NEVADA DEPARTMENT OF CORRECTIONS
ADMINISTRATIVE REGULATION
493

ENERGY CONSERVATION

Supersedes: AR 493 (Temporary, 02/26/14)
Effective Date: 03/18/14

AUTHORITY: NRS 701.010

RESPONSIBILITY

1. The Director shall establish the office of Energy Efficiency Program within the umbrella of Plant Operations Division, which shall oversee the Department's energy conservation goals.

2. The Deputy Director of Operations and Wardens shall implement this regulation.

493.01 IMPLEMENTATION

1. For all buildings operated by the Nevada Department of Corrections (NDOC), the Energy Efficiency Program shall direct that the Department's Energy Conservation Plan is implemented at each institution and facility. The Energy Efficiency Manager working in conjunction with the Facility Supervisors will be responsible for the following activities:

A. Establishing and implementing an energy efficiency operational procedure;

B. Establishing priorities for the facilities energy conservation and consumption reduction;

C. Assisting with the planning and expenditures of assigned utility budget(s); and

D. Promote code and regulatory compliance with respect to energy use.

2. The NDOC Plant Operations Division will manage the energy conservation program. Each Warden shall designate an Energy Conservation Coordinator to lead NDOC's efforts in the conservation of energy use in all its forms. At larger facilities, the Energy Conservation Coordinator shall be the Facility Supervisor III. At camps and smaller facilities, the Energy Conservation Coordinator shall be a camp Sergeant.

3. The NDOC Energy Efficiency Program will conduct the following at each facility:

A. Characterization Study. This study contains comprehensive information regarding usage data to help identify areas of energy inefficiency, and where conservation can be realized.

B. Energy Audit. Each facility shall complete an energy audit once annually to analyze utility usage and explore opportunities where financial expense and energy reduction can be realized. Department resources such as the maintenance section and the conservation coordinator shall be involved in this review.

C. Energy Consumption Monitoring. The NDOC Energy Efficiency Program shall be provided access for monitoring energy usage throughout all NDOC facilities equipped with Building Automation Systems from the Central office.

4. Energy Conservation Coordinator. The Energy Conservation Coordinator shall periodically evaluate energy usage throughout the calendar year for his or her assigned institutions/facilities in the following ways:

A. Staff Awareness. Facilities should seek ways to share information among staff on the importance of energy reduction. Developing goals and strategies that allow time and opportunity for staff to focus on energy efficiency issues that aid in cost-effective operations of the facility.

B. Inmate Education. Each institution shall implement training for inmates that is designed to encourage the economic use of energy. The Institution shall target practical ways to reduce waste and conserve energy while promoting environmental sustainability.

C. Recycling. Every effort shall be made to work with the local sanitation company to develop a recycling program, if available, for their respective facilities. Each facility shall recycle as is practicable post consumer products such as metal, aluminum, glass, plastics, paper and other products allowed by state and federal law. Recycling items and quantities shall be reported quarterly with the facility report. Proceeds (if any) from NDOC recycling efforts shall be directed to the appropriate funding source.

D. Reporting. The institutional/facility Energy Conservation Coordinator shall complete and submit a quarterly report to the Energy Efficiency Manager. This document shall record and document reasons for increases/decreases in energy consumption over or under the established base-line. The report is reviewed by the Energy Efficiency Manager quarterly. The report shall be tracked with the ability to compare months and years demonstrating improvements with conservation practices. The report shall contain the following elements:

(1) Baseline Consumption of Water, Natural Gas, Electricity, #2 Fuel Oil, Liquid Propane and include production totals for Alternate Energy. i.e.: Solar.

(2) Recycling Quantities (in pounds) for metal, aluminum, plastic, glass, paper, used engine oil, other.

(3) Explanations and narrative for off-baseline performance.

5. Fiscal Services:

A. The Chief of Fiscal or designated accounting staff at NDOC Support Services shall provide that all forms of energy consumption and expenses are posted into the Metrix4 spreadsheet within 30 calendar days of receiving utility bills. The Metrix4 Utility Bill Program is an energy consumption tracking software used by the Department of Corrections.

493.02 ENERGY CONSERVATION

1. Initial Assessment. An energy audit shall be conducted once annually at each facility utilizing the Energy Efficiency Program staff. The following steps shall be followed in completing an energy audit:

A. Interview maintenance and facility staff to acquire types and amounts of energy usage.

B. Complete an area walkthrough.

C. Review the energy usage history of that area.

D. Develop a plan of action for reducing energy usage.

2. Targeted Utilities. Natural Gas, #2 Fuel Oil, LP Gas, Water and Electricity shall be the primary utilities that shall be targeted for reduction of use. Below are several steps that shall be considered when initiating a reduction plan.

A. #2 Fuel Oil

(1) Metering of #2 Fuel Oil consumption

(2) Preventive Maintenance

(3) Combustion Efficiency testing

(4) Building Insulation

(5) Staff/Inmate education of usage amounts

(6) Cold Water Washing for laundries

(7) Doors and windows in heated areas shall be closed

B. LP Gas

(1) Metering of LP Gas consumption

(2) Preventive Maintenance

(3) Combustion Efficiency testing

(4) Building Insulation

(5) Staff/Inmate education of usage amounts

(6) Cold Water Washing for laundries

(7) Doors and windows in heated areas shall be closed

C. Natural Gas

(1) Sub Metering

(2) Preventive Maintenance

(3) Combustion Efficiency testing

(4) Building Insulation

(5) Staff/Inmate education of usage amounts

(6) Cold Water Washing for laundries

(7) Doors and windows in heated areas shall be closed

D. Water

(1) Metering at individual building locations

(2) Reduced flow plumbing fixtures

(3) Timed showers and faucets

(4) Water shut off hours

(5) Preventive leak detection

(6) High efficiency clothes washers

(7) Cold Water Washing

(8) Wardens should make a concerted effort to plant and maintain native and adaptive plants that require very little to no watering as opposed to vegetation which require large amounts of water.

(9) The Addition of Turf areas to any institution/facility after the date of January 1, 2014 is prohibited, except as noted in section 493.03.K below.

E. Electricity

(1) Sub Metering

(2) De-Lamping of lighting fixtures where practicable.

(3) Use of "Daylighting."

(4) Use of "Occupancy Sensors" for lighting where appropriate

(5) High Efficiency motors for all motor replacements

(6) Preventive Maintenance (Reference AR 486)

(7) Doors and windows in heated and refrigerant cooled areas shall be completely closed.

3. Energy Conservation Measures. The following conservation measures shall be implemented and observed by All NDOC staff and personnel in buildings operated by the NDOC.

A. Electrical

(1) Set all air conditioning space temperatures at 78 degrees Fahrenheit (summer cooling) during daytime waking hours and 83 degrees Fahrenheit during nighttime sleeping hours in inmate cells and staff offices and common areas. NRS 444.335/NAC211.320 states that a comfort level of no more than 85 degrees Fahrenheit be maintained in inmate cells. In addition Section 1028 of the State Administrative Manual (SAM) states the following "Building temperature should be kept at a minimum of 78°F in the summer"

(2) Turn off non-essential lights and computers

(3) Turn off copiers and printers that receive low volume usage

(4) Where practicable close blinds and curtains in offices, particularly on the side of the building facing south, or in areas that do not create security risks within the institution and do not violate the applicable Nevada Revised Statutes.

(5) In office environments, turn off all lights, computers and equipment when leaving the work station, office, or after the shift.

(6) The use of individual space heaters and cooling units is prohibited in all NDOC institutions. NRS 701.230.

(7) Turning cell lighting to the "night light function" or off during sleeping hours. Subject to the safety and security of the institution.

B. Natural Gas, #2 Fuel Oil, and Electricity

(1) Set all heating space temperatures at 68 degrees Fahrenheit (winter heating) during daytime waking hours and 66 degrees Fahrenheit during nighttime sleeping hours in inmate cells and staff offices and common areas. NRS 444.335/NAC211.320 states that a comfort level of no less than 65 degrees Fahrenheit be maintained in inmate cells. In addition Section 1028 of the State Administrative Manual (SAM) states the following "Building temperature should be kept at a maximum of 68°F in the winter."

(2) Reset domestic hot water temperatures to no higher than 120 degrees Fahrenheit, except where required by the Health Code for culinary, dishwashers, etc.

(3) Check outside air dampers to ensure that minimum code-required outside air is entering the building.

C. Cold Water Laundry Washing will be standard operating practice at all NDOC facilities.

D. Operable windows are to remain closed during periods when the facility is in heating or cooling mode and under the control of a central plant computerized monitoring system.

493.03 ENERGY EFFICIENT REPLACEMENT OF EQUIPMENT

1. New and replacement energy using appliances and equipment. The following measures shall be implemented when replacing worn-out or antiquated equipment:

A. Occupancy sensors for lighting will be installed in offices and bathrooms when switches fail.

B. High efficiency motors will be installed when replacing motors in our facilities.

C. Low-flow tamper-proof water fixtures will be installed when replacing or retrofitting fixtures.

D. High efficiency culinary and laundry appliances will be installed when replacing existing equipment.

E. High efficiency water heaters and boilers, or a sustainable water heating solution such as solar thermal will be installed when replacing existing equipment.

F. High efficiency air conditioning equipment will be installed when replacing existing ones.

G. High efficiency furnaces will be installed when replacing existing ones.

H. Cold water washing detergents and color safe bleaches will be purchased and used in all facilities.

I. High efficiency light bulbs and ballasts will be installed when replacing or retrofitting fixtures.

J. The use of native or adapted plants which require little or no watering shall be used to replace Turf lawn areas when new landscaping is being considered. Existing Turf lawn areas are grandfathered in and may remain as such until the purposed use of that area is changed.

K. The addition of new Turf or lawn areas will not be allowed at any NDOC facilities, with the exception of Farm/Dairy use or Director authorized sporting uses. i.e.: Recreation, Soccer or Ball fields.

493.04 OPERATIONAL PROCEDURE

1. An Operational Procedure (OP) shall be developed for each facility. The OP shall meet or exceed the energy efficiency standards set forth in NRS 701-Energy Policy. The OP must be submitted by the facility/institution to the Energy Efficiency Manager, and be approved by the Chief of Plant Operations.

2. Quarterly Reporting Forms. The Energy Efficiency Manager will provide reporting form templates.

APPLICABILITY

1. This regulation applies to all buildings operated by the Nevada Department of Corrections.

2. This regulation requires an operational procedure for all institutions.

3. This AR requires an annual audit by the Energy Efficiency Program.

Director

3/19/14
Date