided at least one [1] of the minority leaders shall vote for such disapproval. The joint legislative committee shall meet to review the proclamation of an energy emergency every sixty [60] days until such emergency ends and may disapprove such proclamation by a simple majority vote.

What is the duration of the proclamation?
Notwithstanding disapproval by the joint legislative committee [the Energy and Technology Committee] having cognizance of matters relating to energy, pursuant to CGS 16a-11(b), such proclamation and any order pursuant to this section shall be valid and effective from the time the Governor files such proclamation until such time as said committee files its disapproval in the office of the Secretary of the State. Any proclamation not disapproved shall remain in effect until the Governor proclaims the end of the energy emergency or until three hundred [300] days after the date of the proclamation of the energy emergency.

Termination of the proclamation

Any order or designation shall remain in effect until termination by further order by the Governor, pursuant to CGS 16a-11(b), which termination shall become effective upon filing such order in the office of the Secretary of the State. Such order shall be published in full at least once in a newspaper having general circulation in each county, provided failure to publish shall not impair the validity of such order.

Energy Emergency NOT Covered by the State Energy Emergency Plan

In the event of an energy emergency not covered by the state energy emergency plan, the Governor may proclaim an energy emergency and in connection therewith issue orders such as are permitted pursuant to chapter 517 of the CGS [i.e., CGS 28-1 through 28-22; CIVIL PREPAREDNESS; DEPARTMENT OF EMERGENCY MANAGEMENT AND HOMELAND SECURITY].

Prior to the issuance of such an order, the Governor shall make **written findings** that there is an energy emergency and that the order is necessary to assure the health, safety and welfare of the people of the state.

Where is the authority to proclaim provided for?

In the event of an energy emergency not covered by the state energy emergency plan, the authority to proclaim an energy emergency is provided by CGS 16a-12.

Who can proclaim?

The Governor of the State is provided, pursuant to CGS 16a-12(a), the authority to proclaim an energy emergency and in connection therewith issue orders such as are permitted pursuant to chapter 517 of the CGS [CGS 28-1 through 28-22; CIVIL PREPAREDNESS; DEPARTMENT OF EMERGENCY MANAGEMENT AND HOMELAND SECURITY].

When to proclaim?

In the event of an energy emergency, pursuant to CGS 16a-12(a), the Governor may proclaim that such emergency exists.

How to proclaim?

Prior to the issuance of an order proclaiming that an energy emergency exists, the Governor shall make written findings, pursuant to CGS 16a-12(a), that there is an energy emergency and that the order is necessary to assure the health, safety and welfare of the people of the state. Any such orders by the Governor shall be promulgated in the same manner as provided for an energy emergency covered by the state energy emergency plan [see above How to proclaim].

Review [and Approval] and/or Disapproval of the proclamation

Any proclamation may be disapproved, pursuant to CGS 16a-12(b), by the joint legislative committee (i.e., the Energy and Technology Committee) having cognizance of matters relating to energy at a meeting which shall be held within seventy-two [72] hours after the filing of such proclamation in the

office of the Secretary of the State. Such disapproval shall be by a majority vote, provided at least one [1] of the minority leaders shall vote for such disapproval. The joint legislative committee shall meet to review the proclamation of an energy emergency every sixty [60] days until such emergency ends and may disapprove such proclamation by a simple majority vote.

What is the duration of the proclamation?

Notwithstanding disapproval by the joint legislative committee [the Energy and Technology Committee] having cognizance of matters relating to energy, pursuant to CGS 16a-12(b), such proclamation and any order pursuant to this section shall be valid and effective from the time the Governor files such proclamation until such time as said committee files its disapproval in the office of the Secretary of the State. Any proclamation not disapproved shall remain in effect until the Governor proclaims the end of the energy emergency or until three hundred [300] days after the date of the proclamation of the energy emergency.

Termination of the proclamation

Any order or designation shall remain in effect until termination by further order by the Governor, pursuant to CGS 16a-12(b), which termination shall become effective upon filing such order in the office of the Secretary of the State. Such order shall be published in full at least once in a newspaper having general circulation in each county, provided failure to publish shall not impair the validity of such order.

05: EXEMPTIONS FROM ORDERS ISSUED DURING A DECLARED ENERGY EMERGENCY

Introduction

In this section of the energy assurance plan (EAP), topics described are exemptions from orders issued during a declared energy emergency including who may request an exemption, how to request an exemption, who may grant/deny/dismiss an exemption, who may be granted an exemption, exemption review, time period, determination, notification, reconsideration, revocation, suspension, appeal, and penalties for false statements.

Table [#]: Summary of Exemption from energy emergency plan/orders

Who can request?	Any person aggrieved by order
How to request?	File petition with Secretary of OPM
Who may grant/dismiss/deny?	Secretary of OPM
Who may be granted exemption?	Any person who due to certain circumstances is unable to comply with such [energy emergency] order without suffering inordinate hardship beyond that hardship suffered by persons generally Any person who performs an essential public service and who would be prevented from performing such service or would be impaired in his performance
Time period to make determination (review exemption)?	No more than 30 days after OPM Secretary receives petition
Notification of determination?	Petitioner notified in writing of reasons for denial
Appeal of determination?	Superior Court

Exemptions from energy emergency orders

In the event that an energy emergency, either covered by the state plan (16a-11) or via a written finding (16a-12), is declared by the Governor, and orders are issued under CGS 16a-11 or CGS 16a-12, CGS 16a - 13 allows for "any person aggrieved by any order issued under 16a-11 or 16a-12 may file a petition with the secretary [of OPM] requesting an exemption."

"The Secretary of OPM, pursuant to CGS 16a-13(a), shall adopt regulations establishing administrative procedures to implement the provisions with respect to petitions for exemption" from orders issued during a declared energy emergency.

Who may request an exemption?

Any person, pursuant to CGS 16a-13(a), aggrieved by any order issued may request an exemption.

How to request an exemption?

Any person, pursuant to CGS 16a-13(a), may file a petition with the Secretary requesting an exemption. The petition shall be in such form as the Secretary may prescribe.

Who may grant/deny/dismiss an exemption?

The Secretary of OPM, pursuant to CGS 16a-13, may grant/deny/dismiss an exemption.

Who may be granted an exemption?

The Secretary of OPM may grant an exemption to any person, pursuant to CGS 16a-13(a) (2), who:

1) Any person who due to certain circumstances is unable to comply with such [energy emergency] order without suffering inordinate hardship beyond that hardship suffered by persons generally, including, but not limited to, circumstances where in the absence of such exemption the petitioner would:
    1) Be prevented from performing activities essential to the pursuit of his regular occupation or profession,
    2) Suffer adverse medical effects or be unable to obtain necessary medical treatment, or
    3) Incur permanent and substantial injury to person or property.
2) Any person who performs an essential public service and who would be prevented from performing such service or would be impaired in his performance in the absence of such exemption

Exemption review

In making a determination, pursuant to CGS 16a-13, the Secretary of OPM:

1) May compare the relevant circumstances of the petitioner with
    a. Other users of the same fuel, users of other fuels, or both, or
    b. Other persons in the same economic sector or subsector, persons in other economic sectors or subsectors, or both (… as determined by the secretary to be the most appropriate in terms of the specific energy resource availability situation existing or forecast at the time such comparison is made)
2) May investigate any such petition and consider in his decision any relevant factual finding resulting from such investigation
3) May accept submissions from third parties relevant to such petition, provided the petitioner is afforded the opportunity to respond to such third party submissions
4) May consider any other sources of relevant information in deciding the petition before him
5) May hold an informal hearing, if, in his opinion, such hearing is advisable

Additionally, in granting or denying an exemption (under 16a-13), pursuant to CGS 16a-13a, the Secretary of OPM, may:

1) Take into account past levels of energy consumption or changes therein for the purposes of an exemption
2) Adopt regulations, in accordance with chapter 54, which establish procedures for documenting past levels of energy consumption or changes therein for the purposes of an exemption
3) Grant an exemption if he determines that the person seeking the exemption has fulfilled the conditions contained in such regulations.

   The regulations shall permit exemption:

   a. In cases where the applicant documents an absolute reduction in energy consumption over such periods of time as the regulations may establish, which periods may vary for different categories of persons, and the reduction is the result of physical or behavioral changes or adjustments undertaken for energy conservation purposes and not from changes or modifications undertaken for other purposes, such as alterations in building size, extent or type of production capacity or utilization thereof, or changes in the nature or number of work force employed, which changes were not undertaken for energy conservation purposes, or
   b. In cases where the applicant document that his consumption of energy is substantially less than that of other persons in like circumstances over such period of time as the regulations may establish, which periods may vary for different categories of persons, and the level of consumption is due to physical or behavioral factors, changes or adjustments, undertaken for energy conservation purposes and not from factors, changes or modifications not so related.

   The regulations may provide:

   a. That reductions in or levels of energy consumption which occur subsequent to the proclamation of an energy emergency (either covered or not covered by state plan) shall not constitute the basis for exemption unless the reductions are due solely to actions undertaken prior to such proclamation […pursuant to 16a-13a(d)].

Time period in which to review exemption petition and make a determination

Not more than thirty (30) days after receipt of such petition, the Secretary shall grant, deny or dismiss without prejudice such petition, pursuant to CGS 16a-13(c).

Exemption determination

The Secretary of OPM, pursuant to CGS 16a-13, may

1) Dismiss the petition without prejudice, if the Secretary determines that there is insufficient information upon which to base a decision and if upon request the required additional information is not furnished
2) Grant an exemption conditional upon the petitioner's taking actions specified in such decision

Notification of exemption determination

Upon the granting, denying or dismissal of such petition, the Secretary of OPM shall notify the petitioner, in writing, the reasons for his decision.

Reconsideration, suspension, revocation of exemption determination

The Secretary of OPM, pursuant to CGS 16a-13, may:

1) Reconsider and alter any decision as he deems necessary to implement such [energy emergency] plan, or any provision of such plan, or any order adopted
2) Suspend or revoke any exemption for any reason including but not limited to:
    a. Changed circumstances where the grounds for granting an exemption to the petitioner have ceased to exist
    b. Failure on the part of the petitioner to comply with conditions specified in the Secretary's decision granting the exemption, or
    c. Where the exemption was issued by mistake or on the basis of misrepresentation of false pretenses on the part of the petitioner

Appeal of exemption determination

Any person aggrieved by the decision of the Secretary may appeal such decision in accordance with provisions of sections 4–183 [i.e., appeal to the Superior Court] and 4–184 [i.e., obtain a review of any final judgment of the Superior Court]. The provisions of sections 4-176e to 4-181a, inclusive, shall not apply to any proceeding held pursuant to subsections (a) to (d), inclusive, of this section [i.e., CGS 16a-13].

Penalty for false statements

The person filing the petition shall be subject to the penalty for making a false statement under section 53a-157b [i.e., false statement in the second degree: class A misdemeanor].

06: VIOLATIONS OF ENERGY EMERGENCY PLAN OR ORDER, PENALTIES AND ENFORCEMENT

Introduction

In this section of the energy assurance plan (EAP), topics described include violations of energy emergency orders, penalties for such violations, and violation enforcement.

Table [#]: Summary of Violations of Energy Emergency Plan or Order/Penalties

Violations and Penalties	Not more than $1000.00 fine and/or 1 year imprisonment for each offense
Violations Enforcement	Appropriate state authorities (Chief State's Attorney)

Violations and Penalties

Pursuant to CGS 16a-13c, any person who during the course of an energy emergency proclaimed … violates any provision of the energy emergency plan which has been implemented … or any order adopted … or who obtains an exemption … by misrepresentation or false pretenses, or who impedes, interferes with or obstructs any lawful energy emergency activities … or who violates any provision of this chapter, shall be fined not more than one thousand dollars ($1000.00) or imprisoned not more than one (1) year, or both, for each offense. Each violation an each day on which the violation occurs or continues shall be a separate offense.

Violations Enforcement

The Office of Policy and Management will notify the appropriate state authorities, i.e., Office of the Chief State's Attorney, regarding violations of the energy emergency plan and/or orders.

07: ENERGY EMERGENCY RESPONSE ORGANIZATION and MANAGEMENT

Introduction

In this section of the energy assurance plan (EAP), topics described include the relationship of energy emergency response to broader emergency response, energy emergency response organizational structure and energy emergency roles and responsibilities, at the federal, state and municipal government levels.

Energy emergency response activities are part of a broader emergency response framework that exists at the federal, state and municipal level. This broader emergency response framework describes the role and structure that organizes response – how municipalities, states, federal government, private-sector, and non-government organization stakeholders may implement a coordinated and effective response.

Note that the energy emergency response framework described below refers to a broad, all-inclusive energy resource response – i.e., response irrespective of the energy resource involved, be it petroleum, natural gas, or electricity. The energy emergency response resources, and subsequent response measures, deployed to mitigate an energy emergency will be contingent upon the specific energy resource experiencing a disruption. The roles and responsibilities of federal, state and municipal agencies, as well as non-governmental organizations and private entities with regards to specific energy resources are described under the "Authorities" sections for each individual energy resource in Part B of this document.

<u>Federal Government</u>

Energy Emergency Response: Relationship to Emergency Response

At the federal level, a compilation of presidential directives, legislative acts, policies, strategies, operational response guides and other documents define the nation's broad emergency planning and response activities – of which energy emergency response is a component. Two of these documents provide a basis for emergency response, and associated energy emergency response:

- The **National Response Framework (NRF)** and supplemental documents known as **Emergency Support Function Annexes (ESFs)** describe the broad "all-hazards" response, and response planning, approach that the federal government has established and developed. The [15] ESFs provide the structure for coordinating Federal interagency support for a Federal response to an incident. They are mechanisms for grouping functions most frequently used to provide Federal support to States and Federal-to-Federal support.[1] The NRF and supplemental ESFs describe the available resources – the broad subject matter areas of expertise and responsibility – of federal agencies in responding to an emergency. Energy emergency response activities are described by "**Emergency Support Function # 12 – Energy Annex**" (**ESF #12**). For a listing, and an abbreviated description, of the various Emergency Support Functions see Appendix [#].
- The **National Incident Management System (NIMS)** describes a standardized, comprehensive, nationwide approach to "all-hazards" incident management that is flexible and scalable (from

day-to-day to large scale incidents). NIMS provides a standardized operational structure and resource management procedures that allows various jurisdictions (federal, state and municipal agencies) and non-government organizations to work together in a clearly defined and coordinated manner.

Energy Emergency Response: Organizational Structure

Under US Department of Energy (DOE) leadership, ESF #12 is an integral part of the larger DOE responsibility of maintaining continuous and reliable energy supplies for the United States through preventive measures and restoration and recovery actions. ESF #12 is intended to facilitate the restoration of damaged energy systems and components when activated by the Secretary of US Department Homeland Security for incidents requiring a coordinated Federal response.[2]

ESF #12 collects, evaluates, and shares information on energy system damage and estimations on the impact of energy system outages within affected areas. Additionally, ESF #12 provides information concerning the energy restoration process such as projected schedules, percent completion of restoration, and geographic information on the restoration. ESF #12 facilitates the restoration of energy systems through legal authorities and waivers. ESF #12 also provides technical expertise to the utilities, conducts field assessments, and assists government and private-sector stakeholders to overcome challenges in restoring the energy system.[3] For purposes of ESF #12, "the term "energy" includes producing, refining, transporting, generating, transmitting, conserving, building, distributing, maintaining, and controlling energy systems and system components. All energy systems are considered critical infrastructure.[4]

According to ESF #12, state, tribal, and local governments have primary responsibility for prioritizing the restoration of energy facilities. State, tribal, and local governments are fully and consistently integrated into ESF #12 operations. When activated, ESF #12 personnel may deploy to State emergency operations centers.

Energy Emergency Response: Roles and Responsibilities (with regard to the State)

The US Department of Energy's (DOE) extensive roles and responsibilities are detailed in ESF #12. Additionally, in support of ESF #12, DOE has developed and maintains a restricted–access communications network – called the Infrastructure Security and Energy Restoration Net, commonly referred to as **ISERnet** – for key energy industry and State personnel to exchange information with DOE during energy emergencies.[5] ISERnet allows for the collection and dissemination of outage and restoration information during an energy supply disruption. To access the ISERnet, DOE has called upon states to designate **Energy Emergency and Assurance Coordinators (EEAC)** from state energy offices, public utility organizations, state governors' offices and state emergency management and homeland security agencies.[6]

For the complete ESF #12, describing DOE's various roles and responsibilities, see Appendix [#].

State Government

Energy Emergency Response: Relationship to Emergency Response

At the state level, energy emergency response activities are components of the state's broader emergency planning and response activities. The state's broad emergency response is described in the State of Connecticut Natural Disaster Plan 2009**:**

- The **"State of Connecticut Natural Disaster Plan 2009"** (Natural Disaster Plan) establishes the mission assignments of state agencies in responding to natural disasters and describes the interaction of state government with local governments, private response organizations and the federal government in natural disaster situations. The plan incorporates the policies and procedures presented in the NRF as well as NIMS.[7]

Energy Emergency Response: Organizational Structure

The Office of the Governor (OTG) has responsibility for directing activation and implementation of the state Natural Disaster Plan. The Connecticut Department of Emergency Management and Homeland Security (DEMHS) has primary responsibility for the development of the state's emergency management program.[8] Connecticut is divided into five (5) emergency management regions, each with a DEMHS Regional Coordinator who, during emergencies, serves as a mutual aid coordinator and communications link between the towns and the state. All state agencies support emergency operations, as directed by the OTG or as requested by DEHMS, and have mission assignments detailed in the state Natural Disaster Plan. Specific state agencies are also assigned energy emergency response activities. Additionally, specific state agencies have assigned representatives to serve as EEACs to interact with the DOE via ISERnet as described below in "Roles and Responsibilities."

For an organizational chart of state agencies involved in emergency response in Connecticut, as described in the state Natural Disaster Plan, see Appendix [X].

Energy Emergency Response: Roles and Responsibilities

The extensive roles and responsibilities of state agencies regarding broad emergency response are detailed in the state Natural Disaster Plan. State agencies with energy emergency response roles and responsibilities, and a description of those energy-oriented responsibilities, as described in the state emergency plan, are listed below. Also described below are additional energy emergency roles and responsibilities that state agencies derive via this EAP and per DOE designation.

Office of the Governor (OTG)

- Directing activation and implementation of the state emergency plan
- Directing and controlling emergency and non-emergency public information activities
- Directing activation and implementation of state EAP
- Directing and controlling implementation of energy emergency response measures
- Assigning OTG personnel to serve as DOE designated EEAC

Department of Emergency Management and Homeland Security (DEMHS)

- Coordinating the delivery of assistance to local governments and state agencies as requested and available
- Receiving and evaluating situation reports from local governments, state agencies, utility companies, and private relief organizations
- Disseminating emergency data and information to local governments, state, and federal agencies
- Receiving and disseminating situation reports, data and information regarding the Energy Supply Disruption Tracking Process (ESDTP) from local governments, state agencies, utility companies, and other private entities as requested and available
- Assisting in the coordination and implementation of energy emergency response measures

Department of Public Utility Control (DPUC)

- Coordinating, monitoring and reporting to DEMHS on the restoration, maintenance and operation of utility services
- Providing DEMHS with periodic updates on utility company operations and service interruptions throughout the emergency phase
- Developing and submitting to DEMHS such written reports as it may require regarding the impact of a natural disaster upon utility operations
- Ensuring that utilities have the resources to mobilize maintenance and repair forces
- Monitoring and analysis of energy resource data and information (primarily natural gas and electricity)
- Providing OTG with information necessary for a written finding of an energy emergency
- Advising OTG as to necessary actions, including implementation of state EAP
- Assigning DPUC personnel to serve as DOE designated EEAC
- Receiving and disseminating situation reports, data and information regarding the Energy Supply Disruption Tracking Process (ESDTP) from utility companies and other private entities as requested and available
- Assisting in the coordination and implementation of energy emergency response measures

Office of Policy and Management (OPM)

- Locating supplies of fuel for emergency vehicles and making recommendations for fuel allocations
- Monitoring and analysis of energy resource data and information (primarily petroleum products)
- Providing OTG with information necessary for a written finding of an energy emergency
- Advising OTG as to necessary actions, including implementation of state EAP
- Assigning OPM personnel to serve as DOE designated EEAC
- Receiving and disseminating situation reports, data and information regarding the Energy Supply Disruption Tracking Process (ESDTP) from local governments, state agencies, utility companies, and other private entities as requested and available
- Assisting in the coordination and implementation of energy emergency response measures

Municipal Government

Energy Emergency Response: Relationship to Emergency Response

At the municipal level, energy emergency response activities are components of municipalities' broader emergency planning and response activities. Municipalities' broad emergency response is described in each municipality's Emergency Operations Plans.

- **Emergency Operations Plans (EOPs)** establish the mission assignments of municipal agencies in responding to natural disasters and describes the interaction of local government with state government and private response organizations.

Energy Emergency Response: Organizational Structure

Each of the State's 169 municipalities has an Emergency Management Director appointed by the local chief executive officer of the town. During emergencies local officials maintain communications with the State via the DEMHS Regional Coordinator serving their region.[9]

Energy Emergency Response: Roles and Responsibilities

The roles and responsibilities of local governments regarding broad emergency response are detailed in their individual EOPs. Local governments are required to submit periodic situation reports to the appropriate DEMHS Regional Coordinator when requested or when emergency operations are undertaken.[10]

Non-government Organizations and Private Entities

Energy Emergency Response: Relationship to Emergency Response

[…under development…]

Energy Emergency Response: Organizational Structure

[…under development…]

Energy Emergency Response: Roles and Responsibilities

[…under development…]

08: ENERGY EMERGENCY RESPONSE MEASURES/PLAN

Introduction

In this section of the energy assurance plan (EAP), topics described include the energy emergency response measures: monitoring and analysis; response measures available *prior* to a declared energy emergency; declaration of energy emergency, including written finding; and, response measures available *after* a declared energy emergency.

Figure [#]: Summary of Energy Emergency Response Measures over Time

[…under development…]

Energy Emergency Response Measures

In general, energy emergency response measures function under the presumption that the affected energy industry has the greatest potential to mitigate an energy emergency. In the event of an energy emergency, the efficient and expeditious restoration of normal operations of energy facilities and supply is the responsibility of, and will best be achieved by, the energy industry. EAP energy emergency response measures are designed to augment energy industry emergency response activities (as well as state emergency response measures) and to provide an environment that allows the industry to mitigate the energy emergency situation.

In the event of an actual, or potential, declared energy emergency, response measures can be broadly characterized as consisting of four (4) basic components:

- **Monitoring and Analysis**
- **Response Measures Available *Prior* to a Declared Energy Emergency**
- **Declaration of Energy Emergency (including Written Finding)**
- **Response Measures Available *After* a Declared Energy Emergency**

Each of these energy emergency response components is described below in greater detail. Specific response measures that relate to a specific energy resource (i.e., petroleum, propane, natural gas, electricity) are described in the "Response Measures" section for each specific energy resource, in Part B of this document.

The relationship of these energy emergency response measures to each other, an energy emergency incident, and associated time limits described below, is illustrated in Figure [#] above.

Monitoring and Analysis

"Monitoring and Analysis" refers to the existing, ongoing examination and review of various energy resource data and information (e.g., current, forecast and historical data concerning price, supply, demand, inventories/stocks, infrastructure, weather, etc.) in order to:

- Evaluate the impact of an energy resource supply disruption
- Determine whether an energy emergency declaration is necessary
- Provide information for written finding, if necessary, prior to declaring an energy emergency
- Track the duration, response, restoration and recovery time of an energy resource supply disruption incident (i.e., utilize the Energy Supply Disruption Tracking Process).
- Evaluate the effectiveness of response measures to mitigate the supply disruption
- Provide timely and accurate information and data to DOE, OTG, DEMHS, the public and other stakeholders

Additionally, monitoring and analysis activities may be:

- Performed prior to, during and post energy emergency declaration
- Performed by various state agencies, and/or other stakeholders, depending upon the energy resources involved (e.g., DPUC regarding electricity and natural gas; OPM regarding petroleum products) in the situation
- Modified in terms of frequency, content and breadth of data collected and reviewed as required by the conditions.

Monitoring and analysis also plays an important role in allowing for the exchange of information and data amongst industry and government – especially for industries (e.g., the petroleum industry) where the sharing of such information may be prohibited or limited due to existing anti-trust laws and regulations.

Response Measures Available *Prior* to a Declared Energy Emergency

"Response Measures Available *Prior* to a Declared Energy Emergency" refers to response activities which may be implemented to mitigate the impact of an energy resource supply shortage/disruption before an energy emergency has been declared. Response measures available prior to a declared energy emergency do not require a declaration of an energy emergency to be implemented. Specific response measures are described in "Response Measures" subsection under each specific energy resource in Part B of this document.

Response measures available prior to a declared energy emergency may be:

- Implemented before or after a declared energy emergency
- Implemented by various state agencies, and/or other stakeholders, depending upon the energy resources involved in the potential energy emergency situation
- Modified as warranted by the conditions of the potential energy emergency situation

Evaluating the effectiveness of response measures available prior to a declared energy emergency is a monitoring and analysis activity.

Declaration of Energy Emergency (including Written Finding)

"Declaration of Energy Emergency" refers to the proclamation of an energy emergency as declared by the Governor of the State of Connecticut. An energy emergency declaration is necessary to implement certain energy emergency response measures, i.e., "Response Measures Available *After* a Declared Energy Emergency." Circumstances which may result in, or constitute, an energy emergency are described in "Declaring an Energy Emergency" subsection under each specific energy resource in Part B of this document.

A Declaration of an Energy Emergency may be:

- Declared by the Governor if a situation exists where the health, safety or welfare of the citizens of the state is threatened by an actual or impending acute **shortage** in usable energy resources
- Modified as warranted by the conditions of the energy emergency
- (See earlier Sections of this EAP for details regarding energy emergency declaration review, duration, violations, etc.)

A **Written Finding** for a declaration of an energy emergency is required to implement energy emergency response measures not covered by this EAP. Monitoring and analysis provides the information and data required for the written finding and for the declaration of an energy emergency. Examples of an energy emergency declaration and written finding can be found in Appendix [#].

The declaration of an energy emergency, and subsequent energy emergency orders, are limited by specific time requirements, as described in more detail in Section [4] of this document. To summarize, an energy emergency declaration [and subsequent energy emergency orders] remains in effect for 300 days after the date of the order, baring termination by further order of the Governor or disapproval by the Connecticut General Assembly, Energy and Technology Committee (E&T Committee). The E&T Committee may disapprove an energy emergency declaration within 72 hours of the order; and shall meet every 60 days, for the duration of the energy emergency declaration, to review the energy emergency order. These time requirements, and energy emergency response components, are summarized in Figure [#] above at the beginning of this section.

Response Measures Available *After* a Declared Energy Emergency

"Response Measures Available *After* a Declared Energy Emergency" refers to response activities which may be implemented to mitigate the impact of an energy resource supply shortage/disruption after an energy emergency has been declared. Response measures available after a declared energy emergency require a declaration of an energy emergency in order to be implemented. Specific response measures are described in "Response Measures" subsection under each specific energy resource in Part B of this document.

Response measures available after a declared energy emergency may be:

- Implemented only **after** a declared energy emergency

- Implemented by various state agencies, and/or other stakeholders, depending upon the energy resources involved
- Modified as warranted by the conditions of the energy emergency

Evaluating the effectiveness of response measures available after a declared energy emergency is a monitoring and analysis activity.

Section 09: RECOVERY

[… to be determined...under development…]

Section 10: ENERGY SUPPLY DISRUPTION TRACKING PROCESS

[…previously submitted and approved by DOE under separate cover…to be determined…under development…]

Section 11: […hold for potential changes…]
Section 12: […hold for potential changes…]
Section 13: […hold for potential changes…]
Section 14: […hold for potential changes…]

PART B:

ENERGY RESOURCES SPECIFIC INFORMATION

15: OVERVIEW OF ENERGY IN THE STATE OF CONNECTICUT

The Energy Sector consists of thousands of electricity, oil and natural gas assets that are geographically dispersed and connected by systems and networks.[11]

[…under development…]

16: PETROLEUM

This section of the Energy Assurance Plan, describes the energy resource petroleum, and refined petroleum products. Topics described include introduction, authorities, physical (critical) assets (infrastructure), cyber security and smart grid, supply, demand, data monitoring and analysis, declaring an energy emergency due to petroleum, energy emergency response measures, recovery measures, and stakeholders/contacts.

Introduction

Definition

Petroleum is a broadly defined class of liquid hydrocarbon mixtures that include crude oil, refined products obtained from the processing of crude oil, as well as other unfinished oils and lease condensate (e.g., propane).[12] More broadly described petroleum (i.e., crude oil) and refined petroleum products are energy commodities.

Crude oil is a mixture of hydrocarbons that exist in a liquid state and can be found in natural underground reservoirs[13] and is considered a non-renewable energy source. Crude oil can be refined to produce a variety of petroleum products such as gasoline and diesel fuels, jet fuels, heating oils, lubricants, asphalt, propane and many other refined petroleum products.[14]

Crude oil is measured in barrels (bbls).[15] A barrel of crude oil contains forty-two (42) US gallons.[16] When a barrel of crude oil is refined, it yields approximately 44 to 45 gallons of petroleum products.[17] Diagram [#] below illustrates, in gallons, some of the petroleum products refined/made from a barrel of crude oil.

Diagram [#] Petroleum products made from a barrel of crude oil[18]

[…under development…]

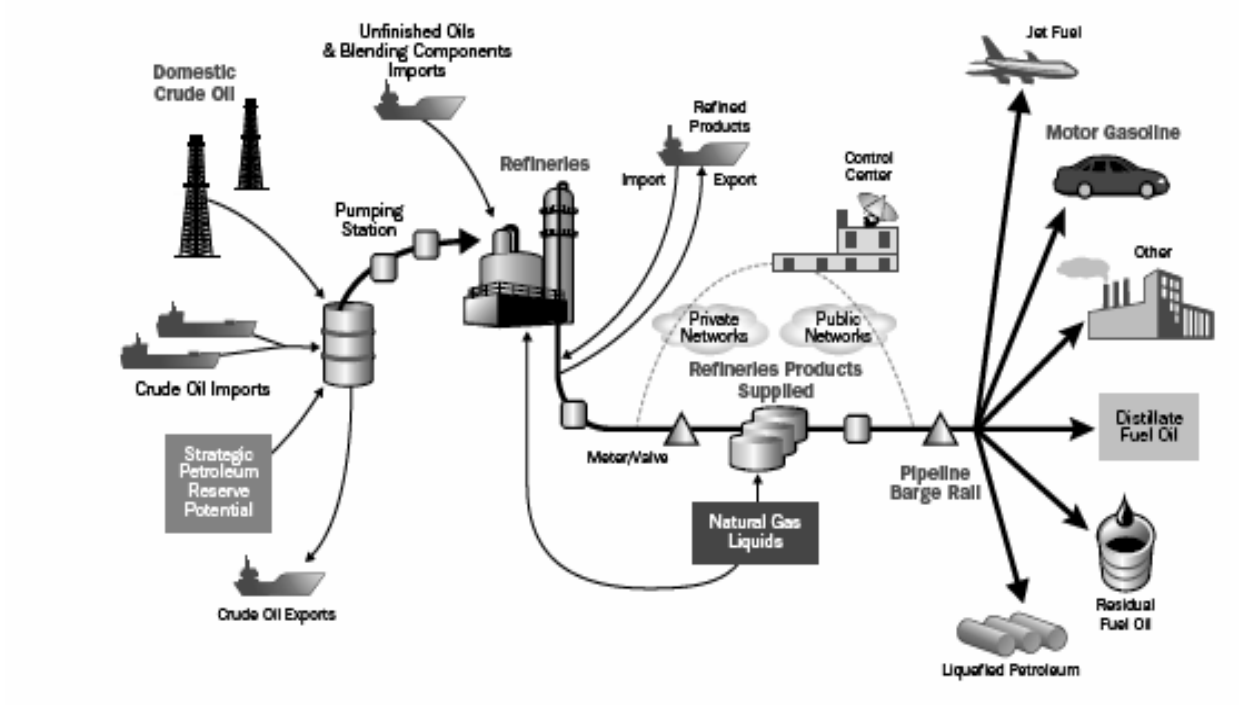
Crude oil is commonly described in the petroleum industry by three characteristics: density (e.g., light to heavy), sulfur content (e.g., sweet to sour) and geographic origin (e.g., Brent or West Texas Intermediate, etc.).[19] Crude oil density is commonly measured by an oil industry standard of measurement known as the American Petroleum Institute Gravity (API gravity). Crude oils with a higher API gravity are often considered more valuable because they require less processing and yield more gasoline.[20] Sulfur content determines whether a specific type of crude oil is considered "sweet" or "sour." Crude oil is considered "sweet" when it has a low sulfur content and "sour" when it has a higher sulfur content.[21] The geographic origin of crude oil also serves as a descriptive characteristic of the oil. When combined, these crude oil characteristics (origin, density and sulfur content), provide common benchmarks from which to compare varying crude oils and provide for price discovery in the marketplace.

Industry structure

The process of taking crude oil out of the ground, refining it, and distributing the refined products to end-users makes up the petroleum industry. The petroleum industry is commonly understood to be divided into three segments: upstream, midstream and downstream. The upstream segment refers to

the processes that occur in the petroleum industry before crude oil is refined. These processes include: exploration, developing oil fields, construction, design, drilling, recovery and production.[22] The midstream segment refers to the storing, shipping and marketing of crude oil to a refiner.[23] The downstream segment refers to the refining of crude oil into petroleum products and the marketing of those petroleum products, e.g., gasoline, diesel, heating fuels, and asphalt. The segment includes petroleum refineries, petroleum product distribution and retail outlets.[24] Diagram [#] below illustrates the process of moving crude oil from the ground to the consumer.

Figure [#]: Petroleum System from Crude Oil to Gasoline, Heating Oil[25]
[Note: per NIPP, SSP – Energy 2010]



Marketplace

Crude oil and refined petroleum products are energy commodities that are bought and sold worldwide in physical and financial markets. As global energy commodities, the price of crude oil and refined petroleum products is a reflection of current, and anticipated, supply and demand factors around the world. Financial markets (e.g., NYMEX) where crude oil and refined petroleum financial products are traded can be used by participants for price discovery, to offset risk caused by changes in price, and to speculate on price changes. Physical markets include the spot market (e.g., New York Harbor) where crude oil or refined petroleum products, such as gasoline and diesel, can be bought and sold for immediate or near-term delivery.[26] Prices in these global physical and financial markets are considered

to be unregulated – i.e., prices are not determined by government regulation, but rather by supply and demand factors.

Regulation and Anti-trust

Although the determination of the price of crude oil and refined petroleum products is considered to be unregulated, the many other aspects of the petroleum industry are governed by numerous federal, state and municipal laws and regulations. These laws and regulations provide government agencies with varying degrees of authority (ranging from monitoring and oversight to enforcement of violations) over many aspects of the petroleum industry (ranging from permitting areas of exploration to environmental compliance to marketing rules to taxes). These government agencies and their oversight responsibilities regarding the petroleum industry are further described later in this section under "Authorities."

An area of government oversight of note is antitrust laws with regards to the petroleum industry. The purpose of antitrust laws is to foster an environment of free and unregulated marketplace competition that will result in the best result for consumers.[27] Antitrust laws (i.e., the Sherman Act) prohibit contracts or conspiracies in restraint of trade, and the monopolization or attempted monopolization, either of which can be violated by individual persons or entities.[28] The petroleum industry, and entities representing the industry, takes steps to prevent violations of antitrust laws within their industry at the national and state level. For example, national and state entities representing the petroleum industry both promulgate policies cautioning their members on activities prohibited under antitrust laws. When it comes to mitigating a potential, or actual, energy emergency, the practical effect of these antitrust laws may prohibit some elements of the petroleum industry from engaging in the exchange of certain types of information. In such an instance, the state may need to serve as a clearinghouse to collect and distribute information needed to facilitate energy emergency response measures.

Authorities

Introduction

Various federal, state and municipal government agencies have statutory and regulatory authority (ranging from monitoring to enforcement) regarding the many aspects of the petroleum industry. Additionally, non-government organizations (e.g., trade associations) possess valuable insight, data and information regarding the past, current and future conditions of their industry. In the event of a potential, or actual, energy emergency, and subsequent response, these authorities may provide important assistance in mitigating the situation.

Federal Authorities

US Environmental Protection Agency (EPA)

- Coordinates with US DOE during energy emergencies and supply disruptions to assess availability of transportation and boutique fuels and the need for environmental fuel waivers[29]
- Responds to requests from State and local officials for EPA to exercise enforcement discretion to waive environmental requirements for motor vehicle fuel in order to address supply shortages, normally in the context of natural disasters or significant disruptions in the fuel production or distribution systems[30] [contact via state DEP]
- Coordinates the collection of motor vehicle fuel supply information necessary to evaluate an enforcement discretion request
- Assists in identifying critical water and wastewater systems requiring priority power restoration
- Maintains data on refineries and generation plants (electricity) with regard to environmental compliance[31]

US Department Of Homeland Security (DHS)

- Develops and maintains a critical infrastructure list of energy facilities
- Develops and maintains a critical assets list of energy facilities
- Identifies and publicizes threats to specific energy facilities
- Coordinates with DOE and the private sector to conduct vulnerability assessments on energy infrastructure associated with terrorism, and coordinates the implementation of protective measures
- (Interact with via DEMHS)

DHS/Transportation Security Administration (TSA)

- Broad responsibility for a surface transportation security program, which includes commercial vehicles and highway infrastructure, rail and mass transit, and pipeline assets[32]
- Maintains data related to pipeline security

DHS/US Coast Guard (USCG)

- Oversees the nation's ports and waterways accessible by tankers and barges, essential for the delivery of petroleum and liquefied natural gas supplies
- Maintains data on port safety and security activities and vessel cargo

- Maintains data (intelligence) on indicators and warnings of threats and communications [maritime security committees]

US Department Of Transportation (US DOT)

- Broad responsibility/oversight of pipelines, barges, tankers, railways, and highways – the transport of raw and refined energy products within the nation

US DOT/Pipeline and Hazardous Materials Safety Administration (PHMSA)

- Coordinates activities regarding natural gas and hazardous liquid pipelines and liquefied natural gas facilities
- Maintains data related to pipeline safety
- Ensures the safe, reliable, and environmentally sound operation of the Nation's inter- and intra-state pipeline transportation system
- Responds to requests for waivers of restrictions to meet emergency energy delivery requirements
- In coordination with DOE, coordinates activities and shares information needed to ensure that the sectors of the energy infrastructure subject to each agency's jurisdiction or oversight can efficiently and effectively coordinate and integrate energy assurance activities
- Assists State, tribal, and local authorities with requests for special permits and approvals relating to the movement of hazardous materials in support of the Nation's energy demands.

US DOT/Federal Highway Administration (FHWA)

- Maintains data for transportation-related energy issues [contact via DOT]

US DOT/Maritime Administration (MARAD)

- Addresses waterborne transportation including such areas involving ships and shipping, port operations, vessel operations, national security, environment, and safety;[33] promotes use of waterborne transportation and its seamless integration with other segments of the transportation system
- Responds, with DOE assistance, to requests for waivers sought for long distance waterborne fuel delivery (usually heating oil or gasoline) aboard an international shipping carrier not registered in the United States requiring the use of US-flagged vessels (The Jones Act)
- Ensures reserve shipping capacity is available in time of national emergency[34]

US DOT/Federal Motor Carrier Safety Administration (FMCSA)

- Responds to requests for waivers on the limits on the number of hours a truck driver can operate a vehicle under requirements of the federal motor carrier safety administration

Federal Trade Commission (FTC)

- Enforces antitrust and consumer protection statutes[35]
- Maintains competition in the petroleum industry through a variety of investigatory and enforcement and monitoring powers and activities[36]

- Investigates potentially anticompetitive mergers and non-merger conduct in the oil industry and conducts investigations of alleged horizontal and vertical price-fixing, price discrimination, predatory pricing, price gouging[37]
- Reviews proposed mergers and approves such mergers only if they are deemed not to have anticompetitive effects[38]

State Authorities

Department of Emergency Management and Homeland Security (DEMHS)

- Coordinates the delivery of assistance to local governments and state agencies as requested and available
- Receives and evaluates situation reports from local governments, state agencies, utility companies, and private relief organizations
- Disseminates emergency data and information to local governments, state, and federal agencies
- Receives and disseminates situation reports, data and information regarding the Energy Supply Disruption Tracking Process (ESDTP) from local governments, state agencies, utility companies, and other private entities as requested and available
- Assists in the coordination and implementation of energy emergency response measures

Office of Policy and Management (OPM)

- Responsible for locating supplies of fuel for emergency vehicles and making recommendations for fuel allocations
- Monitors and analyzes energy resource data and information (primarily petroleum products)
- Provides OTG with information necessary for a written finding of an energy emergency
- Advises OTG as to necessary actions, including implementation of state EAP
- Assigns OPM personnel to serve as DOE designated EEAC
- Receives and disseminates situation reports, data and information regarding the Energy Supply Disruption Tracking Process (ESDTP) from local governments, state agencies, utility companies, and other private entities as requested and available
- Assists in the coordination and implementation of energy emergency response measures
- Maintain Petroleum Products Vendor Registration (PPVR) data

Department of Environmental Protection (DEP)

- Maintains extensive petroleum resources data and information as a result of regulatory authority (monitoring, licensing and enforcement) on various aspects of the industry, e.g., refined petroleum products terminals, fuel-oil powered generation facilities, etc.
- […under development…]

CT Department of Consumer Protection (DCP)

- Maintains petroleum resources data and information as a result of regulatory authority (monitoring, licensing, enforcement) on various aspects of the industry, e.g., heating oil dealers

- […under development…]

CT Department of Transportation (ConnDOT)

- […under development…]

CT Department of Revenue Services (DRS)

- Maintains petroleum resources data and information as a result of regulatory taxing authority, e.g., wholesale petroleum products vendors
- […under development…]

Municipal Authorities

[…under development…]

Non-government Organizations (NGOs)

American Petroleum Institute (API)

- Trade association representing more than 400 members including petroleum producers, refiners, suppliers, pipeline operators, marine transporters, and service and supply companies
- Resource for data and information on petroleum industry

API / Connecticut Petroleum Council (CPC)

- Trade association (division of API) representing major oil companies, refiners, terminal operators, pipelines and others in the petroleum industry operating in Connecticut
- Resource for data and information on petroleum industry in Connecticut

National Petrochemical and Refiners Association (NPRA)

- National trade association representing approximately 450 members including nearly all US refiners and petrochemical manufacturers that supply consumers such products as gasoline, diesel fuel, home heating oil, jet fuels, lubricants and other chemicals

Independent Connecticut Petroleum Association (ICPA)

- Trade organization representing 564 petroleum marketers (i.e., home heating oil dealers and local gasoline distributors) and their associated businesses in Connecticut
- ICPA members provide 682,000 Connecticut residences with 500 million gallons of heating oil per year
- Resource for data and information on petroleum industry in Connecticut

Motor Transport Association of Connecticut, LLC (MTAC)

- Trade organization representing 1200 member companies using commercial motor vehicles (e.g., conventional transportation companies to construction and home heating oil delivery companies)
- Resource for data and information on petroleum industry delivery in Connecticut

Gasoline & Automotive Service Dealers of America, Inc. (GASDA)

- Trade organization representing Connecticut area gasoline retailers (and related businesses, e.g., convenience stores, body shops, towing operators and independent repair shops)
- Resource for data and information on petroleum industry in Connecticut

New Haven Harbor Cooperative, Inc.

- […under development…]

Critical Infrastructure and Key Resources (the supply chain)

Introduction

Critical Infrastructure and Key Resources (CIKR) can be defined as the assets, systems and networks that provide vital services to the United States and Connecticut.[39] Critical Infrastructure refers to the systems and assets, whether physical or virtual, so vital that their incapacity or destruction may have a debilitating impact on the security, economy, environment, public health or safety, of Federal, State, regional, territorial or local jurisdictions.[40] Key resources refers to publicly or privately controlled resources essential to the minimal operations of the economy and government.[41]

All energy systems and components are considered critical infrastructure – i.e., the producing, refining, transporting, generating, transmitting, conserving, building, distributing, maintaining and controlling systems and components[42].

Table [#]: Summary of Petroleum Critical Infrastructure and Key Resources (the supply chain)

	Connecticut	US
Proved Reserves (barrels)	0	
Wells	0	
Production (barrels/annual)	0	
Refineries (operable)	0	
Bulk Storage Facilities	179	
Pipelines (inter/intra-state)	1	
Maritime Delivery Systems:		
Major Seaports	3	
Major Waterways	1	
Motor Carrier Delivery Systems:		
Roadways (miles)	21000	
Bridges	5100	
Freight (train) Delivery Systems:		
Tracks (route miles)	628	
Bridges	329	
Wholesale Distributors:		
Gasoline	37	
Diesel	56	
Heating Oil	49	
Retail Distributors:		
Gasoline/Diesel Outlets (Stations)	1472	
Heating Oil Vendors (Residential)	610	
Notes: […in development…]		

Reserves/Wells/Production

Connecticut has no crude oil reserves, no crude oil wells and no crude oil production.[43] With regards to reserves, the Strategic Petroleum Reserve (SPR) are crude oil stocks (i.e., inventories of fuel stored for future use) maintained by the federal government for use during periods of major supply interruption.[44]

For a further explanation of the SPR see the "Energy Emergency Response Measures" sub-section later in this Petroleum section. The Northeast Home Heating Oil Reserve are heating oil stocks (i.e., inventories of fuel stored for future use) maintained by the federal government for use during periods of supply disruption. For a further explanation of the Northeast Home Heating Oil Reserve see the "Energy Emergency Response Measures" sub-section later in this Petroleum section.

Refineries

Refineries process crude oil into petroleum products such as gasoline, diesel fuel, jet fuel, asphalt and home heating oil.[45] There is no refinery located in Connecticut. Connecticut may be supplied with finished petroleum products from refineries located in the US or in other countries. Refineries are not necessarily the source, by virtue of their proximity (e.g., refineries located in New Jersey and Pennsylvania[46]), of finished petroleum products supplied to Connecticut.

Bulk Storage Facilities

Storage facilities for petroleum and refined petroleum products are known as petroleum bulk storage facilities – i.e., bulk stations and bulk terminals. Bulk storage facilities are primarily used for the wholesale distribution of crude petroleum and petroleum products (marketing), as well as storage.[47] They primarily receive petroleum supply by tanker, barge or pipeline. Petroleum bulk *stations* are often classified as facilities with storage capacity from 10,000 to 100,000 gallons. Petroleum bulk *terminals* are often classified as facilities with storage capacity that exceeds 100,000 gallons.[48] In addition to importing finished petroleum products ready for end-use, certain blending components are imported separately for mixture in local facilities to produce a finished product. For example, ethanol is commonly blended with motor gasoline at facilities located in Bridgeport, New Haven and Rocky Hill.

There are 179 storage sites located in Connecticut with a combined maximum storage capacity of approximately 13.3 million barrels of petroleum. Over 100 companies have ownership interests in petroleum storage, but only a handful of companies own the largest facilities. The top 10 owners/operators control 93% of storage capacity in Connecticut. There are storage facilities located throughout the state, but most reside in the greater New Haven area. Ninety-five percent (95%) of the storage capacity in Connecticut is located in seven (7) Connecticut municipalities: New Haven, Bridgeport, East Haven, Hamden, Groton, Portland and East Hartford. Storage facilities located in New Haven storage account for 45% of available storage capacity in the state, facilities located in New Haven, Bridgeport, East Haven, Hamden and Groton account for nearly 92% of available storage capacity in the state.

Pipelines (Inter/Intra-state)

Petroleum pipelines refer to crude oil and refined petroleum products used to transport crude oil and refined petroleum products.[49] There are basically three (3) major types of pipelines that compose the petroleum transportation system: gathering pipeline systems (that gather crude oil from production wells), crude oil pipeline systems (that transport crude oil from gathering systems to refineries), and

refined petroleum products pipeline systems (that transport refined petroleum products such as gasoline, etc.) from refineries, storage and distribution terminals, barges, etc. to the end users.[50]

There is only one oil pipeline in Connecticut, transporting various finished petroleum products, but not crude oil. The pipeline originates in New Haven, runs north in the middle of the state through Hartford and terminates near Springfield, Massachusetts. There are several junctions and two refined products terminals located along the pipeline route to supply wholesalers.

Maritime (waterborne) Carriers/Delivery Systems

The maritime delivery system includes the 95,000 miles of coastline, 361 ports, more than 10,000 miles of navigable waterways throughout the United States[51] and is a vital component of the petroleum supply system. The Connecticut River and Thames River are the two largest inland water routes in Connecticut. There are four seaports in Connecticut with petroleum facilities. They are located in Bridgeport, New Haven, New London/Groton, and Hartford. New Haven is the most active followed by Bridgeport and New London/Groton, respectively. Hartford is also an accessible entry point via the Connecticut River, however it is not commonly used to import petroleum product.

Motor Carriers (over-the-road) Delivery Systems

The motor carrier (over-the-road) delivery systems refer to the highways, roads, bridges and tunnels that are used to deliver petroleum and refined petroleum products. Highway encompasses more than 4 million miles of roadways and supporting infrastructure across the US.[52] Connecticut has approximately 21,000 miles of public roadways. The State (Connecticut Department of Transporation) is responsible for maintaining approximately 4,000 miles of these roadways. The remaining approximately 17,000 miles of roadways are maintained by municipalities.[53] Connecticut has approximately 5,100 bridges and 1 tunnel traversing its roadways.[54]

Freight (train) Carriers/Delivery Systems

Freight (train) carriers/delivery systems in the US consists of hundreds of railroads, more than 143,000 route-miles of track, more than 1.3 million freight cars, and approximately 20,000 locomotives.[55] Connecticut has approximately 628 miles of active publicly and privately owned rail lines[56] with approximately 329 rail bridges crossing rail lines.

Wholesale Distributors

By definition, wholesale suppliers sell products to be resold. In the petroleum industry, it is common to distinguish between primary and secondary suppliers. Primary suppliers are companies involved in petroleum refining and processing, large-scale importing and exporting, or large capacity storage and terminal operations. Secondary suppliers, also commonly referred to as 'jobbers,' receive products from primary suppliers and distribute them on a smaller scale to retail outlets, who in turn sell to consumers. Wholesalers also may be referred to as petroleum marketers – petroleum marketer is a broad

descriptive term that encompasses a wider range of businesses ranging from wholesale to retail sale operations of refined petroleum products.[57]

In Connecticut, approximately 99% of sales of wholesale refined petroleum products consist of wholesale gasoline (58%), #2 heating oil (25%), and diesel fuel (16%). The remaining 1% of sales of wholesale refined petroleum products are comprised of kerosene, #4 and #6 fuel oils, aviation gasoline and kerosene-type jet fuel.

In Connecticut, there are approximately 49 heating oil wholesale distributors – the top 10 are responsible for 92% of sales.[58]

In Connecticut, there are approximately 56 diesel fuel wholesaler distributors – the top 10 are responsible for 87% of sales.[59]

In Connecticut, there are approximately 37 gasoline fuel wholesale distributors – the top 10 are responsible for ##% of sales.[60]

Retailers Distributors

Retail distributors receive petroleum products from wholesalers to sell them to end-users. The most common types of retailers in Connecticut are gasoline stations and home heating dealers. In 2010, there were 1,472 gas stations and 610 home heating dealers licensed to operate in Connecticut. Fewer petroleum retailers supply more specialized markets (e.g. sellers of propane or kerosene). Retailers also may be referred to as petroleum marketers – petroleum marketer is a broad descriptive term that encompasses a wider range of businesses ranging from wholesale to retails sale operations of refined petroleum products.[61]

In Connecticut, the top 10 heating oil retail distributors are responsible for 21.3% of sales.

In Connecticut, the top 10 diesel fuel retailers are responsible for 58% of sales.

Cyber security

[…under development…and Smart Grid as it relates to the petroleum industry…]

Introduction

The critical infrastructure and key resources that compose the petroleum industry also include information technology, communications and control systems and networks that are an integral part of critical infrastructure operations. For example, industrial control systems, often referred to as SCADA (Supervisory Control And Data Acquisition) systems make up a comprehensive electronic system that are used to remotely and continuously, monitor, transmit and process pipeline data (e.g., flow rate, pressure, speed) as well as monitor and control pumping stations and track terminal inventories from centralized control centers.[62] The effort to secure these electronic systems and networks is referred to as cybersecurity. Broadly defined, cybersecurity refers to the prevention of damage to, unauthorized use of, or exploitation of, and, if needed, the restoration of electronic information and communications systems and the information contained therein to ensure confidentiality, integrity, and availability. Cybersecurity includes protection and restoration, when needed, of information networks and wireline, wireless, satellite, public safety answering points, and 911 communications systems and control systems.[63]

Current Petroleum Industry Initiatives

[…under development…]

The petroleum industry is engaged in ongoing activities to plan for and counter cybersecurity threats to energy infrastructure operations.[64] At the federal level, representatives from the petroleum industry have, and continue to, work closely with the US Department of Energy, and other industry partners, to participate in the development of Energy Sector Specific Plans (SSPs) – most recently the 2010 Energy SSP – which serve as Annexes to the National Infrastructure Protection Plan (NIPP). In addition to addressing and preparing for all-hazards and natural disasters, the 2010 Energy SSP addresses petroleum industry efforts regarding cybersecurity activities (e.g., identifying assets, systems and networks; assessing risk; prioritizing infrastructure; developing and implementing protective programs and resilience strategies; measuring effectiveness; and, research and development).[65] The petroleum industry has identified, in the Energy SSP, the following priorities, which include but are not limited to:

- Assessing security vulnerabilities at single-point assets such as refineries, storage terminals, and other buildings, as well as networked features such as pipelines and cyber systems
- Working toward resilient, secure cyber networks and SCADA systems in order to detect and respond to cyber attacks[66]

Additionally, petroleum industry organizations, (e.g., API and NPRA) hold security committee meetings, information technology security forums, workshops and conferences at regular intervals to share effective security cybersecurity practices.[67]

Challenges to Achieving Cybersecurity

[…under development…]

Supply

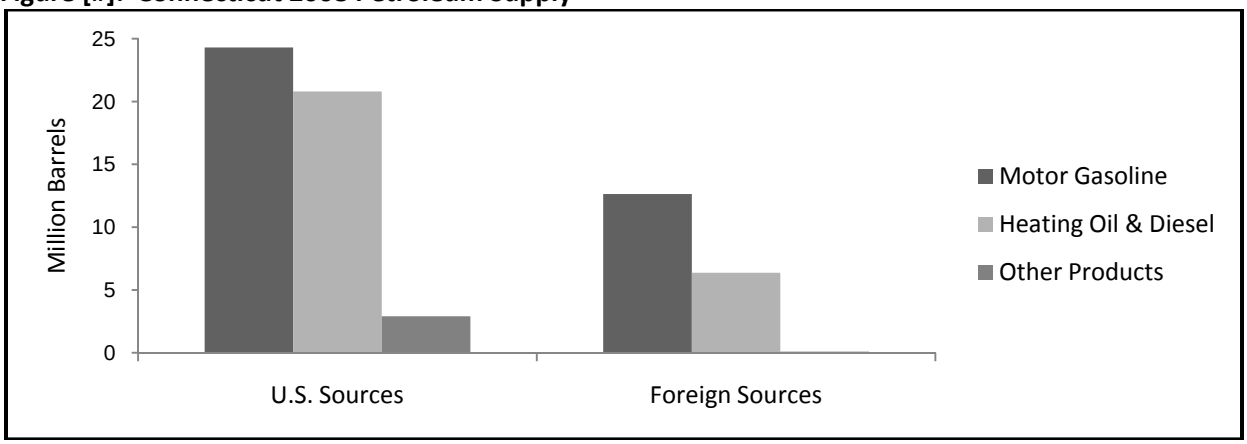
Introduction

An active supply infrastructure exists in Connecticut to bring petroleum products into the state, particularly motor gasoline, heating oil and diesel fuel.

Petroleum Products

Motor gasoline, heating oil and diesel fuel account for nearly ninety percent of petroleum products imported into Connecticut. Motor gasoline consists of all grades of finished motor gasoline or any components used for motor gasoline blending. Heating oil includes not only highly refined products for residential heating, but lesser refined products used for commercial and industrial heating purposes. Diesel fuel is primarily used for commercial transportation (i.e. trucking), but is also used for heating. Other petroleum products imported include asphalt and road oil, jet fuel, kerosene, propane and residual fuel oil.

Figure [#]: Connecticut 2008 Petroleum Supply



U.S. Sources

Petroleum products entering Connecticut from U.S. refineries account for approximately 72 percent of the total petroleum products supplied to Connecticut. While this figure represents refined petroleum products entering the state, refinery crude oil inputs could be of U.S. or foreign origin.

Foreign Sources

Petroleum products entering Connecticut from foreign refineries account for approximately 28 percent of the total amount of petroleum supplied to Connecticut. Only a handful of large companies import ninety percent of the products and, over the past three years, nearly 60 percent of imports originated from the U.S. Virgin Islands or Canada.

Demand and Consumption

Introduction

In 2008 Connecticut consumed an estimated total of 67.1 million barrels of petroleum, which is approximately 1 percent of total U.S. petroleum consumption. The transportation and residential sectors combined account for over ninety percent of total petroleum consumption in Connecticut. The figures below represent petroleum consumption for various sectors and products for Connecticut and the U.S. in 2008.

Figure [#]: Estimated Petroleum Consumption (Million Barrels), 2008

Category	Connecticut	United States	CT Share of U.S.
Total Consumption	67.1	7,136.3	0.9%
Sector			
Transportation	45.4	5,018.8	0.9%
Residential	14.2	261.8	5.4%
Commercial/Industrial	6.5	1,779.4	0.4%
Electric Generation	1.0	76.4	1.3%
Product			
Motor Gasoline	36.2	3,290.1	1.1%
Heating Oil & Diesel	23.4	1,444.0	1.6%
Other	7.5	2,402.1	0.3%

[Note: EIA, Tables S2 & F11a.]

Figure [#]: CT Consumption by Sector

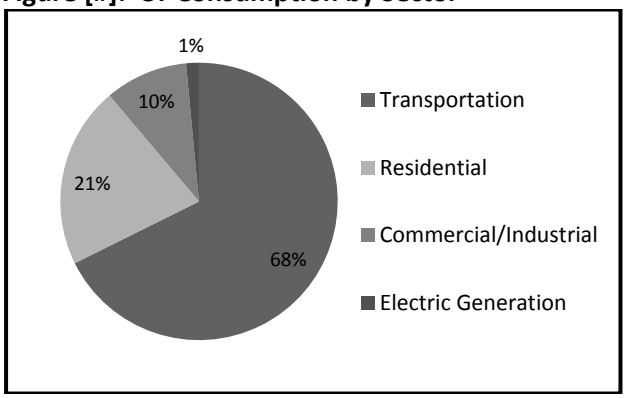
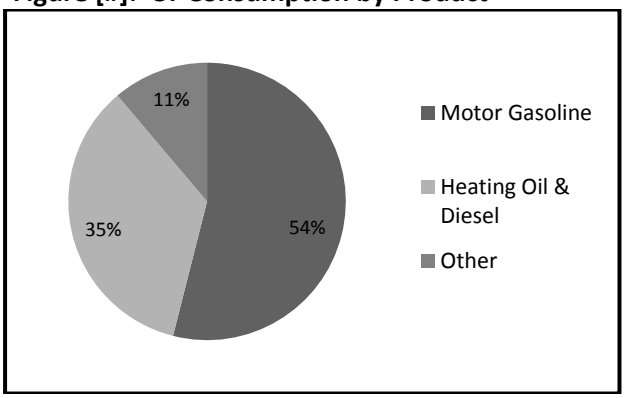


Figure [#]: CT Consumption by Product



Transportation

The Connecticut transportation sector consumed an estimated 45.4 million barrels of petroleum in 2008, accounting for approximately 68 percent of its total petroleum consumption. The United States transportation sector consumed 70 percent of its total petroleum consumption in 2008. Therefore, Connecticut consumes relatively less petroleum for transportation than the national average.

Residential

Of an estimated total of 1.3 million households in Connecticut, about fifty percent use petroleum for residential heating. In 2008, the residential sector consumed 14.2 million barrels of petroleum, which amounts to 21.2 percent of the total petroleum consumption in Connecticut for that year.

Commercial/Industrial

The commercial and industrial sectors combined accounted for 6.5 million barrels of petroleum consumption, approximately 10 percent of total consumption for 2008.

Electric Generation

Connecticut is part of an interstate electric grid operated by ISO-New England. In 2008, Connecticut consumed an estimated 990,000 barrels of petroleum for electric generation, only 1 percent of total petroleum consumption. That amount was 17.7 percent of the total petroleum consumed for electric generation by all six New England states that year.

Data Monitoring and Analysis

[refer to Energy Supply Disruption Tracking Process (ESDTP) submitted previously to DOE under separate cover]

[…under development…to be determined…]

Introduction

Price

Supply

Demand

Inventories/Stocks

Infrastructure

Weather

Other

Declaring an Energy Emergency Due to Petroleum

[…under development…to be determined…]

[What constitutes an emergency with regard to petroleum supply?]

Energy Emergency Response Measures

Introduction

As described in Section 8, energy emergency response measures function under the presumption that the affected energy industry has the greatest potential to mitigate an energy emergency. In the event of an energy emergency, the efficient and expeditious restoration of normal operations of energy facilities and supply is the responsibility of, and will best be achieved by, the energy industry. EAP energy emergency response measures are designed to augment energy industry emergency response activities (as well as state emergency response measures) and to provide an environment that allows the industry to mitigate the energy emergency situation.

Below are described a variety of response measures that can be employed to mitigate a potential, or actual, petroleum shortage. These response measures are divided into two primary categories:

- "Response Measures Available *Prior* to a Declared Energy Emergency" – i.e., measures that do not require a declaration of an energy emergency to be implemented
- "Response Measures Available *After* a Declared Energy Emergency" – i.e., measures that require a declaration of an energy emergency to be implemented

Measures Available *PRIOR* to a State Energy Emergency Declaration

Strategic Petroleum Reserve (SPR)

- Federal measure that can be utilized to add supply of petroleum (crude oil) into the petroleum supply system for refining into gasoline, heating oil, and/or additional refined petroleum products
- Emergency response tool the US President can utilize should the US be confronted with a severe energy supply interruption (i.e., a national energy supply shortage) that the President determines is, or is likely to be, of significant scope and duration; may cause major adverse impacts on national safety; and, results, or is likely to result, from an interruption in the supply of imported or domestic petroleum products, or sabotage or an act of God; or, a severe increase in the price of petroleum products has resulted and such price increase is likely to cause a major adverse impact on the national economy [Energy Policy and Conservation Act, Sec. 3 and Sec. 161][68]
- Managed by the US Department of Energy (DOE)
- Holds approximately 726.5 million barrels – its current capacity – as of November 2010[69]
- Provides approximately 75 days (based on EIA data of 9.70 million barrels/day for 2009 net petroleum imports 2009) of import protection[70] and can release oil to the market approximately 13 days from a Presidential decision and is capable of releasing (drawdown) up to 4.4 million barrels per day[71]

Northeast Home Heating Oil Reserve (NEHHOR)

- Federal measure that can be utilized to add supply of petroleum products (fuel oil) into the petroleum supply system

- NEHHOR is not part of the SPR
- Secretary of US DOE may sell products from the NEHHOR following a presidential finding that there is a severe energy supply interruption consisting of a regional supply shortage of significant scope and duration (and reserve release would significantly reduce its adverse impact), or there is a dislocation (with regards to price) in the heating oil market
- Authorized for a capacity of 2 million barrels of distillate heating oil stocks and since August 2008 has held approximately 1.98 million barrels
- Designed to provide supplemental home heating oil supply in less than 10 days on a 24 hour notice – the time required for ships to carry additional heating oil from the Gulf of Mexico to New York Harbor

Fuels Waiver

- Federal measure to address a temporary emergency fuel supply shortage that exists throughout a state or region that was caused by an unusual situation and could not have been avoided by prudent planning; fuel waivers cannot be issued to address concerns regarding fuel price
- US EPA, with concurrence of US DOE, may temporarily waive the fuel or fuel additive requirement
- Applies to gasoline and diesel fuel requirements that normally govern the particular time period (e.g., summer versus winter blends) or geographic area (e.g., RFG areas) of sale of products
- Formal request for a fuels waiver is usually made by or on behalf of the Governor (via state DEP) of an affected state and directed to the EPA Administrator, and should include:
    - The nature of the Act of God or other event that caused the shortage
    - An explanation of why the shortage was not foreseeable and could not have been prevented by prudent planning on the part of the suppliers of the fuel
    - The type of fuel for which a shortage exists
    - The geographic area that is affected
    - The effect of the shortage on fuel supplies, such as the number of gasoline stations that are, or are expected to be, out of fuel
    - The expected duration of the shortage
    - The specific nature of the waiver being requested, including the duration, the geographic area, and the alternative fuel that would be allowed
- Temporary waiver can help ensure that an adequate supply of fuel is available (particularly for emergency vehicles)

Hours of Service (HOS) Waivers

- Federal and/or state measure that can be utilized to provide supply of petroleum products (gasoline, diesel, fuel oil) into the petroleum supply system
- Federal Motor Carrier Safety Administration (an agency of US DOT) may temporarily exempt (i.e., waive) commercial motor vehicle drivers from regulations – commonly known as Hours-of-Service Regulations – governing when and how long they may drive

- Waiver allows deliveries of critical heating supplies to consumers during certain times, e.g., when severe weather coupled with logistical problems results, or may result, in shortage of a product; or, when extended wait and loading times at loading racks causes a delay in delivery and distribution of product to the state
- Waiver can be issued by Commissioner of the State of Connecticut Department of Motor Vehicles and by FMCSA

Jones Act Waiver

- Federal measure that can be utilized to temporarily allow non-US flag vessels to transport petroleum or refined petroleum products from one US port to another US port
- Under normal conditions, the Merchant Marine Act of 1920, popularly referred to as the Jones Act (46USC§55102), requires that all goods transported in coastwise trade between US ports requires the use of US-flagged, US-built, and US-crewed vessels
- Determination to grant a Jones Act Waiver is considered by US Customs and Border Protection in consultation with the US Maritime Administration (which surveys industry to determine availability of US ships), the US Department of Defense, and the US Department of Energy, and a final decision is made by the Secretary of US Department of Homeland Security
- Request content is unspecified but generally understood to include a description of the circumstances indicating that production, refining capacity, transportation or transmission of oil, refined petroleum products has been drastically impeded or stopped and that the actual or threatened/impending rationing and unavailability of refined petroleum products (e.g., gasoline, jet fuel) threatens the Nation's economic and national security and that such waivers would facilitate transportation of oil and refined petroleum products between US ports

Work Commuting Adjustments (Telecommuting Programs; Ridesharing Programs)

- Measures that can be utilized, by state government and/or private businesses, to address motor fuel demand (and thereby reduce needed supply) such as:
    - Telecommuting Programs that allow employees to work from, off-site, outside of the traditional workplace (via internet, computer, phone, fax) and avoids employees having to make the daily commute to a central place of work
    - Ridesharing Programs that allow two or more people to commute to work by sharing the use of a vehicle, other than mass transit, thereby increasing the occupancy of automobiles or other vehicles
- Connecticut Department of Transportation (ConnDOT) has a commuter service initiative entitled "Telecommute Connecticut!" that helps employers design, implement and maintain telecommuting programs
- ConnDOT also sponsors other commuting options, for commuting to work, e.g., Easy Street® vanpool and the NuRide online ride matching network

Work Hours Adjustments

- Measures that can be utilized, by state government and/or private business, to address motor fuel demand (and thereby reduce needed supply) such as:
    - Alternative work schedules:
        - Flexible work schedules – i.e., core hours (when employees must be at work) and flexible hours (governing when employees arrive and depart), or
        - Compressed work schedules – that allow employees to complete standard 40 hour work week in less than standard 5 day, 8 hour per day, work week
    - Adjusted business hours of operation

Public Information Conservation Campaign

- Public information campaign, by state government and/or private business, that can be utilized to address fuel demand by encouraging state residents to lower the temperatures on water heaters and within buildings to conserve energy resources (e.g., heating oil)

Measures Available *After* a State Energy Emergency Declaration

Petroleum Fuels Set-Aside Program (Priority End-user Program)

- State measure designed to ensure that emergency services have access to motor fuels for their vehicles
- Adoption of emergency regulations establishing administrative procedures to implement provisions of the program may be required
- […under development…to be determined…]
- […see Appendix [#] for details…]

Petroleum Products Purchase Restrictions Program

- […under development…to be determined…]

Risk Management/Assessment

The northeast region of the United States faces special challenges to ensure a reliable supply of petroleum. Most significant among these challenges are relative extremes in seasonal climates (resulting in sharp petroleum demand increases during cold winter months for residential heating) and heavy reliance on motor gasoline for transportation. Connecticut plays an important role in helping to ensure supply to the northeast as a coastal state and mainland gateway to New England from the south.

[…under development…to be determined…]

Past Supply Disruptions/Constraints

[…under development…to be determined…]

Example 1

Example 2

Example 3

Recovery

[…under development…to be determined…]

Funding Sources

Financial Incentives

Rules, Regulations, Policies

Renewable(s)

Efficiency/Conservation

Residential

Business

Government

Transportation (fuel alternatives)

Heating (fuel alternatives)

Stakeholders/Contacts

[…under development…to be determined…]

Organization, Area of Authority, Name, Title, Address, Work Phone, Email

Federal

State

Municipal

Non-government Organization

Section 17: PROPANE

[…This section is under development…potentially to be combined into petroleum section…]

Introduction

Authorities

Critical Infrastructure and Key Resources (the supply chain)

Cyber Security and Smart Grid

Supply

Demand / Consumption

Data Monitoring and Analysis

Declaring an Energy Emergency Due to Propane

Energy Emergency Response Measures

Risk Management/Assessment

Past Supply Disruptions/Constraints

Recovery

Stakeholders/Contacts

Section 18: NATURAL GAS

[…This section is under development…

Please note that energy emergency planning and response activities are substantial components of the broad, existing emergency plans of state-regulated, natural gas local distribution companies (LDCs). The LDCs have developed emergency plans that detail their response to natural gas supply disruptions ranging from isolated outages to significant events requiring the curtailment and allocation of available natural gas supply. The LDCs have existing, defined, working relationships with state regulatory authorities (e.g., Connecticut Department of Public Utility Control (DPUC)) as well as local authorities. As state regulated utilities, the LDCs are fully integrated into the state's broad emergency response activities as detailed in the State Natural Disaster Plan 2009, which is maintained by the Connecticut Department of Emergency Management and Homeland Security (DEMHS).]

Introduction

Authorities

Critical Infrastructure and Key Resources (the supply chain)

Cyber Security and Smart Grid

Supply

Demand / Consumption

Data Monitoring and Analysis

Declaring an Energy Emergency Due to Natural Gas

Energy Emergency Response Measures

Risk Management/Assessment

Past Supply Disruptions/Constraints

Recovery

Stakeholders/Contacts

Section 19: ELECTRICITY

[…This section is under development…

Please note that energy emergency planning and response activities are substantial components of the broad, existing emergency plans of state-regulated, electric distribution companies (EDCs). The EDCs have developed emergency plans that detail their response to electricity supply disruptions ranging from isolated outages to significant events requiring the curtailment and allocation of available electricity supply. The EDCs have existing, defined, working relationships with state regulatory authorities (e.g., DPUC, DEMHS) as well as local authorities. As state regulated utilities, the EDCs are fully integrated into the state's broad emergency response activities as detailed in the State Natural Disaster Plan 2009, which is maintained by the DEMHS.]

Introduction

Authorities

Critical Infrastructure and Key Resources (the supply chain)

Cyber Security and Smart Grid

Supply

Demand / Consumption

Data Monitoring and Analysis

Declaring an Energy Emergency Due to Electricity

Energy Emergency Response Measures

Risk Management/Assessment

Past Supply Disruptions/Constraints

Recovery

Stakeholders/Contacts

Section 20: RENEWABLE (ALTERNATIVE) ENERGY RESOURCES

[…This section is under development…potentially to be combined into electricity section…]

Introduction

Authorities

Critical Infrastructure and Key Resources (the supply chain)

Cyber Security and Smart Grid

Supply

Demand/Consumption

Data Monitoring and Analysis

Declaring an Energy Emergency (as regards renewable energy resources)

Energy Emergency Response Measures

Risk Management / Assessment

Past Supply Disruptions/Constraints

Recovery

Stakeholders/Contacts

PART C:

APPENDICES and END NOTES

APPENDICES

Appendix A: Selected Connecticut General Statutes (CGS §16a – …)

Appendix B: Emergency Support Function (ESF) Introduction and ESF #12 (components of the National Response Framework January 2008 (NRF))

Appendix C: State of Connecticut Hours of Service (HOS) Waiver (EXAMPLE)

Appendix D: Strategic Petroleum Reserve (SPR) – selected information […under development…]

Appendix E: Northeast Home Heating Oil Reserve – selected information […under development…]

Appendix F: State of Connecticut, Governor's Declaration of an Energy Emergency (EXAMPLE)

Appendix G: State of Connecticut, Written Finding of an Energy Emergency (EXAMPLE)

Appendix H: […under development…]

Appendix I: Organizational Chart of State Agencies Involved in Emergency Response in Connecticut – State of Connecticut Natural Disaster Plan 2009

Appendix J: […under development ...]

Appendix A: Selected Connecticut General Statutes (CGS §16a – ???)

Appendix B: Emergency Support Function (ESF) **Introduction** and **ESF #12** (components of the National Response Framework January 2008 (NRF))

EMERGENCY SUPPORT FUNCTION ANNEXES: INTRODUCTION

Purpose

This section provides an overview of the Emergency Support Function (ESF) structure, common elements of each of the ESFs, and the basic content contained in each of the ESF Annexes. The following section includes a series of annexes describing the roles and responsibilities of Federal departments and agencies as ESF coordinators, primary agencies, or support agencies.

Background

The ESFs provide the structure for coordinating Federal interagency support for a Federal response to an incident. They are mechanisms for grouping functions most frequently used to provide Federal support to States and Federal-to-Federal support, both for declared disasters and emergencies under the Stafford Act and for non-Stafford Act incidents (see Table 1).

The Incident Command System provides for the flexibility to assign ESF and other stakeholder resources according to their capabilities, taskings, and requirements to augment and support the other sections of the Joint Field Office (JFO)/Regional Response Coordination Center (RRCC) or National Response Coordination Center (NRCC) in order to respond to incidents in a more collaborative and cross-cutting manner.

While ESFs are typically assigned to a specific section at the NRCC or in the JFO/RRCC for management purposes, resources may be assigned anywhere within the Unified Coordination structure. Regardless of the section in which an ESF may reside, that entity works in conjunction with other JFO sections to ensure that appropriate planning and execution of missions occur.

Table 1. Roles and Responsibilities of the ESFs

ESF	Scope
ESF #1 – Transportation	Aviation/airspace management and control Transportation safety Restoration/recovery of transportation infrastructure Movement restrictions Damage and impact assessment
ESF #2 – Communications	Coordination with telecommunications and information technology industries Restoration and repair of telecommunications infrastructure Protection, restoration, and sustainment of national cyber and information technology resources Oversight of communications within the Federal incident management and response structures
ESF #3 – Public Works and Engineering	Infrastructure protection and emergency repair Infrastructure restoration Engineering services and construction management Emergency contracting support for life-saving and life-sustaining services
ESF #4 – Firefighting	Coordination of Federal firefighting activities Support to wildland, rural, and urban firefighting operations

ESF	Scope
ESF #5 – Emergency Management	Coordination of incident management and response efforts Issuance of mission assignments Resource and human capital Incident action planning Financial management
ESF #6 – Mass Care, Emergency Assistance, Housing, and Human Services	Mass care Emergency assistance Disaster housing Human services
ESF #7 – Logistics Management and Resource Support	Comprehensive, national incident logistics planning, management, and sustainment capability Resource support (facility space, office equipment and supplies, contracting services, etc.)
ESF #8 – Public Health and Medical Services	Public health Medical Mental health services Mass fatality management
ESF #9 – Search and Rescue	Life-saving assistance Search and rescue operations
ESF #10 – Oil and Hazardous Materials Response	Oil and hazardous materials (chemical, biological, radiological, etc.) response Environmental short- and long-term cleanup
ESF #11 – Agriculture and Natural Resources	Nutrition assistance Animal and plant disease and pest response Food safety and security Natural and cultural resources and historic properties protection and restoration Safety and well-being of household pets
ESF #12 – Energy	Energy infrastructure assessment, repair, and restoration Energy industry utilities coordination Energy forecast
ESF #13 – Public Safety and Security	Facility and resource security Security planning and technical resource assistance Public safety and security support Support to access, traffic, and crowd control
ESF #14 – Long-Term Community Recovery	Social and economic community impact assessment Long-term community recovery assistance to States, local governments, and the private sector Analysis and review of mitigation program implementation
ESF #15 – External Affairs	Emergency public information and protective action guidance Media and community relations Congressional and international affairs Tribal and insular affairs

ESF Notification and Activation

The NRCC, a component of the National Operations Center (NOC), develops and issues operations orders to activate individual ESFs based on the scope and magnitude of the threat or incident.

ESF primary agencies are notified of the operations orders and time to report to the NRCC by the Department of Homeland Security (DHS)/Federal Emergency Management Agency (FEMA) Operations Center. At the regional level, ESFs are notified by the RRCC per established protocols.

ESF primary agencies notify and activate support agencies as required for the threat or incident, to include support to specialized teams. Each ESF is required to develop standard operating procedures (SOPs) and notification protocols and to maintain current rosters and contact information.

ESF Member Roles and Responsibilities

Each ESF Annex identifies the coordinator and the primary and support agencies pertinent to the ESF. Several ESFs incorporate multiple components, with primary agencies designated for each component to ensure seamless integration of and transition between preparedness, response, and recovery activities. ESFs with multiple primary agencies designate an ESF coordinator for the purposes of preincident planning and coordination of primary and supporting agency efforts throughout the incident. Following is a discussion of the roles and responsibilities of the ESF coordinator and the primary and support agencies.

ESF Coordinator

The ESF coordinator is the entity with management oversight for that particular ESF. The coordinator has ongoing responsibilities throughout the preparedness, response, and recovery phases of incident management. The role of the ESF coordinator is carried out through a "unified command" approach as agreed upon collectively by the designated primary agencies and, as appropriate, support agencies. Responsibilities of the ESF coordinator include:

- Coordination before, during, and after an incident, including preincident planning and coordination.
- Maintaining ongoing contact with ESF primary and support agencies.
- Conducting periodic ESF meetings and conference calls.
- Coordinating efforts with corresponding private-sector organizations.
- Coordinating ESF activities relating to catastrophic incident planning and critical infrastructure preparedness, as appropriate.

Primary Agencies

An ESF primary agency is a Federal agency with significant authorities, roles, resources, or capabilities for a particular function within an ESF. ESFs may have multiple primary agencies, and the specific responsibilities of those agencies are articulated within the relevant ESF Annex. A Federal agency designated as an ESF primary agency serves as a Federal executive agent under the Federal Coordinating Officer (or Federal Resource Coordinator for non-Stafford Act incidents) to accomplish the ESF mission. When an ESF is activated in response to an incident, the primary agency is responsible for:

- Supporting the ESF coordinator and coordinating closely with the other primary and support agencies.
- Orchestrating Federal support within their functional area for an affected State.

- Providing staff for the operations functions at fixed and field facilities.
- Notifying and requesting assistance from support agencies.
- Managing mission assignments and coordinating with support agencies, as well as appropriate State officials, operations centers, and agencies.
- Working with appropriate private-sector organizations to maximize use of all available resources.
- Supporting and keeping other ESFs and organizational elements informed of ESF operational priorities and activities.
- Conducting situational and periodic readiness assessments.
- Executing contracts and procuring goods and services as needed.
- Ensuring financial and property accountability for ESF activities.
- Planning for short- and long-term incident management and recovery operations.
- Maintaining trained personnel to support interagency emergency response and support teams.
- Identifying new equipment or capabilities required to prevent or respond to new or emerging threats and hazards, or to improve the ability to address existing threats.

Support Agencies

Support agencies are those entities with specific capabilities or resources that support the primary agency in executing the mission of the ESF. When an ESF is activated, support agencies are responsible for:

- Conducting operations, when requested by DHS or the designated ESF primary agency, consistent with their own authority and resources, except as directed otherwise pursuant to sections 402, 403, and 502 of the Stafford Act.
- Participating in planning for short- and long-term incident management and recovery operations and the development of supporting operational plans, SOPs, checklists, or other job aids, in concert with existing first-responder standards.
- Assisting in the conduct of situational assessments.
- Furnishing available personnel, equipment, or other resource support as requested by DHS or the ESF primary agency.
- Providing input to periodic readiness assessments.
- Maintaining trained personnel to support interagency emergency response and support teams.
- Identifying new equipment or capabilities required to prevent or respond to new or emerging threats and hazards, or to improve the ability to address existing threats.

When requested, and upon approval of the Secretary of Defense, the Department of Defense (DOD) provides Defense Support of Civil Authorities (DSCA) during domestic incidents. Accordingly, DOD is considered a support agency to all ESFs.

ESF Coordinator:

Department of Energy

Primary Agency:

Department of Energy

Support Agencies:

Department of Agriculture
Department of Commerce
Department of Defense
Department of Homeland Security
Department of the Interior
Department of Labor
Department of State
Department of Transportation
Environmental Protection Agency
Nuclear Regulatory Commission
Tennessee Valley Authority

INTRODUCTION

Purpose

Emergency Support Function (ESF) #12 – Energy is intended to facilitate the restoration of damaged energy systems and components when activated by the Secretary of Homeland Security for incidents requiring a coordinated Federal response. Under Department of Energy (DOE) leadership, ESF #12 is an integral part of the larger DOE responsibility of maintaining continuous and reliable energy supplies for the United States through preventive measures and restoration and recovery actions.

Scope

ESF #12 collects, evaluates, and shares information on energy system damage and estimations on the impact of energy system outages within affected areas. Additionally, ESF #12 provides information concerning the energy restoration process such as projected schedules, percent completion of restoration, and geographic information on the restoration. ESF #12 facilitates the restoration of energy systems through legal authorities and waivers. ESF #12 also provides technical expertise to the utilities, conducts field assessments, and assists government and private-sector stakeholders to overcome challenges in restoring the energy system.

The term "energy" includes producing, refining, transporting, generating, transmitting, conserving, building, distributing, maintaining, and controlling energy systems and system components. All energy systems are considered critical infrastructure.

Policies

ESF #12:

- Addresses significant disruptions in energy supplies for any reason, whether caused by physical disruption of energy transmission and distribution systems, unexpected operational failure of such systems, or unusual economic or international political events.

- Addresses the impact that damage to an energy system in one geographic region may have on energy supplies, systems, and components in other regions relying on the same system. Consequently, energy supply and transportation problems can be intrastate, interstate, and international.

- Performs the Federal coordination role for supporting the energy requirements associated with National Special Security Events.

- Is the primary Federal point of contact with the energy industry for information sharing and requests for assistance from private- and public-sector owners and operators.

- Maintains lists of energy-centric critical assets and infrastructures, and continuously monitors those resources to identify and mitigate vulnerabilities to energy facilities.

- Establishes policies and procedures regarding preparedness for attacks to U.S. energy sources and response and recovery due to shortages and disruptions in the supply and delivery of electricity, oil, natural gas, coal, and other forms of energy and fuels that impact or threaten to impact large populations in the United States.

Restoration of normal operations at energy facilities is the responsibility of the facility owners.

For those parts of the Nation's energy infrastructure owned and/or controlled by DOE, DOE undertakes all preparedness, response, recovery, and mitigation activities.

CONCEPT OF OPERATIONS

ESF #12 provides the appropriate supplemental Federal assistance and resources to enable restoration in a timely manner.

Collectively, the primary and support agencies that comprise ESF #12:

- Serve as the focal point within the Federal Government for receipt of information on actual or projected damage to energy supply and distribution systems and requirements for system design and operations, and on procedures for preparedness, restoration, recovery, and mitigation.

- Advise Federal, State, tribal, and local authorities on priorities for energy restoration, assistance, and supply.

- Assist industry, State, tribal, and local authorities with requests for emergency response actions as required to meet the Nation's energy demands.

- Assist Federal departments and agencies by locating fuel for transportation, communications, emergency operations, and national defense.

- Provide guidance on the conservation and efficient use of energy to Federal, State, tribal, and local governments and to the public.

- Provide assistance to Federal, State, tribal, and local authorities utilizing Department of Homeland Security (DHS)/Federal Emergency Management Agency (FEMA)-established communications systems.

ORGANIZATION

Headquarters

ESF #12 is coordinated through Headquarters DOE. ESF #12 is activated when DHS/FEMA notifies the 24-hour Headquarters DOE Emergency Operations Center.

When activated by DHS/FEMA, ESF #12 provides representatives to the DHS National Operations Center, Domestic Readiness Group, and National Response Coordination Center (NRCC).

Regional-Level ESF #12 Support

ESF #12 assigns regional coordinators to each of the 10 DHS/FEMA regions. These coordinators attend meetings, participate in exercises, and develop expertise on regional issues and infrastructure.

ESF #12 participates in Regional Interagency Steering Committee preparedness and coordination activities.

When activated by DHS/FEMA, ESF #12 representatives deploy to the Regional Response Coordination Center (RRCC). The ESF #12 Team Leader at the RRCC coordinates assignments, actions, and other support until the Joint Field Office (JFO) is established and mission-execution responsibilities are transferred to the JFO ESF #12 Team Leader. ESF #12 provides incident-related reports and information to ESF #5 – Emergency Management.

Field-Level ESF #12 Support

When activated by DHS/FEMA, ESF #12 representatives deploy as members of incident management teams.

When activated by DHS/FEMA, ESF #12 representatives can also deploy as members of the Rapid Needs Assessment Team.

When activated by DHS/FEMA, ESF #12 personnel deploy to the JFO.

State, Tribal, and Local

State, tribal, and local governments have primary responsibility for prioritizing the restoration of energy facilities. State, tribal, and local governments are fully and consistently integrated into ESF #12 operations. When activated, ESF #12 personnel may deploy to State emergency operations centers.

Private Sector

ESF #12 coordinates information and requests for assistance with the following private-sector entities: the electricity and the oil and natural gas sector coordinating councils, the Electric Reliability Organization, and various associations that represent portions of the energy sector.

ACTIONS

Preincident

In cooperation with the Energy Sector, ESF #12 develops and implements methodologies and standards for physical, operational, and cyber security for the energy industry.

ESF #12 conducts energy emergency exercises with the energy industry, Federal partners, States, and tribal and local governments to prepare for energy and other emergencies.

The private sector owns and operates the majority of the Nation's energy infrastructure and participates along with the DOE in developing best practices for infrastructure design and operations.

DOE assists the States in the preparation of State Energy Assurance Plans to improve the reliability and resiliency of the Nation's energy systems.

ESF #12 works with the DHS/FEMA regions, the private sector, States, and tribes to develop procedures and products that improve situational awareness to effectively respond to a disruption of the energy sector.

DOE monitors the energy infrastructure and shares information with Federal, State, tribal, local, and industry officials.

In anticipation of a disruption to the energy sector, DOE analyzes and models the potential impacts to the electric power, oil, natural gas, and coal infrastructures; analyzes the market impacts to the economy; and determines the effect the disruption has on other critical infrastructure and key resources (CIKR).

Incident

The private sector normally takes the lead in the rapid restoration of infrastructure-related services after an incident occurs. Appropriate entities of the private sector are integrated into ESF #12 planning and decisionmaking processes.

Upon activation of ESF #12, DOE Headquarters establishes the Emergency Management Team and activates DOE disaster response procedures.

DOE assesses the energy impacts of the incident, provides analysis of the extent and duration of energy shortfalls, and identifies requirements to repair energy systems.

In coordination with DHS and State, tribal, and local governments, DOE prioritizes plans and actions for the restoration of energy during response and recovery operations.

ESF #12 coordinates with other ESFs to provide timely and accurate energy information, recommends options to mitigate impacts, and coordinates repair and restoration of energy systems.

ESF #12 facilitates the restoration of energy systems through legal authorities and waivers.

DOE provides subject-matter experts to the private sector to assist in the restoration efforts. This support includes assessments of energy systems, latest technological developments in advanced energy systems, and best practices from past disruptions.

ESF #12 coordinates preliminary damage assessments in the energy sector to determine the extent of the damage to the infrastructure and the effects of the damage on the regional and national energy system.

Within the JFO, ESF #12 serves as the primary source for reporting of CIKR damage and operating status for the energy systems within the impacted area. The Infrastructure Liaison, if assigned, proactively coordinates with ESF #12 on matters relating to security, protection, and/or restoration that involve sector-specific, cross-sector, or cascading effects impacting ESF #12. (See the CIKR Support Annex for further details.)

Postincident

ESF #12 participates in postincident hazard mitigation studies to reduce the adverse effects of future disasters.

ESF #12 assists DHS/FEMA in determining the validity of disaster-related expenses for which the energy industry is requesting reimbursement based upon the Stafford Act.

DOE leads and participates in various best practices and lessons learned forums to ensure future disruptions are addressed in the most efficient manner possible.

In coordination with the Pipeline and Hazardous Materials Safety Administration, ESF #12 ensures the safety and reliability of the Nation's natural gas and hazardous material pipelines.

RESPONSIBILITIES

Primary Agency: DOE

- Serves as the focal point for issues and policy decisions relating to energy response and restoration efforts.
- Assesses energy system damage and monitors repair work.
- Collects, assesses, and provides information on energy supply, demand, and market impacts; and contributes to situation and after-action reports.
- Identifies supporting resources needed to restore energy systems.
- Deploys DOE response teams as needed to affected area(s) to assist in response and restoration efforts.
- Reviews and sponsors the energy industry's requests for Telecommunications Service Priority (TSP) assignments to provision new services.
- Is the Sector-Specific Agency for the energy sector under Homeland Security Presidential Directive 7, "Critical Infrastructure Identification, Prioritization, and Protection."

SUPPORT AGENCIES

Agency	Functions
Department of Agriculture	**Rural Development (RD)** • Provides technical support and access to both damage assessments and restoration efforts for electric power generation, transmission, and distribution in Rural Development Utilities Program-financed systems. • Gathers and communicates information, as appropriate, from Rural Development Utilities Program-financed systems to assess impacts and needs. • Provides information (location, type, owners, and/or management service) on available USDA-financed, habitable housing units in its inventory that are not under lease or under agreement of sale for response or emergency personnel and their organizations' representatives to contact for housing during response activities.
	Multifamily Housing: Identifies owners of available apartments in federally funded multifamily housing to provide shelter to emergency response personnel in the affected area.
Department of Commerce	**National Oceanic and Atmospheric Administration (NOAA)** • Provides current and forecast weather information and dispersion model forecasts through its National Centers for Environmental Prediction and its local weather forecast offices and river forecast centers. • Provides public dissemination of critical event information over the NOAA All Hazards Weather Radio system, NOAA Weather Wire Service, and Emergency Managers Information Network.
Department of Defense	**U.S. Army Corps of Engineers:** Coordinates Emergency Power team missions with power-system restoration activities to establish priorities for emergency generator installation.
Department of Homeland Security	**Office of Infrastructure Protection** • Provides management of the National Infrastructure Protection Plan. • Provides overall coordination of the Nation's CIKR mission area. • Manages the National Infrastructure Coordinating Center, the National Asset Data Base, the National Infrastructure Simulation and Analysis Center, and the Homeland Infrastructure Threat Reporting and Analysis Center (in coordination with DHS/Office of Information and Analysis). • Manages a nationwide organization of Protective Security Advisors. • Trains and deploys Infrastructure Liaisons and Advisors to support incident management activities. (See the CIKR Support Annex for further detail.) • Develops and maintains a critical infrastructure list of energy facilities. • Develops and maintains a critical assets list of energy facilities. • Identifies and publicizes threats to specific energy facilities. • Coordinates with DOE and the private sector to conduct vulnerability assessments on energy infrastructure associated with terrorism, and coordinates the implementation of protective measures. • Through the Infrastructure Liaison, provides situational awareness and prioritized recommendations concerning the recovery and restoration of the associated CIKR sectors supported by this ESF.

Agency	Functions
Department of Homeland Security (Continued)	**National Communications System** • Through ESF #2 Communications, assists DOE in its efforts to aid the energy industry in providing new services or to restore existing services that are assigned TSP restoration priorities. • Assesses damage to telecommunications identified by DOE as essential for energy system restoration (electrical service priorities).
	Science and Technology Directorate: Provides coordination of Federal science and technology resources..
Department of the Interior	**Bureau of Land Management** • Provides information on energy production and supply on Federal lands. • Assesses damage to energy-related infrastructure. • Provides engineering and technical support as necessary. • Develops and maintains information on critical energy-related infrastructure on Federal and tribal lands.
	Bureau of Reclamation • Provides technical assistance for the assessment of hydroelectric facilities and flood control actions as they affect energy production. • Uses Bureau of Reclamation personnel to assist in the repair of damaged hydropower generation facilities. • Modifies operations at Bureau of Reclamation facilities to increase electrical generation to supplement losses in areas affected by an incident. • Uses hydroelectric plant internal restart capabilities to assist in restoring the power system if blackouts occur.
	Minerals Management Service • For Outer Continental Shelf (OCS) facilities, provides energy production and well reserve information. • Assesses energy production damage and projected repair schedules for offshore facilities. • Assists operators in minimizing the disruption of energy production by expediting review and approval of repair procedures for damaged facilities and/or in the prompt review and approval of proposals to resume production through the temporary rerouting of oil and gas production until permanent system(s) repair can be effected. • Provides engineering and technical support as necessary. • Assists DHS/U.S. Coast Guard in the development of critical asset list of OCS oil and gas facilities. • Monitors and updates critical asset list of OCS oil and gas facilities.
Department of Labor	**Occupational Safety and Health Administration:** Implements processes identified in the Worker Safety and Health Support Annex to provide technical assistance during the restoration of the Nation's energy systems.
Department of State	• Coordinates with foreign nations and international organizations for assistance and information regarding energy supply and system damage. • Assists in implementation of emergency-related international energy agreements.

Agency	Functions
Department of Transportation (DOT)	**ESF #1:** DOT provides transportation infrastructure situational awareness and planning information to Federal, State, tribal, and local planners and response organizations.
	Pipeline and Hazardous Materials Safety Administration (PHMSA): PHMSA's Office of Pipeline Safety (OPS) is the Federal safety authority for the Nation's natural gas and hazardous liquid pipelines and liquefied natural gas facilities. OPS: • Ensures the safe, reliable, and environmentally sound operation of the Nation's pipeline transportation system. • Responds to requests for waivers of restrictions to meet emergency energy delivery requirements. • In coordination with DOE's Office of Electricity Delivery and Energy Reliability, coordinates activities and shares information needed to ensure that the sectors of the energy infrastructure subject to each agency's jurisdiction or oversight can efficiently and effectively coordinate and integrate energy assurance activities. PHMSA's Office of Hazardous Materials Safety assists State, tribal, and local authorities with requests for special permits and approvals relating to the movement of hazardous materials in support of the Nation's energy demands.
	Maritime Administration (MARAD): Acts as the center for information on the location, capacity, and availability of U.S.-flag vessels suitable for the movement of energy supplies, including petroleum products and liquefied natural gas. Pursuant to a memorandum of agreement, coordinates with DOE and DHS/Customs and Border Protection on whether national defense considerations warrant waiver of the U.S. Cabotage law for the movement of energy supplies.
Environmental Protection Agency (EPA)	• Responds to requests from State and local officials for EPA to exercise enforcement discretion to waive environmental requirements for motor vehicle fuel in order to address supply shortages, normally in the context of natural disasters or significant disruptions in the fuel production or distribution systems. • Coordinates the collection of motor vehicle fuel supply information necessary to evaluate an enforcement discretion request. • Assists in identifying critical water and wastewater systems requiring priority power restoration.
Nuclear Regulatory Commission	• Regulates the Nation's civilian use of nuclear fuels and materials to include commercial nuclear power plants. • Provides information and technical assessment regarding nuclear powerplants.
Tennessee Valley Authority	• Assesses supply, system damage, and repair requirements within the Tennessee Valley Authority. • Supplies surplus power as required to the power grid. • Supplies critical replacement parts and equipment as requested. • Supplies technical expertise as requested.

Appendix C: State of Connecticut Hours of Service (HOS) Waiver (EXAMPLE)

STATE OF CONNECTICUT

DEPARTMENT OF MOTOR VEHICLES

60 State Street, Wethersfield, CT 06161

http://ct.gov/dmv

SAFETY SECURITY SERVICE DMV

DECLARATION OF EMERGENCY NOTICE

Pursuant to Title 49 Code of Federal Regulations (CFR), section 390.23 and Connecticut General Statue (CGS) §14-163c, William Ramirez, Deputy Commissioner of the Department of Motor Vehicles has granted a limited exemption from the provisions of 49 CFR 395.3, based on an emergency pertaining to the **intrastate** transportation of propane gas.

The emergency exemption is issued as a result of the logistical problems associated with the distribution of propane gas, which is due in part to the shortage of propane availability, increased travel, extended wait and loading times at the loading racks, causing an increase delay in delivery and distribution of propane gas to the State of Connecticut. **It is effective beginning January 5, 2011 11:59 p.m., EST.**

Declaration of this emergency provides relief from 49 CFR 395.3 of the Federal Motor Carrier Safety Regulations and CGS §14-163c, for the motor carriers while providing propane gas to Connecticut retailers for distribution to Connecticut homes and businesses during the emergency. This declaration of emergency applies to certain Hours of Service Regulations under 49 CFR Part 395.

This exemption applies only to those motor carriers providing direct assistance to the emergency propane gas relief effort. Direct assistance terminates when a driver or commercial motor vehicle is used in intrastate or interstate commerce to transport cargo not destined for the emergency relief effort or when the carrier dispatches such driver to another location to begin operations in commerce.

EXAMPLE

Nothing contained in this declaration shall be construed as an exemption from the Controlled Substances and Alcohol Use and Testing requirements (49 CFR 382), the Commercial Drivers License requirements (49 CFR 383), the Minimum Levels of Financial Responsibility for Motor Carriers (49 CFR 387) and applicable size and weight requirements or any other portion of the statues or regulations not specifically identified.

Motor Carriers that have an Out-of-Service Order in effect cannot take advantage of the relief from the regulations that this declaration provides under 49 CFR 390.23. Additionally, motor carriers who have any revocation of registration privileges under CGS §14-215 by the Commissioner of Motor Vehicles cannot take advantage of relief of regulations.

No motor carrier operating under the terms of this notice shall require or permit a fatigued or ill driver to operate a commercial motor vehicle. A driver who informs a motor carrier that he or she needs immediate rest shall be given at least ten consecutive hours off-duty before the driver is allowed to return to service.

Drivers of motor carriers that operate under the Declaration of Emergency Notice must have a copy of it in their possession.

Drivers who utilize this exemption may come back into compliance and restart the hours of service clock after taking 24 hours off-duty at the end of their extended hours period.

Consistent with 49 CFR 390.23 and CGS §14-163c, the emergency notice will remain in effect for the duration of the emergency (as defined in 49 CFR 390.5) or until **January 15, 2011 11:59 p.m., EST** whichever is less.

William Ramirez
Deputy Commissioner
State of Connecticut
Department of Motor Vehicles

1/5/11
Date

C: James Rio, Division Chief, Commercial Vehicle Safety Division
File

EXAMPLE

Appendix D: Strategic Petroleum Reserve (SPR) – selected information

Appendix E: Northeast Home Heating Oil Reserve – selected information

Appendix F: State of Connecticut, Governor's Declaration of an Energy Emergency (EXAMPLE)

Appendix G: State of Connecticut, Written Finding of an Energy Emergency (EXAMPLE)

END NOTES

[…under development…to be included in final EAP]