

**New Jersey  
Department of  
Military and  
Veterans Affairs**

# **Clean Cut Green Management Handbook**



**2015**

**In Collaboration with  
Rowan University**

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## Executive Summary

The “**Clean Cut Green Management Handbook**” is a comprehensive reference source developed by the New Jersey Department of Military and Veterans Affairs (NJDMAVA) in collaboration with Rowan University for use by the NJ Army National Guard (NJARNG) and is encouraged to be used at all NJDMAVA facilities. The purpose of this handbook is to describe occupant-based actions and responsibilities that will aid NJDMAVA in reducing energy and water consumption in its facilities and making operations more sustainable. This handbook is to be distributed to daily operations staff, will be updated periodically, and is a part of a broader conservation and sustainability program called the *Clean Cut Campaign*.

By implementing changes to organizational and individual behaviors and practices, NJDMAVA hopes to reduce energy and water use while simultaneously reducing the department’s impact on the environment. As the supply of natural resources diminishes, NJDMAVA recognizes the importance of limiting consumption. The steps taken will not only lead to decreased utility and maintenance costs, but will also aid in the preservation of clean air and water, reduce greenhouse gas emissions, and increase the health and productivity of daily operations staff.

### **This handbook contains the following:**

- Purpose and scope of the *Clean Cut Campaign*
- NJDMAVA energy and water consumption reduction targets
- Energy and water consumption reduction strategies
- Responsibilities of NJDMAVA personnel at various levels

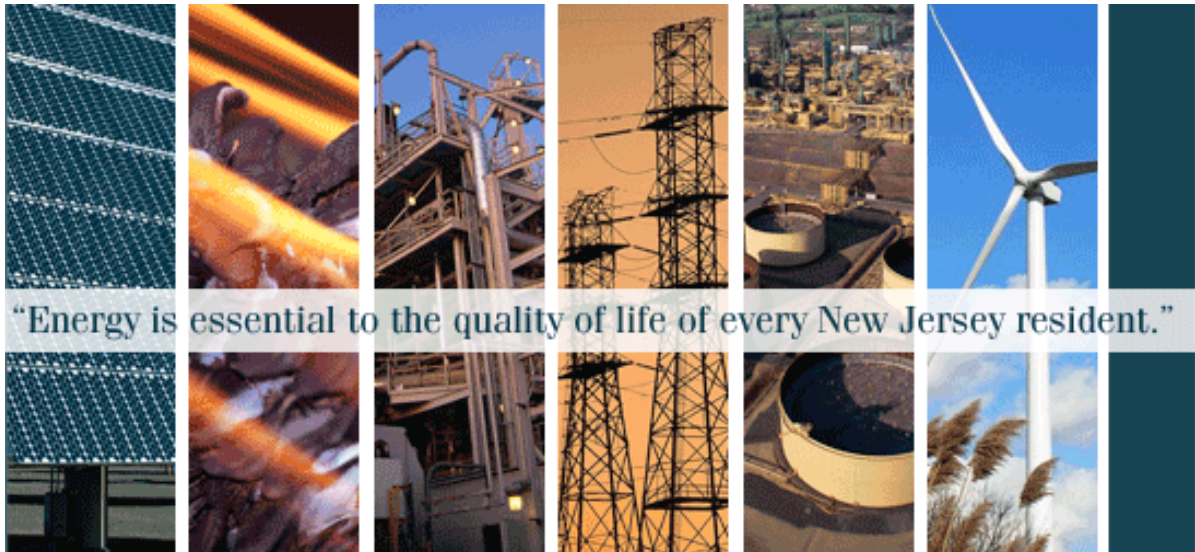
*\*Please print this handbook double sided to conserve paper.*

# NJDMAVA Clean Cut Campaign

NJDMAVA's *Clean Cut Campaign* is a comprehensive sustainability program focused on reducing NJDMAVA's utility costs and impact on the environment through energy and water conservation, renewable energy sources, greenhouse gas emission reductions, and employee training and engagement. Each person using the "**Clean Cut Green Management Handbook**" has a responsibility to help make this program successful.

The NJDMAVA *Clean Cut Campaign* was developed as a way to meet and/or exceed the following Federal and State regulations, policies, and plans:

- TAG Energy Policy 2015
- Executive Order 13693
- Energy Independence and Security Act of 2007
- Energy Policy Act of 2005
- Army Regulation 420-1
- NJ Energy Master Plan
- NJDMAVA Strategic Plan 2011 – 2016



## TARGETS

Targets for the *Clean Cut Campaign* are based on Federal, State, and Department requirements and goals. Performance metrics are analyzed with both annual and long term goals in mind and revisions are made to the program when necessary. Please note that additional reduction strategies will need to be implemented in order to meet these goals. NJDMAVA has set the following goals for energy and water consumption:

- Reduce energy use intensity per square foot by 2.5% annually compared to a fiscal year 2015 baseline.
- Reduce water use intensity per square foot by 2.0% annually compared to a fiscal year 2007 baseline.
- Ensure that at least 30% of total electricity consumption comes from renewable sources of energy by the end of fiscal year 2025.
- Ensure that at least 25% of total energy (electricity and thermal) consumption comes from renewable sources of energy by the end of fiscal year 2025.

Targets for energy and water reduction are based on the Energy and Water Use Intensity values (EUI and WUI). Essentially, these values express energy and water use as a function of building size or other characteristics. For the purposes of this report, the EUI presents NJDMAVA’s energy use per square foot of facility space and WUI presents NJDMAVA’s water use per square foot of facility space. The table below outlines NJDMAVA’s energy and water consumption targets:

NJDMAVA Energy and Water Consumption Targets				
	2007 Fiscal Year	2015 Fiscal Year	2025 Fiscal Year	2030 Fiscal Year
Energy Consumption	-	97.3 KBTU/SF	73.0 KBTU/SF	60.8 KBTU/SF
Water Consumption	8.6 KGAL/SF	-	6.0 KGAL/SF	5.5 KGAL/SF
Renewable Energy (Elec.)	-	7.5%	30%	30%
Renewable Energy (Total)	-	-	25%	25%

## Reduction Strategies

Procedures and implementation strategies for decreasing energy and water consumption are outlined in this section. In order to meet the goals of the initiative and maximize success, these strategies should be implemented in every facility where applicable. It is the duty of all NJDMAVA employees and building occupants to participate in the effort to reduce energy and water consumption.

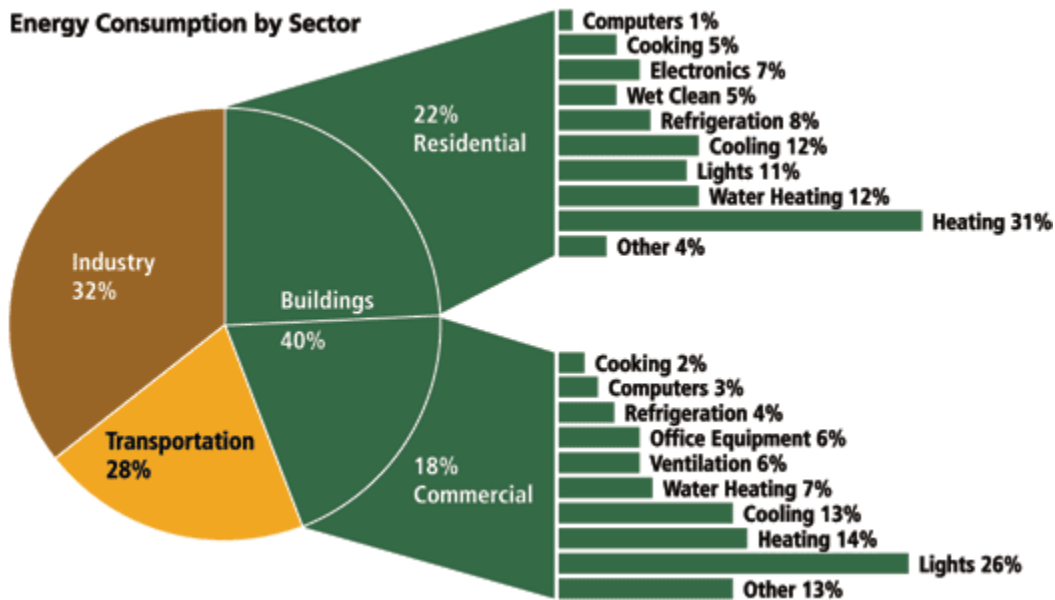
The reduction strategies section of this handbook is split into the following 3 categories:

- ③ Energy Reduction Strategies
- ③ Water Reduction Strategies
- ③ Miscellaneous



## ENERGY REDUCTION

Buildings account for approximately 40% of all energy use and greenhouse gas (GHG) emissions in the US, which costs nearly \$350 billion annually. The importance of reducing energy use is apparent, and it is important to make every possible effort to reduce energy use at NJDMAVA facilities by limiting lighting, heating, cooling, water heating, cooking and refrigeration, and office equipment as much as possible.



In the commercial sector, the main energy consumers are Lighting (26%), Heating, Ventilation and Air Conditioning (33%), Computers and Office Equipment (9%), Water Heating (7%), and Cooking (2%). The **“Clean Cut Green Management Handbook”** focuses on these main consumers in order to maximize conservation benefits. The following energy reduction strategies will help decrease overall energy consumption and costs at NJDMAVA facilities.

## Lighting

Lighting consumes about 18 percent of electricity generated in the United States. Another 4 to 5 percent of a company's energy bill can be attributed to cooling systems that counteract the heat produced by these lights [1]. At NJDMAVA facilities, these figures are even higher as lighting typically accounts for 36 percent of a facility's electricity use. For these reasons, reducing the electricity used by lighting is a very important step in any sustainability initiative. Below are strategies to increase the sustainability of lighting at NJDMAVA facilities:

**a) Invest in Efficient Light Emitting Diode (LED) Lighting**

The biggest problem with standard incandescent light bulbs is that they must produce a lot of heat in order to be functional. More than 70 percent of the energy used by these bulbs produces heat, leaving only 30 percent to be used to actually give off light. Incandescent bulbs also give off carbon dioxide, which is harmful to the environment [2]. LED light bulbs are a highly efficient lighting technology and an alternative to standard bulbs. NJDMAVA should only use ENERGY STAR rated and Design Light Consortium (DLC) qualified LED bulbs, which use about 75 percent less energy and last 25 times longer than their incandescent counterparts [2]. Although the LED bulbs are more expensive to purchase, they provide an immediate decrease in energy costs and will reduce maintenance costs over time. An LED bulb operating at a level comparable to a 60 Watt incandescent bulb offers a 75 to 80 percent decrease in operational costs [3].

**b) Install Occupancy Detectors in Bathrooms and Supply Areas**

Too often lights in bathrooms and supply areas are left on when areas are unoccupied. The installation of occupancy detectors provides a solution as they will activate lights when the rooms are occupied and will turn lights off when the rooms are vacated.

**c) Turn Off Lights When Not in Use**

Daily operations staff should make an effort to turn off all lights in unoccupied rooms. Individuals should also turn off lights in offices, training rooms, and maintenance areas to be left unoccupied for more than five minutes. Lights should also be turned off when daylight levels are enough to properly illuminate a room. During daylight hours, the use of sunlight can not only reduce energy costs and save electricity, but it can also boost employee morale.



**d) Limit or Eliminate Un-Needed Lighting**

Off hour and exterior lighting should be eliminated except when it is essential for safety and security purposes as required by Army Regulation 190-11 and other physical security requirements. If exterior lighting is required, daylight sensors will be incorporated to ensure lights do not operate during daylight hours.

**e) Ensure Rooms are Illuminated at Proper Lighting Levels**

Regularly check rooms to ensure that lighting levels are meeting the Illuminating Engineering Society of North America (IESNA) standards of lighting.

**Table 1: IESNA Light Levels Standards for Military Facilities**

Facility Type	Space Type	Average Illuminance at Working Level	Measurement Height
Barracks / Dormitories	Bedrooms	300 lux	0 m
	Laundry Room	300 lux	1 m
Educational	Classroom	400 lux	0 m
	Lecture Hall	400 lux	0.8 m
	Computer Practice Room	30 lux	0.8 m
Office	Single Office	400 lux	0.8 m
	Open Plan Offices	400 lux	0.8 m
	Conference Room	300 lux	0.8 m
Hospital	General Ward	300 lux	0.8 m
	Simple Examination Room	500 lux	0.8 m
	Examination and Treatment	1,000 lux	0.8 m
Restaurant	Dining Room	100 lux	0.8 m
	Kitchen	500 lux	0.8 m
Sports Facility	Sports Hall	300 lux	0.8 m
Circulation	Corridor	50 lux	0 m
	Stairs	50 lux	0 m
	Restrooms	300 lux	0 m
Industrial	Metal Working / Welding	300 lux	1 m
	Simple Assembly	300 lux	1 m
	Difficult Assembly	1,000 lux	1m
	Exactng Assembly	3,000 – 10,000 lux	1 m
Vehicle Maintenance	Body Work / Assembly	500 lux	1 m
	Painting, Spraying, Polishing	1,000 lux	1 m
	Painting, Touch-Up, Inspection	3,000 – 10,000 lux	1 m
Wood Working	Saw Frame	300 lux	1 m
	Joiner’s Bench, Assembly	300 lux	1 m
	Polishing, Painting	1,000 lux	1 m
	Wood Working Machines	500 lux	1 m

## Heating, Ventilation, and Cooling (HVAC)

At NJDMAVA facilities, heating, ventilation and cooling systems account for a combined total of about 31 percent of total energy costs. Since the systems are run year-round, it is important to investigate ways to reduce usage and optimize the use of HVAC systems. Below are strategies to reduce consumption by HVAC systems at NJDMAVA facilities:

**a) Install Programmable Thermostats and Optimize Temperature Set Points**

Automatic, programmable thermostats allow building managers to set temperatures in accordance with applicable policies. These thermostats should be set at comfortable temperatures and left unchanged throughout the day. Automatic thermostats also allow building managers to schedule heating or cooling mechanisms, making it possible to disable the use of the heating and cooling systems at times when a facility is unoccupied. Scheduling makes it possible to maintain a comfortable environment for daily operations staff without the possibility of extra costs resulting from carelessness or forgetfulness. The table below outlines acceptable heating and cooling temperature set points:

**Table 2: Acceptable Heating and Cooling Temperature Set Points**

During Heating Season		
Facility Type	During Occupied Hours	During Unoccupied Hours
Occupied Facilities	68°F	55°F
Warehouses and Similar Active Spaces	60°F	45°F
Buildings Devoid of Human Activity	No Heating	
During Cooling Season (In Authorized Buildings)		
Facility Type	During Working Hours	During Unoccupied Hours
Occupied Working and Living Spaces	78°F	85°F

Thermostat temperature settings should be reduced to the unoccupied hour settings on the hour prior to the employee dismissal time. They should not be set to occupied hour settings earlier than 1 hour prior to employee reporting time. During holidays and extended periods of absence, the thermostat temperature settings should be set at the unoccupied hour settings. Each thermostat should be checked weekly to ensure that they are set to the proper temperatures.

**b) Properly Prepare HVAC Equipment According to the Season**

Heating systems should not be turned on until 15 October and should be turned off on 15 April unless otherwise modified by NJDMAVA. Boilers should be shut down and undergo the normal post season maintenance in preparation for the next season and the necessary inspections. All boilers should be cleaned no later than 30 May each year and pilot lights on furnaces and heaters should be turned off during the

non-heating season. Cooling systems should not be turned on until 15 May and should be turned off on 15 September unless otherwise modified by NJDMAVA. Window air conditioners should be properly winterized or removed from 15 September until 15 May each year.

**c) Purchase Efficient Equipment**

HVAC equipment that is more than 10 years old should be evaluated for replacement with high efficiency models. ENERGY STAR certified equipment is guaranteed by the U.S. Environmental Protection Agency to reduce energy consumption by a certain amount (depending on the type of equipment). NJDMAVA should only purchase ENERGY STAR rated equipment (or equivalent) for all new and replacement HVAC equipment in order to reduce operating costs.

**d) Limit the Use of Portable Heating and Cooling Devices**

In accordance with Army Regulation 420-1 and NJ Fire Regulations, the operation of portable heating and cooling devices is prohibited where the intent is to circumvent the heating and cooling standards listed above. Supplemental heating and cooling may be used only when the usage of primary heating and cooling systems can be cost effectively reduced or when personal comfort cannot be achieved by reasonable adjustments to the primary system. Portable devices, when used, are most effective in small, low occupancy areas. Use of these devices must have supervisor written approval and should not occur in vacant areas.



**e) Close Windows and Doors When Heating and Cooling Systems are Operating**

Opening windows and doors while heating and cooling systems are at work can negate the effects of the systems. All windows and doors should be closed while the systems are in operation to ensure that all of the energy being used is serving its purpose. If breezes from open windows and doors are preferred, heating and cooling systems should be disabled.

**f) Investigate the Relocation of Furniture and Work Station Equipment**

Often times the location of furniture or work stations prohibits the flow of heated or cooled air in office spaces. To maximize the effects of heating and cooling systems, building managers should investigate the location of furniture and other equipment and relocate the items that interfere with the flow of heated or cooled air.

**g) Regularly Inspect and Maintain HVAC Systems**

Just like a car needs an oil change, heating and cooling equipment needs to be regularly maintained. This includes making sure furnace filters aren't dirty and are replaced as scheduled. Dirty and old filters can inhibit airflow, which causes HVAC units to work harder than necessary. Air filters should be changed every 30 days and radiators should be cleaned regularly. In addition, hot water/steam valves, pipes, fittings, and radiators should be regularly inspected for damage, leaks, and corrosion and cleaned or repaired as necessary. All HVAC equipment should be maintained according to the manufacturer's recommendations.



**h) Maintain Hot Water Heating Systems**

Water heating accounts for approximately 7 percent of a building's overall energy use. There are a few maintenance strategies that can be implemented to reduce the energy consumption for water heating. The temperature on most hot water heaters comes pre-set at 140 degrees Fahrenheit. This can be reduced to 120 degrees Fahrenheit without impacting the quality of hot water. For every 10 degrees that a hot water is lowered, energy use will drop between 3 and 5 percent (Exceptions include dish washing in food service facilities). Pipes for hot water should be properly insulated to prevent heat from escaping.

## Electrical Equipment

Making a few small adjustments to electrical equipment usage is a simple way to decrease overall energy consumption. These adjustments can save hundreds of dollars in energy costs over time without causing any inconveniences. Below are strategies that will decrease electrical equipment energy consumption:

**a) Eliminate Unnecessary Refrigerators and Operate Efficiently**

Refrigerators account for a large amount of the energy consumed by appliances. Multiple refrigerators should be consolidated as much as possible in/near the eating area for the use by all employees, which saves energy and space. Personal refrigerators in work areas and offices are prohibited. Use of personal refrigerators must have supervisor written approval. The size and number of refrigerators should be based on 1 cubic foot of space per person. Maintain a temperature of 35 to 38 degrees Fahrenheit in refrigerators and 0 degrees Fahrenheit in separate freezers. Refrigerator coils should be cleaned twice a year and the door gaskets should be replaced if a dollar bill easily slips out when closed between the door's seals.

**b) Unplug Peripheral and Accessory Devices at the End of the Day**

Equipment and appliances continue to consume small amounts of energy even when they are turned off. This is typically referred to as “vampire” or “phantom” energy. To prevent this, electrical appliances (fans, coffee pots, etc.) and general purpose office equipment (copiers, printers, etc.) should be unplugged at the end of the day. Consideration should be given to using a power strip for all external devices to ease and consolidate turning off the devices [4].

**c) Work Station Power Management**

Almost all modern computers have a control panel that allows for the exploration of energy saving options. Adjust these settings and find the lowest numbers that are still convenient for use. The activation time of “Sleep Mode” should be no greater than 30 minutes. The central processing unit (CPU) for computers, desktop units, and personal computers can remain on for IT purposes only when the computer is capable of, configured, and enabled for energy saving features. Computers and peripheral devices should be powered down and unplugged for any extended period of absence such as vacation or holidays.

**d) Electric Vehicle Charging**

The adoption of electric and plug-in hybrid vehicles is rapidly increasing. As a result, NJDMAVA is working towards developing the internal infrastructure to support these types of vehicles. In order to prevent excessive electricity consumption, only NJDMAVA fleet vehicles are approved to make use of NJDMAVA building and charging station electricity for the purpose of charging vehicles.

## Food / Dining Equipment

Food service equipment can account for a large portion of a facility’s energy usage. Implementing the adjustments listed below can save hundreds of dollars in energy costs over time with minimal or no negative impact:

**a) Adjust Equipment to Maintain Efficiency**

Over time, equipment falls out of its original settings and becomes less efficient. By regularly tuning equipment, such as gas ranges, equipment will last longer and operate more efficiently. Gas ranges should have their flame settings adjusted regularly to conserve gas. A blue flame means the stove is operating efficiently. A yellow flame indicates an adjustment is needed. In addition, stove stop burners and reflectors should be kept clean.

**b) Prepare Equipment for Times of No Use**

Equipment that is left plugged in, but is not needed, will waste a large amount of energy over time. Simply unplugging this equipment will provide a good cost savings on utility bills with no cost to implement. At NJDMAVA facilities, all dining facility equipment should be left in a ready-to-use state and gas should not be shut off to stoves and ovens unless it will not be used for more than 8 weeks at a time. If shut off, equipment should be turned back on and made operational 2 days prior to use. All new and replacement gas stoves and ranges should have an automatic, electric ignition system instead of a pilot light.

For refrigerators, the following steps should be followed to prepare them to minimal/no usage. For both instances, refrigerators should be returned to their full operation status 2 days prior to use:

**Table 3: Refrigerator Preparation**

Absences of 3 to 8 Weeks	Absences of Greater than 8 Weeks
Leave plugged in	Unplug
Remove perishable food items	Remove all food items
Turn ice-maker off	Clean interior with baking soda and wipe dry
Fill with plastic jugs of water (¾ full)	Place an open box of baking soda inside
	Leave doors open

## WATER REDUCTION

Making the effort to conserve water is an integral part of the NJDMAVA *Clean Cut Campaign*. Human consumption of water is growing at an unsustainable rate and all possible efforts should be made to limit water consumption and increase water efficiency. According to the Environmental Protection Agency, each American on average uses 100 gallons of water each day. This amount has grown disproportionately in comparison with increases in population. In total, occupants of the United States use 26 billion gallons of water daily [5].

<b>Fuel Source</b>	<b>Efficiency (Liters per 1,000 kwh)</b>
Natural Gas	38
Coal Gasification	144 - 340
Tar Sands	190 - 490
Oil Shale	260 - 640
Fisher-Tropsch	530 - 775
Coal	530 - 2100
Hydrogen	1850 - 3100
Liquid Natural Gas	1875
Petroleum	15,500 - 31,200
Ethanol	32,400 - 375,900
Biodiesel	180,900 - 969,000

It takes, on average, 95 liters of water to produce 1 kW of electricity [6]. This water is used to pump crude oil out of the ground, to aid in the removal of pollutants from power plant exhaust, to generate steam to turn turbines, to flush away residue after the combustion of fossil fuels, and to cool systems at power plants. By making the decision to reduce energy use, NJDMAVA not only hopes to reduce energy costs at its facilities, but also to reduce energy expenditures on a larger scale.

Similar to energy, we have come to believe there is a plentiful and inexpensive supply of clean water but this is not the case. In addition to ensuring clean water is available for future generations, the conservation of water is also important because its use requires energy. The Environmental Protection Agency reports that about 8 percent of the United States energy demand goes to treating, pumping, and heating water. The energy used by these processes is enough electricity to power more than 5 million homes for an entire year [4]. Every little step taken by NJDMAVA to decrease water consumption can make a difference!

**a) Report Leaks to Building Managers**

Leaks account for more than 10,000 gallons of water wasted every year by the average US family. This amount is equal to the amount of water needed to wash 270 loads of laundry. Leaks from a faucet that drips at a rate of one drip per second can waste more than 3,000 gallons of water each year alone [7]. All leaky faucets, toilets, water fountains, or sprinklers should be reported to the building manager and repaired as soon as possible. These fixtures can be repaired by replacing gaskets, washers, and other components that may deteriorate as a result of frequent use.



**b) Reduce and Eliminate Irrigation**

Water used for landscaping accounts for a large portion of overall consumption. Overwatering not only wastes resources, but it can also promote the growth of microorganisms and the development of lawn disease. The implementation of more efficient landscaping process is an important step in decreasing consumption. Sprinklers should not be activated on rainy days as the rain will serve as a sufficient source of water. Watering should be done early or late in the day to minimize the effects of evaporation. This watering should be done in intervals, instead of continuously, to allow for soil permeation and a decreased amount of runoff.

**c) Purchase Efficient Equipment**

Water using devices, such as faucets, toilets, and urinals, are required by federal law to not exceed certain levels of water consumption. WaterSense labeled fixtures go beyond the Federal standards to achieve even greater savings. These savings will be amplified for any water using devices that are older than 10 years old. WaterSense certified fixtures are guaranteed by the U.S. Environmental Protection Agency to reduce water consumption by a certain amount (depending on the type of fixture). NJDMAVA should only purchase WaterSense rated equipment (or equivalent) for all new and replacement fixtures in order to reduce operating costs.

**d) Use a Broom Instead of a Hose to Clean Sidewalks and Parking Lots**

Although it may be easier to use a hose to clean sidewalks and parking lots, it is an extremely wasteful process. Brooms should be used whenever possible to complete these tasks.



**e) Turn Off Water When Washing Hands**

Washing hands with the faucet on can waste up to 16.5 gallons of water a day [8]. Remember to only activate the faucet when necessary and to turn the faucet off when pumping soap or drying hands.

**f) Change Showering Habits**

A 10 minute shower can use up to 25 gallons of water [6]. Limiting time spent in the shower is a measure that will reduce both water and energy consumption. “Combat Showers” can also be taken by turning the water off while soaping up. Low-flow fixtures that are WaterSense qualified should be installed where feasible. A 2.5 gpm showerhead uses half the energy and water as a standard showerhead without reducing comfort. Newer 1.5 gpm showerheads will cut energy and water usage by another 40 percent [8].



## MISCELLANEOUS

In addition to the direct energy and water saving strategies listed in this guidebook, NJDMAVA and its employees should also implement the following strategies to achieve further energy and water savings:

**a) Regularly Assess Each Facility**

While there is not a direct savings from conducting an energy and water assessment on a facility, the recommendations that result from such an investigation can lead to reduced energy and water consumption. Each facility should undergo a comprehensive energy and water assessment once every 4 years to identify potential conservation opportunities.

**b) Establish and Maintain a Facility Maintenance Plan**

Having a maintenance plan in place allows for greater efficiency and flexibility in running a facility. If the maintenance staff are not available, other building occupants can quickly identify the what, where, when, why, and how of the building and its systems. A good maintenance plan should contain the following information:

- Current sequence of operations of the building.
- Building occupancy schedule.
- Equipment run-time schedules.
- Set points for all HVAC equipment.
- Set points for all lighting levels throughout the building.
- Any changes in schedules or set points for different seasons, days of the week, and times of day.
- A systems narrative describing the mechanical and electrical systems and equipment in the building.
- A preventive maintenance plan for building equipment described in systems narrative.

## Responsibilities

Pursuing environmental sustainability will help improve the quality of life for all New Jersey citizens and should be embraced as an economic tool. In accordance with applicable Federal and State mandates and to support NJDMVAVA's energy and water management plans, the following list of responsibilities has been developed so that each user group understands exactly what the responsibilities are in complying with the *Clean Cut Campaign*.



*"It is our collective and individual responsibility to protect and nurture the global family, to support its weaker members and to preserve and tend to the environment in which we all live."*

*- Dalai Lama*

### Energy Managers will ...

- ② **execute** energy and water conservation programs.
- ② **identify**, prioritize, and record opportunities for improving energy performance.
- ② **provide** building occupants with the Green Management Handbook.
- ② **provide** additional resources if goals and Federal and State requirements are not being met.
- ② **distribute** revised versions of the Handbook to all applicable parties and collect obsolete versions of all documents to reduce confusion regarding responsibilities and energy and water reduction strategies.
- ② **evaluate** compliance with legal requirements related to NJARNG's energy use and shall maintain records of the results.
- ② **establish** and implement operations and maintenance activities that affect NJDMAVA's significant energy uses including facilities, equipment, and systems and will communicate required activities to appropriate parties.
- ② **develop** and submit ideas for energy and water reduction projects.
- ② **review** all construction and renovation drawings and specifications for compliance with energy and water reduction goals.

### Rowan University Energy Audit Center and Clean Cut Crew will ...

- ② **determine** the current energy performance of NJARNG facilities, equipment, systems, processes, and other relevant variables that significantly affect energy use.
- ② **identify** specific facilities, equipment, systems, processes, and other relevant variables that significantly affect energy use.
- ② **provide** adequate resources for building occupants to implement sustainability initiatives including posters, prompts, and training.
- ② **implement** incentive programs to motivate further energy and water reductions.
- ② **periodically** review the Green Management Handbook to determine efficiencies and lessons learned, and revise the Guidebook accordingly.
- ② **check** building dashboard summaries to monitor energy and water reductions on a quarterly basis.
- ② **distribute** quarterly newsletters to all NJDMAVA personnel and building occupants highlighting energy and water reduction metrics and success stories.

**Armorerers and Building Managers will...**

- ③ **conduct** preventive maintenance and calibration on HVAC systems, light sensors, auto-flush fixtures, door position sensors, and other supporting equipment to ensure they are operating as designed.
- ③ **ensure** replacement light bulbs and energy or water consumption fixtures meet green procurement standards.
- ③ **verify** programmable thermostats are set within prescribed temperature guidelines.
- ③ **reduce** energy and water consumption by following implementation procedures listed in this Handbook.

**Assigned Energy Task Force (EMS) will...**

- ③ **facilitate** annual trainings and comprehension checks.
- ③ **develop** and submit ideas for energy and water reduction targets.

**Purchasing Officers will...**

- ③ **inform** suppliers that procurement is partly evaluated on the basis of energy performance when purchasing equipment or products that may have an impact on the facility's energy performance.
- ③ **review** all purchases for compliance with energy and water reduction goals.

**NJDMAVA Personnel and Building Occupants will...**

- ③ **participate** in annual trainings and comprehension checks.
- ③ **reduce** energy and water consumption by following implementation procedures listed in this Handbook.

## Resources

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