

Bureau of Land Management: A Successful ESPC Across Six States

The U.S. Department of the Interior (DOI) Bureau of Land Management (BLM) successfully implemented an energy savings performance contract (ESPC) with Johnson Controls, Inc. (JCI) to implement energy efficiency improvements at remote BLM sites. This \$3.6 million project covered small BLM facilities across six western states (Colorado, Idaho, Montana, Nevada, Oregon, and Wyoming), which make up half of the states that the BLM covers.

BLM has hundreds of buildings of various types and sizes, mostly located in smaller western towns. Most field offices contain office and warehouse space and exterior yards for storing equipment and supplies. Staff at these sites oversee and manage fire, grazing, mining, recreation, and a number of other activities across wide expanses of land. In addition to field offices, BLM has a variety of smaller buildings, such as visitor stations, fire stations, maintenance shops, campgrounds, and seed orchards.

Project Summary

The BLM ESPC project consisted of two phases. Completed in June 2007, the first phase featured two large, urban sites in Idaho totaling \$1.5 million. The second phase, discussed in this case study, addressed smaller, more remote facilities.

To use an ESPC for the second phase, BLM had to decide which of its government-owned buildings required and would receive an energy audit. The group decided to include sites that accrued at least \$1,000 in electricity charges each year.



Anasazi Heritage Center in Dolores, Colorado. *Photo from Bureau of Land Management*

BLM and JCI combined activities normally conducted during multiple site visits to minimize travel time and costs, as well as the impact these visits have on site staff. To minimize JCI's overhead and engineering costs, BLM worked closely with JCI to designate target sites as either "engineered" or "prescribed."

Engineered sites received traditional investment-grade audits. Prescribed sites received only a cursory lighting and heating, ventilation, and air conditioning (HVAC) control survey. Contractors

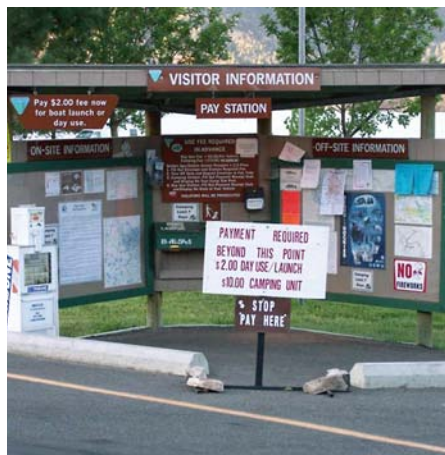
arrived at prescribed sites with the necessary tools and equipment to implement energy conservation measures (ECMs), including lighting, lighting controls, and programmable thermostats. This approach resulted in the cost-effective installation of ECMs at all selected sites.

The BLM ESPC delivery order included:

- Lighting and associated controls
- HVAC controls
- Digital HVAC control upgrades
- New boilers
- Ground source heat pumps
- Advanced meter installations

Benefits of Using an ESPC

BLM's energy management staff realized that energy savings would only be accomplished through third-party financing due to limited appropriated funds for annual deferred maintenance. Project champions Ken Morin and Chuck Svoboda knew the ESPC could help BLM meet its energy reduction mandates by leveraging funding already budgeted for utility use.



The BLM ESPC included energy-efficient lighting retrofits, including replacing old, inefficient outdoor lighting at information centers. *Photo from Bureau of Land Management*



BLM replaced exterior lighting with energy-efficient models.
 Photo from Bureau of Land Management

By using an ESPC, BLM achieved energy savings, greenhouse gas reductions, and improvements in equipment reliability to carry out its mission uninterrupted. BLM achieved the following emissions reductions:

- 3,986,750 pounds per year of carbon dioxide (CO₂)
- 6,114 pounds per year of nitrogen oxides (NO_x)
- 5,321 pounds per year of sulfur dioxide (SO₂)

The project also allowed BLM to install advanced electricity meters as required by the Energy Policy Act (EPAAct) of 2005.

Lessons Learned

Although the consolidated site visit approach used to reach remote sites overcame geographic challenges, the team learned that one size does not fit all. The installation crew encountered unique system configurations at some of the smaller sites. As a result, they did not

always have the equipment necessary to implement all ECMs planned.

As a result, BLM refined its approach. A limited number of sites remained under the engineered classification, but BLM no longer uses the prescribed classification. The vast majority of BLM sites are now designated as “engineered lite.” These sites receive a detailed lighting and HVAC control survey in advance to identify:

- How many and what types of interior and exterior fixtures are in place.
- What types of HVAC systems will be controlled by programmable thermostats.

Looking Ahead

BLM awarded a third ESPC delivery order in March 2010 covering the second half of BLM states as well as additional work for states covered by the first two project phases. These additional tasks include remote monitoring and renewable energy installations. Plans call for JCI to install up to 1 megawatt of solar photovoltaics and wind across 23 sites.

Contacts

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Engineered sites received boiler assessments and upgrades as part of the BLM ESPC.
 Photo from Bureau of Land Management