Office of Facilities, Environmental, and Cultural Resources Management Summary

July 2008

Bureau of Indian Affairs

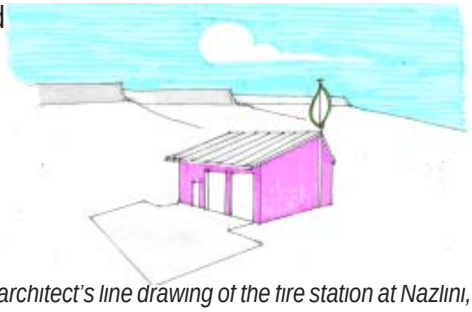
Nazlini Fire Station
Interior's First Net Zero Energy Building to Generate Own Power

Net Zero Energy Building — A building that produces as much energy as it uses, when measured at the site.

The Department of Energy has selected a BIA Structural Fire Protection Program (SFPP) fire station at Nazlini Community School to become the Department of the Interior's first net zero energy building. The energy efficient fire station, which is located 25 miles north of Ganado, Ariz., will replace an existing station located next to the school. The new Nazlini fire station will be modeled after the current 1,980 square foot, prefabricated fire stations that are being constructed by OFMC across Indian Country.

The Energy Department is providing technical expertise to enhance the design of the new Nazlini fire station. If successful, the resulting net zero energy fire station could be replicated at subsequent SFPP fire station sites. The Nazlini Fire Station is likely to use a combination of non-fossil fuel energy sources, along with optimizing energy efficiency. Measurement and verification of energy use will be critical, and the remote location of the fire station may necessitate satellite transmission of the data. Equally important will be the training of field staff to maintain the non-fossil fuel energy systems utilized in the building.

An Interior analysis indicates that future federal facilities will have to generate their own power using non-fossil fuel energy sources, such as solar or wind power, to meet the revised goals of the Energy Independence and Security Act of 2007.



An architect's line drawing of the fire station at Nazlini, Interior's first Net Zero Energy Building.

Employee Housing Survey Extended to Capture Complete BIA Housing Inventory

Employee housing at Tohono O'odham High School in Arizona.

OFMC is extending its nationwide housing analysis and condition assessment to include locations with fewer than 10 housing units. The first phase of the survey, conducted by OFMC contractor Logistics Management Institute over the past year and a half, reviewed locations with 10 or more housing units.

"This thorough assessment will help us accurately report on the extent of the need for improvements to employee housing across Indian Country," said Gerald Curley, BIA Employee Housing Manager. "We hope to use this information to better manage the program and to justify our future budget requests for employee housing improvements, replacement, and disposal."

To date, the survey verified that there will be a continuing need for the BIA to provide suitable housing at numerous remote locations across Indian Country. The only way to pay for the existing housing and its upkeep is through federal appropriations, augmented by appropriate rental receipts revenue. Also, the survey recommended that the BIA clarify its housing assignment policy to ensure that it is being implemented consistently for all BIA program locations throughout Indian Country. The result is a right-sized, quality-based housing inventory.

When both phases are completed, the administrative results of the survey will be presented to the Deputy Director, Bureau of Indian Education; Regional Directors; Agency Superintendents at locations that have housing units discussed in the survey; and to OFMC Regional Facility Managers for implementation.

Briefs

Dilcon Salutes Joe Bitsie

Miss Navajo Nation Jonatheo D. Tso gives a plaque to BIA Navajo Region Facility Manager Joe Bitsie.

At the March groundbreaking celebration for their replacement campus in Arizona, Dilcon School officials took the opportunity to thank Navajo Region Facility personnel for their work in 2003 to keep the school operating while working to remedy severe mold problems in several buildings.

SIPI's Solar Roof Draws Congressional Attention

Peak energy generation of 60 kW per hour has been recorded by the new rooftop solar collector at the Southwestern Indian Polytechnic Institute in Albuquerque. New Mexico Congressman Tom Udall visited the college in March to view the largest solar collector of its type in the state—which uses membranes containing lightweight, thin-film, photovoltaic cells.

OFMC Mechanical Engineer John Brown (left) explains the capacity of the solar collector atop the 24,000 square foot SIPI gymnasium roof to Rep. Tom Udall (center) and SIPI President Jeff Hamley.

OFECR Targeting Facility Health / Safety Deficiencies

OFECR will be implementing a new Risk Assessment System (RAS) for the Bureau of Indian Affairs and the Bureau of Indian Education. It will enhance the prioritization of correction of health and safety deficiencies at facilities. Beginning in FY 2009, the RAS will provide facility managers with a new methodology for identifying the hazardous conditions that warrant immediate action and those that can be addressed in the future. The Division of Safety and Risk Management's (DSRM) inspection will establish five levels of Risk Assessment Codes (RAC) in FMIS that reflect the hazard severity, the probability of occurrence, the number of people exposed or the potential resource loss in a failure event. In assigning a numeric value to a deficiency, the severity could range from catastrophic to minor and the probability could range from frequently to rarely.

Similar implementation of RAS is underway across the Department of the Interior with the intent of providing managers across the Department with more accurate health and safety risk ranking information in order to make better decisions concerning hazard occurrences. Using RAS also provides decision-makers with a consistent and defensible approach to prioritizing health and safety abatement efforts which compete for resources with other program priorities.

It is not always possible to quickly or completely eliminate hazards. Often facility managers will have to use interim control measures to reduce hazards to a lower level of risk while awaiting funding and permanent corrective actions. The RAC system in FMIS will define and record that process so that facility managers have the best information upon which to base decisions regarding safety and health hazards and control measures. RAC codes will be used for all health and life safety deficiencies in FMIS, DSRM inspections, abatement plans, and deficiency listings. They will not be used to define functional deficiencies.

Warm Springs Upgrades Detention Center Security; Rocky Mountain Detention Centers Get New Doors

Detention centers across the Rocky Mountain Region are being equipped with standardized, code-compliant access doors and jail cell doors with centralized and card key locking systems. The detention centers at Blackfeet, Crow, Northern Cheyenne, and Fort Peck, in Montana; and Wind River in Wyoming, will also have upgraded in-wall communications systems. The Warm Springs Detention Center in Oregon also has an upgraded centralized security system, including exterior surveillance cameras.

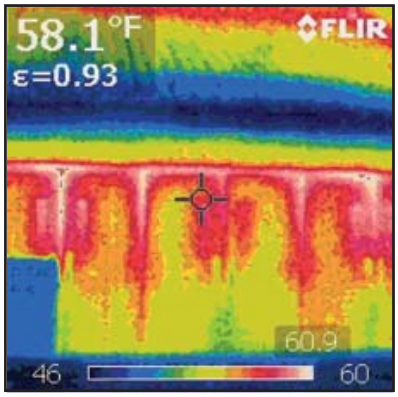
Warm Spring Tribal Police Dispatcher Annette Polk monitors the Detention Center's security.

Infrared Photos Capture Chemawa Indian School's Energy Improvement Needs

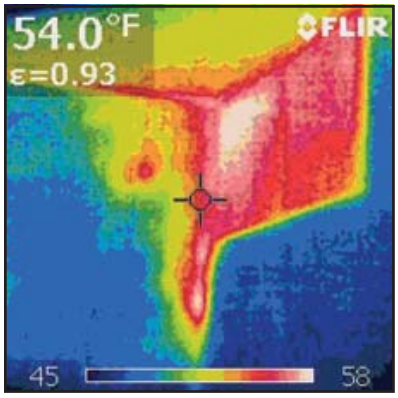
A February energy Retro-Commissioning Plan for the Chemawa Indian School in Salem, Ore., utilized infrared photography to assist in detecting areas needing energy conservation improvement—OFMC's first use of the technology.

The Chemawa analysis began with the examination of the school buildings' control sequences, set points, control parameters, sensor locations and schedules. Then the building energy equipment and building envelopes were inspected. The subsequent implementation plan listed the needed repairs, improvements, staff training, and changes to control parameters, maintenance strategies, sensor locations, and operation procedures required to optimize the buildings' energy efficiency, occupancy comfort, and utility costs.

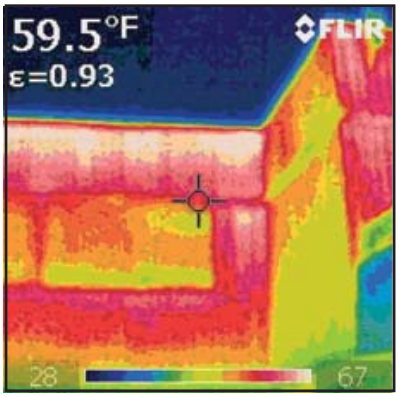
"By analyzing the infrared photos of the building envelopes, we could quickly see the energy improvement needs—some of which we can address right away and some of which will take considerable funding to rectify," said OFMC Deputy Director Boyd Robinson. "The infrared technology was clearly useful in determining the energy improvement needs at Chemawa. We will use the technique again at Fond du Lac Ojibwe School in Minnesota for similar purposes."



Installing weather stripping, astragals and door sweeps on these exterior doors will eliminate drafts and dust. (Red shows heat loss).



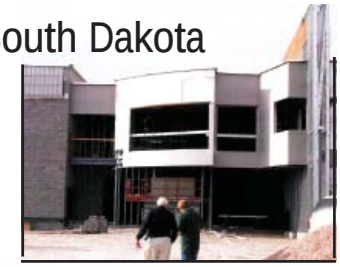
Properly insulating and sealing the building corners will reduce energy costs and will increase comfort levels in winter and summer months.

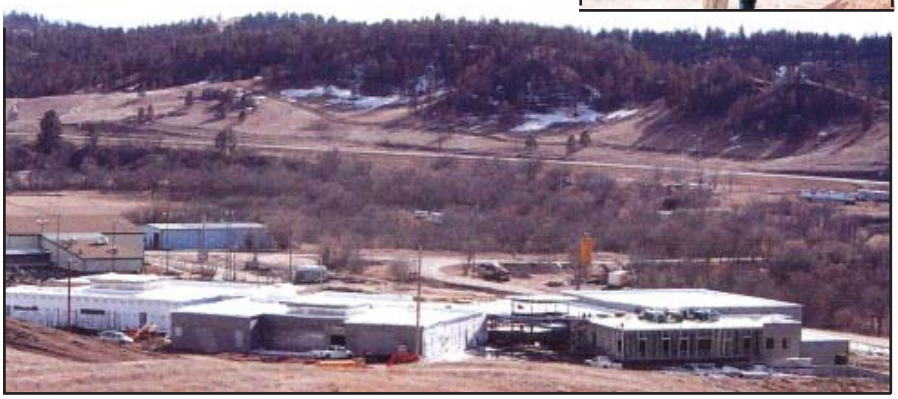


Additional insulation could be installed if this badly deteriorated steel siding is replaced with new low maintenance, pre-finished material.

Porcupine Day School Rises in South Dakota

The 66,000 square foot Porcupine Day School replacement campus (below and right) is taking shape on the Pine Ridge Reservation in South Dakota. The K-8 school will serve 300 students.





Ch'ooshgai Ground Breaking

A 31,215 square foot replacement dormitory is underway at Ch'ooshgai Community School, north of Gallup, N.M. The dormitory will serve 150 students at the K-8 school.

The May groundbreaking at Ch'ooshgai.

Taking the Next Steps

DOI Construction Cost Symposium Identifies Possible Time and Money Savings

In early April, the Office of Facilities Management and Construction hosted a symposium on "Understanding the Factors Impacting the Department of the Interior (DOI) Construction Costs." The purpose was to explore how the Department can become a better business partner with the construction industry in order to reduce costs, encourage participation in our program, and meet the goals of timely and cost effective construction.

Who Participated

Participants at the April Symposium included senior and middle managers from both the public and the private sectors. Of the total 131 total participants, 27 percent were senior managers, such as CEOs or vice presidents; 71 percent were middle managers, such as business managers, project managers, architects or engineers; and two percent were support staff, such as budget analysts. Participants represented Government (47 percent; the construction industry (32 percent) Tribes or schools (19 percent) and the legal profession (two percent).

Initial Presentation

In May, the initial findings from the symposium, as detailed below, were presented at the 5th annual Construction in Indian Country International Conference held at Ft. McDowell Ariz., and sponsored by the Del E. Webb School of Construction at Arizona State University. Recommendations have been divided into three categories: those that can be implemented immediately, those that are potential changes to internal processes, and those that are potential changes to regulations or laws.

Summary of Findings and Recommendations by Conference Topics

The Symposium was intended to be a positive resource and a catalyst for the Department to undertake new ways to approach and formulate construction contracts. Hopefully, this will lead to changes in federal and private business practices that will reduce a variety of time and dollar risks to contractors, architects and engineers, the BIA and DOI. OFMC will hold the Construction Cost Symposium annually.

Recommendations by Conference Topic include:

Advertisement Methods, Quality of Specs, and Construction Best Practices

- Improve Specifications Division 00 and 01
- Conduct Pre-solicitation and Pre-bid Meetings
- Timely Life Safety Reviews and Inspections
- Manage Risk More Effectively
- Alternative Delivery Methods for Construction

LEED and Energy

- Implement Existing Energy Efficiency Mandates
- Provide Increased Training/Education
- Effectively Define and Prioritize Facility Projects
- Support Budget Priorities
- Improve Planning and Management for Sustainability

Site Selection and Infrastructure

- Conduct Timely Pre-Planning Assessment
- Coordinate with All Stakeholders Earlier
- Conduct Risk Assessment Continually

Construction Risk and Contractor Availability

- Improve Drawings and Specifications
- Improve Coordination and Communication
- Improve and Expand Federal Business Practices
- Use Alternative Contract Delivery Methods
- Improve Construction Planning Coordination

Construction Procurement Types

- Pre-Qualify Contractors Before Bidding
- Best Value to Government Contracting
- Use 8(a) Small Business Administration
- Develop a Standard Contract Using the American Institute of Architects Form ATS
- Determine Feasibility and Constructability

Bonding, Tribal Sovereignty

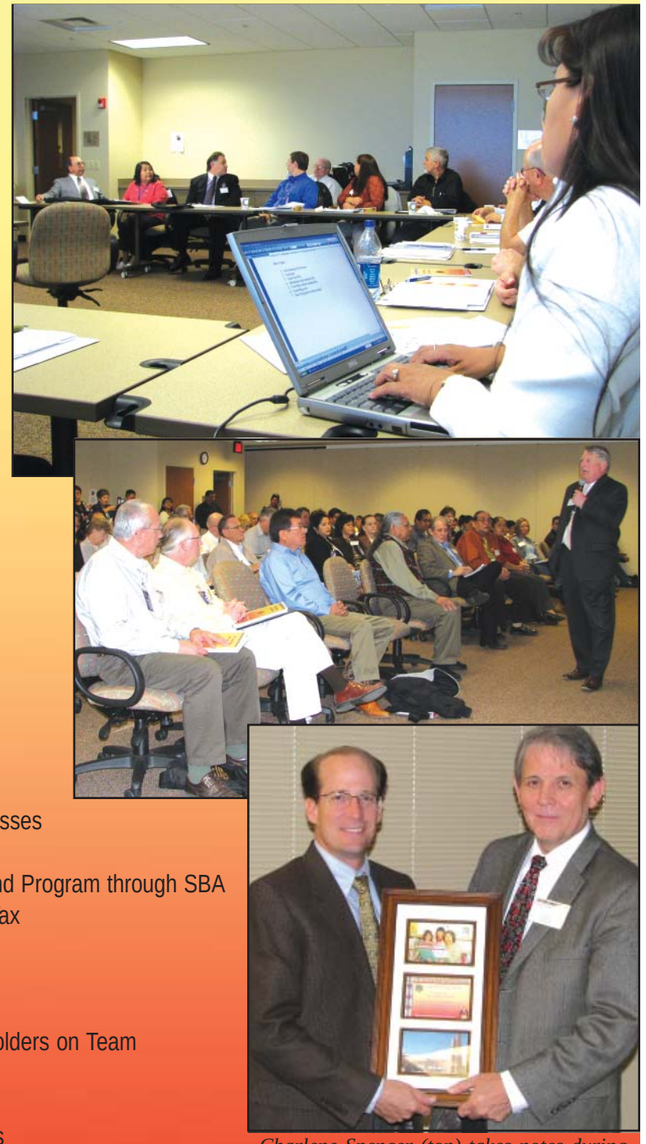
- Understanding Tribal Sovereignty and Sovereign Immunity Flexibility
- Educate the Surety Companies about Doing Business in Indian Country
- Standardize Documentation – Reduce Complexity and Redundancy
- Resolve Disputes Earlier at Minimum Cost
- Retain the Small Business Bond Program

HUB Zone, Small Business 8(a), Indian Preference

- Streamline Application and Management Processes
- Mentor-Protégé/Joint Ventures
- Bonding – Try to Raise the Limit for Surety Bond Program through SBA
- Reduce Fees for License, Permits and TERO Tax
- Timely Acquisition Package Processing

Change Orders, Alternate Bids, Closeout

- Project Implementation Training with All Stakeholders on Team
- Clearly Define the Scope of the Project
- Timely Submittals and Reviews
- Use Current Information Technologies and Tools
- Streamline Payment Processes



Charlene Spencer (top) takes notes during the DOI Construction Cost Symposium, which was opened by OFECR Director Jack Rever (middle). OFMC Deputy Director Boyd Robinson (bottom, right) presents a thank you plaque to Alan Collier of Arviso/ Oakland Construction, who served as one of the Symposium's presenters.

Focus

Kitchens and Lavatories Key to BIA Water Conservation

Facility personnel at field locations are the key to conserving BIA water. Many of the upgrades that will reduce water consumption in kitchens and lavatories can be accomplished through minor improvements funded by existing facility budgets at each location. For instance, dormitory shower heads can be replaced with high efficiency shower heads which could save 12 gallons per shower (based on the average shower duration of 8 minutes).

"As a facility manager proposes repairs and improvements in the annual Site Specific Asset Business Plan, that planning needs to include upgrades which will improve water conservation," said OFMC Deputy Director Boyd Robinson. "The entire Bureau has a water conservation target to meet, but our success depends on each location making upgrades to lavatory and kitchen fixtures, which are simple and cost-effective to retrofit."

The Energy Independence and Security Act of 2007 states: "Beginning in FY 2008, reduce water consumption intensity, relative to the baseline of the agency's water consumption in FY 2007, through life-cycle, cost-effective measures, by two percent annually through the end of FY 2015 or 16 percent by the end of FY 2015." The Act requires audits of water consumption intensity for at least 10 percent of facility square footage annually. (Water use intensity is gallons per gross square foot per year).

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Lummi Nation Police Sgt. Pedro Moreno makes sure safety belts are in use.

Lummi Police Join IHSP's "Click It or Ticket" Campaign

The Lummi Nation Police Department in Washington State joined other tribal Law Enforcement departments participating in the 2008 National "Click It or Ticket" mobilization in May, which included a night-time, high visibility police presence. The BIA Indian Highway Safety Program (IHSP) has found that American Indians are two to three times more likely to die or become seriously injured in a traffic accident than any other group. Using seatbelts up can reduce such outcomes.

Cherokee Campus Advancing Toward 2009 Occupancy

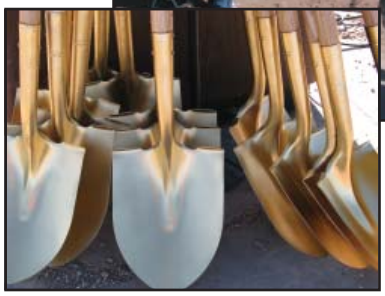
The Cherokee Elementary and High School replacement campus project in North Carolina is taking shape. The OFMC Project Manager is Andy Acoya, a member of Laguna Pueblo.

Mississippi Choctaw's Red Water School Underway

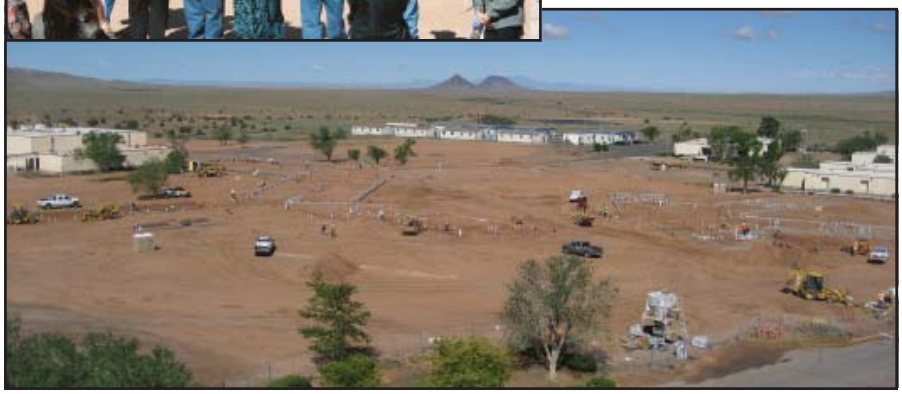
The Mississippi Choctaw's Red Water Elementary School replacement campus construction is underway in Carthage, Miss., (left, below). The school's construction cost is shared by the tribe and the BIA under the Tribal School Construction Demonstration Program. The school will serve about 119, K-8 students. It will utilize ground source heat pump technology to cool classrooms and, thus, anticipates a 10 percent reduction in annual energy costs.

Ground Broken on Two Massive Navajo Projects

A March groundbreaking ceremony initiated the campus replacement project at Dilcon Community School (lower left, bottom). The Arizona school will serve 307, K-8 students. The OFMC Project Manager is Phil Asmus.



The replacement school and dormitories for the 800-student Wingate High School near Gallup, N.M., was initiated with a groundbreaking ceremony in April (photos above right and center). The OFMC Project Manager is Barbara Borgeson, a member of the Comanche Nation of Oklahoma.



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Draft guidelines for the Act advise agencies to establish a baseline for water usage. OFMC used BIE student enrollment statistics to create a temporary baseline for water use of 125 gallons per day/per capita for 2007.

Here are some tips to consider in planning water conservation measures:

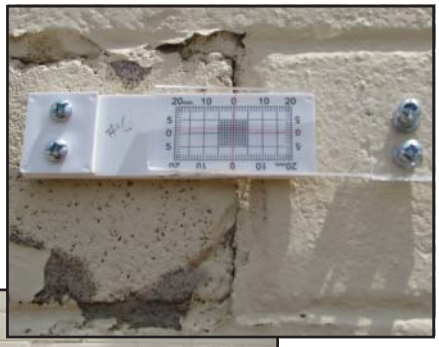
1. Conduct a water use audit—how much water is used and how usage might be reduced. Develop a water efficiency plan and educate and involve employees and students in water efficiency efforts. Also, inform service contractors that water efficiency is a priority.
2. Find and repair all leaks.
3. Install high-efficiency toilets or retrofit water-saving devices on existing toilets.
4. Install aerators on faucets/shower heads.
5. Use water-conserving ice makers and don't use water to melt ice or frozen foods.
6. As appliances and equipment wear out, replace them with water-saving models, such as high-efficiency clothes washers in dormitories.
7. Scrape, rather than rinse, dishes before washing.
8. Detect and repair all leaks in irrigation systems, and aim sprinklers to water only intended areas, not sidewalks.
9. Don't water on windy days and try to water in cooler parts of the day, such as early morning and evening.
10. Raise lawn mower cutting height—longer grass blades help shade each other and cut down on evaporation, while inhibiting weed growth.
11. Sweep paved areas rather than hosing off. When using a hose, control the flow with an automatic shut-off nozzle.
12. Use a pool cover to reduce evaporation when pool is not being used.
13. Make sure any utility rate structure encourages water efficiency—not discourage it.

OMB and DOI

Admininstration Budget Officials Tour Indian Country

Laguna Department of Education Facility Manager Al Waconda (right) and Laguna Elementary School Principal Yolanda Batrez (center) explain to Craig Crutchfield, OMB's Branch Chief for the Department of the Interior, difficulties with securing the classroom doors at the 45-year-old school at Laguna Pueblo in New Mexico.

Officials from the Office of Management and Budget (OMB) along with representatives from the Secretary of the Interior's Budget Office, toured the Southwest and Navajo Regions last month. The tour included visits to Indian communities, meetings with tribal leaders, and walk throughs of schools, dorms, irrigation projects, roads, detention centers and other facilities. Making the trip were OMB's Branch Chief for the Department of the Interior Craig Crutchfield, OMB Program Examiner for the BIA Robert Bullock, and Elizabeth Hardy, Budget Examiner for the Secretary of the Interior's Budget Office. The tours were led by Southwest Regional Director Larry Morin and by Navajo Regional Director Omar Bradley.



Waconda and Crutchfield locate the monitor (above) that measures cracks in the wall of the Laguna Elementary School gymnasium.