DEPARTMENT OF THE ARMY
Headquarters, United States Army Training Center & Fort Jackson
Fort Jackson, South Carolina 29207-5000

REGULATION NUMBER 420-7

1 June 2005

Engineering Services
ENERGY CONSERVATION PROGRAM

*This regulation supersedes FJ Reg 420-7, 26 April 1993

1. PURPOSE. To establish an effective Energy Conservation Program and to prescribe policies, responsibilities and procedures for its implementation.

2. OBJECTIVE. To provide guidance for the execution of energy conservation actions at this installation.

3. GENERAL.

a. To implement the President's directive to conserve energy. DOD, DA and TRADOC have established energy reduction goals based on previous consumption rates.

b. Fort Jackson has been tasked to make significant reductions in consumption of mobility fuels (MOGAS and diesel), heating fuels and electricity and to adhere to a "negative growth" energy conservation policy based on these reduced consumption levels. Also, it can be expected that shortages in available energy resources will persist and further reductions may be required.

c. To minimize the impact of these reductions and to ensure accomplishment of assigned missions, it is imperative that immediate and continuing efforts be devoted to the conservation of energy resources.

d. Units/Activities may request exceptions to policies stated in this regulation for individuals with documented medical and physical conditions.

4. INSTALLATION ENERGY CONSERVATION COMMITTEE.

a. The Installation Energy Conservation Committee will coordinate and direct the total conservation effort as approved by the Commanding General. Membership will consist of commanders and directors of the agencies having staff or command responsibility for the many facets of a total Energy Conservation Program.

b. Membership of the Installation Energy Conservation Committee will include:

Commanding General - Chairman
Chief of Staff
Garrison Commander
Director of Logistics and Engineering - Executive Secretary
Director of Contracting
Director of Human Resources
Director of Resource Management – Garrison
Director of Resource Management – Mission
Chaplain Center and School

Public Affairs Officer
Inspector General (Observer)
Civilian Personnel Officer
Chaplain
Staff Judge Advocate
Director of Plans, Training and Mobilization
Director of Emergency Services
Director of Information Management
Commander, 1st BCT Brigade
Commander, 4th TNG Brigade
Commander, Victory Brigade
Commander, Soldier Support Institute
Commander, Medical Activity
Commander, Dental Activity
Commander, 81st Regional Support Command
Commander, Military Entrance Processing Station
Manager, Fort Jackson Exchange
Superintendent of Schools

c. The Installation Energy Conservation Committee will:

(1) Meet at least quarterly, or as directed by the Chairman.

(2) Be informed as to Fort Jackson's performance in energy consumption.

(3) Consider energy conservation measures and initiatives and make recommendations as to their adoption as policy for incorporation in this regulation.

(4) Form subcommittees or study groups as needed to consider new proposals and to make recommendations to the Committee.

(5) Inform subordinates as to the post's energy conservation status, new policy and initiatives.

5. RESPONSIBILITIES.

a. All major unit commanders, staff directors and other activity chiefs will:

(1) Appoint an energy conservation officer or NCO at all levels down to and including company/staff division level.

(2) Designate action personnel to monitor daily the facilities for which they are responsible to ensure appropriate measures are being taken to conserve energy resources.

(3) Require Staff Duty/Charge of Quarters personnel to check their area of responsibility for energy conservation waste and eliminate and/or report it as part of their duties.

(4) Include water conservation as a part of their Energy Conservation Program.

b. The Chairman of the Installation Energy Conservation Committee will:

(1) Preside over the committee.

(2) Require recurring inspection of energy conservation practices.

(3) Ensure major subordinate commands, tenant activities and staff activities on the installation correct discrepancies noted by inspection personnel.

(4) Establish frequency of meetings of the committee.

c. The Chief of Staff will serve as the Committee Chairman in the absence of the Chairman.

d. The Garrison Commander will serve as the Committee Chairman in the absence of the Chairman and Chief of Staff.

e. The Director of Logistics and Engineering (DLE) will:

(1) Provide representation on the Installation Energy Conservation Committee.

(2) Act as Executive Secretary to the Chairman of the Committee and be responsible for:

(a) Preparing agenda for committee meetings and briefing the committee on post energy conservation performance to date.

(b) Preparing minutes of meetings and making distribution after approval.

(c) Providing administrative support necessary for conduct of the committee activities.

(3) Provide advice to commanders and directors on methods for conserving utilities.

(4) Act as executive agent for all matters concerning heating fuels and electricity and provide an Installation Energy Coordinator, a single point of contact for the installation on energy matters.

(5) Publish letter of instruction for Family Housing occupants to make them aware of the energy conservation program. Establish program to utilize "area coordinators" in Family Housing areas to encourage compliance with the provisions of this regulation.

(6) Establish an inspection and enforcement program for energy conservation in all facilities. Cite violators of conservation rules and refer repeat violations to Command Group for action.

(7) Incorporate the latest energy conservation design criteria, materials and components into maintenance, repair and new work of facilities to include guidance at Appendix G.

(8) Plan and coordinate engineering energy studies and prepare and prioritize installation energy conservation maintenance repair, modernization and construction projects plan.

(9) Ensure dispensing tanks for fuel oil #1, #2, and #6 are maintained at a minimum 80% of fill.

f. The Director of Logistics and Engineering (DLE) will:

(1) Provide representation on the Installation Energy Conservation Committee.

(2) Act as executive agent for all matters concerning MOGAS and diesel fuel and report on such through the installation energy coordinator. Prepare mobility energy conservation plan input to installation energy plan.

g. The Director of Contracting (DOC) will:

(1) Provide representation on the Installation Energy Conservation Committee.

(2) Availability of funding for any special climatic controls will be confirmed before the equipment is procured. Equipment that does not specify an energy efficiency rating (EER) or has special climatic control requirements will be deferred to DLE. The DLE will consider life cycle cost of providing special climatic control and energy compared with alternative equipment.

(3) The proponent of contract work that requires the use of Fort Jackson energy will be referred to DLE for determination of who will pay utilities cost.

h. The Director of Human Resources (DHR) will:

(1) Provide representation on the Installation Energy Conservation Committee.

(2) Ensure implementation of the energy conservation program in all activities with particular emphasis on Recreational Services and club activities.

i. The Director of Plans, Training and Mobilization (DPTM) will:

(1) Provide representation on the Installation Energy Conservation Committee.

(2) Recommend priorities for allocation of available assets to support FORSCOM units, BT, AIT, Reserve Component Training and installation support as may be required.

(3) Include the subject of Energy Conservation in Annual Training Guidance.

j. Commander, Soldier Support Institute (SSI) will:

(1) Provide representation on the Installation Energy Conservation Committee.

(2) Ensure that all personnel are briefed on the Fort Jackson Energy Conservation Program.

k. Public Affairs Officer (PAO) will:

(1) Devise a dynamic program for publicizing the Energy Conservation Program through flyers, and the Leader.

(2) Provide representation on the Installation Energy Conservation Committee.

l. Inspector General (IG) will:

(1) During inspections, inquire into energy conservation issues as appropriate. Provide informational copy of any findings or observations in this area to DLE.

(2) Provide an observer to the Installation Energy Conservation Committee.

m. Commanders of 1st BT Brigade, 4th TNG Brigade and Victory Brigade.

(1) Provide representation on the Installation Energy Conservation Committee.

(2) Ensure that energy conservation is included as part of all operations, training and personnel orientations.

(3) Establish a system for reporting to the Energy Management Branch, DLE, all buildings which will be vacated for three (3) days or more.

n. Commander, 81st Regional Support Command will provide representation on the Installation Energy Conservation Committee.

o. Commander, Medical Department Activity (MEDDAC) will provide representation on the Installation Energy Conservation Committee.

p. Commander, Dental Activity (DENTAC) will provide representation on the Installation Energy Conservation Committee.

q. Commander, Military Entrance Processing Station (MEPS) will provide representation on the Installation Energy Conservation Committee.

r. The Director of Information Management (DOIM) will provide representation on the Installation Energy Conservation Committee.

s. The Director of Resource Management (DRM) will provide representation on the Installation Energy Conservation Committee.

t. The Chaplain Center and School will provide representation on the Installation Energy Conservation Committee.

u. Director of Emergency Services will:

(1) Provide representation on the Installation Energy Conservation Committee.

(2) Advise committee on physical security lighting requirements and make recommendations for additions or deletions.

v. Post Chaplain will provide representation on the Installation Energy Conservation Committee.

w. Staff Judge Advocate (SJA) will provide representation on the Installation Energy Conservation Committee.

x. Civilian Personnel Officer (CPO) will provide representation on the Installation Energy Conservation Committee.

y. Superintendent of Schools will:

(1) Provide representation on the Installation Energy Conservation Committee.

(2) Include energy awareness in the school curriculum.

z. Fort Jackson Exchange will provide representation on the Installation Energy Conservation Committee.

aa. The Secretary General Staff will instruct the Staff Duty Officer to periodically inspect Post Headquarters building and turn off lights when not required.

bb. EEO, LRP, Safety Office, 902d MI Group, DIS, Readiness Group, Commissary, 108th Training Division, USACIDC, GSA Fleet Manager, Area Engineer, American Red Cross, Naval Construction Force, Defense Reutilization and Marketing Office and Internal Review will participate in the Fort Jackson energy conservation effort by practicing and encouraging energy conservation within their unit/activity to ensure maximum utilities conservation in facilities assigned to their respective units/activities and are encouraged to attend Installation Energy Conservation meetings.

cc. The general guidelines in paragraph 5, RESPONSIBILITIES, are intended to create an effective energy conservation program at Fort Jackson. In the event local changes to any of the provisions of this Regulation 420-7 will result in a more effective conservation program, units/activities are encouraged to document such changes and submit them to the Executive Secretary for approval.

6. STANDARDS AND PROCEDURES. See Appendixes A through S.

7. MANAGEMENT INFORMATION REQUIREMENTS.

a. To ensure a coordinated effort in providing response to higher headquarters, all outgoing correspondence concerning energy conservation/costs will be coordinated with the Fort Jackson DLE.

b. This regulation requires no MIR.

8. REPORTS. AR 11-27 and TRADOC Regulation 420-11 establish reporting requirements under the Defense Energy Information System (DEIS) using Reports Control Symbol DD-P&L (AR) 1313. DLE will submit the required information on petroleum fuels in DEIS I portion of this report. DLE Energy Management Branch will submit the required information on electricity and heating utilities in the DEIS II report portion.

9. REFERENCES.

a. AR 11-27, Army Energy Program.

b. AR 420-10, General Provisions, Organization Functions and Personnel.

c. AR 420-15, Certification of Plant Operators and Personnel.

d. AR 420-22, Preventive Maintenance and Self Help Programs.

e. AR 420-41, Utilities Contracts.

f. AR 420-43, Electric Services.

g. AR 420-49, Heating, Energy Selection and Fuel Storage, Distribution and Dispensing Systems.

h. AR 420-53, Repairs and Utilities Refrigeration.

i. AR 420-54, Air Conditioning, Evaporative Cooling, Dehumidification and Mechanical Ventilation.

j. AR 710-2, Supply Policy Below The Wholesale Level.

k. TRADOC Reg 420-11, Energy and Utility Systems Management.

l. DOD 4270.1M, Construction Criteria Manual.

(IMSE-JAC-LGF/7126)

l. DOD 4270.1M, Construction Criteria Manual.

(IMSE-JAC-LGF/7126)

FOR THE COMMANDER:

OFFICIAL:

LEVI R. MARTIN, JR.
Colonel, GS
Chief of Staff

/signed/
PATRICIA KELLY-JOHNSON
Records Management

APPENDIXES A through S

Appendix A - General Procedures for Conservation of Energy
Appendix B - Procedures for Conserving Electrical Energy
Appendix C - Procedures for Conserving Heating Fuel
Appendix D - Procedures for Conserving Air Conditioning Energy
Appendix E - Procedures for Conserving Energy in Family Housing
Appendix F - Compliance - Facilities
Appendix G - Procedures for Conserving Energy During Work on Facilities
Appendix H - Procedures for Conserving Energy in Dining Facilities
Appendix I - Procedures for Saving Energy During Season Transitions
Appendix J - Procedures for Conserving Mobility Fuel (Vehicles, MHE, etc.)
Appendix K - Asset Control of Petroleum Products
Appendix L - Contingency Plan for Reduced Resupply of Electrical Energy
Appendix M - Contingency Plan for Reduced Resupply of Heating Fuels
Appendix N - Contingency Plan for Reduced Resupply of Natural Gas
Appendix O - Contingency Plan for Reduced Resupply of Mobility Fuels
Appendix P - Energy Conservation Awards Program
Appendix Q - EXODUS Freeze Prevention and Safety
Appendix R - Fresh Air Cycles in Barracks
Appendix S - Water Conservation

APPENDIX A

GENERAL PROCEDURES FOR CONSERVATION OF ENERGY

As a minimum, the following energy reduction/conservation actions will be taken by all commanders/supervisors at Fort Jackson.

a. Set the example in their own office/headquarters.

b. Impress upon all personnel the importance and criticality of energy conservation and its impact on the assigned missions of this installation. The necessity for conservation must be emphasized by managers at all levels if this installation is to stay within allocated ceilings of fuel and concurrently offset the adverse impact of spiraling procurement cost and reduced funding.

c. Assign Energy Conservation Building Monitors to ensure continuous survey and inspection of all energy consuming operations under their jurisdiction. These procedures will provide for feedback to allow for positive identification and reporting of reductions in energy consumption waste costs.

d. Examine present energy consuming operating procedures and utilization of buildings to see if by changing, eliminating or combining the use of buildings, energy requirements can be reduced. Troop commanders must consider sacrifice of unit integrity during non-training hours to reduce energy consumption.

e. Conduct a lighting survey of assigned facilities and reduce wattage in accordance with guidance at Appendix B.

f. Include the subject of energy conservation in Command Information Program, BCT/CSST Company Commander's Orientations, Officer's Calls, unit bulletins, and such other means as are available to disseminate the Commander's energy conservation program.

g. Assist DLE, Housing Division Chief by counseling assigned personnel and providing follow-up action on reported violations of family housing energy conservation measures.

h. Ensure that activities are consolidated into the minimum number of facilities essential to accomplish the mission and consistent with the preservation of health.

i. Encourage submission of energy conservation suggestions to the Energy Management Branch, DLE.

APPENDIX B

PROCEDURES FOR CONSERVING ELECTRICAL ENERGY

1. Discontinue or reduce exterior lighting which is not required for mission, safety or security purposes.

2. Turn off floodlighting at vacant parking lots. Coordinate with DLE to reduce lighting in partially utilized parking lots. DLE will coordinate with Physical Security for concurrence.

3. Reschedule recreational and training programs, where possible, to make maximum use of daylight hours and minimize requirements for use of athletic fields and lighted training sites after hours of darkness.

4. Floodlights for ornamental illumination are prohibited unless specifically authorized by DLE.

5. Turn off outside lights during daylight hours, i.e., motor pool lights, security lights and exterior safety lights on buildings.

6. During working hours, overhead interior lighting will be reduced to not more than 50 foot candles to work stations (desk, drawing tables, etc.), 30 foot candles in work areas (shop work, work benches, etc.), and 10 foot candles or less in non-working areas. During off-duty hours, exterior lighting, except that essential for safety and security purposes (i.e., exit signs) shall be eliminated. The above standards will achieve uniformity among the energy conservation practices developed by respective departments and agencies, thereby maximizing the conservation of electrical energy in management of all government-owned and leased space. Reduction in consumed energy will be accomplished by removing nonessential lamps and reducing lamp sizes. DLE will provide foot candle meters on a loan basis, upon request, for measuring lighting intensities and give guidance and direction for accomplishing the reduction of lighting.

7. Turn off lights in warehouses, repair shops and other industrial type areas where large doors are left open and lights are not required for illumination.

8. Turn off lights in corridors, basements, classrooms and sections of offices when there is no one in the area. Lights should be turned off in any area to be vacant more than five minutes unless it is a common use area.

9. Turn off lights in all rooms and/or buildings when they are not occupied.

10. Ensure that light fixtures are equipped with the appropriate size bulbs, Figure B-1. Check Figure B-2 to be sure authorized wattage per square foot is not exceeded.

11. If lighting fixtures are replaced, use high efficiency fixtures. Fixtures will be highly reflective with solid state ballast. Light level controllers will be considered.

12. Use minimum artificial lighting during daylight hours in rooms provided with adequate windows and skylight illumination.

13. Verify that all lamps, lighting fixtures, reflectors and shades are clean.

14. Do not leave light on for custodial personnel to extinguish. Custodial workers will use only those lights which they require. When practical, perform all janitorial task during daylight hours.

15. Minimize all lighting left on inside of buildings for security purposes.

16. Limit the use of equipment and appliances to minimum essential. Do not turn on Xerox equipment, machines, fans, etc. until needed. Turn off equipment and heat producing appliances when not in use.

17. Portable electric heaters will only be used when approved by DLE and the Fire Department. Submit request to DLE Energy Management Branch.

18. Monitoring, answering questions and providing specific guidance for executing the lighting energy conservation program will be the responsibility of the following:

a. Measuring lighting intensities - Chief, Energy Management Branch, DLE, extension 7126.

b. Information on light intensities - Chief, Health and Environmental Activity, MEDDAC, extension 4412/4552.

c. Reduction of security lighting - Physical Security Branch, Law Enforcement Activity, extension 6019.

d. Reduction of safety lighting - Post Safety Officer, extension 4318/6004.

19. EXTERIOR BUILDING LIGHT POLICY. Exterior building lights separate from authorized security lighting shall be used only for personnel safety while entering or leaving a building. These lights will be off when the following conditions exist:

a. Daylight hours.

b. Entrance to or exit from a building is not expected during hours of darkness.

c. Any other lighted entrance to a building is available.

d. Any other light source, such as security lighting, is adequate for visibility.

20. EXTERIOR LIGHTING POLICY. Exterior lighting for ball fields and training areas will be operated only when needed. DLE has prepared a map showing all lighted ballfield and training areas and responsible unit for each. This map will be revised as necessary. A current copy will be maintained at each staff duty office.

21. Army installation of electrical resistance heaters to supplement existing heating must have a controlling timer in the circuit which will automatically turn off the heater during non-occupancy hours.

APPENDIX C

PROCEDURES FOR CONSERVING HEATING FUEL

1. The temperature in facilities where personnel work should be consistent with the level of physical activity and working comfort. Thermostats will be set to maintain the temperatures shown below. It is recognized that a higher setting may be required at the thermostat to maintain the requisite level in all occupied areas of the building. Any setting below the setting listed may be used as long as the temperature is consistent with health and assigned mission requirements. Health facilities will comply with Health Services Regulation 11-3 in regards to heating temperatures.

68 degree living quarters, lavatories, and showers.
68 degree offices, hanger and warehouses, shops, and like areas where personnel work seated or in a standing position involving little or no exercise. (Reduce to 55 deg during non-working hours)
60 degree supply and equipment issue.
55 degree shops, hangers or other buildings or sections of buildings where many employees work in a standing position and exercise moderately.
55 degree gymnasiums and physical fitness center.

2. Temperature will be reduced during periods of non-occupancy (three or more days) to 45 degrees. Where condition of buildings, utilities, insulation or accuracy, and location of thermostatic controls may cause freezing, a higher setting of 50-55 degrees may be permitted.

3. Installation activities will be consolidated into the minimum number of facilities essential to accomplish the mission and consistent with the preservation of health. The 72 square feet per man space allowance for basic trainees will be maintained.

4. Ventilation of buildings during the heating period will be limited to that necessary for the health of occupants.

5. Heat will not be provided when the outside temperature exceeds 60 degrees, except in medical and special process facilities.

6. All windows and window air conditioners will be weatherized against cold drafts by unit self-help activity. Caulking and sealing materials will be made available through DLE, U-DO-IT Center located in Bldg 2572.

7. All activities requiring special process with elevated temperatures, such as paint shops, should schedule their operations to take maximum advantage of warm weather and highest daytime temperatures during cold weather.

8. When thermostat settings do not produce corresponding temperature, work order will be submitted to DLE for calibration. A work order will be submitted to DLE for repairs to all leaks in steam and hot water fixtures and equipment.

9. DLE will maintain all domestic hot water sources at 110 degrees except as follows:

a. Hot water in mess halls, Officers' Open Mess, etc., will be maintained at 180 degrees for dishwashing only.

b. Hot water in family housing will be maintained at 120 degrees.

c. No hot water to administrative buildings unless designated as an exception to policy by DLE.

10. Personnel should wear warmer clothing that is functional for office work in cooler buildings.

11. Windows and outside doors shall be kept closed when the heat is on.

12. DLE maintenance team will keep filter systems clean to reduce motor load and ensure adequate circulation within the buildings.

13. In family housing, occupants should check weather stripping around doors and windows to be sure they are in good repair. New materials may be drawn from DLE, U-DO-IT Center as needed.

14. A significant amount of energy can be saved by setting back heating controls at night and when buildings are not occupied. Report to DLE extended unoccupied periods for winterization or setback as appropriate.

a. Temporary Administrative Buildings: Building monitor should set thermostat back to 55 degrees at close of business and reset for 68 degrees the next duty day.

b. Permanent Administrative Buildings: Building monitor should set temperature controls back to 55 degrees when vacant.

c. Buildings equipped with heat pumps are an exception and should only be set back to 65 degrees during the week and to 60 degrees on weekends.

APPENDIX D

PROCEDURES FOR CONSERVING AIR CONDITIONING ENERGY

1. During summer months, the minimum temperature setting for thermostats in air conditioned buildings, including family housing, is 78 degrees. Health facilities will comply with Health Services Regulation 11-3 in regards to cooling temperatures.

2. Air conditioning systems in temporary buildings, including window units, will be shut off 1/2 hour before close of business each day.

3. Where possible, mechanical ventilation should be used in lieu of air conditioning, especially during periods of mild weather.

4. While air conditioning is in use, windows, storm windows (where equipped) and outside doors will be kept shut. Traffic in and out of buildings will be kept to a minimum. Use minimum ventilation while air conditioning is operating.

5. Heat generating equipment, such as electrical appliances and lighting, will be turned off when not needed; heat generating equipment other than refrigerators should be in non air-conditioned spaces, where possible.

6. Registers and grills will not be blocked. Free flow of air is necessary for proper efficiency of the system.

7. Major unit commanders will be responsible for monitoring their facilities to assure that temperatures are 78 degrees or above. It is recognized that a lower setting may be required at the thermostat to maintain the requisite level in all occupied areas of the building.

8. Whenever feasible, delay operation of heat producing appliances to cooler periods of the day.

9. Operate kitchen exhaust fans to reduce cooling loads imposed by cooking appliances, but operate them only while cooking.

10. Air conditioning should not be turned on when the high temperature of the day is expected to be 80 degrees or below.

11. The use of fans and the "fan only" mode of air conditioners is encouraged.

12. Filters should be changed at least twice during the cooling season (more often as necessary). Report dirty filters on fixed units to DLE, as necessary.

13. Filters must be inspected monthly and cleaned or replaced when dirty in window air conditioners by the facility user. Filters are available from the U-DO-IT Center. The filter supplied with the air conditioner can be cleaned until several years old and will usually fit better than new ones. Dirty filters severely reduce efficiency of air conditioner units.

14. Do not operate any air conditioner without a filter. The air conditioner performance is quickly destroyed when operated without a filter. Coil cleaner for removing dirt film from coils is also available at the U-DO-IT Center for window air conditioners.

15. Temporary WWII dining facilities, located on Tank Hill, have been equipped with window air conditioners. These air conditioners have been installed to cool the dining area only. Do not attempt to cool the kitchen area by placing fans in doorways of cooled dining areas. Turn on air conditioners not more than one hour before meal time and turn off 1/2 hour before meal is over. USE FAN ONLY ON AIR CONDITIONING UNITS TO DISSIPATE HEAT FROM REFRIGERATORS, FREEZERS, AND ICE MAKERS.

16. Light colored shades, drapes and blinds can reduce solar heat gain and will be used when appropriate.

17. Reduce lighting as much as possible in cooled spaces.

18. Operate washers, dryers, dishwashers, etc. during the cooler hours of the day. This reduces cooling load when air conditioners are least efficient as well as assists in limiting peak electrical load charges.

19. Personnel should wear light clothing that is functional for the type of activity.

20. The following procedures and policy applies to obtaining approval for accomplishing new air conditioning installation:

a. Proponent will forward request for permission to install air conditioning to DLE giving justification.

b. If a multiplicity of units is to be installed, the requirements of AR 420-54, Chapter 4, apply. The proponent must prepare an exception to policy to be submitted to DLE for approval by the Commander.

c. Area to be cooled must be appropriate. Naturally an insulated facility is required. Project will include insulation, thermal pane windows or storm windows, solar screens as required. Installing outlets for window units will not be accomplished if building does not meet these requirements.

d. Unit capacity shall not exceed required capacity by more than 20% and must be compatible with existing voltage in the facility and building service must be adequate for added load.

e. The Energy Efficient Rating (EER) of window air conditioners must be at least 10.0.

f. Multiplicity of air conditioning units serving adjacent portions of the same facility is not permitted. Efforts will be made to consolidate air conditioned spaces within a partially cooled building. Preference is for central air conditioning units. In addition to priorities listed in AR 420-43, priority for installation of central air conditioning will go to those buildings which now have multiple window units.

APPENDIX E

PROCEDURES FOR CONSERVING ENERGY IN FAMILY HOUSING

1. Use porch and flood lights only for arrivals and departures. Do not leave lights on for extended periods.

2. When possible, wash full loads of laundry with cold water; do not over dry clothes in dryer.

3. Do not obstruct duct outlet registers with furniture, drapes or rugs.

4. During winter daylight hours, leave windows which face south or west unshaded to allow the sun to heat the home. Close blinds and draw draperies after sundown. The more dead air space between the room and outside window, the better the heat retention.

5. Clean dishwasher screens often. Buildup food or detergent wastes energy.

6. Dust or vacuum registers or baseboard units frequently; thin coatings of dust act as insulation and wastes heat.

7. Use major appliances (washers, dryers, dishwashers) only once a day. Avoid peak demand hours between 1200 and 1800.

8. Encourage children not to run in and out of the house. Frequent opening and closing of doors wastes heat.

9. Defrost food before cooking to save fuel in cooking them. Take everything for a meal out of the refrigerator at one time. The less you open the door, the less energy it uses.

10. Boil only the amount of water necessary to cook with; use pots and pans that fully cover the burner.

11. If freezer is not self-defrosting, defrost it when the ice becomes 1/4 inch thick. Keep freezer full; the costly cold temperature is retained by food. Periodically check the door gaskets for wear.

12. Ensure light bulb wattage does not exceed that authorized by regulation.

13. Turn thermostats down to warmest level to prevent freezing when away for three or more days.

14. Turn off all lights when not needed.

15. The use of decorative lighting inside or outside of dwellings will be curtailed.

16. Portable electric heaters will be used ONLY with permission of DLE. All authorized portable heaters must be registered, approved and tagged by the Fire Chief for the specific location of approved use. Refer to Appendix B, paragraph 17, for additional restriction on use of portable electric space heaters. Except as specifically authorized by DLE, The use of portable kerosene heaters on TRADOC installations are prohibited.

17. Close doors and registers to unused rooms, especially upper floors.

18. All appliances should be turned on just before immediate use and turned off when not required.

19. Plan meal preparation to minimize use of surface range and oven.

20. Use the shower in lieu of the tub for bathing.

21. Turn off air conditioning systems, reduce heating and close windows and storm windows in unoccupied quarters. Care should be taken to ensure that the heating systems are not completely shut down in areas subject to freezing.

APPENDIX F

COMPLIANCE - FACILITIES

1. To ensure compliance with the energy conservation measures specified by this regulation, this appendix establishes a system for inspection and enforcement (compliance program).

2. The compliance program will be conducted as follows:

a. The Building Energy Monitor's name will be posted in each building using Building Temperature Restriction Form on page F-3. This will show who is responsible for the conservation of energy in that facility. Specifically, the Energy Monitor is responsible for:

(1) Temperature control in accordance with Appendix C and Appendix D, this regulation (Temperature limits are noted on the Building Temperature Restriction Notice).

(2) Submission and follow-up of work request to DLE through normal channels for weather stripping and other self-help conservation supplies.

(3) Control of light levels in all spaces in the building.

(4) Monitoring the use of electrical appliances to preclude the use of resistance type heaters and excessive number of coffee pots, etc.

(5) Reporting loss of utilities services to DLE Emergency Work Request Section, or, if routine, by DA Form 4283, Work Request.

(6) Ensuring that Building Temperature Restriction Notice is posted, as required.

(7) Ensuring that lights are turned off in unoccupied areas such as latrines, storage areas and dayrooms.

b. Staff Duty personnel and Charge of Quarters should check their area of responsibility during tour of duty and eliminate any energy waste observed.

c. DLE will conduct periodic checks to ensure compliance with this regulation using PM team members and energy monitors from the Energy Management Branch.

d. With the exception of ride-thru's, discrepancies noted by energy monitors will be given to the building monitor.

e. A copy of the discrepancies noted by energy monitors will be forwarded to the Command or activity the following Monday or the first working day of the following week.

f. Citations, pages F-4 and F-5, will be used to document violations.

g. Building Energy Conservation Inspection Checklist, page F-6, can be used when making energy conservation checks or inspections.

APPENDIX G

PROCEDURES FOR CONSERVING ENERGY DURING WORK ON FACILITIES

1. Control of energy using or influencing utility equipment offers the greatest opportunity for savings. When building utility equipment is being renovated, upgraded or initially designed, control considerations shall be an integral part of the design process as follows:

a. All major renovations shall be designed to interface with the Installation Utility Management and Control System (UMCS).

b. All repair on equipment already interfaced with the UMCS shall remain monitored and controlled by it.

c. UMCS shall have capability to bring up heating and cooling when needed and secure same on buildings which are on the UMCS system.

d. No chiller, boiler or steam generator shall be installed without integrating control with UMCS to allow temperature reset, start up and shut down.

2. Energy efficient "premium" electric motors shall be installed, if at all possible, in applications involving more than 25% duty. Fan coil and air handler motors shall be energy efficient type. If the motor speed can be increased simply by changing pulley diameters, higher speed motors shall be ordered. The lowest power rating adequate for the job shall be selected. The NEMA design efficiency index letters A, B, and C are acceptable; the letter A is the most desirable.

3. Lighting levels shall be designed to provide lighting levels in accordance with Appendix B.

4. Fluorescent lighting ballasts shall be energy efficient.

5. Energy saving 34 and 35 watt cool white fluorescent tubes shall be used in all areas except special work areas where color is of prime importance.

6. Insulation on high temperature, hot water, steam and chilled waterlines shall be replaced after any work on these lines before repair is reported as complete. Any high temperature water line leak will be considered an emergency and repaired according to emergency procedures.

7. Air conditioner installations shall include insulation of the facility, thermal pane or storm windows and solar screens. These rules shall apply to new circuits used for personal air conditioners. Air conditioner installations shall also include assurance of fluorescent lighting, reduction of lighting as much as possible and moving heat generating equipment out of the air-conditioned space when possible.

8. New air conditioners or replacement units shall have an SEER (BTU per watt rating) of 11.0 or greater and shall not be oversized - 800 square feet minimum per 12,000 BTU (ton).

9. Contracts for air conditioner replacements shall consider heat pumps and shall contain a discount schedule for higher SEER rating than the required minimum of 11 for the purpose of evaluating low bid.

10. Complete window units shall be of the thermal pane type for heated or air-conditioned facilities.

11. Any work exposing studs on outer walls of heated buildings shall include insulation. Consideration will be given to eliminating excess windows.

12. When refinishing of outer walls on the interior or exterior surfaces, consideration shall be given to insulating sheeting.

13. Energy efficient furnaces with electrical pilot ignition shall be properly sized and shall be fueled by natural gas or fuel oil, when feasible, with priority given to natural gas. Burner air flame adjustment will be made before installation is reported complete.

14. Hot water heaters will be gas when possible. Replacement or new installation of electric hot water heaters, when necessary, shall be heat pump type. Hot water heaters for replacement shall be high efficiency with extra insulation.

15. Electrical transformer capacity will be minimized and double transformation will be avoided when possible.

16. Cathodic protection anodes shall be installed on buried gas, chilled water and high temperature lines when they are uncovered for repair.

17. Electric motor installations 30 horse power and larger shall include power factor correction devices.

18. Passive energy saving features shall be worked into work projects where economic payback will justify any additional cost.

19. Unit space heaters for high bay areas shall be replaced with infrared gas type when gas is available. Infrared heaters net especially high savings in buildings with slab floors.

20. Perform periodic maintenance on air conditioner coils to ensure they are clean and air passages are open and free of obstruction.

21. Replacement heating converter tubes shall have a phenolic coating that prevents scale build up.

22. All renovation work on buildings will include the latest water saving devices, i.e., low flow shower heads, water saver water closets, etc.

APPENDIX H

PROCEDURES FOR CONSERVING ENERGY IN DINING FACILITIES

1. Conservation measures for cooking:

a. Do not preheat oven.

b. Turn on equipment just before using.

c. Reduce temperature or turn off equipment during slack serving periods.

d. Use full production capacity when possible or practical.

e. Select the correct size of equipment for the cooking operation and use moderate flame settings to conserve gas.

f. Use equipment properly.

g. Maintain equipment in good repair.

h. Keep equipment clean and schedule cleaning to prevent wasting energy.

i. Turn off kitchen equipment when not in use.

j. Have ovens, ranges and grills calibrated. Require the use of oven, meat and deep fat fryer thermometers to preclude over heating.

k. Cover steam kettles and other cooking utensils to minimize heat loss.

l. Turn off range hood exhaust fans when ranges are not in use.

2. Conservation measures for refrigeration:

a. Keep evaporation coils free of excess frost.

b. Place refrigerated and frozen foods into refrigerator or freezer immediately upon arrival.

c. Do not place hot food in refrigerator or freezer unless absolutely necessary.

d. Do not open doors frequently or hold them open for long periods of time.

e. Keep condenser coils free of dust, lint or obstructions that tend to reduce air circulation.

f. Maintain equipment in good repair.

g. Do not keep refrigerator or freezer too cold.

h. Limit frequent opening of freezer and refrigerated storage area.

i. Utilize refrigerated storage space (walk-in/reach-in refrigerators and freezers) to their capacity and disconnect all unused refrigerated equipment.

j. Be sure door gaskets and seals on doorways to refrigerated or heated areas are intact and functioning properly.

k. Ensure that lights are extinguished within refrigerated boxes and other work areas when not in use. Use smaller, lower wattage bulbs whenever possible.

l. Report frost buildup or improper refrigeration operation to DLE.

3. Conservation measures for dishwashing and cleaning:

a. Maintain the hot water temperature at 140 degrees and ensure that rinse water temperature does not exceed 180 degrees.

b. Make sure that all ventilation and exhaust fans are free from grease and dust.

c. Operate only the number of exhaust fans required to capture cooking vapors and smoke.

d. Operate two speed and three speed fans at the lowest speed required to capture cooking vapors and smoke.

e. Exhaust fans should be turned off when not actually needed.

f. Keep filters clean to assure proper flow of air through the ventilating system.

g. Ensure windows and doors are kept closed during the heating and cooling season.

4. Dining area:

a. Wait until the last minute to turn on lights. Turn lights off as soon as they are no longer needed. Light only portion of dining area needed.

b. Turn on only the minimum lighting needed during cleanup.

c. Close off part of the dining area as soon as it is no longer needed.

d. Turn off air conditioning when meal is over (dining facilities with window units).

5. Conservation measures for planning and consolidation:

a. Consolidate dining facilities so that those in operation are near capacity. This will be accomplished when coordination between using units and DLE Food Service indicates this is a viable alternative.

b. Temporarily close additional dining facilities during weekends and holidays when utilization rates are lower than normal capacity.

c. Plan dishwashing operation to minimize operating time of dishwasher.

d. When you have a choice while cooking, use range top rather than the oven.

6. Water Conservation:

a. Do not allow water to run unattended.

b. Use water only as necessary for cooking and cleaning.

c. Do not use hot water if cold will do.

APPENDIX I

PROCEDURES FOR SAVING ENERGY DURING SEASON TRANSITIONS

1. GENERAL.

a. There are two mild weather periods during the year between winter heating and summer cooling seasons. During these periods, reasonable comfort levels can often be maintained within facilities without heating or air conditioning. During these periods, temperatures in the morning fall to the lower end of human comfort temperature range (a range of approximately 10 degrees accepted as comfortable by most humans) and the upper end in the afternoon. If facility users turn on the heat in the morning, then the facility will warm to unbearable temperatures by the afternoon, thereby, ensuring the necessity of air conditioning in the afternoon.

b. Considerable energy can be saved by conscientiously avoiding use of heating or cooling in buildings during the times when daily temperature swings are between heating and cooling temperatures.

c. Different buildings have a different range of indoor temperature changes in relation to outside temperatures when no heating or cooling is applied. When weather permits, comfortable temperatures naturally occur inside and no energy is needed, so heating and cooling should not be used (this does not apply to medical and dental facilities). The way that each facility responds to and can accommodate hot and cool weather and temperature swings depends on many variables, i.e. size, type construction, orientation, ventilation and heat sources.

2. RESPONSIBILITIES.

a. DLE shall install controls during renovation and in new construction that automatically conduct free energy operation of heating and cooling systems anytime weather permits, so formal no energy periods are no longer required.

b. Building Energy Monitors shall:

(1) Maintain an awareness of need in their buildings for heating and cooling and avoid their use when possible during mild weather.

(2) Learn and use measures which are available that will make their building more comfortable. Measures to be used when appropriate and possible include:

(a) Use fans to keep cool.

(b) Open/close windows and doors appropriately.

(c) Use building ventilation system to best advantage.

(d) Minimize light and equipment use to avoid heat introduction.

(e) Use blinds and shades to exclude or allow solar heating as appropriate.

(f) Advise building occupants to dress appropriately.

APPENDIX J

PROCEDURES FOR CONSERVING MOBILITY FUEL (VEHICLES, MHE, ETC.)

1. GENERAL. Procedures outlined in this Appendix for ground fuels conservation are primarily those procedures which have already been disseminated and affected to reduce fuel consumption. Any future reductions in allocations will require increased emphasis on current measures and additional reduction in use of vehicles.

2. PROCEDURES. Ground Fuels. Commanders, activity chiefs, supervisors and operators will ensure compliance with the following measures:

a. Government vehicles and equipment will be used only for official purposes and only when absolutely necessary to accomplish the mission.

b. Request from the Motor Transport Branch, Transportation Division, only the minimum necessary vehicles to accomplish the mission.

c. Use the proper vehicle for the job.

d. Consolidate trips whenever possible, even if someone has to wait a few minutes for transportation.

e. Ensure that all vehicles operate at or below posted speed limits, except in emergencies.

f. Eliminate unnecessary idling of vehicle engines. The practice of starting engines to preheat or cool interiors prior to taking on passengers, regardless of rank or grade, is prohibited, not only as an energy conservation measure, but as a safety measure to preclude suffocation from carbon monoxide. Restrict engine idling to one minute or less.

g. Eliminate the practice of idling diesel engines to "keep them warm."

h. Tactical vehicles are restricted to a maximum speed of 25 MPH on post. Maximum fuel economy is obtained with the lowest possible speed in the highest range that can be achieved without lugging (overloading) the engine.

i. Shop foreman and supervisors are to check special purpose/design vehicles used by shop and preventive maintenance crews to ensure all materials, tools and/or equipment are loaded on vehicle for all jobs scheduled for the day to preclude returning to base shops for resupply.

j. Make spot checks of moving vehicles to determine necessity of trip.

k. Instruct all vehicle operators to use air conditioning only when absolutely necessary.

l. Spot check vehicles to ensure that tires have correct tire pressure.

m. Instruct personnel not to fill gas tanks completely full.

n. Encourage formation and maximum use of car pools.

o. Limit weapons and equipment demonstrations to the absolute minimum required for training.

p. Reduce operational training involving vehicle and other fuel consuming equipment, without incurring unacceptable degradation of operational readiness.

q. Implement General Services Administration (GSA) bulletins and regulations relating to the use of GSA government vehicles to attain maximum reduction in fuel consumption.

r. Incorporate energy conservation in driver training and testing.

APPENDIX K

ASSET CONTROL OF PETROLEUM PRODUCTS

1. The increasing cost of petroleum fuels and operating market process make this commodity highly susceptible to illegal diversion and theft.

2. Managers at every level shall review current management and asset control procedures to ensure that adequate safeguards are established and that fuel inventories and consumption are closely monitored.

3. Personnel who are responsible for control of petroleum fuels should be aware of the following specific problem areas:

a. Falsification of documents used to record issues of fuels to installations and as a basis of payment to contractors.

b. Receipt documents lost or destroyed and quantities received not posted to stock records. Accounting for allowable losses is generally not understood (see AR 710-2).

c. Vehicles illegally modified to add false bottoms, bypasses on pumping systems, secret storage compartments, and other ingenious methods to divert fuel from its intended use. The use of commercial tank trucks in support of military operations greatly compounds this problem.

d. Verification of deliveries made by unauthorized personnel and by personnel who were not actually present when the vehicles were loaded.

e. Unauthorized personnel ordering and receipting for fuel which was delivered to military installations by commercial contractors.

f. Reconciliations of fuels received versus fuels shipped not made and audit trails not maintained. Tank vehicle is not checked to ensure that it is empty before release.

g. Seals on valve, hatch covers, and containers not checked to ensure they are intact when received.

h. Inventory reports, reimbursable documents, and other required reports not submitted accurately or on a timely basis. Inventory adjustment reports or reports of survey not prepared as required for losses exceeding allowable amounts. Ensure all facility petroleum fuel tanks are filled up 80% in March to prevent condensing on inner wall of tank in summer. Also, ensure fill allows room for expansion during the summer.

i. Incorrect gauge readings entered on accounting documents or amounts estimated and, in some cases, omitted. The use of meters for recording quantities should be investigated wherever possible.

j. Credit card controls weak or lacking. Procedures outlined in AR 710-2 must be followed.

k. Failure to monitor fuel consumption at the unit/consumer level (e.g., vehicles that reflect unusually high fuel consumption in relation to miles driven, generators that reflect high fuel consumption in relation to hours operated).

l. Failure to control waste oil and lubricants.

m. Failure to adjust volumes based on observed temperature of product.

APPENDIX L

CONTINGENCY PLAN FOR REDUCED RESUPPLY OF ELECTRICAL ENERGY

1. PURPOSE. To provide a plan for reduction of consumption of electrical power in the event of a reduction and for emergency power supplies to utility plants and distribution systems in the event of loss of substation transformers.

2. GENERAL.

a. The Office of Emergency Preparedness has completed a study titled, "Survey of Electric Power Problems" and concludes that Fort Jackson is in an area that will experience a tight power supply even if normal summer temperatures prevail, fuel supplies are adequate, and all utility electric generating plants perform satisfactorily. Loss of generating capacity or shortage of fuel could bring about an emergency condition and reduction in the available electric power. Each military installation in the affected area is required to prepare a contingency plan so that action can be taken to reduce electric power consumption in the event of an emergency condition developing.

b. The South Carolina Electric and Gas Company (SCE&G) is the supplier of electric power to Fort Jackson. The SCE&G Company will notify the Directorate of Public Works (DLE) in the event of an emergency condition developing.

c. Fort Jackson is in a high lightning storm area and a severe electrical storm may result in the loss of the two main substation transformers, owned by SCE&G Company, serving the entire post. The transformers may be damaged to the extent that SCE&G Company must remove them from the site and return to the factory for repair. Since this could occur at Fort Jackson, the Facility Engineer Contingency Plan, in accordance with AR 11-27, to cover curtailment and reduction of services caused by energy shortage, is supplemented to include data to provide a complete emergency contingency plan.

3. PROCEDURES.

a. Reduction in Generating Capacity Due to Fuel Shortage. The SCE&G Company will notify DLE of the requirement to reduce electric power consumption due to fuel shortage. The notice will include information as to the extent of the reduction required and allow time for notification of units and activities affected. Notification of this condition will be made by DLE and will be by whatever means is appropriate, depending on the time allowed for reaction and the extent of the reduction required.

b. Temporary Loss of Generating Capacity. If the emergency condition is the result of loss of generating capacity, DLE will notify the Directorate of Plans, Training, and Mobilization, Security Division, during duty hours and the Staff Duty Officer during non-duty hours. Notification of units and activities will follow procedures outlined in FJ Suppl 1 to AR 115-10 for severe weather warnings but will instruct personnel receiving the notification to implement this appendix.

c. The following action will be required in case of an emergency condition:

(1) In the event of temporary loss of generating capacity, personnel comfort air conditioning equipment, except in patient occupied areas of Moncrief Hospital, will be shut off by DLE. This includes facilities serviced from central plants.

(2) Based on the extent of the reduction required, personnel comfort air conditioning equipment will be shut down in accordance with the priority as shown below. DLE Energy Management Branch will monitor installation electrical demand to ensure that required reductions are accomplished. The Energy Management and Control System (UMCS), along with manual shut off actions by Heating & RVAC Branch personnel, will be used to make reductions.

Priority	Facilities	KW Reduction	KWH Reduction for 30-day Period
1	Family quarters, government and personally owned units	4,500	2,400,000
2	Morale & Recreational:	2,884	1,500,000
	a. Post Exchange: Bldgs 2369, 3240, 3530, 3540, 4169, 4502, 4520, 4522, 4712, 4713, 4714, 10-440		
	b. Commissary: Bldg 4716. Library: Bldg 4679		
	c. Chapels and Schools: Bldgs 2335, 3359, 4360, 4470, 4580, 5350, 11-550, 5615, 5715, 5900		

d. Officer/NCO Open Messes & Annexes

e. Rec Services: Bldgs 2395, 3392,
4464. Theater: Bldg 3319.
Golf Course: Bldg 3656.

d. Upon receipt of notification from the SCE&G Company that the emergency is terminated, DLE will notify all affected units and activities by the most expeditious means available and appropriate.

e. If the emergency condition is the result of the main substation transformers, DLE will notify the DPTM, Security Division during duty hours and the Staff Duty Officer during non-duty hours.

f. The following action will be required in case of an emergency condition:

(1) DLE will call SCE&G Company to provide a mobile generator and mobile transformer (36-hour setup) or mobile substation to restore power.

(2) DLE will call United States Army Public Works Center (USAPWC) for non-tactical generators with transformers for specific building secondary voltages, if necessary. USAPWC has a 24 hour HOTLINE, TEL: 1-800-243-3472 or DSN 655-2562.

(3) DLE will call local companies for rental of motor generator sets with transformers for specific building secondary voltages, if necessary.

g. While waiting for generators to come on line for partial power restoration, DLE Exterior Electric Section personnel will configure the substation feeder circuits to provide power to priority facilities in accordance with Table 1 to the extent power is expected to become available.

TABLE 1

PRIORITY FACILITIES FOR POWER RESTORATION

PRI	FEEDER CIRCUIT	FACILITY NUMBER	FUNCTION
1	BW5, BN3	*4500	MEDICAL HOSPITAL & BARRACKS
2	BW2	*4482	TELEPHONE EXCHANGE
3	BW2	*4400	POST OFFICE
4	BW1	*4451	EMERGENCY OPERATIONS CENTER
5	BW1	3390	DOIM DATA PROCESSING CENTER
6	BS1	2511, 2566	COLD STORAGE
7	BW1	4325, 3499	HEADQUARTERS AND PAO
8	BN1	9514, 9515	LAW ENFORCEMENT AGENCY
9	BW4	*4333	ENERGY PLANT #2
10	BW4	5450	ADJUTANT GENERAL/COMPUTER
11	BW3, BW7		BARRACKS AND MESS HALLS SUPPLIED BY ENERGY PLANT #2 AS POWER IS AVAILABLE
12	BS1	*2288	ENERGY PLANT #1
13	BW2		BARRACKS AND MESS HALLS SUPPLIED BY ENERGY PLANT #1 AS POWER IS AVAILABLE
14	BW1	3330	HQ'S TNG CEN CMD
15	BS1	*1699	ENERGY PLANT #3
16	BS2	1877, 1880 1887, 1872 1892	RECEPTION STATION BARRACKS
17	BS2	1895	RECEPTION STA (120TH AG BN)
18	BS1	2435	MEPS

*RUN GENERATOR DURING POWER OUTAGE OR REDUCED SUPPLY

APPENDIX M

CONTINGENCY PLAN FOR REDUCED RESUPPLY OF HEATING FUELS

1. PURPOSE. To provide a contingency plan for reducing the consumption of heating fuels in the event of a reduced resupply of these fuels.

2. GENERAL.

a. The heating fuels referred to in this plan are fuel oils No. 1, 2, 6, and LP gas. In the event of a shortage of any of these heating fuels, Fort Jackson may be required to reduce consumption of these fuels below already established conservation levels. Fort Jackson has more than a 60 day supply of heating fuels when No. 2 fuel oil is used to supplement No. 6.

b. The basic concept of this plan is that any reduction in heating fuel consumption (necessitated by a reduced supply of that particular heating fuel) will be accomplished first through a consolidation and/or suspension of various activities, resulting in less space to be heated. Following that, a reduction of temperature settings in buildings (below the maximum temperatures set forth in Appendix C of this regulation) would be utilized to further reduce consumption. Finally, a close-down of all but the most essential operations would be implemented.

c. This plan addresses various phases or levels of on-hand supplies of heating fuels and identifies actions to be initiated whenever these levels of supplies and the associated resupply conditions are encountered. The phases referred to within this plan are as follows:

(1) PHASE I - Delivery stoppage, future deliveries uncertain, 10 days on-hand supply remaining.

(2) PHASE II - Delivery stoppage, future deliveries uncertain, 5 days on-hand supply remaining.

(3) PHASE III - Delivery stoppage, at current usage rate, on-hand supply will be depleted before effective resupply can be made.

3. RESPONSIBILITIES.

a. In the event this plan is implemented, the Installation Energy Conservation Committee will determine which activities will be consolidated, reduced, or suspended, and which facilities will be closed. Commanders, directors, and/or activity chiefs of units being considered for consolidation, reduction, or suspension will participate in the planning involving their unit or activity and will be requested to identify those administrative and operational requirements that can be consolidated, reduced or suspended. Consideration should be given to relocating those essential activities or units that are affected to buildings utilizing a different type of heating fuel.

b. The Director of Public Works (DLE) will provide a listing of those buildings that would be affected in the event of a reduced resupply of a particular heating fuel. DLE will also be responsible for transferring fuel oil from those buildings which are closed (as a result of reduced resupply of heating fuel) to those buildings that remain in operation. Any buildings that are closed will be winterized and placed in a standby status.

4. PROCEDURES.

a. Reduced Resupply of No. 2 and No. 6 fuel oil. Fuel oil No. 2 is used in approximately 100 individual building heating systems located primarily in temporary buildings, including barracks, administrative facilities, classrooms, and shops. Fuel oil No. 6 is used for backup fuel to fire the three Central Energy Plants, buildings 2288, 4333. and 1699, which, in turn, supply high temperature hot water for heating the permanent buildings on this installation, including barracks, administrative facilities, classrooms and mess halls. When fuel oil No. 6 is exhausted, No. 2 oil will be substituted, if available, by adjusting burner nozzles. This procedure allows existing storage capacity to sustain a 60 day interruption in gas supply to the Central Energy Plants.

(1) PHASE I - Initiate consolidation of units and activities that will permit closing approximately 10% of the affected buildings. Reduce operating hours by 25% of those Recreation Services Activities (i.e., bowling alleys, gymnasiums, theaters, snack bars), Post Exchanges, Army Community Centers and similar activities that are affected.

(2) PHASE II - Further consolidate units and activities to permit closing an additional 20% of the affected buildings, including barracks space (square feet per person) to the minimum permissible consistent with the health and welfare of personnel. Consolidate mess halls to the maximum extent possible. Reduce by an additional 25% the operating hours of Recreation Service Activities, Post Exchanges, etc., that are affected. Reduce temperatures to 65 degrees in barracks and living areas, and to 62 degrees in office areas.

(3) PHASE III - Close down all but the most essential operations, with particular consideration given to maintaining safety, security, medical, health and welfare of personnel, and operational readiness. Complete shutdown of all Recreation Service Activities, Commissaries, Post Exchanges, Army Community Centers, etc., that are affected.

b. Reduced Resupply of Fuel Oil No. 1 or LP Gas. Fuel oil No. 1 is used for heating approximately 20 temporary buildings, primarily small administrative areas (i.e., small office area in a warehouse). LP gas is used in heating approximately 15 miscellaneous buildings, primarily temporary. Since LP gas is not readily transferrable from one storage tank to another, the main approach for buildings using this fuel is to reduce operating hours, where possible, and then, relocate to buildings using another type fuel.

(1) PHASE I - For buildings utilizing fuel oil No. 1, consolidate/relocate activities, where possible, to permit closing approximately 10% of the affected building areas. For buildings using LP gas, reduce operating hours by 20% where possible.

(2) PHASE II - Further consolidation/relocation of activities in buildings utilizing fuel oil No. 1 to permit closing and additional 20% of the affected buildings/areas. For buildings using LP gas, reduce operating hours by an additional 20% where possible and begin relocation of activities to buildings heated by another type of fuel.

(3) Phase III - Complete shutdown of buildings using fuel oil No. 1, with all essential activities relocated to buildings utilizing a different type of heating fuel. Complete shutdown of buildings using LP gas, with all essential activities relocated to buildings utilizing another type of heating fuel.

APPENDIX N

CONTINGENCY PLAN FOR REDUCED RESUPPLY OF NATURAL GAS

1. PURPOSE. To provide a contingency plan for reducing the consumption of natural gas in the event of a reduced resupply (curtailment).

2. GENERAL.

a. South Carolina Electric and Gas Company (SCE&G) is the primary supplier of natural gas to this installation. The natural gas is purchased from SCE&G under the following two contractual arrangements:

(1) Interruptible Natural Gas - Natural gas used at the Central Energy Plants is supplied on an interruptible basis. These plants are equipped with an alternate fuel supply and upon notification from SCE&G of a curtailment (interruption), these plants must be changed over from natural gas to the alternate fuel.

(2) Installation Interruptible Natural Gas - Natural gas, to facilities other than the energy plants is backed up by LP gas. Natural gas used in the family housing area, mess halls, various barracks buildings, company headquarters buildings, dayrooms, and in various other buildings used for administrative purposes is in this category.

b. In the event of reduced supplies of natural gas, the supplier (SCE&G) will first notify this installation and request the plants utilizing interruptible natural gas be changed over to alternate fuels. If further reductions (curtailments) in consumption are required, these reductions must come from those areas using firm natural gas.

c. This plan addresses various phases or levels of curtailment (reduction) in the supply of firm natural gas to this installation that might be requested by the supplier, and identifies action to be initiated in order to meet the reduced supply.

3. RESPONSIBILITIES:

a. The Installation Energy Conservation Committee shall be responsible for the implementation of this plan. Degree of implementation and priorities can be adjusted as necessary by the Installation Energy Conservation Committee.

b. The Director of Public Works (DLE) will provide a listing of those buildings utilizing natural gas in the event this plan is implemented.

4. PROCEDURES. Whenever required by the supplier (SCE&G), the consumption of natural gas will be reduced by the amount requested. This will be done by using the alternate fuel (LP Gas) when available. If it becomes in short supply, curtailment will be necessary. The below levels of curtailment when implemented will remain in effect until removed by the Installation Energy Conservation Committee.

a. PHASE I - (10% curtailment) - Reduce maximum temperature settings from 68 degrees to 65 degrees in all buildings utilizing natural gas for space heating, including barracks and family housing. Additionally, reduce the use of natural gas-fired kitchen equipment in mess halls by 10%.

b. PHASE II - (15% curtailment) - Reduce maximum temperature settings in those buildings heated with natural gas from 65 degrees to 62 degrees. In living areas (family housing, barracks) reduce temperature setting to 55 degrees during sleeping hours. Consolidate activities to permit closing 10% of the buildings that utilize natural gas for space heating. Reduce operation time of gas-fired equipment in mess halls by an additional 5%. Reduce the temperature of high temperature water at each Central Energy Plant 10 degrees below normal settings.

c. PHASE III - (20% curtailment) - In buildings heated with natural gas, maintain temperature settings as stated in Phase II. Consolidate activities so as to permit closing and additional 10% of buildings utilizing natural gas. Reduce operation time of gas-fired equipment in mess halls by an additional 5%. Reduce the temperature of high temperature water at each Central Energy Plant and additional 10 degrees.

APPENDIX O

CONTINGENCY PLAN FOR REDUCED RESUPPLY OF MOBILITY FUELS

1. PURPOSE. To provide a contingency plan for reducing the consumption of mobility fuels in the event of a reduced resupply of these fuels.

2. GENERAL.

a. The mobility fuels referred to in this plan are ground fuels (MOGAS, diesel fuel).

b. This plan addresses various phases or levels of on-hand supplies of mobility fuels and identifies action to be initiated whenever these levels of supplies and the associated resupply conditions are encountered. The phases referred to in this plan are as follows:

(1) PHASE I - Delivery stoppage, future deliveries uncertain, 10 days on-hand supply remaining.

(2) PHASE II - Delivery stoppage, future deliveries uncertain, 5 days on-hand supply remaining.

(3) PHASE III - Delivery stoppage, at current usage rate, on-hand supply will be depleted before effective resupply can be made.

c. Ground fuels are dispensed at the Transportation Motor Pool and 4th TNG Brigade.

3. RESPONSIBILITIES.

a. The Installation Energy Conservation Committee will be responsible for implementing this plan. Degree of implementation and priorities can be adjusted, as necessary, by the Installation Energy Conservation Committee.

b. The Director of Logistics (DLE) will coordinate information from the various activities that utilize/dispense ground fuels and provide input to the Installation Energy Conservation Committee as to the amount of on-hand supplies. DLE will also provide input as to the availability of future deliveries.

4. PROCEDURES.

a. PHASE I - Consolidate use of vehicles within the various units/activities so as to place 20% of the vehicles into administrative storage. Increase use of foot movement to training areas so as

to effect a 20% reduction in mileage of transport vehicles. Reduce equipment operation time by 20%.

b. PHASE II - Further consolidate use of vehicles within the various units/activities so as to place an additional 20% of the vehicles in administrative storage. Further increase foot movement to training areas so as to effect an additional 20% reduction in mileage of transport vehicles. Further reduce equipment operation time by an additional 20%.

c. PHASE III - Place maximum number of vehicles into administrative storage. Maintain only the minimum number of vehicles in operation that are essential to maintain security, utility plants and systems, and the minimum essential level of operational readiness. Maximize foot movement to training areas.

APPENDIX P

ENERGY CONSERVATION AWARDS PROGRAM

1. Energy conservation inspections will be the primary avenue of determination as to the recipient of energy conservation awards. This will be supplemented by feedback available through the Utility Management Control System (UMCS) in operation at Fort Jackson. Evidence of individual awareness programs will also be given weighted consideration. The programs should be provided to the Directorate of Public Works (DLE) Energy Management Branch by the activity.

2. Scoring system is as follows:

a. Energy waste citations: Number of citations will be adjusted based on number of buildings and square footage by command/activity - 30 points. The following are examples of energy waste citations (not all encompassing):

(1) Open windows when heating or cooling system is operating.

(2) Open doors when heating or cooling system is operating.

(3) Lights left on when not needed.

(4) Unused equipment left on.

(5) Unnecessary heating or cooling equipment left on.

(6) Not complying with temperature restrictions.

(7) Failure to report buildings which will be vacant for 3 or more days to the Energy Management Branch.

(8) Failure to correct (if possible at user level) or report energy waste.

(9) Failure to appoint Energy Conservation Building Monitors and actively participate in the Energy Conservation Program.

b. Energy Awareness Program: Evidence of activity involving the conservation of energy consumption by a command/activity which is provided to or observed by the DLE Energy Management Branch will be reviewed and considered - 15 points.

c. Special initiatives: Programs which are initiated by a command/activity which result in energy conservation - 10 points.

3. Awards will be given twice annually, once for the winter season (October through March) and once for the summer season (April through September). Awards will be presented in April and October at the Quarterly Energy Conservation Committee Meeting. A first and second place winner will be picked in each of the following categories:

a. Troop Units, Brigade and separate Battalion level.

b. Directorates and Major Staff Sections.

c. Family Housing.

4. The following is a list of participants by category:

a. Troop Units (1st BT Brigade, 4th TNG Brigade, Soldiers Support Institute and Victory Brigade).

b. Directorate and Staff (DPCA, DLE, DPTM, DOIM, DOC, DRM, PAO, SJA, EEO, Chaplains School, LEA, Chaplain and CPO).

c. Family Housing (Howie Village, Pierce Terrace 1, 2, 3, 4, 5, 6 and 7).

APPENDIX Q

EXODUS FREEZE PREVENTION AND SECURITY

1. Special attention should be applied during the EXODUS period throughout the post to prepare temporarily unoccupied buildings for severe weather conditions, while at the same time taking advantage of energy savings.

2. Activities should be consolidated as much as possible, reducing the number of buildings requiring full heating energy.

3. A list of buildings to be vacated and a list of buildings with non-adjustable thermostats will be submitted to the Directorate of Public Works (DLE) not later than seven (7) work days prior to commencement of the EXODUS period.

4. The following actions should be taken for freeze prevention and security:

a. Electric power must be left on.

b. All windows and doors must be shut and secured.

c. All equipment room doors must be left accessible for DLE personnel.

d. All lights should be turned off except where required by security regulations.

e. Thermostats should be turned down to 55 degrees.

f. In World War II buildings without curtain walls (open underneath), open both water taps to a minimum steady flow when temperature is 25 degrees or below.

g. Turn off water supply valves, where possible, and drain outside faucets. Where this is not possible, faucets should be turned on to a minimum steady flow when temperature is 25 degrees or below.

h. Check buildings daily during unoccupied period to ensure minimum essential heating is being maintained and freeze damage has not occurred.

i. Report problems to DLE immediately.

APPENDIX R

FRESH AIR CYCLES IN BARRACKS

1. This appendix is applicable to all buildings which are under computer control by the Energy Management Branch, DLE.

2. Energy Management Branch, DLE, will provide outside air ventilation in barracks sleeping quarters according to the following procedures:

a. Ventilation fans will be turned off during training days during the heating season and when units are "out of cycle" except:

(1) Fans will be turned on and outside air selected if heat will be needed and outside temperature is 5 degrees or more higher than inside air if space temperature is less than 76 degrees.

(2) Fans will be turned on and outside air selected if cooling will be needed and outside temperature is 7 degrees or more lower than inside air and inside temperature is higher than 68 degrees.

(3) During heating season, fans will be turned on and outside air selected to purge the building from 1500 to 1545 daily, even during EXODUS and cycle breaks, except when outside temperature is below 36 degrees F.

b. Ventilation fans will remain on during occupied times to provide fresh air regardless of free energy, heating or cooling modes.

APPENDIX S

WATER CONSERVATION

1. Water is our most important natural resource, consequently, we should make every effort to conserve it and ensure it is not wasted.

2. The conservation of water is not only for monetary purposes, but also, and more importantly, because the supply of clean water is not unlimited.

3. Some of the ways water users can conserve are:

a. Take showers instead of baths.

b. Do not allow water to run when shaving or brushing your teeth.

c. Use low flow shower heads.

d. Wash full loads of clothes or dishes.

e. Replace washers in leaky faucets immediately.

f. When washing vehicles, use a shutoff type nozzle. Do not allow water to run when not in use.

g. Do not use water to wash sidewalks and streets, sweep them instead.

h. When watering grass.

(1) Water grass during the cooler parts of the day, before 0900 hours or after 2000 hours.

(2) Do not over water. Run off is wasted.

(3) Place sprinklers to water grass, not sidewalks, streets, and buildings.

(4) Do not leave sprinklers unattended.

(5) When water pools or runs off in areas being watered, it is being over watered and wasted.