



DEPARTMENT OF THE NAVY
SPACE AND NAVAL WARFARE SYSTEMS COMMAND
WASHINGTON, D.C. 20363-5100

SPAWARINST 4100.1A
SPAWAR 18-6

AUG 8 1986

SPAWAR INSTRUCTION 4100.1A

From: Commander, Space and Naval Warfare Systems Command

Subj: ENERGY MANAGEMENT (EM) PLAN

Ref: (a) OPNAVINST 4100.5B
(b) NAVFACINST 4101.6
(c) NAVFACINST 4101.4
(d) NAVFACINST 4101.3A
(e) NAVFACINST 4101.5

Encl: (1) Responsibilities of SPAWAR in the Navy Energy Plan
(2) Guidelines of SPAWAR Energy Conservation Contingency Plans (ECCPs)

1. Purpose. To establish Space and Naval Warfare Systems Command (SPAWAR) policy, goals, and objectives for the management of energy at SPAWAR Field Activities (FAs); implement reference (a); and provide further guidelines for the development of Energy Conservation Contingency Plans (ECCPs) beyond those recommended in reference (b).

2. Cancellation. SPAWARINST 4100.1.

3. Background

a. Chief of Naval Operations (CNO) Energy Management (EM) Plan goals and objectives are given in reference (a), which also assigns particular implementation responsibilities to major claimants. These responsibilities are outlined in enclosure (1).

b. To date the primary SPAWAR interactions with Navy Energy Program have been limited to the federally mandated programs effected Navy-wide; increased utilization of state-of-the-art electronics which impact energy consumption at the equipment level; and easily instituted conservation techniques commonplace in the industry. Customers of SPAWAR are dependent on equipment provided and, assuming mission stability, are bound by the consumption characteristics regardless of conservation desires; therefore, SPAWAR electronics equipment and systems designs must strive for energy efficiency.

c. Future energy management programs must be broader in scope and consider all aspects of energy consumption. Consideration for more efficient facilities and equipment suites, and the operations and life cycle implications of new generation equipment will become mandatory rather than optional. To this end all SPAWAR FAs will be involved.

4. Policy. Within the constraints of military readiness, safety, and effectiveness, it is SPAWAR policy that the following goals and objectives will be pursued.

SPAWARINST 4100.1A

AUG 8 1986

a. The primary objectives of the SPAWAR EM Program are to:

(1) Operate electronic support systems at maximum practical energy efficiency.

(2) Achieve maximum practical energy conservation for facilities and operations.

(3) Substitute alternate, more abundant, or renewable fuel sources for petroleum and natural gas where economically practical.

(4) Incorporate energy consumption evaluations in the development of emerging electronic technology, in the evolution of electronic equipment, and finally, in the production of such equipment.

(5) Install meters in all existing and new facilities to monitor true energy costs and future energy conservation measures.

b. SPAWAR EM energy reduction goals (compared with FY-85 baseline consumption) are also set forth for FY-95 and are stated as follows:

(1) Achieve an overall reduction of 12 percent in energy consumption per square foot of building floor area.

(2) Obtain five percent reduction in fuel consumption for administrative vehicle by FY-90 and maintain this level through FY-95.

5. Responsibilities. SPAWAR is responsible for implementing the applicable portion of the Navy Energy Program, as established in reference (a) and as defined in enclosure (1). SPAWAR 18-6 (Facilities Division) is assigned overall responsibility for implementing the SPAWAR Energy Management Program. Responsibilities are as follows:

a. SPAWAR 18-6 will:

(1) Develop and coordinate overall energy positions/strategies to implement reference (a) and enclosure (1).

(2) Coordinate and task functional groups in SPAWAR, project management offices, and field activities for technical expertise assistance in energy matters.

(3) Maintain central liaison with CNO, Naval Facilities Engineering Command (NAVFAC), and other energy management organizations for planning and reporting purposes.

(4) Coordinate the preparation of periodic energy plans, reports, and appraisals as required or requested.

AUG 8 1986

(5) Establish liaison with cognizant NAVFAC Engineering Field Divisions (EFDs) to coordinate and receive technical support and services in energy conservation areas as defined in reference (c).

(6) Administer and fund the Energy Technology Application Program (ETAP) per reference (d). Assist the FAs in the development and funding of ETAP projects.

(7) Establish funding criteria for project qualification as ETAP projects.

b. SPAWARHQ Deputy Commanders and Program Directors will:

(1) Designate and identify to SPAWAR 18-6 an individual who will act as the central point of contact for energy related matters.

(2) Task major subordinate detachments with development of an Energy Conservation Contingency Plan (ECCP) per guidelines in enclosure (2).

(3) Monitor detachment compliance with SPAWAR energy reduction goals.

(4) Respond to SPAWAR 18-6 tasks on technically related energy matters.

(5) Provide SPAWAR 18-6 with point papers on innovations within their field of expertise which may give Navy-wide applicability for energy consumption reduction. These items may be the result of internal RDT&EN efforts or as witnessed in contractor/vendor proposals. Programs which merit further study or need RDT&EN funds will be submitted for Navy energy program funding consideration.

(6) Incorporate appropriate provisions of enclosure (1) into standard operating procedures.

c. FA Commanding Officers will:

(1) Designate and submit to SPAWARHQ (SPAWAR 18-6) and the appropriate NAVFAC EFD the name of the FA energy coordinator and advise of any subsequent changes. That coordinator should have ready access to references (a) through (e) and other Navy energy publications.

(2) Develop with the assistance of the local NAVFAC EFD an EM plan implementing this instruction and supporting the objectives and goals herein. Those field activities which are tenants of other commands will implement the host activity's EM plan. However, any more stringent responsibilities of this instruction will in no way be abrogated by doing so.

SPAWARINST 4100.1A

AUG 8 1986

(3) Develop an Energy Conservation Contingency Plan (ECCP) in accordance with guidelines in enclosure (2).

(4) Incorporate appropriate provisions of enclosure (1) into standard operating procedures.

(5) Maintain vehicle mileage records and energy projects and related items to easily evaluate the success of the energy conservation program.

(6) Where appropriate, ensure timeliness of Defense Energy Information System (DEIS) data submitted to the Naval Energy and Environmental Support Activity (NEESA) and verify accuracy of DEIS-II and Energy Audit Reports (EAR) upon receipt. Building floor area should be updated quarterly if changes occur, to ensure the accuracy of the EAR. DEIS-II reporters will maintain records to explain variances (such as extreme weather, changing missions, increased work hours) and are encouraged to utilize variance codes or brief comment in the DEIS-II report paper.

(7) Develop with the assistance of the local NAVFAC EFD energy conservation projects for ETAP and Energy Conservation Investment Program (ECIP) per references (d) and (e) respectively. ETAP projects are funded by SPAWARHQ and ECIP projects are funded by the NAVFAC under the military construction (MILCON) program.

(8) Incorporate requirements in leases and facility use contracts to implement sound energy conservation procedures, document efforts and provide results to the contracting officer's representative at regular intervals.

(9) Be aware of and, where appropriate, participate in the following programs: SECNAV Energy Conservation Award Program, ECIP, and ETAP. Further assistance on qualifications for each should be directed to either SPAWARHQ (SPAWAR 18-6) or the Energy Office of the local NAVFAC EFDs. Energy conservation surveys should be current and solicited from the EFDs per reference (b).

(10) Participate in various elements of the Energy Engineering Program sponsored by NAVFACENCOM. Engineering Service Request (NAVFAC Form 11000/7) shall be forwarded to the appropriate EFD for technical support and action.

(11) Per reference (c), request that the local NAVFAC EFDs prepare an Facility Energy Plan (FEP) for each Naval shore activity (as identified by its Unit Identification Code (UIC)). Tenant activities will use their UIC rather than their host's. It is essential that SPAWAR tenant activities verify and, if not already considered, formally request their host activity or cognizant EFD to include their facilities in the efforts of FEP. The SPAWAR tenant activities shall ensure that the recommendations made in the FEP are executed promptly and proper actions are carried out.

AUG 8 1966

(12) Emphasize the importance of energy awareness by encouraging regular publicity efforts in activity newspapers, letters, plans of the day; in daily bulletins, radio programs, and energy fairs as energy awareness is the key to the success of the energy conservation program.

(13) Notify the local NAVFAC EFD when projects, including those funded by the activity, are awarded for design and construction.

d. The SPAWAR Inspector General (SPAWAR OOG) shall, during command inspections, include energy management as a special interest item. Specifically, inspections shall highlight:

(1) Extent of FA support of energy conservation management principles and practices.

(2) Effectiveness of the organization to control and monitor energy conservation actions, directives and programs.

(3) FAs implementation of conservation recommendations made by NAVFAC EFDs during Energy Conservation Surveys.

(4) FAs monitoring for accuracy and timely transfer of DEIS data to NEESA and accuracy of records of all energy projects and their impact on the progress towards meeting the energy conservation goals.

(5) FAs Energy Conservation Contingency Plan (ECCP) to ensure continued operation during periods of energy shortage or curtailment.

6. Action. Addressees shall take appropriate action to fulfill the responsibilities assigned and support the policy, objectives, and goals of this instruction. Implementing plans shall be provided to SPAWAR 18-6 within 120 days after receipt of this instruction.

7. Forms. The following form is available through normal Navy supply channels per NAVSUP P-2002:

<u>FORM</u>	<u>TITLE</u>	<u>STOCK NUMBER</u>
NAVFAC 11000/7	Engineering Service Request	0105-LF-010-0035



R. E. DOAK
Deputy Commander for Finance,
Contracts and Management

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SPAWARINST 4100.1A

AUG 8 1987

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AUG 8 1966

RESPONSIBILITIES OF SPAWAR IN THE NAVY ENERGY PROGRAM

1. The Commander, Space and Naval Warfare Systems Command (SPAWAR) has been assigned the following responsibilities by the Chief of Naval Operations (CNO) to implement portions of the Navy Energy Program:

a. Establish energy management plans to achieve the objectives, goals, and standards of this instruction and OPNAVINST 4100.5 series and direct subordinate activities to do the same.

b. Designate a qualified person for directing and coordinating responsibilities for the conduct of energy management in SPAWAR and in each Field Activity (FA) in order to:

(1) Monitor performance in meeting the Navy energy conservation goals. Close coordination is required with the local Naval Facilities Engineering Command (NAVFAC) Engineering Field Division (EFD) efforts in planned surveys, studies, and projects.

(2) Identify and report energy R&D tasks needed to support the technical and management responsibilities of the command.

(3) Ensure the consideration of energy conservation measures within the electronic systems development and procurement processes of the command.

(4) Monitor the implementation of procurement programs for the utilization of energy conservation research and technology.

c. Identify, submit, and implement projects for energy management actions to meet goals of this instruction. Per NAVFACINSTs 4101.4 and 4101.6 series, the cognizant NAVFAC EFD is required to provide technical support in energy conservation surveys, development of energy projects, and submission of project documentation to SPAWAR for appropriate action.

d. In coordination with NAVFAC, include evaluation factors for consideration of energy conservation, life cycle costs, and availability of alternate energy sources in contract pre-award surveys and negotiated procurement.

e. Use of the most fuel efficient carriers and modes of transportation in accordance with NAVSUPINST 4600.70, paragraph 102002.1, and sound economic practices.

f. Discontinue the disposal of waste engine lubricating oil on roads, minimize the sale of waste oil to commercial vendors and maximize either the use of waste oil as a fuel source or the reconditioning of the oil for re-use as a lubricant.

SPAWARINST 4100.1A

AUG 8 1988

- g. In coordination with NAVFAC, incorporate energy effectiveness reviews in the acquisition process.
- h. Develop new contract procedures directed at minimizing procurement interruptions in time of energy shortage, and submit to CNO for review, consolidation, and dissemination within Navy, and forwarding to higher authority for incorporation into the Defense Acquisition Regulations (DAR).
- i. Ensure that energy information is reported accurately and timely.
- j. Monitor energy conservation programs at subordinate activities to ensure goals and objectives are achieved.
- k. Monitor the energy management of assigned Government Owned, Contractor Operated (GOCO) plants for compliance with the goals and standards contained herein.
- l. Develop and promulgate guidelines for implementation of an Energy Conservation Contingency Plan (ECCP) at each Naval Shore activity. These guidelines should be broad enough to cover all energy source contingencies, such as short-term brown outs, and supply interruptions, as well as long-term energy unavailability. The guidelines should be specific enough to cover all possible actions, including fuel substitution/conversion, load shedding, operational modifications, etc., available to each individual activity.
- m. Provide funding and administration for the Energy Technology Application Program (ETAP) per CNO Washington DC 232201Z Sep 82 and NAVFACINST 4101.3 series. ETAP projects meeting all economic requirements of the Program will qualify for execution. Projects will be developed at the FA level with assistance from the local NAVFAC EFD. Emphasis will be given to projects with a payback of three years or less.

GUIDELINES FOR SPAWAR ENERGY CONSERVATION CONTINGENCY PLANS (ECCPs)

1. Each shore activity or major detachment of SPAWAR is responsible for developing a unique Energy Conservation Contingency Plan (ECCP). Tenancy status of another shore activity does not alleviate this responsibility. In those instances, coordination with the host activity becomes one of the more important aspects. Complimentary plans between host and tenant are the desired product. One of the better means of ensuring this cooperation is to provide input to the host activity on the relative importance of activity functions for use in the host's load shedding plan. Input on a priority basis should be made to supporting activities for *minimum essential supplies and services* required in the event of reduced capability by the support activity.

2. ECCPs will include the following discussions:

a. Purpose. Provide general background on why the plan has been written, potential scenarios that might require its execution, and how this plan interacts with host or supporting activities actions.

b. Mission/function order of priority. Identify from full operational capability through total closure the order in which command functions will be dissolved.

c. Implementation. Discuss specific scenarios, who has the responsibility to identify them, the route the information takes to receive command attention, and where the authority is held to execute any portion of this plan.

d. Execution. Identify specific reactions which will take place in response to a particular situation. More discussion of this follows.

e. Action/responsibilities. Assign responsibility for maintenance of the ECCP and any further coordination efforts required before the plan could be executed.

3. The execution phase of the plan is the most critical. Use degradation levels (similar to Defense Condition (DEFCON) or Casualty Report (CASREP) procedures) which can then be correlated in subparagraphs 2b through 2e. This section should be divided into two major parts: Those energy related events which occur outside the local geographic area but which disrupt materials or services, and those which occur in close proximity to the activity. The second part should be further subdivided into materials or services, and direct energy sources. Within each part or subpart, identify as topics every

general category of material, service, or energy source. For each topic discuss various levels of disruption and the command reaction to be taken. A partial example follows:

SAMPLE

8. Execution

a. Outside local geographic area

- (1) Administrative supplies
 - (a) Minimal disruption
 - (b) Disruption affecting mission
 - (c) Total disruption
- (2) Drafting services
- (3) Sheet metal supplies
- (4) Cable supplies
- (5) etc.

b. Within local geographic area

- (1) Administrative supplies
 - (a) Minimal disruption
 - (b) Disruption affecting mission
 - (c) Total disruption
 - (d) etc.
- (2) Direct energy sources
 - (a) Fuel oil
 - 1 Minimal disruption
 - 2 Disruption affecting mission
 - 3 Total disruption
 - (b) Electricity
 - (c) Natural gas
 - (d) Gasoline
 - (e) Diesel
 - (f) etc.

4. Prepare a load shedding plan for orderly shutdown of non-essential equipment in the event of an emergency power outage or shortage. The load shedding plan shall include contingency plans for maintained operation of the essential building or suite of offices which house mission essential functions.

SPAWARINST 4100.1A

AUG 8 1900

5. When some activity resources must unavoidably be secured, relocate essential command functions to operational spaces either through consolidation of offices or by replacement of less essential personnel. This is the event which necessitates the setting of priorities for command functions. If no provision is possible which allows for some activity space being operational, investigate the possibility of relocation of essential functions to a portion of the host's assets which are still expected to be operating.

6. Copies of all ECCPs will be forwarded to SPAWARHQ (SPAWAR 18-6) for comment or retention as appropriate.