

# Facilities Infrastructure Update

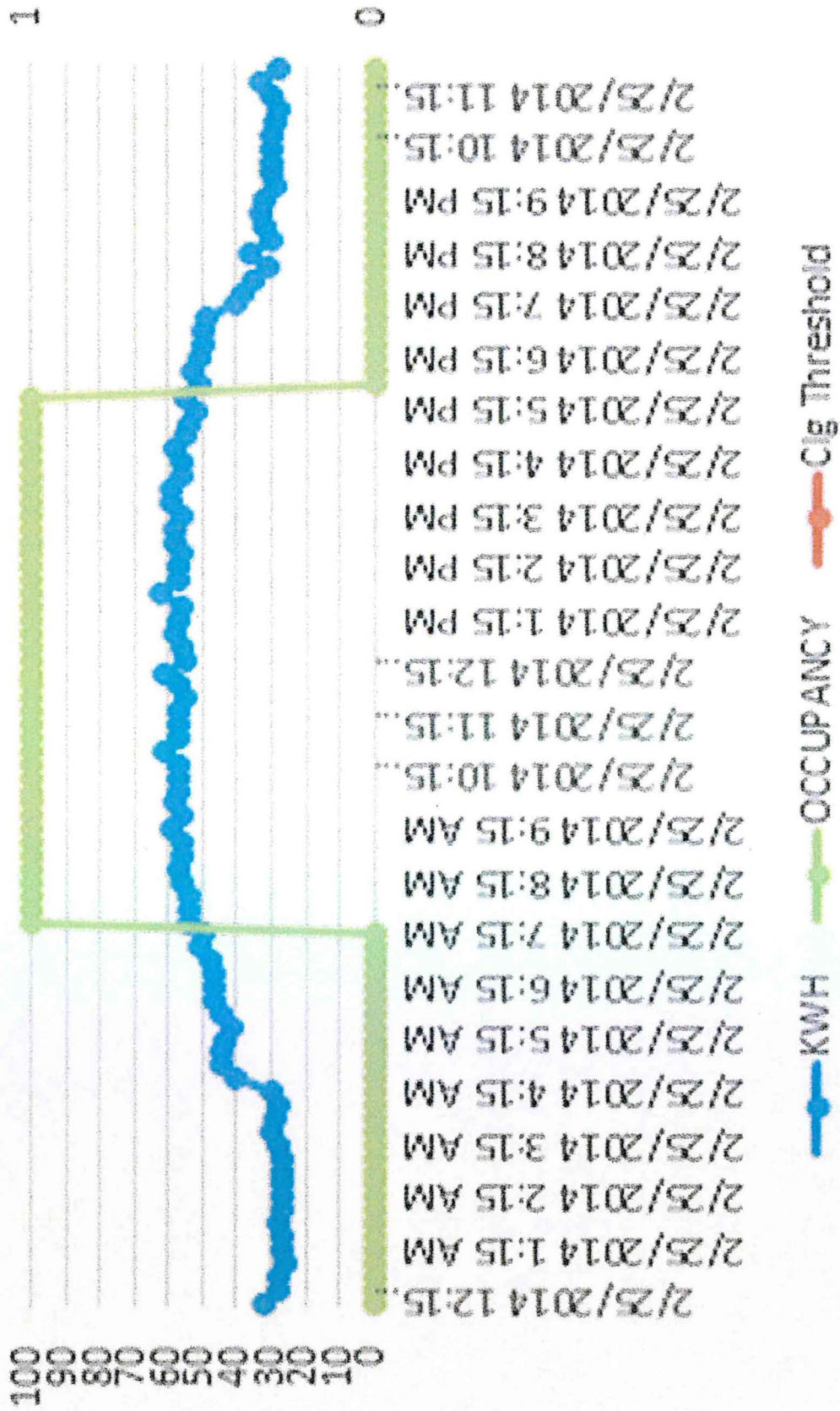
*(Note: The County's infrastructure includes 748,000 sq. ft. of owned and 143,000 sq. ft. of leased facilities; 90 acres of parks; 10 miles of trails and 16 cemeteries)*

**Board of Supervisors**

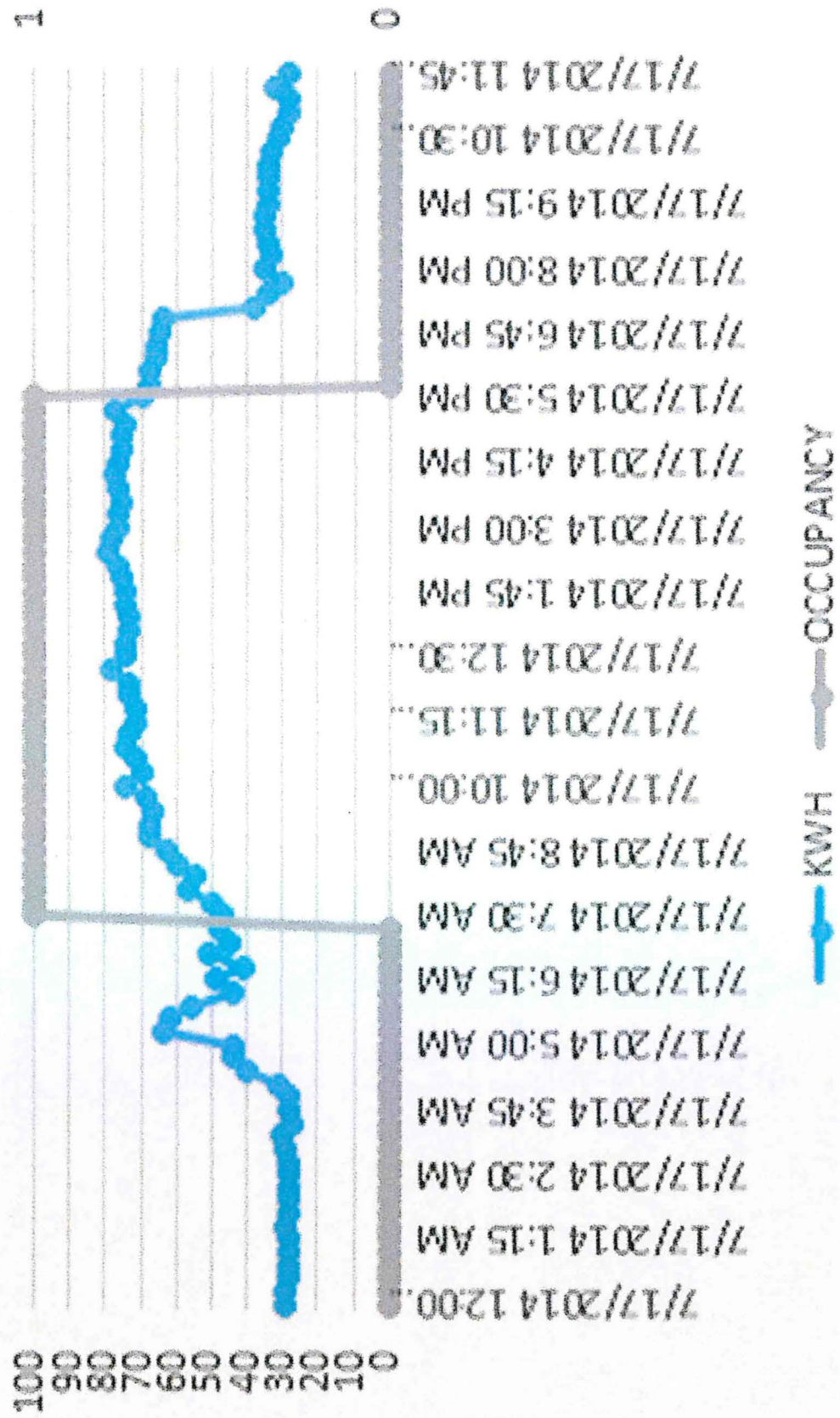
**Monthly Update**

**March 3, 2015**

# BLDG. B - WEEKDAY (FEBRUARY)



# BLDG. B - WEEKDAY (JULY)



3 of 18



4 of 18

Board of Supervisor  
Facilities Update  
As of March 3, 2015

Good morning,

Last month I briefed you several projects in progress. This included:

- The public safety facility
- The A/B Renovation Project
- Building C exterior trusses and overhangs
- Our Veterans Administration Building Mechanical System upgrade and
- Jail repairs and improvements:

I can report that good progress is being made on all of these at this time.

But given the recent budget discussions I thought now would be a good time to discuss Energy related topics that will have a positive financial impact on our short,/ mid,/ and long term finances.

Short term:

1. County Policy A-18 (Energy Conservation Policy); Adopted 6/2001
  - a. Purpose of the policy to identify conservation and cost savings measures related to energy consumption;
  - b. However, over the years there has been hesitation to implement this policy, therefore benefits are not being realized.
  - c. The policy addresses Max & Min office temperature set points; lighting guidelines; the use of personal appliances & space heaters; and office hours of operation
  - d. These slides show the power usage during a typical day in winter and in summer
    - i. This graphs our power usage in 15 minute increments
    - ii. The green line is our hours of occupancy; note it covers 7:15 to 5:30 roughly
    - iii. The blue line is our KWH usage.
    - iv. Currently we turn our heating and air systems on around 5:00 a.m. and then don't turn them off until around 7:00 p.m.
    - v. This is due to attempting to have a comfortable temperature point when staff arrive and until they go home.
    - vi. These "Shoulder" sections are immediate opportunities for savings by simply adjusting them to be more consistent with typical staffing hours.
    - vii. We're also investigating why throughout the night or early morning we're using almost 30 KWH. (We suspect that it's our data center, 911, and plug loads)
    - viii. Plug loads are equipment that is left on overnight, such as computers, copiers, desk lights, personal space heaters, and the like.

Slide

5 of 18

- e. In the handout, the 2009-10 Grand Jury report recommended following the policy as well as replacing old or inefficient systems.
- f. We have a \$1,000,000 Utility budget just for this gov't center and a significant savings opportunity available to us, some of it immediately
- g. As the policy has been adopted, our plan is to start implementing it as well as solicit feedback from those affected. As I'm sure questions will arise we can bring this back to the Board for consideration to modify.

Looking at the Mid- Term:

- 2. Our Building A/B Mechanical system upgrade project is crucial.
  - a. You've heard me say it before – There is more airflow above T-bar than blowing into the office space.
  - b. Energy use comparisons for buildings A&B verse Building C is telling. (Just looking at the cost per square foot rates vary from \$3.40 vs \$1.80)
  - c. We have \$1.1 M in grant funds available to the replacement of our existing mechanical system and evaporative cooling tower
  - d. Water savings alone over the summer could equate to filling up a swimming pool every week.
  - e. Will see significant savings in electricity, propane and water annually. We anticipate this to exceed \$100,000 conservatively.

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For a Long term perspective:

- 3. A Solar farm and net energy metering
  - a. California Public Utilities Commission (CPUC) adopted a target that all commercial buildings be energy neutral by 2030. (within 15 years)
  - b. Net energy metering allows customers with an eligible power generator to offset the cost of their electric use with energy they export to the grid...
  - c. The state allows local governments to install an eligible renewable generator up to 5 megawatts on property within its geographic boundaries
  - d. We've contemplated the Industrial site as a possible location for this farm.
  
- As a driver to the decisions made each day is... how can we make a positive financial impact to the County with the modifications we're implementing.
  
- Intertwined with almost everything decision is a water or energy component.
  
- We are very open to energy savings ideas and welcome the input.

6 of 18



COUNTY OF EL DORADO, CALIFORNIA  
BOARD OF SUPERVISORS POLICY

Subject:  ENERGY CONSERVATION POLICY	Policy Number A-18	Page Number: 1 of 8
	Date Adopted: 6/5/2001	Revised Date:

BACKGROUND:

Due to the increasing costs of energy, as well as preparing for potential sustained and/or rotating electrical outages, this policy was drafted to emphasize conservation measures to control energy consumption and costs wherever possible and to prepare for the impact to services provided due to electrical outages.

POLICY:

The purpose of this policy is to identify conservation and cost saving measures related to energy consumption as well as outline procedures in the event of sustained and/or rotating electrical outages. Employees are encouraged to provide suggestions for the reduction of energy consumption, as well as assist departments with suggestions for operating efficiency in the event of sustained and/or rotating electrical outages. Employee suggestions should be provided directly to their department head or division manager, with a copy to Human Resources.

PROCEDURES:

1. ENERGY CONSERVATION

As standard practice for all County operations, the following shall apply:

A. Heating & Cooling

All mechanical equipment in County-owned buildings or in leased space will be set to provide a maximum of 68 degrees for heating and a minimum of 78 degrees for cooling. Temperatures at the juvenile hall, mental health inpatient/outpatient facilities, or other identified facilities, may be set at 73 degrees cooling. Generally, departments are not permitted to use space heaters due to concerns regarding safety as well as for energy conservation reasons. Small fans may be used in individual work areas.

7 06 18



COUNTY OF EL DORADO, CALIFORNIA  
BOARD OF SUPERVISORS POLICY

<b>Subject:</b>  <b>ENERGY CONSERVATION POLICY</b>	<b>Policy Number</b> A-18	<b>Page Number:</b> 2 of 8
	<b>Date Adopted:</b> 6/5/2001	<b>Revised Date:</b>

**B. Illumination Levels**

The following maximum illumination levels in foot candles are adopted for County facilities:

General office 50	Lobbies, reception areas 30
Accounting 50	Conference rooms 50
Drafting 75	Restrooms 15
Private offices 50	Corridors 10
Library - stacks 30, reading 50	

Individual low wattage fluorescent desk lights will be allowed where needed for close work. Work areas may be rearranged to take advantage of natural light and/or lights which are powered on and minimize the impact of powered down lights. During emergencies, lower illumination levels may be imposed by the Chief Administrative Officer (CAO).

**C. Personal Appliances**

Personal appliances, such as refrigerators, microwaves, toasters, and coffee makers, which are used by employees should be energy efficient models or not used in County offices. Such appliances should be centrally located at a minimum on a department-by-department basis. Individual personal appliances at desks or in individual offices are strongly discouraged. Insulated carafes should be used to the greatest extent possible after coffee is brewed to allow coffee pots to be turned off.

**D. Hours of Operation / Work Hours**

Effective June 11, 2001, the normal work hours for most County operations will be adjusted from 8:00 a.m. to 5:00 p.m. to 7:30 a.m. to 4:30 p.m., although flexible staffing schedules will be encouraged where possible in order to keep facilities open until 5:00 p.m. Departments should review alternate schedules already in place such as 9/80 and

8 of 18





COUNTY OF EL DORADO, CALIFORNIA  
BOARD OF SUPERVISORS POLICY

Subject:  ENERGY CONSERVATION POLICY	Policy Number A-18	Page Number: 3 of 8
	Date Adopted: 6/5/2001	Revised Date:

4/10 based on the impact of reductions in energy consumption outlined below.

Use of County facilities will be discouraged after normal working hours except 24-hour departments, Community Services and the Library. All boards, commissions, committees etc., under the jurisdiction of the Board Of Supervisors will be encouraged, if at all possible, to meet during the day if they desire to meet in County facilities.

E. Heating / Cooling / Lighting

Energy consumption will be reduced in all County-owned buildings and, where possible, leased space, which are not 24-hour service departments, Community Services or the Library. That is, heating, cooling, and lighting, except for minimal security lighting, will be turned off by close of business each day and, in any event, no later than 4 p.m. for heating and cooling, as well as over weekends and holidays and turned on again at 6:30 a.m. on working days. Since optimal heating and air conditioning benefit may be achieved by beginning and ending each system at different times, depending on the season of the year, General Services may determine which times are best to achieve maximum energy savings for these systems. The CAO may direct the adjustment of thermostats when it is determined to be necessary.

Windows and doors should be kept closed to prevent the loss of heated or cooled air. Reasonable exceptions are allowed to address such circumstances as the necessity for air circulation. In summer months, blinds and window coverings should be used wherever possible on all south and west facing windows to reduce solar heat. In winter months, such coverings should be opened or removed to make use of solar heat.

Departments are requested to turn off the lights at the close of business each day. Employees should turn off lights when not in use, and lights should be turned off in unoccupied rooms and storage areas when not in use. All interior lighting such as hallway lights should be turned off during daylight hours wherever there is an external light source

9 of 18



COUNTY OF EL DORADO, CALIFORNIA  
BOARD OF SUPERVISORS POLICY

Subject:  ENERGY CONSERVATION POLICY	Policy Number A-18	Page Number: 4 of 8
	Date Adopted: 6/5/2001	Revised Date:

or lighting should otherwise be configured to adapt to conservation policies. The same process should be followed with external lighting, except for security needs. Wherever possible, incandescent lamps should be replaced with fluorescent lamps, and outside lighting will use photo cells.

Custodial personnel shall turn lights on only as needed, and turn lights off when their work is done. Where possible, custodial personnel should work in teams to complete cleaning in each building prior to turning lights on in another building.

F. Copiers / Printers / Computers and Monitors

Copiers, printers, computers and monitors will be shut down (power switch off) after work hours; monitors should be shut down when not in use during lunch hours or for more than one hour unless they are the type capable of "sleep mode" for each piece of equipment. Where possible, video monitors and personal computers shall be set for "power down" or "sleep" mode after extended periods of non-operation. Screen saver alone does not reduce power consumption. All copiers and printers that have an automatic "power down" or "energy saver" feature shall have that feature enabled. In the event of an electrical outage, computers should be turned off in order to avoid power surges to the unit at the time electrical power is restored.

G. Energy Efficient Equipment & Purchases

Information Services (IS) and General Services will consider energy efficiency when developing specifications for purchasing equipment, materials, and supplies. Major copy or print jobs should be postponed when possible, or at least to hours outside peak consumption times. When possible, the County will pursue grant funding for energy retrofit projects.

Where appropriate, department heads and/or facility managers are responsible for ensuring their

10 of 18



COUNTY OF EL DORADO, CALIFORNIA  
BOARD OF SUPERVISORS POLICY

Subject:  ENERGY CONSERVATION POLICY	Policy Number A-18	Page Number: 5 of 8
	Date Adopted: 6/5/2001	Revised Date:

department is in compliance with the above-mentioned energy conservation measures. Due to energy conservation measures, the encouraged standard of attire would be relaxed, casual business attire, as appropriate.

2. BUILDING CLOSURE AND POWER OUTAGE GUIDELINES

After consultation with the Chair, first Vice Chair or second Vice Chair, should the CAO make the decision to close a building to the public, the decision to re-assign or send employees home shall be pursuant to the applicable memorandum of understanding regarding Closure of County Buildings Policy.

A. Communication Procedure

At a time of a sustained or rotating electrical outage, the CAO or his designee will use the following protocol for communicating with departments of the outage, and any changes in status:

1. Each building or facility will designate a primary department head contact and backup contact(s) who will be responsible for communication with the CAO in cases of power outages. The primary contact will be responsible for communicating with all department contacts in the respective facility. Departments should ensure the list(s) of contacts are complete and continuously updated.
2. The CAO or designee will notify the primary facility contact or backup contact of the status of sustained or rotating electrical outages. The department facility contact in each building shall communicate with other department heads in the facility in order to prepare managers, supervisors and employees for such outages. Human Resources shall be responsible for notification to respective unions regarding status of outages.



COUNTY OF EL DORADO, CALIFORNIA  
BOARD OF SUPERVISORS POLICY

Subject:  ENERGY CONSERVATION POLICY	Policy Number A-18	Page Number: 6 of 8
	Date Adopted: 6/5/2001	Revised Date:

3. Department heads and their designated contact will provide the office of the CAO and the primary facility contact with the name of the alternate(s) in the event of the department head's absence. The department facility contact for each building should also designate an alternate as a contact person. Department heads and/or facility managers will ensure their respective divisions are aware of impending outages, and efforts.

B. Departmental Responsibilities

In the event of an outage, Departments are responsible for addressing electrical disruptions, determining what action is necessary, whether employees should remain or relocate, and whether or not it is appropriate to post a public notice regarding the status of the outage, and how it affects that department. Departments are responsible for identification of tasks which are a critical function and must be completed despite the fact an outage has occurred, and shall ensure efficient communication with staff regarding the status of outages by the development of phone trees or group page systems.

In anticipation of power outages, Department heads and the primary facility contact will develop an electrical outage plan for each facility. This plan will include the identification of tasks that can be accomplished by employees during outages which are ancillary, areas to which employees can be reassigned in the event of outages, employees to be relocated to alternate work locations, reassignment of work duties, call-back procedures for employees who are temporarily released from their work duties, as well as procedures in the event of the closure of County buildings. Additionally, security plans should address the safety of employees who handle cash in public areas.

Departments should also plan for accommodating employees with limited mobility to ensure they will be able to safely move about or exit the building in the event of an outage. Employees with disabilities and who need special assistance should notify their supervisor or division manager so assistance may be provided.



COUNTY OF EL DORADO, CALIFORNIA  
BOARD OF SUPERVISORS POLICY

Subject:  ENERGY CONSERVATION POLICY	Policy Number A-18	Page Number: 7 of 8
	Date Adopted: 6/5/2001	Revised Date:

C. Electrical Outages - Procedures

In the event of a sustained or rotating electrical outage the following shall apply:

Do not use candles for illumination and avoid unnecessary travel. A designated light should be left in the "on" position in order to determine when service has been restored. Employees shall not leave the workplace without prior authorization from their supervisor.

For the first two hours, employees should remain at work and may be reassigned to areas in which they can work with sufficient external light.

For unknown duration in excess of two hours (but less than four hours), employees may remain at work or are allowed the use of vacation or CTO with approval of their supervisor and are required to call back for return or closure information. Call-back requirements for such employees should, whenever possible, be limited to near the end of the absence. If more immediate contact is necessary, call-back should be no more often than hourly.

Any employee whose dependent-care arrangements have been disrupted, or has reason to believe that the safety of family and/or home security is jeopardized by an outage, should be allowed, upon request to use available vacation, comp time, or other leaves (excluding sick leave), for a reasonable period to make necessary arrangements. This policy is not intended to reduce departmental discretion with regard to granting or denial of such leave time.

In the event of an outage of greater than four hours, the CAO may direct that the building(s) be closed in accordance with County Policy and MOU provisions.

3. POWER USAGE REPORTING BY BUILDING/FACILITY AND TO BOARD

13 of 18



COUNTY OF EL DORADO, CALIFORNIA  
BOARD OF SUPERVISORS POLICY

<b>Subject:</b>  ENERGY CONSERVATION POLICY	<b>Policy Number</b> A-18	<b>Page Number:</b> 8 of 8
	<b>Date Adopted:</b> 6/5/2001	<b>Revised Date:</b>

Information regarding prior years' power consumption by facility and information regarding appliance power consumption shall be provided by General Services and posted at work sites within the departments. Employees are encouraged to make energy reduction suggestions. Quarterly reports will be provided to the Board of Supervisors.

**Primary Department:** Chief Administrative Officer

**References:** None

14 of 18



## **EL DORADO COUNTY GRAND JURY 2009-2010**

### **ENERGY CONSERVATION AND COST SAVINGS**

Case No. GJ 09-003

#### **REASON FOR REPORT**

The Grand Jury received a citizen complaint that El Dorado County, California, Board of Supervisors Policy Number A-18, Energy Conservation Policy, is not being enforced.

#### **BACKGROUND**

Board of Supervisors Policy Number A-18 was adopted on June 5, 2001. Policy A-18's stated purpose is to identify conservation and cost saving measures related to energy consumption as well as outline procedures in the event of sustained and/or rotating electrical outages. Policy A-18 sets heating and cooling practice such that all mechanical equipment in County-owned buildings or leased space will be set to provide a maximum of 68 degrees for heating and a minimum of 78 degrees for cooling. Policy A-18 also provides that temperatures in Juvenile Hall, Mental Health inpatient/outpatient facilities, or other identified facilities may be set at 73 degrees cooling.

BOS Policy A-18 may be referenced at: [www.co.el-dorado.ca.us/BOSPolicies/pdf/A-18.pdf](http://www.co.el-dorado.ca.us/BOSPolicies/pdf/A-18.pdf)

#### **METHODOLOGY**

The Grand Jury inspected County-owned buildings and County-leased spaces. The Grand Jury interviewed staff members, supervisors, and department heads. The Grand Jury requested and reviewed documents related to this investigation.

15 of 18

The 2009-2010 EI Dorado County Grand Jury has arrived at the following findings:

1. EI Dorado County spends more than \$2 million annually for heating, air-conditioning, and lighting in County-owned and leased buildings.
2. Board of Supervisors (BOS) Policy A-18 does not designate a specific department or official to ensure that the County complies with, nor has the BOS enforced compliance with this Policy.
3. Centralized computer systems permit Department of Transportation (DOT) personnel to set minimum and maximum temperatures at multiple County-owned buildings from a single location. The remaining County-owned buildings, and the County-leased buildings, do not have centralized computer management systems and therefore, temperatures are set on an individual basis.
4. BOS Policy A-18 directs that mechanical equipment in County-owned buildings or leased space will be set to provide a maximum of 68 degrees for heating and a minimum of 78 degrees for cooling.
5. Some County-owned buildings have old and outdated HV AC units and, when combined with changes in inside office configurations, these conditions make it difficult to keep all employees comfortable through the different seasons. Notwithstanding the old and outdated equipment and changed interior configurations, DOT personnel do have the capability to set mechanical equipment in County-owned buildings or leased space to provide a maximum of 68 degrees for heating and a minimum of 78 degrees for cooling.
6. The DOT has not required personnel to comply with BOS Policy A-18. DOT personnel do not maintain equipment in County-owned buildings or leased space in accordance with BOS Policy A-18. This is a deliberate decision motivated by a good-faith desire to keep County employees more comfortable.
7. The County does not have a detailed master plan to identify, replace, and update old and inefficient heating and air-conditioning units. The County has deferred replacement of old and inefficient HV AC units with the result that units break and no replacement parts are available, and/or other units are cannibalized for parts.
8. The County does not have a capital reserve set aside to replace and update old and inefficient HV AC units.
9. The California Energy Commission has estimated that raising the thermostat in the summer from 73 degrees to 78 degrees can save 15 percent in energy costs, and that lowering the thermostat in the winter from 73 degrees to 68 degrees could save 25 percent in energy costs. If it is assumed that 40 percent

16 of 18



Of the County's energy bill is for HV AC, then these two changes could save the County as much as \$160,000 annually.

## **RECOMMENDATIONS**

1. The Board of Supervisors should appropriate funds for a capital improvement account to replace old and inefficient heating and air-conditioning equipment.
2. The Department of Transportation should prepare a detailed plan for replacing old and inefficient heating and air-conditioning equipment.
3. The Board of Supervisors, through the CAO, should direct the Department of Transportation to take all steps necessary to ensure that personnel within his/her Department set mechanical equipment in County-owned buildings or leased space to provide a maximum of 68 degrees for heating and a minimum of 78 degrees for cooling.
4. The Department of Transportation should educate El Dorado County employees about the costs-savings benefits in complying with BOS Policy A-18, and should encourage County Employees to dress appropriately to be comfortable in these temperature ranges.
5. Each County Department should designate a supervisor as the point of contact for employee complaints of uncomfortable temperatures, so that the supervisor can determine whether BOS Policy A-18 is being complied with, and if not, communicate the problem to appropriate maintenance personnel.

## **RESPONSES**

Responses to both numbered findings and recommendations in this report are required in accordance with California Penal Code §933 and §933.05. Address responses to: The Honorable Suzanne N. Kingsbury, Presiding Judge of the El Dorado County Superior Court, 1354 Johnson Blvd., South Lake Tahoe, CA 96150.

## **ACKNOWLEDGEMENT**

The County Department of Transportation should be recognized for applying for the \$812,423 Energy Efficiency and Conservation Block Grant program which is funded through the American Recovery and Reinvestment Act (Federal stimulus dollars).

17 of 18

#### Facilities Inspected:

- Boiler Room, Building B, El Dorado County Government Center, Placerville, California
- Control Room, Building 3, 2850 Fairlane Court, Placerville, California
- County-leased facility at 3057 Briw Road, Placerville, California
- El Dorado County Library, Placerville, California

#### Interviews Conducted:

- Building Maintenance personnel
- Building Operations Supervisor
- Capital Group, Executive
- Citizen complainant
- Deputy Director, Facilities Engineering, DOT

#### Documents Reviewed:

- California Energy Commission letter dated August 3, 2009, to the El Dorado County Supervisors inviting the County to apply for \$812,423 in federal stimulus dollars (American Recovery and Reinvestment Act money)
- Department of Transportation's Response to Grand Jury Inquiry of November 30, 2009, containing:
  - a. Description of all energy audits that have been performed within the past five years;
  - b. Description of all plans for replacing inefficient heating, ventilation, air conditioning (HV AC) and lighting equipment;
  - c. Description of County Master Plan, Capital Improvement Fund, etc.;
  - d. Reports of power consumption by each El Dorado County facility;
  - e. Report of all funds received from the Federal and State Governments for increasing energy efficiencies;
  - f. Report of all plans for spending federal and state monies for increased energy efficiencies;
  - g. Information on the annual expenses for electricity, propane and natural gas for HV AC and lighting for all facilities under the jurisdiction of the County government.
- El Dorado County Board of Supervisors Agenda Item dated August 11, 2009, approving letter for support for the Lake Tahoe Green Energy District.

## FINDINGS

In accordance with the California Penal Code §933 and §933.05, each numbered finding and recommendation will be responded to by the governmental entity to which it is addressed. The responses are to be submitted to the Presiding Judge of the Superior Court.

18 of 18