BY ORDER OF THE COMMANDER
GRAND FORKS AIR FORCE BASE

GRAND FORKS AIR FORCE BASE
INSTRUCTION 32-107

8 AUGUST 2008

Civil Engineer

GRAND FORKS AFB UTILIZATION AND CONSERVATION OF UTILITIES

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

ACCESSIBILITY: Publications and forms are available for downloading or ordering on the e-Publishing website at **www.e-Publishing.af.mil**.

RELEASABILITY: There are no releasability restrictions on this publication.

OPR: 319 CES/CECE

Certified by: 319 CES/CC
(Lt Col Gregory L. McClure)

Supersedes GRANDFORKSAFBI32-107,
1 October 2003

Pages: 9

This instruction implements AFPD 32-10, *Installations and Facilities*. It establishes and defines base policies and general procedures for operation of heating, ventilating, and air conditioning equipment, size of electric lamps, engine block heater outlets, and domestic hot water use. It applies to all units and activities assigned and/or attached to Grand Forks AFB, ND.

Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with AFMAN 33-363, *Management of Records*, and disposed of in accordance with the Air Force Records Disposition Schedule (RDS) located at **https://afrims.amc.af.mil/**. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Information Management Tool (IMT) 847, *Recommendation for Change of Publication*; route AF IMT 847s from the field through the appropriate functional chain of command.

SUMMARY OF CHANGES

Changes were made in the following areas: References to Engineering Technical Letter (ETL) 98-4, *Building Manager Energy Conservation Handbook* in the purpose paragraph and **Attachment 1** have been removed. ETL 98-4 has expired. Facility Manager's Checklist in **Attachment 2** has been modified. **Attachment 3** has been reformatted for clarity. **2.1.4.4.** added to include deployed members' vehicles. **2.2.2.2.**, **2.2.1.1.**, and **Attachment 2**, **Attachment 3** changed temperatures from 72°F to 68°F and 75°F to 76°F respectively.

1. Responsibility:

1.1. Commanders will ensure compliance with all conservation policies and regulations. Energy conservation duties will be assigned to their respective facility managers.

1.2. Facility managers will be responsible for ensuring occupants inside of all facilities are responsible for awareness and compliance with this instruction.

2. Conservation of Utilities:

2.1. Main Base.

2.1.1. Heating, Ventilating, and Air Conditioning.

2.1.1.1. Heating temperature settings shall be set no higher than 68°F and air conditioning temperature settings shall be set no lower than 76°F during occupied times. During unoccupied times, the heating temperature setting shall not exceed 55°F and cooling systems shall be shut off unless specifically designed and justified for after hours use (See **Attachment 3**). The temperature setting is defined as the average temperature in a room. Facilities requesting waivers to this policy must submit written justification along with manufacturer's specifications listing environmental operating parameters to 319 CES/CEOE, 525 Tuskegee Airmen Blvd, Grand Forks AFB, ND 58205.

2.1.1.2. The mechanical components of heating, ventilating, and air conditioning equipment will be maintained and operated in accordance with manufacturer's instructions and Air Force Civil Engineer directives.

2.1.1.3. The grills and vents of heating, ventilation, and air conditioning systems will be cleaned and filters changed regularly by 319 CES/CEO to maintain peak efficiency.

2.1.1.4. Windows and doors will remain closed during heating and cooling seasons unless systems are shut down for maintenance or only mechanical ventilation is provided.

2.1.1.5. Hangar doors will remain closed during heating seasons and only opened when necessary for the minimum amount of time required to accomplish task.

2.1.1.6. Whenever possible, window shades and blinds toward the sun should be up to maximize heat gain during the heating season and down to minimize the heat gain during the cooling season.

2.1.1.7. Furniture or other items will not be placed where they restrict air flow, such as in front of return air grilles or over floor registers.

2.1.2. Electric Lamps and Equipment.

2.1.2.1. Replacement bulbs for interior fluorescent fixtures will not exceed 34 watts. When replacing fluorescent bulbs, ensure "T-12" (1-1/2" diameter) and "T-8" (1" diameter) bulbs are not interchanged.

2.1.2.2. Overhead light shall not exceed 50 foot-candles at workstations, 30 foot-candles in work areas, and 10 (but not less than 1) foot-candles in non-working areas and corridors (applies to new construction and retrofits only).

2.1.2.3. The operation of portable heater devices is prohibited. The restricted use of such items may be authorized by the facility manager and Fire Department in certain cases (e.g., for areas where the heating system for the facility is unable to maintain the temperature stated in paragraph **2.1.1.1.**). Facility managers shall coordinate all requests through 319 CES/CEFT.

2.1.2.4. Equipment operation and practices (personal computers, printers, faxes, test equipment, food preparation equipment, etc.) shall be efficient and used only as needed. Equipment shall be shut off when not required. Computer monitors and other Automated Data Processing Equipment (ADPE) shall be set to automatically go into "power saving" mode when available, if mission requirements allow.

2.1.2.5. Exterior doorway lights will not exceed 60 watts unless a higher lighting level is necessary due to security/safety needs.

2.1.2.6. Street lights and parking lot lights will be operated automatically by photocell controls or time clocks.

2.1.2.7. Exterior and interior lights at base buildings will be turned off in areas not in use and after duty hours unless extended hours of operation are in effect or lights are required for security reasons. No exterior lights will be on during daylight hours.

2.1.3. Domestic Hot Water. Temperature settings for domestic hot water heaters will be set between 120 °F and 130°F. Settings do not apply to health or food preparation facilities where higher temperatures are required for health or sanitation purposes.

2.1.4. Engine Block Heater Outlets.

2.1.4.1. Outlets located in the industrial areas of the base (all office, shop and flight line areas) will only be used when the outside temperature is 10°F or below. The use of these outlets will be restricted to 2 hours prior to vehicle start up. These outlets are to be used by government owned vehicles (GOVs) only.

2.1.4.2. Outlets located in the community area of the base (dormitories, visiting officer quarters/visiting airmen quarters (VOQ/VAQ), and temporary lodging facilities (TLFs)), are specifically intended for residents' privately owned vehicles (POVs) only.

2.1.4.3. Outlets known not to be timed or on a thermostat should be reserved for use by vehicles with diesel engines, whenever possible.

2.1.4.4. Care-takers of deployed members' vehicles may use outlets four hours prior to starting vehicle between 15 November and 15 March.

2.1.5. Water.

2.1.5.1. Base civil engineering, through the grounds maintenance contractor, has responsibility for irrigating all main base facilities when required. This includes operation of all installed sprinkler systems, bulk irrigation if required to maintain plant health and color, and irrigation of any new contractor plantings. Facility managers or other facility users will do general irrigation around their buildings. Building managers may hand water new "Self Help" plantings, if required to allow them to become established. Hand watering shall not be done to the point of runoff and is encouraged to be accomplished in early morning or late afternoon to minimize evaporation.

2.1.5.2. Facility managers shall identify any leaking equipment to civil engineering for repair as soon as possible.

2.2. Military Family Housing (MFH).

2.2.1. Heating, Ventilating, and Air Conditioning.

2.2.1.1. Heating temperature settings will not exceed 68°F and air conditioning temperatures will be set no lower than 75°F. Adjusting heating temperatures lower and air conditioning temperatures higher or turning off air conditioning is strongly encouraged while the housing residents are not home. When housing units are vacant, the heating temperature setting shall be 55°F and cooling systems shall be shut off. The temperature setting is defined as the average temperature in a room.

2.2.1.2. Heating, ventilating, and air conditioning equipment will be maintained and operated by the housing maintenance contractor, and in accordance with manufacturer's instructions and Air Force directives. Personally owned equipment will be maintained in good working order by occupants in accordance with manufacturer's instructions. This is to include the monthly, or as otherwise recommended, change of MFH heating, ventilating, and air conditioning filters, obtaining materials through the self help store.

2.2.1.3. Windows and doors will remain closed during heating and cooling seasons unless systems are shut down or only mechanical ventilation is provided.

2.2.1.4. Whenever possible, window shades and blinds toward the sun should be up to maximize heat gain during the heating season and down to minimize heat gain during the cooling season.

2.2.1.5. Furniture or other items will not be placed where they restrict airflow, such as in front of return air grilles or over floor registers.

2.2.2. Electric Lamps and Equipment.

2.2.2.1. Replacement bulbs for interior fluorescent fixtures will not exceed 34 watts. Compact fluorescent bulbs will be used whenever possible.

2.2.2.2. Exterior doorway lights will not exceed 60 watts unless a higher lighting level is necessary due to security/safety needs.

2.2.2.3. Garage lights will not exceed 60 watts.

2.2.2.4. Street lights and parking lot lights will be operated automatically by photocell controls or time clocks.

2.2.2.5. Exterior lights in family housing will be turned off prior to retiring for the night unless required for security or personal purposes, or to illuminate a permanently affixed United States flag. No exterior lights will be on during daylight hours.

2.2.2.6. Lighting and electrical equipment will be turned off when not in use.

2.2.3. Domestic Hot Water. Temperature settings for domestic hot water heaters will be between 120°F and 130°F.

2.2.4. Water.

2.2.4.1. Irrigation of MFH residences will be done by occupants as needed. Irrigation must be monitored at all times unless an automatic shutoff system is used. Irrigation shall not be done to the point of runoff.

2.2.4.2. Vehicle washing is authorized in MFH driveways. Hoses must be equipped with a shutoff nozzle or be turned off at the house valve when rinsing is complete.

2.2.4.3. The 319 MSG/CC may occasionally limit or curtail irrigation and vehicle washing in MFH, due to drought or water system problems. In such a case, notices will be published in base announcements and posted on the base cable channel. It is the responsibility of MFH residents to keep abreast of and comply with all published water use policies.

2.2.4.4. MFH occupants shall identify any leaking government-owned equipment to housing maintenance for repair as soon as possible. Personally owned equipment that is leaking shall be repaired or its use discontinued immediately upon identification.

2.2.4.5. Small outdoor pools, decorative ponds, or water toys ("Slip and Slide" or similar) are authorized for use by housing residents provided they comply with all applicable housing office regulations. Use of such items may be limited or curtailed per **2.2.4.3.** above.

2.3. Prescribed Forms/IMT's: No Forms or IMT's prescribed by this publication.

2.4. Adopted Forms/IMT's: AF IMT 847, *Recommendation for Change of Publication*

DIANE R. HULL, Colonel, USAF
Commander

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFPD 32-10, *Installations and Facilities*

AFMAN 33-363, *Management of Records*

Engineering Technical Letter (ETL) 98-4, *Building Manager Energy Conservation Handbook*

Abbreviations and Acronyms

ADPE—Automated Data Processing Equipment

AF—Air Force

AFB—Air Force Base

AMC—Air Mobility Command

AMCI—Air Mobility Command Instruction

CES—Civil Engineering Squadron

ETL—Engineering Technical Letter

IMT—Information Management Tool

MFH—Military Family Housing

MSG/CC—Mission Support Group Commander

OPR—Office of Primary Responsibility

POV—Privately Owned Vehicles

RDS—Records Disposition Schedule

TLF—Temporary Lodging Facilities

VOQ—Visiting Officer Quarters

VAQ—Visiting Airmen Quarters

Attachment 2

Table A2.1. FACILITY MANAGER'S CHECKLISTS

USE THE FOLLOWING AS A DAILY CHECKLIST TO IDENTIFY/MINIMIZE POSSIBLE ENERGY VIOLATIONS		
1.	Lights left on in unoccupied areas.	
2.	Exterior lights on in daytime.	
3.	Equipment left running when not in use.	
4.	Leaking faucets, showers, or toilets.	
5.	Thermostats are set higher than 68° F for heating and lower than 76° F for cooling.	
6.	Exterior doors and windows are open when heating/cooling systems are on.	
7.	When possible, use desk lamps instead of lighting an entire room.	
8.	Use 60 watt or smaller bulbs or compact fluorescent bulbs for incandescent fixtures.	
9.	Use 34 watt or smaller bulbs for fluorescent fixtures. When replacing fluorescent bulbs, ensure that "T-12" (1-1/2" diameter) and "T-8" (1" diameter) bulbs are not interchanged.	
10.	Use of space heaters except per par. **2.1.2.3.**	
11.	Restrict use of engine block heater outlets to 10° F and below and limit to 2 hours prior to engine start up. NOTE: Block heater outlets on main base are for GOVs only.	
12.	When possible, raise blinds on windows facing the sun to take advantage of natural heat and light during the heating season. Lower blinds facing the sun to preserve cooling during the summer months.	
13.	Report damage or malfunctions to 319 CES immediately (DSN 362-5210 / Commercial 701-747-5210).	
14.	Proposed exceptions to policies or checklist items must be forwarded, in writing, to 319 CES/CEO.	

Table A2.2. Facility Manager's Quarterly Checklist

USE THE FOLLOWING AS A QUARTERLY CHECKLIST TO IDENTIFY/MINIMIZE POSSIBLE ENERGY VIOLATIONS		
1.	Keep lighting fixtures, including diffusers, clean.	
2.	Keep air supply and return vents clean and free of obstructions that block air flow.	
3.	Check windows and doors for air leaks and add weather stripping if needed.	
4.	Check for cracked or broken windows and fix if needed.	
5.	Check exterior walls for cracks or holes and repair.	
6.	Ensure all windows can be fully closed and locked.	
7.	Keep personnel informed of energy conservation policies.	
8.	Recommend personnel wear long sleeve shirt/sweater during the heating season and short sleeve shirt during cooling season.	

Attachment 3

TEMPERATURE SETTINGS FOR HEATING AND COOLING

Table A3.1. Maximum Temperature Settings for Heating.

MAXIMUM TEMPERATURE SETTINGS FOR HEATING. (Note: Minimum setting for facilities with water lines or other equipment which could be damaged by extreme cold is 50°F)		
Type of Room	**Occupied Hours (°F)**	**Unoccupied Hours (°F)**
Office Space	<68	<55
Corridors	<68	<55
Dead Storage (no water lines)	N/A	<50
Cafeterias	<68	<55
Mechanical Rooms	<55	<55
Vehicle Maintenance Shops	<65	<55
Occupied Storage Areas	<68	<55
Auditoriums	<68	<55
Computer Rooms	<68	<55
Restrooms	<68	<55
Garages (no water lines)	Do Not Heat	Do Not Heat

Table A3.2. Minimum Temperature Settings for Cooling.

Minimum Temperature Settings for Cooling.	
Type of Room	**Minimum Temperature (°F)**
Offices	76
Cafeterias	76
Auditoriums	76
Computer Rooms	76 or As Needed
Restrooms	76
Storage, Equipment Rooms, Garages	Unconditioned