THIS PAGE MUST BE KEPT WITH DOE 4330.2D, IN-HOUSE ENERGY MANAGEMENT.

DOE 4330.2D, IN-HOUSE ENERGY MANAGEMENT, HAS REVISED DOE 4330.2C TO REFLECT ORGANIZATIONAL TITLE, ROUTING SYMBOL, AND OTHER EDITORIAL REVISIONS REQUIRED BY SEN-6.

NO SUBSTANTIVE CHANGES HAVE BEEN MADE. DUE TO THE NUMBER OF PAGES AFFECTED BY THE REVISIONS, THE ORDER HAS BEEN ISSUED AS A REVISION.

U.S. Department of Energy

Washington, D.C.

ORDER

DOE 4330.2D

5-18-92

SUBJECT: IN-HOUSE ENERGY MANAGEMENT

1. PURPOSE. To prescribe policy and procedures, and to assign responsibilities and authorities for the management of energy use in the Department of Energy (DOE) facilities (owned and leased) and vehicles and equipment.

2. CANCELLATION. DOE 4330.2C, IN-HOUSE ENERGY MANAGEMENT, of 3-23-88.

3. SCOPE. The provisions of this Order apply to all Departmental Elements and management and operating contractors performing work for the Department as provided by law and/or contract and as implemented by the appropriate contracting officer.

4. REFERENCES. Refer to Attachment 1.

5. DEFINITIONS.

   a. Economically Justified. The most cost-effective alternative based on a life cycle cost analysis as determined by procedures set forth in 10 Code of Federal Regulations (CFR) 436, subpart A.

   b. Energy Conservation Coordinator. A field designee who is typically responsible for: development of 10-year energy management plans; identification of potential energy conservation surveys and retrofit projects; coordination of information for established reporting requirements; and performing other duties established in the field for development and implementation of the energy management and conservation program and plans.

   c. Energy Management Plan. The method of carrying out an energy management program; also, the document(s) defining and describing an energy management program. The DOE 10-year Energy Management Plan defines DOE-wide policy and goals, and coordinates and provides the program approach for the energy management plans of the Program Secretarial Officers and the field elements.

   d. Facilities. Buildings and other structures, their functional systems and equipment, and other systems and equipment contained therein; outside plant, including site development features such as landscaping, roads, walks, and parking areas; outside lighting and communications systems; central utility plants; utilities supply and distribution systems; and other physical plant features.

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All Departmental Elements

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Office of Organization, Resources and Facilities Management

e. Fuel Burning Installation. A stationary unit such as a boiler, gas turbine unit, combined cycle unit, internal combustion engine, process heater, or other combustor.

f. In-house Energy Manager Program. A coordinated program concerning all aspects of the management, conservation, and use of all forms of energy in the design, construction, leasing, operation, and maintenance of DOE facilities, vehicles, and equipment.

g. Life Cycle Cost Analysis The calculations necessary to determine the total cost of owning, operating, and maintaining a facility over its useful life, including its fuel/energy costs, determined on the basis of a systematic evaluation and comparison of alternative building systems. In the case of leased facilities, the life cycle cost shall be calculated over the effective remaining term of the lease.

h. Noncritical Fuels and Forms of Energy. Coal; coal derivatives; wood and waste wood products; refuse derived fuel and alternative waste liquid fuels, such as alcohol, waste oil, and waste oil mixtures, which have been determined to be alternate fuels under the Powerplant and Industrial Fuel Use Act; coal slurries, which do not involve oil transport mediums or from which the oil transport medium has been removed; and noncombustible energy forms such as nuclear, solar, wind, hydro, and geothermal energy.

i. Program Secretarial Officers (PSOs) include: the Assistant Secretaries for Conservation and Renewable Energy (CE), Defense Programs (DP), Fossil Energy (FE), Nuclear Energy (NE), and Environmental Restoration and Waste Management (EM); and the Directors of Energy Research (ER), Civilian Radioactive Waste Management (RW), and New Production Reactors (NP).

j. Site. A geographic entity comprising land, buildings, and other facilities required to perform program objectives. Generally a site has, organizationally, all of the required facilities management functions. That is, it is not a satellite of some other site.

k. Vehicles and Equipment. All DOE-owned transportation vehicles and mobile construction, material handling, and maintenance equipment.

6. POLICY. It is Departmental policy to:

a. Use noncritical fuels in full compliance with the Powerplant and Industrial Fuel Use Act, where economically justified and environmentally acceptable in new facilities; where economically justified and environmentally acceptable, convert or replace existing plants which now burn petroleum or natural gas as primary fuels, to noncritical fuels or other forms of energy; and to

maximize efficiency in the use of petroleum products and natural gas, where conversion to noncritical fuels is not immediately feasible.

b. Maximize the energy efficiency of its owned and leased facilities whenever economically justified, including buildings and energy conversion and distribution systems, and DOE-owned or operated vehicles and equipment.

c. Comply with all statutory, Executive orders, and other Federal requirements regarding the management of energy use in DOE facilities.

7. RESPONSIBILITIES AND AUTHORITIES.

a. The Secretary has responsibility for overall direction, administration, and institutional matters, including energy management.

b. Director of Administration and Human Resource Management (AD-1).

(1) Keeps Secretarial Officers apprised of energy management in DOE facilities.

(2) Oversees the establishment and implementation of internal energy management policy.

(3) Develops, implements, monitors, and reports on the In-house Energy Management Program.

(4) Develops, funds, and executes a program of surveys and studies and retrofit projects to improve the energy efficiency of existing DOE facilities and central heating plants as a part of the overall In-house Energy Management Program.

(5) Develops policy and guidelines for motor vehicle energy conservation, including monitoring the request for fuel efficient vehicles in conformance with policies promulgated in the Federal Property Management Regulations.

(6) Maintains liaison with the Assistant Secretary for Conservation and Renewable Energy (CE-1), to assure that the In-house Energy Management Program is compatible with the Federal Energy Management Program. Reports DOE's Quarterly Energy Consumption data to CE-1 for preparation of required reports to the President and Congress.

(7) Maintains liaison with the Assistant Secretary for Environment, Safety and Health to assure that environmental effects are considered in energy management, usage, and

selection for use in new DOE facilities, and for replacement projects, improvement projects and projects for conversion.

(8) Develops and implements other related programs, such as the ridesharing program, the vanpool program, and the energy conservation employee awareness program.

(9) Directs and monitors the implementation of fuels and energy use policy in full compliance with the Powerpl ant and Industrial Fuel Use Act.

(lo) Consults with the PSOs and the Administrator, Economic Regulatory Administration, concerning the avai lability and applicability of fuel and energy technologies under their respective cognizance.

(11) Coordinates with PSOs on matters concerning fuel and energy usage of facilities under their respective cognizance.

(12) Reviews and evaluates PSOs' and field elements' 10-year energy management plans and use of fuels and energy forms for new and existing facilitates under their jurisdiction.

(13) Reviews the energy features and consumption of major new facility designs for energy efficiency in accordance with current criteria of DOE 6430.1A, GENERAL DESIGN CRITERIA.

(14) Has responsibility, under the In-house Energy Management Program, for the planning, programming, and budgeting of central plant studies and improvement projects whose primary purpose is to save energy and dollars, including projects for shared energy savings.

(15) Collects, updates, and disseminates technical, cost, and other data necessary and useful for the evaluation and application of fuel and energy use alternatives.

(16) Provides review, guidance, and assistance to PSOs for new plants being budgeted under outlay programs.

(17) Verifies that fuel selections submitted by field elements are economically justified.

c. Assistant Secretary for Conservation and Renewable Energy (CE-1) develops the Department's overall policies in regard to energy conservation.

(1) Guides the development of energy conservation design criteria for Federal agencies.

(2) Guides or establishes requirements for Federal agencies to:

(a) Conduct and report preliminary energy audits;

(b) Formulate and update 10-year plans for energy conservation;

(c) Report program progress;

(d) Conduct life cycle cost analyses of energy conservation projects; and

(e) Develop conservation programs including shared energy savings.

d. Assistant Secretary for Environment, Safety and Health (EH-1).

(1) Provides advice and guidance on the environmental protection aspects of proposed fuel and energy usages.

(2) Approves environmental assessments and environmental impact statements, if required, for new facilities and for replacement projects, improvement projects, and projects for conversion as provided in DOE 5440.1D, NATIONAL ENVIRONMENTAL POLICY ACT COMPLIANCE PROGRAM.

(3) Assists the Director of Administration and Human Resource Management in assuring that consideration is given to environmental acceptability in fuel selection proposals submitted by field elements.

e. Program Secretarial Officers (PSOs).

(1) Provide technical support, advice, and guidance, including technical, cost, and other data on the application of energy technologies under their cognizance.

(2) Assist the Director of Administration and Human Resource Management in the evaluation of proposed projects for the demonstration and application of energy technologies under their respective cognizance at DOE field sites.

(3) Participate and concur in the development, evaluation, and the setting of priorities for central plant studies and proposed improvement projects at sites under their respective cognizance.

(4) Identify goals and implementation requirements, including the planning for energy conservation surveys, studies, and retrofit and central plant improvement projects, to assure compatibility with program requirements.

(5) Coordinate and participate in the establishment of the requirements for contingency operations in the event of the need for energy use curtailment. (Note: The manager of the uranium enrichment program has responsibility for recommending to the Secretary and the Assistant Secretary for Nuclear Energy, energy curtailment policy related to uranium enrichment plants.)

f. Heads of Field Elements.

(1) Develop, maintain, and monitor coordinated site energy management programs commensurate with the criteria and requirements of the In-house Energy Management Program.

(2) Prepare a 10-year energy management plan for each site. Any necessary supplement or revision to the plan shall be done on an annual basis.

(3) Submit reports through respective PSOs, as required by this Order.

(4) Implement at each site, energy conservation related programs, such as energy conservation employee awareness, ridesharing, and vanpool programs.

(5) Designate:

(a) A senior official at the assistant manager level, or equivalent, who shall be responsible for all matters concerning the In-house Energy Management Program.

(b) Energy conservation coordinators to implement the 10-year energy management plans.

(c) Staff, as required, to carry out In-house Energy Management Programs. (Note: The senior official and the energy coordinator may be the same individual.)

(6) Develop and submit annual budget requests, through the respective PSOs, to the In-house Energy Management Branch, AD-153, for funding of proposed energy conservation surveys, central plant studies, retrofit projects, and central plant improvement projects in accordance with DOE 5100.3, FIELD BUDGET PROCESS, and annual field budget submission guidance.

(7) Direct the conduct of central plant studies and the development of long range plans to select the most cost-effective fuels for use in DOE facilities.

(8) Assure that noncritical fuels are utilized, in compliance with the Powerplant and Industrial Fuel Use Act, in all new facilities where economically justified and environmentally acceptable.

(9) Manage design and construction efforts for In-house Energy Management retrofit projects.

{lo) Determine whether fuel selection is economically justified and environmentally acceptable.

(11) Annually evaluate energy management at each DOE site, and each management and operating contractor, where appropriate. Attachment 2 may be used as a guide for such evaluation. The energy management site evaluation should be considered in the development of the contractor Performance Evaluation Plan, upon which the determination of award fee is based, where a management and operating contract contains an award fee provision. Copies of each evaluation shall be sent to AD-153, through the respective PSOs, with the annual report required in paragraph 8b(1).

(12) Submit shared energy savings projects below line item size to be accomplished under Public Law 99-272, Omnibus Budget Reconciliation Act of 1985, through the respective PSOs, to the In-house Energy Management Branch, AD-153, for approval.

8. PROCEDURES AND REQUIREMENTS. Attachment 3, provides milestones for accomplishment of In-house Energy Management tasks. Line item retrofit project milestones are provided in DOE 4700.1, PROJECT MANAGEMENT SYSTEM.

a. Site 10-Year Energy Management Plans. Ten-year energy management plans for each DOE site and for the Department shall be developed. Any necessary supplement or revision to the plans shall be submitted annually, through the respective PSOs, to AD-153 not later than 90 calendar days after the end of each fiscal year. Ten-year energy management plans shall be updated to include new goals for the period 1986 to 1995. Updated 10-year plans shall include updated emergency conservation plans.

b. Reports.

(1) Annual reports on individual site progress toward achieving the Departmental goals of the DOE 10-Year Energy Management Plan, including the reporting of consumption data for new buildings in accordance with Title 10 CFR 436, shall be submitted, through the respective PSOs, to AD-153 for inclusion in the annual report on In-house Energy Management not later than 90 calendar days after the end of each fiscal year.

(2) Quarterly energy conservation performance reports (QECPR) shall be submitted through the Energy Management System 2 (EMS2) to AD-153 not later than 40 calendar days after the end of each quarter of the fiscal year. A brief summary for completing the QECPR is in Attachment 4. Detailed reporting guidance and instructions are included in the EMS2 System Reference Manual.

(3) Energy conservation analysis reports for new building and building addition projects shall be prepared and submi tted, through the respective PSOs, to AD-153, in accordance with DOE 6430.1A, GENERAL DESIGN CRITERIA.

c. Fuel Selection and Management for Fuel Burning Installation Facilities shall be designed, constructed, converted, and operated in accordance with the following:

(1) New fuel burning installations, including replacements of existing fuel burning installations, which have a design capability of consuming any fuel (or mixture thereof) at a fuel input rate of:

(a) Greater than 25 million Btus per hour (excluding emergency generators) shall be designed and constructed to use that primary fuel which is economically justified and environmentally acceptable. In all cases, life cycle cost analyses shall be made to determine if coal or other noncritical fuel is the most cost-effective alternative, and these life cycle cost analyses shall be a portion of the conceptual design for such projects. Where coal or other noncritical fuel is found not to be the most cost-effective fuel, an analysis shall be made to determine if it is justified to design the plant such that conversion to a noncritical fuel can be made at a later date at a minimum cost. This analysis shall also be a part of the conceptual design for such projects. Both the analysis to determine the most economical fuel and the analysis of plant convertibility shall be refined at the Title I stage of the project. Copies of the Title I design shall be forwarded, through the respective PSOs, to AD-153 immediately upon completion, for review and comment.

(b) Greater than 5 million Btus per hour and less than 25 million Btu’s per hour shall be designed and constructed to use the primary fuel which is economically justified and environmentally acceptable. Life cycle cost analyses justifying fuel selection

shall be reviewed by the cognizant field element, and AD-153 shall be notified, through the respective PSOs, of the fuel selection and justification of that selection.

(2) In the design and construction of new fuel burning installations, and in the replacement of existing fuel burning installations, maximum consideration shall be given to the use of new and advanced energy technologies, such as fluidized bed combustion, coal derived fuels, solar energy, geothermal energy, waste heat recovery, and cogeneration

(3) Existing fuel burning installations shall, where cost effective, be operated with alternate fuels. Conversions to petroleum or natural gas shall be supported by life cycle cost analysis justifying the fuel selection. The cognizant field element shall review the analysis and notify AD-153, through the respective PSOs, of the fuel selection and justification for that selection.

(4) Electric resistance space heating is normally considered to be an ineffective use of source energy and, as such, should be eliminated in new facilities except when life cycle cost effective in very small, specialized, or remote space heating applications. Retrofit projects using electrical resistance space heating in existing facilities, where the retrofit cost is less than line item construction costs, shall be economically justified and require approval of cognizant field element heads. Temporary use of electric resistance space heating shall also require approval of cognizant field element heads. Copies of economic analyses and field approval shall be made available to AD-153 personnel upon request.

(5) All sites with central fuel burning installations shall maximize installation efficiency through formal documented boiler operator training and tune up programs. Boiler operator training documentation shall include hours of training per individual, training syllabus, the name of the firm or individual who conducted the training, and training dates. Boiler tune ups shall be performed at least annually, and documentation shall include the boiler number, manufacturer, rated capacity, fuel used, and the following recorded data for both the as-found and as-tuned conditions. This documentation shall be made available to AD-153 personnel upon request.

(a) Stack gas composition (after economizer, if applicable) percent carbon dioxide, oxygen, and parts per million of carbon monoxide.

(b) Steam pressure (pounds per square inch gauge).

(c) Stack gas temperature in degrees Fahrenheit (leaving economizer if applicable).

(d) Combustion air temperature in degrees Fahrenheit.

(e) Combustion efficiency (percent).

BY ORDER OF THE SECRETARY OF ENERGY:

DONALD W. PEARMAN, JR.
Acting Director
Administration and Human
Resource Management

REFERENCES

1. DOE 4300.1B, REAL PROPERTY MANAGEMENT, of 7-1-87, which establishes Departmentwide policies and procedures and assigns responsibilities and authorities for site development and facility utilization planning, real estate management and Real Property Inventory System.

2. DOE 4540.1B, UTILITY ACQUISITION AND MANAGEMENT, of 10-29-87, which establishes policies and procedures for the acquisition and management of utility services.

3. DOE 4700.1, PROJECT MANAGEMENT SYSTEM, of 3-6-87, which establishes the Project Management System and provides implementing instructions, formats, and procedures.

4. DOE 5100.3, FIELD BUDGET PROCESS, of 8-23-84, which provides requirements and procedures for the preparation and submission of field budget material required for preparation of the DOE budget.

5. DOE 5440. ID, NATIONAL ENVIRONMENTAL POLICY ACT COMPLIANCE PROGRAM, of 2-22-91, which provides procedures for DOE's compliance with and implementation of the National Environmental Policy Act.

6. DOE 5700.7C, WORK AUTHORIZATION SYSTEM, of 5-18-92, which establishes a work authorization and control process for work performed by designated management and operating contractors.

7. DOE 6430.1A, GENERAL DESIGN CRITERIA, of 4-6-89, which establishes policies and objectives, responsibilities and authorities, and requirements for the development and maintenance of general design criteria and for their application in the planning or acquisition of the Department's facilities.

8. Title VI, Public Law 95-91, Department of Energy Organization Act (42 U.S. C. 7211 et seq.) which empowers the Secretary in section 647 to . . . acquire (by purchase, lease, condemnation, or otherwise), construct, improve, repair, operate, and maintain laboratories, research and testing sites and facilities and related accommodations for employees and dependents of employees of the Department . . . as the Secretary deems necessary . . ."

9. Public Law 94-163 (42 U.S.C. 6201), Energy Policy and Conservation Act, which establishes a Federal Energy Conservation Program, and requires the development of a 10-year plan for energy conservation with respect to buildings.

10. Public Law 95-619, National Energy Conservation Policy Act (42 U.S.C. 8251-8261) . This part of the National Energy Act of 1978 further defines the applicability of the Federal Energy Management Program and establishes requirements for demonstration of solar energy in Federal buildings, energy audits, life cycle cost analyses, and retrofitting of Federal buildings.

11. Title I, Public Law 95-620, Powerplant and Industrial Fuel Use Act of 1978, as amended, by Public Law 100-42 of 1987, which states a purpose of this Act is ". . . to reduce the importation of petroleum and increase the Nation's capability to use indigenous energy resources of the United States to the extent such reduction and use further the goal of energy self-sufficiency and otherwise are in the best interest of the United States. . ."

12. Public Law 99-272, Omnibus Budget Reconciliation Act of 1985, which provides for DOE to enter into shared savings projects.

13. Executive Order 11912, "Delegation of Authorities Relating to Energy Policy and Conservation;" Title 3, CFR 114 (1977), which delegates, primarily to the Administrators of the General Services Administration and the Federal Energy Administration, authorities relating to energy policy and conservation which were granted to the President.

14. Executive Order 12003, "Relating to Energy Policy and Conservation," Title 3, CFR 134 (1978), which requires the development of guidelines for and the submittal of 10-year plans for energy conservation with respect to Government buildings, and establishes requirements for energy audits and goals for reduction of energy use in Federal buildings.

15. Title 10, CFR 436, Federal Energy Management and Planning Programs: Subpart A - "Methodology and Procedures for Life-Cycle-Cost Analyses"; Subpart C - "Guidelines for Building Plans"; and Subpart F "Guidelines for General Operations Plans"; which establish the policies and objectives, and evaluation criteria for Federal energy management programs.

16. Title 10, CFR 503.6, Cost Calculations for New Powerplants and Installations, which sets out the methodology for calculating the cost of using an alternate fuel and the cost of using imported fuel in new electric powerplants and cogeneration facilities more than half of the annual electric power generation of which is sold or exchanged.

17. Title 41, CFR 101-20.116, Conservation of Energy by Executive Agencies, which establishes requirements for energy conservation policies and practices and reporting of energy consumption in Federal facilities.

18. Title 41, CFR 101-20.117, Carpool Parking, which establishes requirements for setting of priorities in allocating parking lot spaces to encourage carpooling.

19. Title 41, CFR 101-38.101, Energy Conservation in Motor Vehicle Management, which establishes requirements to be satisfied in the acquisition and use of motor vehicles, particularly passenger vehicles, to promote energy conservation.

20. The following guides may be used in developing and implementing the In-house Energy Management Program. These guides may be obtained from the Office of Scientific and Technical Information (AD-21):

    a. "Life Cycle Cost Manual for the Federal Energy Management Program," National Bureau of Standards Handbook 135, which provides a systematic comparison of investment decisions using a discount factor to calculate the present worth of future benefits and costs.

    b. "Site Energy Handbook," Volumes 1 and 2, ERDA-76/131/1 and ERDA-76/131/2, respectively, of 10-76, which provide guidelines and forms for performing a site energy baseline survey.

    c. "Building Energy Handbook," Volumes 1 and 2, ERDA-76/163/1 and ERDA-76/163/2, respectively, of 12-76, which provide guidelines and forms identify and select for detailed investigation those buildings which offer the greatest potential for energy conservation.

    d. "DOE Energy Conservation Awareness Coordinators' Handbook," which provides the information and directions for Awareness Program Coordinators to set up programs at their facility.

    e. "Architects and Engineers Guide to Energy Conservation in Existing Buildings," DOE/CS-132, of 2-1-80, which provides a simplified analysis of energy conservation retrofits in existing buildings.

IN-HOUSE ENERGY MANAGEMENT SITE EVALUATION GUIDE

1. ORGANIZATION.

   a. Indicate the name and organizational location of the site individual whose sole responsibility is the site energy management program.

   b. If there is not an individual assigned full-time to site energy management, provide name and the organizational location of the individual primarily responsible for the site energy management function.

   c. Indicate the frequency of management level meetings to discuss energy management/conservation efforts and results and level of management involved.

2. OPERATING CONTRACTOR INCENTIVES.

   a. Is appropriate language included in the existing operating contract that requires the energy effective operation of the Government-owned physical plant?

   b. When was the last evaluation of the site's energy management program conducted by DOE management?

   c. Is sitewide energy management included in the performance standards for the site official primarily responsible for all energy management matters?

3. EMPLOYEE ENERGY MANAGEMENT/CONSERVATION AWARENESS.

   a. Is there an annual energy management/conservation awareness day or week at the site?

   b. Do bulletin boards in the majority of site areas have conservation posters or slogans posted and are they changed periodically?

   c. How many news articles on energy management/conservation appeared in the site newsletter/paper in the last year?

   d. Does the site have an employee beneficial suggestion program? How many awards were made for energy conservation ideas in the last 2 years?

   e. Are films on energy conservation shown to employees and how often?

4. SITE ENERGY MANAGEMENT PLANS.

   a. What is the date of the latest site 10-year Energy Management Plan?

b. Does the site have annual goals in addition to the DOE-wide goals? Are individual divisions or other organizational subelements assigned energy conservation goals?

c. Does the site 10-year Energy Management Plan include an energy emergency/curtailment plan?

5. ENERGY CONSERVATION RETROFIT PROGRAM.

a. Other than In-house Energy Management (IHEM) funds, how much has been spent at the site in studies and surveys to improve energy efficiency? Provide a list of surveys/studies and cost of each.

b. Are copies of all study or survey reports available?

c. How much retrofit project activity (dollars) was identified by these studies? List life cycle cost effective retrofit projects identified and estimated costs. Other than IHEM funds, how much has actually been spent for energy retrofit projects?

d. What is the average time between project funding and completion?

e. What validation of estimated energy/dollar savings from retrofits has been made?

6. CENTRAL PLANT PROGRAM.

a. Has the site central plant been studied for improvement? For cogeneration?

b. What training, directed specifically toward energy conservation, do the boiler operators receive? How often?

c. What specific boiler improvements have been made in the last 5 years? Do the boilers have economizers? Stack gas analyzers?

d. What is the annual average steam plant efficiency?

e. When was the last formal boiler tune-up accomplished and what are the results?

f. Is there a formal steam trap program? Has there been a study of losses via the steam traps and what are the results?

g. What percentage of condensate is returned to the boiler plant?

h. What water treatment is used for makeup water? How often is the boiler feed water analyzed? By whom?

i. What amount and kinds of waste fuels are utilized in the central plant? What attempt or study has been made to do so?

7. SITE ENERGY CONSUMPTION REPORTING AND EVALUATION.

   a. Is the site energy management coordinator also responsible for the review and submission of the quarterly energy conservation performance report for the site?

   b. Is there analysis of consumption changes in an energy category of greater than 5 percent in any quarter or year-to-date compared with the base year or with the previous year?

   c. Is the quarterly energy conservation performance report sent to the site manager formally?

   d. What are the data sources for the quarterly energy conservation performance report? Is the energy-reported as metered process actually metered? Where there is on-site generation, are only source fuels being reported?

8. PROCESS/PRODUCTION ENERGY CONSERVATION.

   a. What process/production/research functions have been studied for energy conservation in the last 3 years?

   b. What improvements in scheduling, workflow, have been made in the last 2 years which result in significant energy savings?

   c. What retrofits or replacements of process/production/research equipment have been made in the last 3 years specifically to reduce energy consumption?

9. NEW BUILDINGS PROGRAM.

   a. Since 11-79, how many buildings have been designed? Of this number, how many have been constructed or are under construction? What is/was the projected energy consumption of each? What is the actual energy consumption of each? Was an energy conservation report prepared during the design of each? Does the site energy coordinator have a copy of each report?

   b. For new buildings constructed in the last 4 years, list all unique features specifically chosen to reduce energy consumption.

10. TRANSPORTATION PROGRAMS.

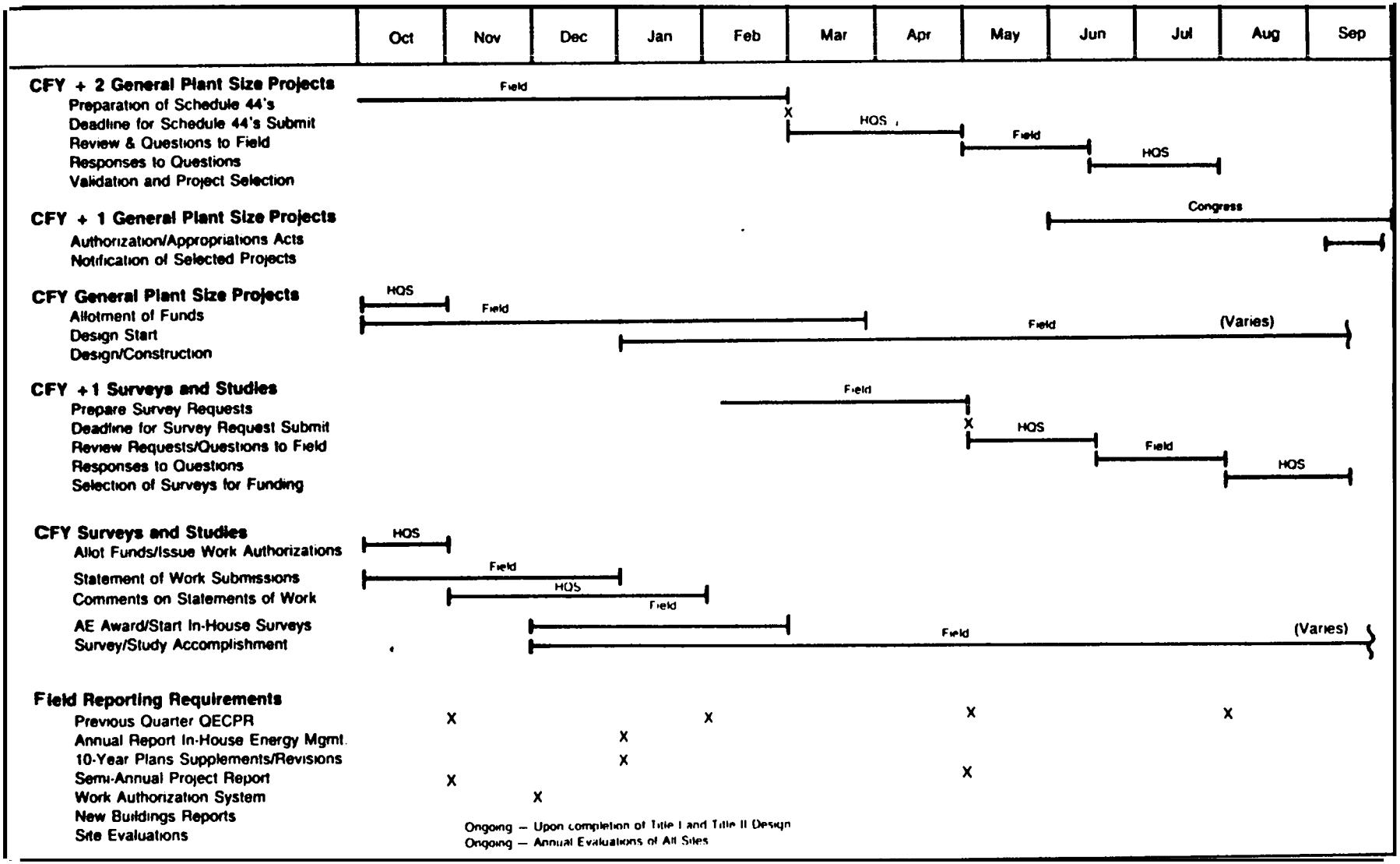
a. Provide the name and telephone number of the ridesharing coordinator.

b. What rideshare initiatives are provided?

c. What percentage of individuals licensed to drive Government vehicles have had driver energy conservation awareness training?

d. What other modes has the site instituted to reduce energy consumption?

In-House Energy Management Milestones



QUARTERLY ENERGY CONSERVATION PERFORMANCE REPORT

SUMMARY

1. PURPOSE AND BACKGROUND. As a Federal agency, DOE is required to report the energy consumed in its owned and leased facilities each quarter of the fiscal year. All DOE sites must report their energy consumption in the Energy Management System 2 (EMS2).

2. ENERGY REPORTING CATEGORIES. All energy consumed at DOE sites shall be reported in one of the three following categories:

   a. Metered Process energy must be used for other than housekeeping consumption for lighting, heating, ventilation, and air-conditioning. Metered process energy consumption must be separately metered; it cannot be an estimated allocation of the total amount. In those instances where heavy processes comprise the predominant portion (greater than 80 percent) of a facilities energy consumption, but the process cannot be separated from the housekeeping consumption of that facility, the entire facility may be reported as metered process. The purpose of this category of energy consumption is to identify the heavier, nonbuilding, machine or production line consumption that varies year to year in direct response to programmatic activity. It is not the intent, nor is it feasible, to remove all process energy consumption from the buildings energy consumption category of the Department.

   b. Buildings energy consumption is all energy consumed at a site other than that consumed by metered process. Thus, building energy consumption includes energy consumed for heating, cooling, ventilation, lighting, and other housekeeping functions, as well as unmetered process consumption.

   c. Vehicles and Equipment energy is the fuel used in vehicles and equipment for official Government business. on and off DOE sites, that is not reported by some other Federal agency.

3. ENERGY TO BE REPORTED. Consumption changes in any reporting category of greater than 10 percent from the same quarter previous year, require an explanation. The energy reported for each fuel type shall be that entering the site, less any energy leaving the site. This means all onsite line losses and conversion losses (except from nuclear sources) must be included in the report as energy consumed. The following situations are examples:

   a. Steam is generated at the site for heating and industrial use. The total source fuel (natural gas, coal, fuel oil, or other) consumed to generate this steam is reported. No deductions are taken for line losses or for boiler efficiency.

b. Electricity is purchased and some is sold to offsite customers. The purchased electricity reported is that entering the site, less the amount transmitted offsite.

c. Electricity is generated onsite. The total source fuel consumed to generate the electricity is reported. If additional electricity is purchased, that amount is reported as electricity.

4. COSTS TO BE REPORTED. The costs reported shall be the billed cost for the energy consumed. For electricity, the cost shall include demand charges and connection charges, as well as, consumption charges.

5. SQUARE FOOTAGE TO BE REPORTED. Buildings and metered process square footage is reported and used to analyze changes in energy consumption. These factors are defined as:

a. Buildings Space. The gross square footage of all DOE owned or leased buildings, permanent or temporary (including trailers) for which energy consumption is reported in the Quarterly Energy Conservation Performance Report in the buildings category.

b. Metered Process Space. The gross square footage of all DOE owned or leased buildings, permanent or temporary (including trailers) for which energy consumption is reported in the Quarterly Energy Conservation Performance Report in the metered process category.