

**ORDER**

SW 1052.2

**ENERGY CONTINGENCY PLAN**



4/1/80

**DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION**

**SOUTHWEST REGION**

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*ASW-400 is new OPI*

FOREWORD

This order establishes the Energy Contingency Plan for the Southwest Region. It provides policy guidance for all divisions, staff offices, field offices and facilities and assures continuation of executive direction in the event of an energy shortage.

A handwritten signature in black ink, reading "C. R. Melugin, Jr." in a cursive style.

C. R. MELUGIN, JR.  
Director

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## CHAPTER 1. PURPOSE AND SCOPE OF PLAN

1. PURPOSE. This order establishes the Energy Contingency Plan for the Southwest Region. It provides policy guidance for all divisions, staff offices, field offices and facilities and assures continuation of executive direction in the event of an energy shortage.
2. DISTRIBUTION. This order is distributed to branch level in Regional headquarters, all field offices and facilities, and all Local Coordinators.
3. BACKGROUND

a. Past experiences have dramatically demonstrated the vulnerability of the nation to disruptions in energy supply. In 1972, the nation experienced fuel oil and propane shortages. In 1973, the Arab embargo resulted in petroleum shortages, requiring service station closings, and caused long lines at open service stations. In 1976, the severe winter weather resulted in energy supply disruptions.

b. Presently, the nation is again facing energy supply shortages. Because of the reduction in Middle East crude exports, the supply of gasoline and middle distillate fuels will not meet normal demand. In many states, long lines at service stations have resulted. In all parts of the nation, automobile service stations are reducing hours of operation and limiting purchases.

c. The Southwest Region controls and maintains many facilities as a part of the National Aviation System (NAS). The region also provides services to the aviation public through its regional office and major field offices. These facilities and offices are energy dependent, and energy disruptions can result in local service disruptions as well as have severe impact on the entire NAS.

4. PURPOSE AND SCOPE OF THE CONTINGENCY PLAN.

a. This energy contingency plan has been designed as a tool to insure decisive, timely, and accurate responses to problems during energy emergencies. The objective is to mitigate the impact of an emergency on the operation of the NAS and on the personnel of the region. The specific types of energy resources considered in this plan are: natural gas, electricity, and petroleum products. Both supply reductions and non-availability are addressed.

b. The contingency plan is a dynamic tool in that it is comprised of an emergency management framework which brings to bear all of the information, technical expertise, and operating authorities in the FAA regional elements necessary to alleviate the impact of the problem. In addition, specific policy actions for each type of energy emergency are identified to insure a rapid agency response. Accordingly, this plan must be regularly and promptly updated to include any changes in the management structure and personnel.

5. - 9. RESERVED.

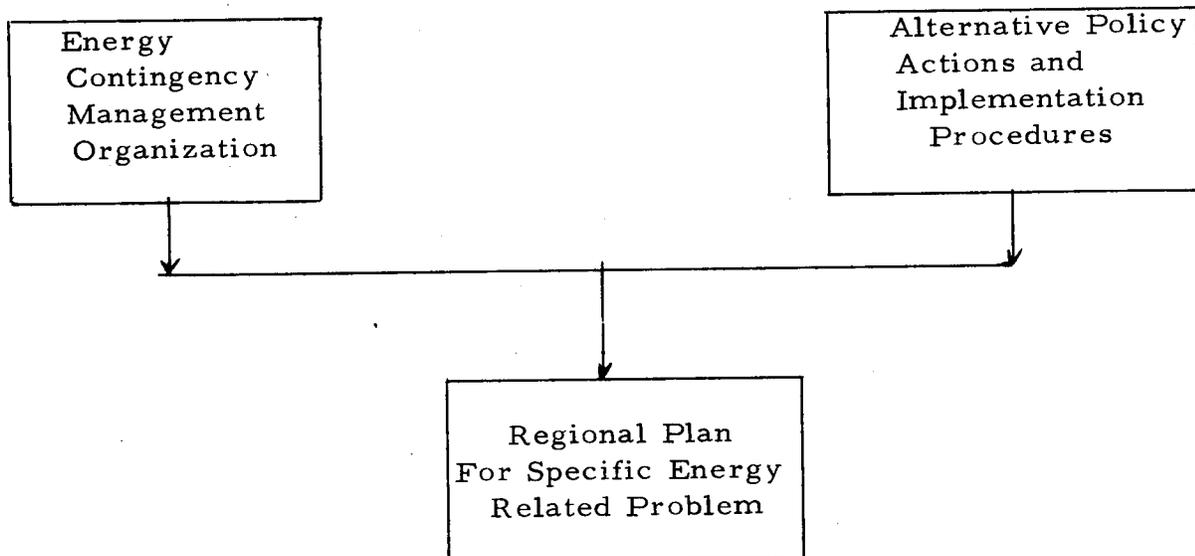
## CHAPTER 2. ORGANIZATION OF PLAN

### SECTION 1. OVERVIEW OF PLAN COMPONENTS

#### 10. GENERAL.

a. Figure 2-1 presents the two broad elements comprising the Southwest Region Energy Contingency Plan.

Figure 2-1: Energy Contingency Plan



b. The Plan is made flexible by having the Management Organization act upon the alternative policy actions and implementation procedures which are identified. This produces a plan aimed at attacking a specific energy-related problem as the problem arises and unique characteristics become apparent.

c. The Energy Contingency Management Organization brings to bear the information and the analytical and management capabilities of the FAA regional elements to mitigate the impact of the energy emergency. The Management Organization is composed of four components:

1. Information/Analysis Component
2. Advisory Component
3. Decisionmaking Component
4. Implementation Component

d. The responsibilities of the individual regional elements within these components have been clearly defined in the plan and the corresponding lines of communication established.

e. The information/analysis component brings together all intelligence concerning a problem so that the most current and complete information is used in the development of the policy actions. The advisory unit examines the information and analysis as well as the alternative actions identified in this plan, from which it makes recommendations to the decisionmaking unit in terms of the most appropriate course of action. The decisionmaking unit decides the actual actions to be taken. The implementation unit coordinates all actions of the regional elements designed to mitigate the energy problem. Continuity within and among each of the components of the Energy Contingency Management Organization is maintained through the active participation of the Regional Energy Coordinator, ASW-4.

f. In addition to the Management Organization, the contingency plan identifies the policies and implementation procedures which could be taken for each major type of energy emergency. A step-by-step approach for attacking each energy problem is presented. At each step, the policy actions to be taken, the trigger mechanism for the implementation, and the parties responsible for implementation are identified.

## SECTION 2. PLAN IMPLEMENTATION

### 11. STEP BY STEP PROCEDURE.

#### a. Step 1: Set up Management Organization

(1) Coordinate development of this plan to orient officials with their responsibilities and establish lines of communication.

(2) Establish information and analysis activities in regional elements.

b. Step 2: Identify Impending Energy Emergency. Identify nature and the anticipated magnitude of the problem through situation monitoring.

c. Step 3: Finalize Action Plan for the Particular Energy Emergency.

- (1) Select action plan for the particular problem.
  - (2) Develop final recommendations for policies and implementation procedures for presentation to the Decisionmaking Unit.
  - (3) Develop final action plan (by the Decisionmaking Unit).
- d. Step 4: Implementation of the Plan. Implementation of policy actions designed to alleviate the impact of energy contingencies.
- e. Step 5: Regular Update of Plan
- (1) This plan should be promptly and regularly updated to include changes in the regional management structure and personnel.
  - (2) Update should include changes to the energy supply to our facilities/offices.
  - (3) Update should incorporate the successes or problems of the plan in meeting future contingencies.

12. - 19. RESERVED.

## CHAPTER 3. MANAGEMENT ORGANIZATION

20. PRINCIPLES. There are several principles upon which the Management Organization has been founded:

a. The technical and advisory capabilities in each of the field facilities and offices must be fully brought to bear in mitigating the impacts of an energy emergency on operation of the system and well-being of personnel.

b. Because of the localized nature of energy emergencies, only the field office and facility chiefs and their staff can adequately assess the character and impact of the energy emergency.

c. Full utilization is made of normal operating activities of regional elements and organized into a framework for decision and action.

d. All lines of communication and responsibilities must be made explicit.

e. Accurate and timely information is a necessity.

f. Continuity must be maintained throughout the management framework; therefore, the Regional Energy Coordinator is the coordinating element.

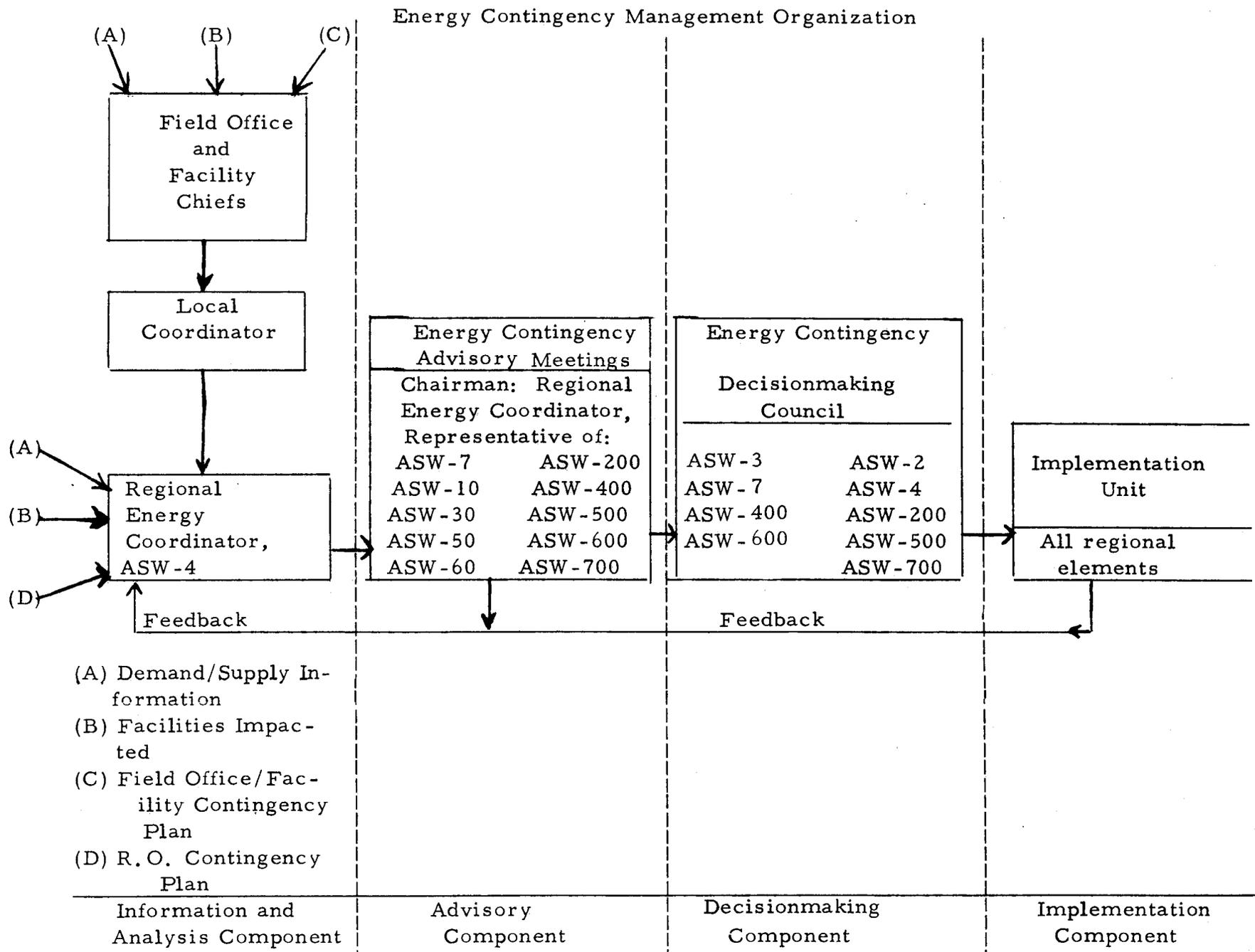
g. All public statements concerning FAA's actions emanate from one local source to insure that accurate and timely information is released.

21. OVERVIEW. Figure 3-1 presents an overview of the structure of the Management Organization for meeting energy contingencies. A discussion of each of the components of the Management Organization follows as paragraphs 22 thru 25.

22. INFORMATION/ANALYSIS COMPONENT.

a. This component is responsible for obtaining all basic intelligence required for other components to make accurate and timely decisions. Each piece of information must be gathered and analyzed by the regional element which is most familiar with the information source. This allows the most rapid and most accurate analysis of the data. The information

Figure 3-1



should be passed on from the field office/facilities to the Local Coordinator, then on to the Regional Energy Coordinator for further analysis and reposit. Because of the interrelationship of facilities in the NAS and services provided by the agency, it is necessary that an integrated analysis be performed. It is also vital that all information be available in a central repository to insure speedy access when needed.

b. Three broad types of data must be collected and analyzed. These are: supply/demand information, facilities impacted, and energy contingency actions.

c. Supply/demand information is comprised of short-term, timely data which permit the identification of an impending problem and therefore acts as an early warning mechanism. Facility information will identify each facility/office which is directly involved in the energy emergency. Energy contingency actions are those actions that can be identified that will mitigate the impact of the energy emergency.

d. The Regional Energy Coordinator will be the central repository for all information and analysis. ASW-4 will be responsible for developing the overall analysis of the data provided by regional elements and gathered from outside sources.

### 23. ADVISORY COMPONENT.

a. This component provides Energy Contingency Advisory information. As needed, a meeting will be chaired by the Regional Energy Coordinator and will consist of a representative of each of the following offices (7, 10, 30, 50, 60, 200, 400, 500, 600, 700).

b. The meeting will be conducted in order to develop detailed recommendations of the policy actions which should be considered for implementation to meet the energy emergency. The participants will meet at the call of the Regional Energy Coordinator and will review information, analysis, and recommended policy actions from the field.

24. DECISIONMAKING COMPONENT. The Energy Contingency Decision-making Council will be chaired by the Deputy Director and will consist of the Executive Officer, Regional Counsel, Planning Staff Chief, and Division Chiefs of the program divisions.

25. IMPLEMENTATION COMPONENT. This component includes all regional elements. It is most likely that implementation of direct policy actions will require the efforts of all regional elements and perhaps each individual employee. The Regional Energy Coordinator will have responsibility for the overall coordination of the implementation of direct policy actions.

26. - 29. RESERVED.

## CHAPTER 4. RESPONSIBILITIES

30. GENERAL. This section identifies the responsibilities of each regional element in the effort to mitigate impact of an energy emergency. These responsibilities are divided into three components corresponding to the Management Organization; these are information/analysis, advisory, and implementation.

31. FIELD OFFICE AND FACILITY CHIEFS.

a. Information/Analysis. Timely and accurate information/analysis is required for the making of appropriate and effective decisions and can only be provided by those offices most familiar with the situation, the field offices and facilities. Field office and facility chiefs shall:

(1) Supply/Demand Information.

(a) Be fully aware of specific levels and sources of energy required for normal operation, and the minimum levels required for contingency operation, of those facilities within their control. Carefully analyze the ability of the facilities/offices to operate at various levels of reduced energy supply. For NAS facilities, the AF office chief is responsible for collecting this energy information and providing it to the appropriate AT facility chief(s).

(b) Be fully aware of the current source of supply of energy for each facility/office under their control, and the willingness of the supplier to guarantee delivery on a priority basis. Establish a continuing dialogue with suppliers to monitor the supply situation. For NAS facilities, the AF office chief is responsible for collecting this energy data and providing it to the appropriate AT facility chief(s).

(c) Monitor public information sources; i. e., TV, radio, newsprint, for information regarding energy supplies, emergency proclamations, etc.

(d) Analyze the supply and demand information to determine the character of the contingency. Determine the expected shortfall of supply to normal demand and the anticipated length of the shortfall.

(2) Facilities Impacted.

(a) Identify all the facilities/offices impacted by the supply disruption.

(b) Identify the expected impacts if no agency actions are taken; i. e., reduced services, reduced operations, facility shutdowns, etc.

(3) Energy Contingency Actions.

(a) Analyze the information available, including the estimated impact on facilities/offices and personnel.

(b) Develop a set of recommended actions that can be implemented at the facility level (that do not require policy consideration; i. e., concurrence by the Division Chief or higher) that will mitigate the effects of the energy supply disruption on the operation of the facility/field office, and on health and safety of personnel. All actions effecting operation of NAS facilities shall be coordinated with appropriate AT and AF offices.

(c) Develop a set of recommended actions that can be taken to mitigate the effects of energy disruption on the facility/field office operations and on the health and safety of personnel but will require higher level concurrence or action. All actions effecting operation of NAS facilities shall be coordinated with appropriate AT and AF offices.

(d) To most effectively perform all the above items in (a), (b), and (c), each field office/facility chief is directed to develop a local energy contingency plan. The local plans are to develop "standby actions" to meet energy contingencies. These plans are not meant to be comprehensive, but should be valuable in developing actual contingency actions. Development of the plan shall include consultation with local union representative. Forward a current copy of your local plan to the Regional Energy Coordinator, ASW-4, for reposit and to the Local Coordinator.

(e) Forward appropriate information regarding an energy contingency to the Local Coordinator for his review, including:

1 Character of the energy supply disruption; shortfall, duration, significance.

2 The facilities impacted and the expected impacts.

3 Notice of those actions implemented to mitigate the effects of the contingency.

4 Recommended actions, requiring higher concurrence or action, that will mitigate the effects of the energy contingency. Include an analysis of the impacts of the recommended actions.

b. Advisory. Field office and facility chiefs shall provide advice for an Advisory meeting, as requested, regarding their field of expertise.

c. Implementation.

(1) Implement those local actions to mitigate the effects of the energy contingency that do not require concurrence or action at a higher level. Consult with employee unions, and public officials as appropriate.

(2) Implement those actions to mitigate the effects of the energy contingency as directed by higher authority. Coordinate with employee unions and public officials as appropriate.

(3) Provide feedback to the Local Coordinator on the effectiveness of actions.

## 32. LOCAL COORDINATOR.

a. Information/Analysis. The Local Coordinator is responsible for the following actions:

(1) Review and analyze data presented by local office/facility chiefs for accuracy, appropriateness and completeness.

(2) Review and analyze recommended actions presented by local office/facility chiefs for appropriateness and local system impacts.

(3) Coordinate separate office/facility actions to assure a compatible set of recommended local actions.

(4) Coordinate with appropriate area public officials to fully inform them of anticipated system impacts.

(5) Notify the Regional Energy Coordinator, ASW-4, of energy contingency actions at the local level that will be implemented and the anticipated impacts of these actions.

(6) Forward to the Regional Energy Coordinator the proposed local energy contingency actions requiring regional or higher level authorization. This includes actions of a policy setting nature, and those specifically authorized to division chiefs and/or the Director. Provide an analysis of the proposed action on the operation of local offices/facilities and the aviation system.

b. Advisory. The Local Coordinator shall provide advice, as requested, regarding their local areas for review at an Advisory meeting.

c. Implementation.

(1) Implement energy contingency actions as directed by higher authority, including local coordination.

(2) Serve as local public affairs officer to provide information to the public regarding actual and proposed energy actions.

(3) Provide feedback to the Regional Energy Coordinator regarding effectiveness of actions.

### 33. REGIONAL ENERGY COORDINATOR.

a. Information/Analysis. The Regional Energy Coordinator is responsible to:

(1) Review data and recommended actions presented by the Local Coordinators.

(2) Analyze energy supply/demand information regarding the regional office, which is gathered by Logistics Division.

(3) Consolidate energy contingency actions to be implemented in the impacted area by field office/facility chiefs for review at an Advisory development meeting.

(4) Recommend a set of energy contingency policy actions for review at an Energy Contingency Advisory meeting.

(5) Present policy actions developed at the Advisory meeting to the Decisionmaking Council.

(6) Provide feedback to office/facility chiefs.

b. Advisory. The Regional Energy Coordinator serves as Chairman of the Energy Contingency Advisory meetings and provides staff support to the Decisionmaking Council.

c. Implementation. The Regional Energy Coordinator is responsible for coordinating specific policy actions, including coordination with appropriate state and federal government officials. Field offices or Local Coordinators where appropriate will coordinate with local government officials.

#### 34. DIVISION AND STAFF OFFICES.

a. Information/Analysis. Each division and staff office shall designate an Office Energy Coordinator. Each coordinator shall serve as the focal point for the office in all matters concerning energy contingency planning and energy management activities. Regional office personnel should provide information pertinent to energy contingencies to the Regional Energy Coordinator through their Office Energy Coordinator.

b. Advisory.

(1) Each of the offices listed below shall provide a representative to an Advisory meeting when requested. The individual should also be the Energy Conservation Coordinator designated in SW 1052.1, Energy Conservation - Program Responsibilities and Reporting Requirements. Each representative shall review the recommended actions of the Regional Energy Coordinator. Based upon recommendations, and the expertise of the group, they will develop specific policies and implementation procedures to be acted upon by the decisionmaking component.

ASW-7	ASW-200
ASW-10	ASW-400
ASW-30	ASW-500
ASW-50	ASW-600
ASW-60	ASW-700

(2) Representatives to the Advisory meeting are responsible for review, analysis, and development of specific energy contingency actions relative to their respective programs.

(3) Office Energy Coordinators should provide advice to field facilities/offices, and office personnel regarding energy contingency planning.

c. Implementation.

(1) Each division/office chief shall implement the specific policy actions as directed by the Decisionmaking Council.

(2) Each Office Energy Coordinator should provide feedback to the Regional Energy Coordinator on the effectiveness of actions.

35. - 39. RESERVED

## CHAPTER 5. ACTION PLAN FOR EACH CONTINGENCY

40. GENERAL. The discussion in this section describes various phases, and the criteria for each phase, of energy contingencies. It also describes the major activities in each phase to mitigate the impacts of the situation. The activities are possible actions to be considered at the time of the emergency, and are not required actions to be taken. Energy contingencies can be broken into three problem phases. These phases start with the beginning of the problem environment and continue through the various stages of severity of the energy emergency. Shortages of electricity; natural gas, LPG, propane, and fuel oil; and gasoline and diesel fuel are discussed separately.

4. GASOLINE AND DIESEL FUEL. The operation of FAA facilities and offices relies on adequate supplies of gasoline and diesel fuel for the following functions:

- a. Transportation of personnel to and from work.
- b. Transportation of personnel, equipment, and supplies for official business.
- c. Emergency electrical generation by standby engine generators.

Varying availability will result in different impacts on agency operation. With this fact in mind, the following phases of energy shortage are established:

<u>Criteria</u>	<u>Phase</u>
Beginning of the problem environment	I
1 to 10 percent shortfall of fuel supply to anticipated demand	II
11 percent or higher shortfall of fuel supply to anticipated demand	III

Figure 5-1 presents the action plan for shortage of gasoline and diesel fuel.

FIGURE 5-1

SHORTAGE OF MOTOR GASOLINE AND DIESEL  
ACTION PLAN

Phase	Trigger Mechanism	Policy Actions	Responsibility of Implementation
I	<ul style="list-style-type: none"> <li>. Political climate</li> <li>. World and national oil situation</li> <li>. Indications of reduced supply</li> </ul>	<ul style="list-style-type: none"> <li>. Situation Monitoring - verify requirements and supply availability</li> <li>. Develop/review contingency plans</li> <li>. Top-off engine generator fuel tanks</li> <li>. Reestablish priority with suppliers</li> </ul>	<ul style="list-style-type: none"> <li>. All office/facility chiefs (field)</li> <li>. ASW-50 and Regional Energy Coordinator (R. O.)</li> <li>. AF's sector chiefs</li> <li>. All office/facility chiefs (field) ASW- 50 (R. O.)</li> </ul>
II	<ul style="list-style-type: none"> <li>. Suppliers unwilling to supply 100% of requirements</li> <li>. Service station limiting purchases, rationing, etc.</li> </ul>	<ul style="list-style-type: none"> <li>. Limit fuel consumption by restricting driving/flying to essential trips</li> <li>. Encourage carpooling, vanpooling, and other mass transportation</li> <li>. Reduce maintenance operation of engine generators</li> <li>. Seek "set-aside"</li> </ul>	<ul style="list-style-type: none"> <li>. All office chiefs</li> <li>. All office chiefs</li> <li>. AF sector chiefs</li> <li>. Effected office chiefs</li> </ul>
III	<ul style="list-style-type: none"> <li>. Continuation of shortage causing significant impact on operations</li> <li>. More severe shortage of fuel supply</li> </ul>	<ul style="list-style-type: none"> <li>. Mandatory use of policy actions of Phase II</li> <li>. Implement carpool plans</li> <li>. Restrict engine generator use to emergencies.</li> <li>. Eliminate use of rental aircraft if auto or public conveyance can be used</li> <li>. Personnel dismissal</li> <li>. Facility/field office closings</li> <li>. Reassignment of personnel</li> <li>. Restrict official travel</li> </ul>	<ul style="list-style-type: none"> <li>. All office chiefs</li> <li>. All office chiefs</li> <li>. AF sector chiefs</li> <li>. All office chiefs</li> <li>. Office Chief</li> <li>. Office Chief</li> <li>. Regional Director</li> <li>. Office Chiefs/Division Chiefs</li> <li>. All office chiefs</li> </ul>

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42. NATURAL GAS, LPG, PROPANE, AND FUEL OIL. Many of the regional facilities and offices depend on adequate supply of these energy sources for space heating and water heating. Several of these facilities utilize natural gas as the primary energy source and fuel oil as a backup source. No regionally owned facilities utilize natural gas/fuel oil for space cooling; however, some leased spaces may and this is considered in the action plan. The criteria and activities during various phases of a shortage of these fuels are shown below and in Figure 5-2.

<u>Criteria</u>	<u>Phase</u>
Beginning of problem environment	I
1 to 5 percent shortfall in fuel supply to anticipated demand	II
6 to 10 percent shortfall in fuel supply to anticipated demand	IIIA
11 percent or higher shortfall in fuel supply to anticipated demand	IIIB
Intensification leading to non-availability	IIIC

FIGURE 5-2

SHORTAGE OF NATURAL GAS, LPG, PROPANE, AND FUEL OIL  
ACTION PLAN

Phase	Trigger Mechanism	Policy Actions	Responsibility for Implementation
I	<ul style="list-style-type: none"> <li>. Beginning of heating season</li> <li>. Extreme summer conditions (for cooling with these fuels)</li> </ul>	<ul style="list-style-type: none"> <li>. Situation/monitoring - verify requirements and supply availability</li> <li>. Establish priority with suppliers</li> <li>. Develop/review contingency plans</li> </ul>	<ul style="list-style-type: none"> <li>. All office/facility chiefs (field)</li> <li>. ASW-50, Regional Energy Coordinator (R.O.)</li> </ul>
II	Suppliers willing to supply only 95 to 99% of requirements	<ul style="list-style-type: none"> <li>. Utilize more abundant alternate fuels for short periods</li> <li>. Discontinue use of non-essential building areas - reduce conditioning level in these areas</li> </ul>	<ul style="list-style-type: none"> <li>. All office/facility chiefs (field)</li> <li>ASW-50 (R.O.)</li> </ul>
IIIA	Suppliers willing to supply only 90 to 94% of requirements	<ul style="list-style-type: none"> <li>. Expand implementation of Phase II actions</li> <li>. Reduce thermostat settings for space heating - 62° working hours and 55° non-working</li> <li>. Increase thermostat settings for space cooling - 84°</li> <li>. Reduce all but essential ventilation during heating season</li> </ul>	<ul style="list-style-type: none"> <li>. All office/facility chiefs (field)</li> <li>ASW-50 (R.O.)</li> </ul>
IIIB	Suppliers willing to supply 89% or less of requirements	<ul style="list-style-type: none"> <li>. Expand implementation of Phase II action</li> <li>. Discontinue space cooling</li> </ul>	<ul style="list-style-type: none"> <li>. All office/facility chiefs (field)</li> <li>ASW-50 (R.O.)</li> </ul>
IIIC	Intensification of emergency leading to total curtailment of supply, declared disaster areas, or similar severity	<ul style="list-style-type: none"> <li>. Reduce hours of facility/office operation</li> <li>. Shutdown of equipment</li> <li>. Reduction in public services</li> <li>. Shutdown of facilities/offices</li> <li>. Personnel dismissal/Reassignment of personnel</li> </ul>	<ul style="list-style-type: none"> <li>. Office Chief and Regional Director</li> </ul>

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43. ELECTRICITY.

a. The generation of electricity in the Southwest Region relies on several different fuels: coal, natural gas, petroleum, and nuclear power. Accordingly, disruptions of these fuel sources would have an impact on electricity generation that would have differing local impacts.

b. The Southwest Region relies heavily on electricity service for the operation of facilities and offices. Over 1000 separate utility contracts are maintained for our facilities. Many other facilities and offices utilize electric service that is provided as a part of space rental.

c. Electricity is primarily used for lighting, space cooling, appliances, and technical equipment, and to a lesser extent for space heating. Minimal disruptions of electric service have a significant impact on operations.

d. The criteria and activities during various phases of an electricity shortage are shown below and in Figure 5-3.

<u>Criteria</u>	<u>Phase</u>
Beginning of problem environment	I
1 to 5 percent shortage of electricity supply	II
6 to 10 percent shortage of electricity supply	IIIA
11 percent or higher shortage of electricity supply	IIIB

44. - 49. RESERVED.

FIGURE 5-3

SHORTAGE OF ELECTRICITY SUPPLY  
ACTION PLAN

Phase	Trigger Mechanism	Policy Actions	Responsibility for Implementation
I	<ul style="list-style-type: none"> <li>. Beginning of heating season</li> <li>. Extreme summer conditions</li> </ul>	<ul style="list-style-type: none"> <li>. Situation Monitoring - verify requirements and supply availability</li> <li>. Review contingency plans</li> <li>. Reestablish priority with suppliers</li> </ul>	<ul style="list-style-type: none"> <li>. All office/facility chiefs (field)</li> <li>. ASW-50/Regional Energy Coordinator (R.O.)</li> </ul>
II	<ul style="list-style-type: none"> <li>. 1 to 5% shortage of electricity supply (expect voltage reduction up to 6% by utility)</li> </ul>	<ul style="list-style-type: none"> <li>. Use alternate energy sources for heating and cooling if available</li> <li>. Discontinue use of nonessential building areas - reduce conditioning level (and light levels) in these areas.</li> </ul>	<ul style="list-style-type: none"> <li>. All office/facility chiefs (field)</li> <li>. ASW-50 (R.O.)</li> </ul>
IIIA	<ul style="list-style-type: none"> <li>. 6 to 10% shortage of electricity supply (Expect periodic disruptions of up to 2 hours per day)</li> </ul>	<ul style="list-style-type: none"> <li>. Expand implementation of Phase II actions</li> <li>. Reduce thermostat settings for space heating to 62° working hours and 55° nonworking hours</li> <li>. Increase thermostat settings for space cooling to 84°</li> <li>. Shift schedules of energy intensive activities to nonpeak periods</li> <li>. Run engine generators to meet required cutback or blackouts</li> </ul>	<ul style="list-style-type: none"> <li>. All office/facility chiefs (field)</li> <li>. ASW-50 (R.O.)</li> </ul>
IIIB	<ul style="list-style-type: none"> <li>. 11 percent or higher shortage of electricity supply requiring some areas to be blacked-out</li> </ul>	<ul style="list-style-type: none"> <li>. Personnel dismissal</li> <li>. Reduced hours of operation</li> <li>. Reduction of service</li> <li>. Shutdown of facilities/offices</li> <li>. Running of engine generators where available</li> <li>. Reassignment of personnel</li> </ul>	<ul style="list-style-type: none"> <li>. Office chief</li> <li>. Regional Director</li> </ul>

## CHAPTER 6. DETAILED ANALYSIS OF ALTERNATIVE POLICY ACTIONS

50. GENERAL.

a. This section describes the various policy actions identified to mitigate the impacts of energy-related crises. The policy actions are those appropriate for the three major energy-related emergencies identified in Chapter 5.

b. The policy actions identified in Chapter 5 are all actions to reduce demand. The discussion of individual actions includes the technical basis (wherever possible), the implementation procedure, and identification of responsible offices.

c. All policy actions identified in this plan, and all specific actions to be identified by the Management Organization (see Chapter 3) must have a common purpose: to mitigate the effects of an energy emergency on operation and personnel of the FAA Southwest Region. The following objectives should prevail in the development of plan actions:

- (1) Maintain normal operation as long as practical.
- (2) Discontinue nonessential service first.
- (3) Cut services in priority order, based upon demand for services.
- (4) Consider personnel actions as a "last resort."

d. In analyzing the energy situation, the following basic concepts should prevail:

(1) The energy suppliers will have the most accurate supply information. We must assume that their requests for energy demand reductions are accurate and necessary. FAA will comply with these requests to the maximum extent practical.

(2) That requirements for FAA facilities/services will remain at normal levels, unless specific information indicates otherwise.

(3) Although Federal property and activities do not usually have to comply with State and local requirements, FAA will comply with State and local energy contingency actions to the maximum extent practical.

e. Since demand reduction requests by suppliers and local government will probably be as a percentage of normal use, it is critical that facility Chiefs be aware of the level of consumption of normal operation. Without this basic information, it will be impossible to assess possible actions.

#### 51. DEVELOP/REVIEW CONTINGENCY PLANS.

a. A leading systems analyst has noted that "when you postpone thinking about something too long, then it may not be possible to think about it adequately at all." This becomes obvious when an emergency arises without adequate previous thought to actions that will be required. Efforts will at best be inefficient; at worst ineffective.

b. Nearly important as adequate prior thought to a situation, is the documentation of that thought; i. e., the development of a plan document describing those thoughts and required actions. The development of an energy contingency plan is vital to efficient and effective action.

c. Each Southwest Region office and facility should be included in a local energy contingency plan. Therefore, appropriate field office/facility chiefs have been directed to develop a local plan. Coordination of these plans at Local Coordinator locations is encouraged. Also, an energy contingency plan for the regional office will be developed.

d. Basically, the plans should be developed as "standby" actions which define several operational options. The plan should identify both actions that are locally authorized, and actions that will require higher level approval.

e. The contingency plans should include the determination of essential employees, in accordance with Chapter 7 of Order 3600.4, Absence and Leave, that will be required to staff facilities/offices during emergencies.

f. Contingency plans should be reviewed for adequacy at the onset of energy supply problems, and updated as necessary.

#### 52. USE OF ALTERNATE FUELS.

a. Many of our facilities/offices have the capability to use alternative fuel supplies. Several facilities/offices use natural gas as primary sources for space heating, but are equipped to use fuel oil or propane as a

backup. Also, most of our critical facilities have the capability to generate electricity. There are instances where fuel has gone bad due to age. Fuel should be utilized in supplying power to the facility if there are any signs of deterioration. This will prevent total waste of the fuel.

b. Although alternate fuel supplies may be more expensive, they may be available when the prime source is being curtailed by the supplier. Each facility chief should establish and utilize these alternative fuel supplies to meet shortfalls of the prime source. Use of the alternate fuels should be limited to the minimum amount required to meet the shortfall.

c. Facility/office chiefs are encouraged to contact local military installations and determine if the military can act as a source of supply during energy shortages.

#### 53. DISCONTINUE NONESSENTIAL USES OF BUILDING SPACE.

a. Use of some building areas can be discontinued during periods of energy shorgages without significantly affecting operations. Heating levels in nonessential areas should be reduced to 55<sup>o</sup> for areas with exterior walls; interior space without material that would be damaged by freezing should have heat discontinued if possible. Space cooling should be discontinued where practical.

b. Possible areas for discontinued use are conference rooms, unoccupied office rooms, training rooms, and storage areas. Heating/cooling should be discontinued in entrance foyers.

c. Facility/office chiefs shall implement these actions where practical.

#### 54. RESTRICT OFFICIAL TRAVEL.

a. The Southwest Region logged over 7,155,494 miles in government-owned vehicles and 2,169,402 miles in privately owned vehicles for official travel in FY-1979. A moratorium on nonessential trips can result in substantial savings of petroleum fuels.

b. If shortages of gasoline, diesel, and aviation fuels exist, supervisors can implement the following actions depending on the severity of the shortage:

(1) Eliminate trips for nonessential activities; e.g., conferences, familiarization visits.

(2) Eliminate or postpone trips for routine facility maintenance. NAS waivers may be required.

(3) Restrict official travel to that required to return critical facilities to service.

55. USE MASS TRANSIT

a. The use of less energy intensive modes of travel can result in savings. (See Figure 6-1).

b. The fuel efficiency of the travel corresponds directly to number of passengers traveling. An auto carrying one person is 30 percent more fuel efficient than a single-engine aircraft carrying one person. An auto carrying four passengers is three times more fuel efficient than an average loaded B-727-200.

c. Of course, the penalty in selecting less energy intensive modes of transportation is travel time. Auto travel is more time consuming than air carrier travel for stage lengths over 100 miles. Travel by urban public transit can be much more time consuming than auto travel.

d. In the early phases of an energy emergency, each supervisor and facility/office chief shall review their travel requirements. For necessary travel, the impacts of alternate travel modes on agency operation should be assessed. The following actions could be taken depending on the severity of the energy shortage:

- (1) Encourage noncarpooling personnel to form carpools and vanpools as a means for travel to work.
- (2) Require use of public transit for all local trips.
- (3) Require use of most energy efficient travel mode.

e. Because the agency receives automotive gasoline supplies through retail suppliers, the agency would be as severely impacted as other consumers during periods of gasoline shortages. During these periods of shortage, available gasoline should be reserved for official travel in government-owned vehicles. Only in extreme circumstances, requiring approval of the Director, could government-owned vehicles be used to transport essential employees to and from their duty stations.

f. Facility/field office contingency plans should include the development of a carpool plan for employees essential to operation. Employees unable to report to their duty station may be required to take annual leave or be placed on furlough up to 30 days. These plans could be implemented

FIGURE 6-1

COMPARATIVE VEHICLE EFFICIENCY STATISTICS

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Vehicle	Miles Per Gallon	Average Available Seats Per Vehicle Mile	Average Load Factor	Average Number of Seats Filled	Average Available Seat Miles Per Gallon	Average Actual Pax Per Gallon
<u>Domestic Trunks</u>						
747	0.13724	356.8	56.3	199.8	49.0	27.4
DC-8-61	0.20705	194.0	53.5	101.0	40.2	20.9
DC-10-10	0.19870	237.4	52.8	125.4	47.2	24.9
727-200	0.26621	129.0	56.3	72.7	34.3	19.4
DC-9-30	0.34392	90.6	61.1	55.4	31.2	19.1
L-1011	0.17220	246.6	49.9	123.1	42.5	21.2
<u>General Aviation</u>						
Single-Engine Piston	10.47008	5	60.0%	3.0	52.4	31.4
Multi-Engine Piston	6.64652	6	60.0%	3.6	39.9	23.9
Turboprop	1.54109	20	70.0%	14.0	30.8	21.6
Turbo jet	1.22014	15	75.0%	11.3	18.3	13.8
<u>Other Modes</u>						
Auto, Standard Urban	14.40000	6.0	33.0%	2.0	86.4	28.80
Bus, Intercity	6.00000	46.0	60.0%	27.6	276.0	165.60
Train (Metroliner)	0.83000	382.0	60.0%	229.2	317.1	190.24

to meet the energy situation.

56. SEEK STATE "SET-ASIDE" FUEL.

a. Each state in the region participates in the Department of Energy (DOE) State Set-Aside Program. Under this program, prime suppliers must maintain a stock of 5 percent of existing motor gasoline supplies and 4 percent of middle distillates (heating oil, diesel fuel, and kerosene) supplies for use as directed by the state to alleviate emergency situations.

b. The state offices allocate these set-aside supplies, and can direct the suppliers to deliver them to needy customers. Each state fuel allocation office has been contacted. Because both transportation and defense are critical services, FAA would receive high priority in allocation of set-aside fuels.

c. Set-aside fuels will be allocated on the basis of emergency need and only to users that have made a diligent effort to obtain supplies. Facility and field office chiefs should seek allocation of state set-aside for heating oil and engine generator fuel when (1) the normal supplier cannot meet full requirements, (2) fuel supplies cannot be obtained from the supplier serving you the same month the preceding year (base year supplier), and (3) fuel supplies cannot be obtained from other local suppliers. If set-aside fuels cannot be obtained, contact ASW-55B, telephone 8-736-9433 (FTS) for further assistance.

d. Order SW 4670.6, Locating Fuel Supplies for Ground Support Equipment, presents the contact points in each state for the set-aside program.

57. OPERATION OF ENGINE GENERATORS.

a. Normal periodic maintenance requires the running of engine generators for approximately 30 hours per year. In the event of a shortage of petroleum fuels, AF sector chiefs could impose the following restrictions:

(1) Reduce run-time for periodic maintenance.

(2) Eliminate biweekly maintenance runs.

(3) Eliminate all periodic maintenance runs. Run engine generators only in emergencies.

b. Actions of this type are in opposition to the handbook and would require approval of an NAS waiver.

58. ADJUST THERMOSTATS FOR ENERGY SAVINGS IN ADMINISTRATIVE AREAS.

a. Heating, ventilating, and air conditioning systems are by far the largest energy consumers in office buildings. They account for 20 percent of the energy consumed nationally and 60 percent of energy consumed in office buildings. Not surprisingly, efforts to reduce energy use in buildings can yield substantial savings.

b. Recent executive direction requires that thermostats be set at 78° for cooling, and 65° for heating, 55° when unoccupied for all federally operated buildings. These settings shall be maintained for normal operation. See Order 4660.5A, Conservation of Energy in FAA Occupied Space and Buildings. (Regional headquarters distribution was limited; if necessary, refer to Master File copy in ASW-60.)

c. When faced with an energy shortage, facility chiefs should take necessary actions to effect a reduction of energy consumption by:

(1) During heating season, reduce thermostat settings as low as 62°F in working areas, and 55° for nonworking areas and unoccupied buildings. OSHA requires temperatures 60°F and above for occupied areas.

(2) During cooling season, increase thermostat settings up to 84°F.

(3) During cooling season, discontinue uses of air conditioning and rely on ventilation. OSHA allows maximum temperature of 95°F with 55 percent relative humidity for work areas (reference Order 3600.4).

d. None of the above actions should be taken if they will impair the health and safety of employees or impair vital services and proper functioning of the agency. Temperatures and humidity for special purpose areas; e.g., computer rooms, TRACONS, air traffic control rooms, etc., should be maintained in accordance with Order 6970.3, Maintenance of Environmental Systems, or NAS waivers are required.

e. It is estimated that a thermostat set-back of 2° for an office building can result in a 2 to 3 percent reduction in energy use.

f. For facility areas, prescribed practices are included in Orders 6970.3 and 6470.5, Maintenance of Air Route Traffic Control Center Environmental Systems.

59. FACILITY/OFFICE OPERATIONAL RESTRICTIONS.

a. The intensification of an energy shortage could include the continuation of high shortage level for an extended time, an extremely high shortage level, or a lengthy nonavailability of energy supplies. Any of these situations could require a further, more severe, restriction of agency operations than those previously identified in this section.

b. Because suppliers will probably request energy demand reductions as a percent of normal use, facility/office chiefs must be knowledgeable of normal energy use levels, facilities served by the supplier, and the energy requirements of services, equipment, and specific program activities.

c. The following specific policy actions could be implemented to meet energy curtailments. Facility and field office chiefs should carefully assess the impacts of the actions before implementation. All actions of this nature will require coordination with the local coordinator, and notification to the regional office and the public. Some of these actions may require processing of waivers to existing agency standards. Some of these actions require approval of division chiefs and/or the Regional Director.

(1) Discontinue Energy Intensive Services. Some of the services provided by offices and facilities could be discontinued as an effort to reduce energy consumption. Most FAA activities do not require large amounts of energy; however, a few specific activities/services are energy intensive and discontinuation of these activities should be considered:

(a) Discontinue periodic flight inspection. To allow overdue facilities to remain in operation would require approval of NAS waivers or agency policy change. This may be accomplished by establishment of a grace period during fuel shortages.

(b) Discontinue pilot "check rides" of nonscheduled general aviation aircraft. Granting of renewals for a temporary period will require an agency policy change.

(c) Discontinue power to all airport ILS equipment other than for the ILS's currently in use.

(d) Discontinue air traffic noise abatement procedures for short periods. Coordination with appropriate airport management and local officials, and their approval of the action is required.

(2) Reduce Hours of Operation.

(a) One of the most logical means of reducing services is a reduction in hours of operation. Substantial energy savings can be realized by reducing hours of operation, yet the impact office/facility personnel can be minimal. It is estimated that by reducing a normal 8-hour office operation by 1-hour would result in a 4 percent reduction in energy use. Another example of possible energy savings is the use of a 4-day week. For a typical office building open 5 days, 8 hours per day, closing an additional day could save approximately 10 to 15 percent of normal energy use.

(b) Authority to reducing hours of operation is not delegated to facility/office chiefs. Approval authority is vested at several levels, and is dependent on the type of facility. ATCT hours can be reduced up to 4 hours by the Director. FSS hours cannot be reduced without notification and approval of the DOT Secretary.

(3) Closing of Offices/Shutdown of Facilities.

(a) Reductions in energy use of greater than 10 percent for offices and facility operation will most likely require the closing of facilities/offices for extended periods. In order to minimize impact to the NAS and on agency personnel, all facilities impacted by the curtailment should be identified, and the least critical facilities be shut down to meet the required energy demand reduction. As an example: One VORTAC requires approximately twice the electrical energy as a level III FSS. The shutdown of the VORTAC may not significantly affect the NAS because of the alternate airways structure; however, the shutdown of the FSS would place 25-50 personnel on leave status and discontinue a greater public service. Order 6030.31C, Restoration of Operation Facilities, provides some guidance on the criticality of facilities to NAS operation.

(b) Full consideration should be given to the relocation of field office personnel and their base of operation to a nearby office or facility of higher priority that is to remain in service.

(c) Figure 6-2 presents energy consumption data for typical FAA facilities. This may serve as an aid in selecting facilities for reducing hours of operation or shutdown.

FIGURE 6-2

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Facility	Normal No. of Employees	Annual Electrical Use (kWH)	Annual Natural Gas Use (MCF)
<u>ATCT</u>			
Level I	13	140,000	1000
Level II	20	240,000	1500
Level III	35	500,000	1600
Level IV	85	750,000	2000
<u>FSS</u>			
Level I	< 5	60,000	1500 - less 25% if 16 hrs.
Level II	< 15	65,000	1500 - less 50% if 8 hrs.
Level III	25-50	75,000	1600
<u>RCAG</u>			
		40,000	
<u>VORTAC</u>			
		150,000	
<u>VOR</u>			
		70,000	
<u>ASR</u>			
		80,000	
<u>ILS</u>			
<u>Glide Slope</u>			
	Solid State	8,000	
	Tube type	33,000	
<u>Localizer</u>			
	Solid State	10,000	
	Tube type	50,000	
<u>GADO</u>	17	30,000	

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(4) Personnel/Leave Actions.

(a) The implementation of facility/office operational restrictions may require personnel leave actions. Whenever possible, personnel excess to continued services/activities should be assimilated into those continued services/activities. Only under the most extreme conditions should personnel/leave actions be taken.

(b) As an aid to developing energy contingency actions, the following personnel/leave action information is summarized from agency orders and agreements. As a preliminary statement concerning management's authority to take these actions with respect to bargaining unit employees, each labor agreement retains the right of management officials "to take whatever actions may be necessary to carry out the mission of the agency in situations of emergency." Management is obligated to notify the union and discuss the impact of the actions on the employees.

1 The Regional Director has authority to establish or modify hours of duty (PT P 3600. 3, Workweeks and Hours of Duty, par. 5). This authority has been delegated to some facility/office chiefs and division chiefs. However, under this authority, the Director cannot establish shorter or longer workdays; i. e., a 40-hour, 4-day week. The authority does include establishing irregular workweeks. Energy shortages do not meet the irregular workweek criteria of Order PT P 3600. 3.

2 The Internal Placement Handbook (PT P 3330. 9) contains agency policy on details and reassignments. Employees may be detailed in increments up to 120 days. The details may extend for the same or lower graded positions up to 1 year. Employees may be detailed to higher graded positions for up to 240 days. Details must be approved by each office involved and be in the interest of the agency. Division chiefs are authorized to reassign personnel between field facilities/offices. Details and reassignments must be made in accordance with negotiated agreements for those employees covered by negotiated agreements.

3 Personnel can be directed by supervisors to perform assigned duties at their residence if it is possible to perform the work at that location. This action shall be used only under the most extreme emergency conditions and shall be administered equitably. When possible, this action is preferable to forced annual leave or LWOP.

4 The Absence and Leave Handbook (Order 3600.4) discusses leave for emergency situations. Supervisors are delegated authority to grant excused absence to individuals for 2 hours or less. Office/facility chiefs are delegated authority to grant excused absence to an individual employee for more than 2 hours and up to 3 days. Granting of excused absence up to 3 days for groups of employees is delegated to the Regional Director. The granting of excused leave shall be only under the most extreme emergency conditions. Liberal use of annual leave, LWOP, and compensatory time off shall be granted and encouraged during periods of energy shortage.

5 When a facility/office closing or other condition will exceed 3 workdays, employees may be placed on enforced annual leave, or on LWOP when sufficient annual leave is not credited. Employees may be furloughed for up to 30 days without pay. A 30-day advance written notice to the furloughed employee is required using adverse action procedures; however, if an energy emergency precludes the 30-day notice, the furlough is not an adverse action. The issuing of furlough letters without advance notice should only be accomplished under the most dire conditions and then only after consulting with appropriate levels of management.