DEPARTMENT OF DEFENSE
HEADQUARTERS DEFENSE COMMISSARY AGENCY
Fort Lee VA 23801-6300

DeCA DIRECTIVE 20-6

July 29, 1994

Facilities

ENERGY MANAGEMENT PROGRAM

BY ORDER OF THE DIRECTOR

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Colonel, USA
Chief of Staff

RALPH R. TATE
Acting Chief, Safety, Security and Administration

AUTHORITY: Defense Commissary Agency Directives Management Program is established in compliance with DoD Directive 5105.55, Defense Commissary Agency (DeCA), November 1990.

MANAGEMENT CONTROLS: This Directive does not contain Management Control provisions that are subject to testing and other requirements of DeCAD 70-2 and as specified by the Federal Manager's Financial Integrity Act.

APPLICABILITY: This directive applies to all Defense Commissary Agency (DeCA) activities.

HOW TO SUPPLEMENT: This directive will not be supplemented without prior authorization from HQ DeCA/DF.

HOW TO ORDER COPIES: Stores needing additional copies will submit requirements on DeCA Form 30-21 to Region/IM.

SUMMARY: This directive establishes policy and procedures for the DeCA Energy Management Program.

OFFICE OF PRIMARY RESPONSIBILITY (OPR): HQ DeCA/DFFP
COORDINATORS: HQ DeCA/DF/RM/DO/DP/IR/IG/IM/CS, DeCA REGIONS/DO/DF
DISTRIBUTION: E

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1. **PURPOSE:** This directive establishes policy for the Defense Commissary Agency (DeCA) Energy Management Program to ensure energy conservation in both immediate and long range situations. It also provides procedures for energy management policy updating.

2. **REFERENCES:**

a. Department of Defense (DoD) Instruction 4170.10, subject: Energy Management Policy.

b. DeCA Handbook 20-2, Commissary Energy Management Handbook

c. The Energy Policy Act of 1992 (P.L. 102-486).

3. **DEFINITIONS:** Abbreviations and terms used in this directive are defined at **Appendix A**.

4. **POLICY:** The DeCA Energy Management Program is established to insure the following occur.

a. All DeCA employees are aware of the DeCA Energy Management Program.

b. Practice Energy Management in all areas of the Defense Commissary Agency's Operations.

c. Adopt all cost-effective actions that eliminate energy waste, improve the way energy is used efficiently and implement measures to reduce energy cost.

d. Incorporation of energy efficient design practices into new and existing equipment and facilities while maintaining a productive shopping and working environment.

e. Business decisions are based on a life-cycle-cost analysis which includes, but is not limited to the purchase of supplies and office equipment and in facility design, renovation and construction.

f. Compliance with all applicable government regulations dealing with energy management.

g. Establishment of the position of corporate Energy Manager.

h. A trained Facility Energy Supervisor (FES) is assigned to every DeCA facility. See **Appendix A**.

i. Establishment within the Directorate of Facilities budget separate budget line items in Surcharge and Defense Business Operating Fund (DBOF) accounts for the DeCA Energy Management Program.

5. **RESPONSIBILIES:**

a. The Energy Manager (EM):

(1) Administers the Defense Commissary Agency's Energy Management Program through the Directorate of Facilities (DF). The EM reports to the Chief, Programs Branch (DFFP), Facilities and Programs Division (DFF) and is a Trained Energy Manager as defined in **Appendix A**.

(2) Is the approval authority regarding recommended changes in energy policy, reporting procedures, handbook revisions and energy training management decisions going to the DeCA Director for official approval.

(3) Establishes minimum qualification standards for Facility Energy Supervisors (FES) based on DoD guidance and Energy Advisory Group (EAG) recommendations.

(4) Provides energy management and awareness training at all levels of the Defense Commissary Agency.

(5) Provides a Facility Operations and Maintenance Handbook to DeCA FES, Commissary Officers and maintenance personnel. This handbook details the energy conservation strategies relating to operation and maintenance of DeCA facilities consistent with policy contained in this directive.

b. Facility Energy Supervisors (FES), as defined at **Appendix A**.

(1) Each Region Director appoints a Region FES as an additional duty appointment.

(2) The FES as an additional duty is appointed by: The Commissary Officer (CSO) for commissary facilities, the senior person in charge of each commissary support facility (ex. Region Office, CDC, District Office, Service Centers) and by the Director of Safety, Security, and Administration for the DeCA Headquarters building and other buildings controlled by DeCA at Fort Lee, Virginia to implement the DeCA Energy Management Program in the specific facility or facilities named in their appointment. The additional duties will be added to the ➔performance plan← of personnel appointed as FES with Performance Standards for same. (See **Appendix ➔A←** for sample job description and performance standards.)

(3) The FES reports to their immediate supervisor.

(4) The FES is responsible for the following at their Facility or Region.

(a) Maintain an on going awareness of energy consumption and expenditures at their assigned facilities.

(b) Recommend and initiate energy conservation projects and energy management practices. (See **Appendix D** for energy monitor's checklist and **Appendix E** for energy savings and awareness ideas.)

(c) Establish an Energy Advisory Committee at their facility.

(d) Provide the necessary reporting information from their assigned facilities.

c. Energy Advisory Group (EAG)

(1) Further develop energy management policy and guide DeCA's business strategy to promote energy conservation. The energy management policy will continue to be a proactive approach to manage our energy resources more efficiently while focusing on customer satisfaction. Serve as a clearing house for mutual energy management problems and, where practical, provide a joint approach to solutions. Revise policy as required to ensure that it is within DoD energy goals and meets or exceeds current commercial business practices relative to energy management. Develop Mission Essential Tasks required

to support DeCA Energy Management Policy and DoD goals. Recommend changes that will be included in updates to the Commissary Energy Management Handbook, DeCAH 20-2. Review DeCA's energy analysis and reporting procedures to verify their validity to top management's overall vision for our organization.

(2) The EAG meets semiannually, in January and June at Headquarters, DeCA.

(3) The EAG is appointed by the EM to serve a two-year term. Volunteers are solicited annually in July of each year by the EM. Appointments are made no later than October 1 of each year with an effective appointment date of the following January 1.

(4) The EAG reports directly to the Chief of Staff.

(5) The initial EAG shall be composed of one employee from each of the following positions. Membership may be modified by the EM based on recommendations from the EAG as necessary to assure the EAG represents a broad base of commissary system experience.

Commissary Department Manager
Commissary Facility Energy Supervisor
Commissary Officer or Deputy Commissary Officer
FES, District Office
Region Engineer
HQ FES (DeCA/SAL)
Person Responsible for Negotiating Installation
Support Agreements (RMMP)
Branch Chief, Information Management (IMO)
Branch Chief, Directorate of Operations (DOO)
Branch Chief, Service Center
EM

(6) The EM will chair the EAG.

d. Energy Advisory Committee (EAC)

(1) Charter. Assists the FES in developing and implementing a facility or store level energy conservation and management program. Assist the FES in promoting and maintaining energy awareness. Reviews and follows-up on progress of energy management efforts. Recommends site specific management actions to their FES.

(2) The Commissary EAC is appointed by the Commissary Officer (CSO) from representatives of operating departments such as Front End, Meat, Produce, Nonfoods, Grocery, Distribution, Management Support, Merchandising and Warehouse.

(3) The Facility EAC at Headquarters, District or Region Offices is appointed by the Facility FES from representatives of operating departments. The EAC is limited to five to six members who serve a one-year term (calendar year).

(4) The EAC meets monthly and within 5 working days after receipt of the utility bill from their host installation.

(5) The FES will chair the EAC.

e. The DeCA Director will annually recognize individual "Energy Winners" within DeCA that use the IDEAS suggestion program to present energy saving ideas.

f. The DeCA Director will annually recognize "DeCA Energy Winners." These are DeCA FESs along with employees of the facilities that have done the best job in implementing energy management measures in their daily activities. Selection criteria will be developed by the DeCA Energy Advisory Group.

6. **PROCEDURES:**

a. Reporting

(1) The FES reports all efforts to improve energy efficiency to the EM as these efforts are undertaken. ➔ ~~He will submit a brief quarterly summary of energy cost savings and actions to the EM on the reverse side of the quarterly, DeCA Form 20-1.~~ ➔Deleted➔

(2) The FES maintains records of and reports facility energy use quarterly on DeCA Form 20-1 according to the schedule at **Appendix C**. Quarterly reports will be transmitted using the DeCA Energy Management Information System (EMIS) once this automated system is fielded.

(3) The EM consolidates quarterly energy reports and submits them to the Defense Utility Energy Reporting (DUERS) as required by DoD according to the schedule at **Appendix C**.

(4) The Region FES provides a Year-End Consolidated Energy Report of facility energy use to the EM for the previous fiscal year by January 15 of each year. Data from this report is used for DeCA's Annual Report to Congress and for energy management analysis. See **Appendix C**.

(5) The EM will prepare other energy reports as required by management.

b. Energy Audits. The DF staff shall conduct Energy Audits to assess the quality of Facility/Commissary Energy Management Programs. Audit results will be used to make operating recommendations and identify projects such as lighting, refrigeration and heating and air conditioning replacements and energy related repairs that will increase customer comfort and lower DeCA energy use. Regions request audit services through the energy manager, HQ DeCA/DFFP.

c. Energy Conservation Projects. Select initial project priorities from energy and water conservation projects with a Life Cycle Cost (LCC) payback of 10 years or less. See **Appendix A** for definitions of LCC terms.

(1) Demand Side Management (DSM) Project Funding. The FES will contact their Base Engineer, Region Engineer or the DeCA EM for information on how to use energy project financing from public utility-sponsored (power company) rebates.

(2) Shared Energy Savings (SES) Projects. A contracting procedure whereby a private contractor finances, installs, and maintains energy-saving equipment and shares the resulting dollar savings with the installation or agency. The FES will contact their Base Engineer, Region Engineer or the DeCA EM to have them initiate such projects.

(3) Energy Conservation projects are normally initiated by the FES through the Region Engineer. They are also initiated by the DeCA EM in coordination with the Region Engineer.

d. Policy Updating. The Energy Manager and the Energy Advisory Group shall review this directive annually and make recommendations regarding revisions to policies and procedures.

ENERGY MANAGEMENT ABBREVIATIONS/DEFINITIONS

a. Abbreviations:

A-E	Architect-Engineer
CDC	Central Distribution Center
DUERS	Defense Utility Energy Reporting System as described in DoD Manual 5126.46-M-2, November 24, 1993

b. Definitions:

Director - Director, Defense Commissary Agency

Energy Management - Energy Management is using energy in the right place, at the right time and in the right amount.

Facility Energy Supervisor - The employee with the responsibility for the daily operations of a Federal facility which may include more than one building. Personnel appointed should be in a supervisory or managerial position which would provide them with the authority to implement operational energy management decisions and suggestions. Suggested appointees are as follows.

Location	**Suggested Position**
Commissary	Deputy Commissary Officer or Store Manager
Central Distribution Center	Chief, CDC
District Office	District Manager
Region Office	Region Engineer or Director of Operations
Headquarters	Chief, Logistics Support Division

Terms Used in Calculating Life Cycle Costs (LCC) - The definitions described below are taken verbatim from 10 C.F.R. 436:

Life-Cycle Costs (LCC) - Life-cycle costs are the sum of the present values of:

a. Investment costs, less salvage values at the end of the study period;

b. Non-fuel operation and maintenance costs;

c. Replacement costs less salvage costs of replaced building systems; and

d. Energy costs.

Net Savings - For a retrofit project, net savings may be found by subtracting life-cycle costs based on the proposed project from life-cycle costs based on not having it. For a new building design, net savings is the difference between the life-cycle costs of an alternative design and the life-cycle costs of the basic design.

Savings-to-investment Ratio (SIR) - The SIR is the ratio of the present value savings to the present value costs of an energy conservation measure.

The numerator of the ratio is the present value of net savings in energy and on-fuel operation and maintenance costs attributable to the proposed energy conservation measure.

The denominator of the ratio is the present value of the net increase in investment and replacement costs less salvage value attributable to the proposed energy conservation measure.

Adjusted Internal Rate of Return - The adjusted internal rate of return is the overall rate of return on an energy conservation measure. It is calculated by subtracting I from the Nth root of the ratio of the terminal value of savings to the present value of costs, where N is the number of years in the study period.

The numerator of the ratio is calculated by using the discount rate to compound forward to the end of the study period the yearly net savings in energy and non-fuel operation and maintenance costs attributable to the proposed energy conservation measure.

The denominator of the ratio is the present value of the net increase in investment and replacement costs less salvage value attributable to the proposed energy conservation measure.

Estimated Simple Payback Time - The estimated simple payback time is the number of years required for the cumulative value of energy cost savings less future non-fuel cost to equal the investment costs of the building energy system, without consideration of future price changes or discount rates.

Trained Energy Manager - A person who has demonstrated proficiency, or who has completed a course of study in the areas of fundamentals of building energy systems, building energy codes, and applicable professional standards, energy accounting and analysis, life-cycle cost methodology, fuel supply and pricing and instrumentation for energy surveys and audits.

➔SAMPLE ADDITION TO PERFORMANCE PLAN
SERVES AS FACILITY ENERGY SUPERVISOR
NON-CRITICAL

Sa. Assists the facility supervisor (ie. the Commissary Officer, Region Director, CDC Director, Service Center Director or Safety, Security and Administration Director) in meeting the goal of an energy efficient building without an adverse impact on the mission or quality of life. Works with the DeCA Energy Manager and the host installation Energy Coordinator to focus efforts toward common energy conservation goals.

Sb. Serves as building point of contact for assigned buildings. Initiates work orders (to Base Engineer, Region Engineer or maintenance service Contractor, as applicable) for energy-related maintenance problems and energy conservation opportunity projects.

Sc. Monitors energy consumption and expenditures at their assigned building(s). Maintains records of facility energy use. Recommends and initiates energy conservation projects to Base Energy Coordinator or Region Engineer.

Sd. Establishes an Energy Advisory Committee at their facility. Recommends and initiates energy management practices at their assigned building(s). Reports problems with the building's heating and cooling systems. Reports efforts to improve energy efficiency to the DeCA Energy Manager (EM).

Se. Provides the necessary reporting information from their assigned facilities.← ➔Change Dec/99←

DUERS QUARTERLY REPORTING SCHEDULE

Days Due From End of Reporting Quarter

	TO:	Region FES	DeCA EM	DoD
FROM:				
a.	Commissary Store FES	30		
b.	Separate Warehouse FES	30		
c.	District Office FES	30		
d.	CDC FES	30		
e.	Region Office FES	30		
f	Region FES		45	
g.	Headquarters FES		30	
h.	EM			60

Notes:

(1) Reporting Quarters end Dec and Mar 31, Jun and Sep 30.

(2) Locations a - e and g submit completed DeCA Form 20-1 with data for each month of the reporting quarter.

(3) Location f submits completed DeCA Forms 20-1 with data for each location in their Region to HQ DeCA/DFFP.

(4) Location h submits a consolidated Agency report in the DUERS format to DoD.

YEAR END CONSOLIDATED ENERGY REPORT OF FACILITY ENERGY USE (Reporting Format)

The following LOTUS 1-2-3 format was provided to all CONUS Regions on disk in December 1992. This report shall be updated for the previous fiscal year (FY) ending September 30 and sent to HQ-DeCA/DFFP on 5 114" or 3 1/2" floppy disk or by E-mail to dff-ecs by January 15 of the current FY. Additional copies of this format may be obtained by contacting the EM.

FY 93 TOTALS THRU SEPTEMBER FY93
EMRFY93
REGION: Southwest

DODAC	STORE	TOTAL AREA SQ/FT	SALES AREA SQ/FT	TOTAL SALES MILLIONS	TOTAL ENERGY USAGE MBTU	TOTAL ENERGY COST ($)	ENERGY USE PER TOTAL SF MBTU	ENERGY USE PER SALES SF MBTU	ENERGY COST PER TOTAL SF ($)	ENERGY COST PER SALES SF ($)	ENERGY COST PER MBTU ($)	ENERGY USAGE PER MILLION SALES MBTU
HQCKLJ	Alameda	105400	22835	20.71	20373	287309.00	0.19	0.89	2.73	12.58	14.10	983.73
HQCKLL	Barstow	17408	9304	4.18	3974	103488.00	0.23	0.43	5.94	11.12	26.04	950.72
HQCKLK	Beale AFB	69396	28178	17.56	11579	102178.00	0.17	0.41	1.47	3.63	8.82	659.40
HQCKLM	Camp Pendleton	109590	52440	35.13	12545	290781.00	0.11	0.24	2.65	5.55	23.18	357.10
HQCKLN	Castle AFB	84365	29951	23.54	13049	194096.00	0.15	0.44	2.30	6.48	14.87	554.33
HQCKM6	China Lake NWC	16426	5846	2.98	3652	67487.00	0.22	0.62	4.11	11.54	18.48	1225.50
HQCKLB	Davis-Monthan	91779	39415	37.92	13802	259323.00	0.15	0.35	2.83	6.58	18.79	363.98
HQCKMH	Dugway PG	15408	7200	.174	4600	34699.00	0.30	0.64	2.25	4.82	7.54	2643.68
HQCKLP	Edwards AFB	58135	21130	19.29	1395	25119.00	0.02	0.07	0.43	1.19	18.01	72.32
HQCKMP	El Centro	8792	5915	1.05	1584	38829.00	0.18	0.27	4.19	6.23	23.10	1518.10
HQCKLS	El Toro	56314	24398	22.78	10992	264583.00	0.20	0.45	4.70	10.84	24.07	482.53
HQCKMF	Fallon	17346	7324	3.92	537	8228.00	0.03	0.07	0.47	1.12	15.32	136.99

FES ENERGY MONITOR'S CHECKLIST

Possible Energy Violations

LIGHTING

1. Lights left on in unoccupied area
2. Exterior lights on in daytime
3. Dirt on surfaces of lamps
4. Lighting in work areas exceeds requirements for task
5. Light bulbs with excessive wattage in use
6. Lights over partitions not aligned
7. Excessive exterior illumination
8. Walls and/or windows are dirty

ELECTRICAL EQUIPMENT

1. Equipment left running when not in use
2. Vending machine lights on

WATER

1. Leaky faucet
2. Excessive flow rate (gallons per minute)
3. Pipe insulation missing or damaged
4. Temperature in excess of 110 deg. F for hand washing
5. Steam/water leak in pipes
6. Hot water tank is not insulated or insulation is damaged

BEATING AND COOLING

1. Unconditioned areas not closed off
2. Air vents obstructed
3. Exterior door left open (including vestibule doors)
4. Windows left open
5. Winter Room temperature too high (greater than 70 deg. F for sales area, offices, restrooms, locker rooms and break rooms; 55 deg. F for storage areas, 68 deg. F for ADP areas) during occupied periods*

6. Summer Room temperature too low (less than 76 deg. F for offices, restrooms, locker rooms and break rooms; less than 75 deg. F for sales area and ADP area) during occupied periods*

* Value-Marts are considered to be STORAGE AREAS

7. Thermostat damage
8. Radiators dirty
9. Radiators on in entryways during cooling season
10. Dirty air filters
11. Pipe insulation missing or damaged
12. Automatic Doors locked in open position

REFRIGERATION

1. Gaskets on doors are not tight
2. Refrigerator-freezer needs defrosting

BUILDING

1. Broken windows/doors
2. Misaligned exterior door
3. Cracked caulking around windows, doors and exterior joints
4. Defective or missing weather stripping around windows and/or doors

ENERGY SAVING AND AWARENESS IDEAS

1. IDEAS for Successful Energy Efficiency Projects

LOW-COST ENERGY CONSERVATION PROJECTS

Replace old multi-unit air-conditioning units with more efficient central units.

Replace a duct air heating system with gas-fired infrared heat radiators in warehouses.

Combine condenser units from display cases and freezer boxes in the commissary to maximize efficiency and waste heat recovery. Longer piping may be necessary to carry chilled water from a central unit. Performing this work during major renovation or retrofit projects will reduce the installation cost.

Combine multi-unit individual transformers to a single central transformer.

Assure the maintenance contractor performs scheduled inspections and maintenance to HVAC and refrigeration equipment.

Replace timers or sensors that control lighting.

Control parking areas and street lighting by expanding to existing energy management and control systems (EMCSs).

Install thermostatic valves and reflectors for radiators.

Review all utility bills carefully. Perform walk-around energy consumption audits.

Negotiate utility rates.

WATER CONSERVATION TECHNIQUES

Repair dripping or leaking fixtures.

Install efficient shower and faucet fixtures.

Discourage mid-day lawn watering to avoid losses due to evaporation.

Use low water plantings and drip irrigation.

Prohibit the use of water under pressure to clean sidewalks and walkways.

Have valves adjusted for minimal water use.

2. IDEAS for Energy Awareness

Organize Energy Awareness Month or Energy Awareness Week activities.

Display statements on energy use by the DeCA Director.

Display energy awareness reminders.

Distribute flyers containing practical energy-saving tips.

Organize annual energy awareness presentations to employees or employee groups.

Present energy awareness and energy conservation training to your personnel.

Display quarterly energy usage and costs.

Ask the facilities utilities sales officer to issue monthly reports on your utility costs.

Distribute energy cost charts to your personnel.

Conduct educational walk-through audits.

Conduct office walk-through audits to point out energy-saving opportunities to building occupants.

Conduct self-audits of their energy usage.

Enlist the help of others.

Use brainstorming sessions to develop new energy conservation ideas and projects.

Use the DeCA IDEAS suggestion program to solicit energy conservation ideas.

Use rewards to encourage energy conservation.

Don't fight your heating plant or air conditioning.

— When they're on, keep your doors and windows closed. Leaving them open just wastes energy.

Support restrictions on smoking indoors.

— Tobacco smoke raises energy costs for heating and cooling buildings, especially cooling, because ventilating and filtering air to remove smoke makes air conditioners work much harder, boosting energy consumption greatly. What's more, the extra energy does not guarantee that indoor air quality will be healthy or free of odor.