2011 IHS Green Champion Awards

Change Agents Award - ANTHC Rural Energy Efficiency Program

Awarded to: Daniel Reitz, P.E., Director Operations Development

In 2009, the Alaska Native Tribal Health Consortium (ANTHC), Division of Environmental Health and Engineering (DEHE), identified the need to establish a program specifically designed to address sustainability in regards to energy. In 2010, two specific areas of focus were established: energy audits and heat recovery. To date, DEHE has conducted 21 audits of water systems and has found that, on average, a 50% reduction in total energy use can be achieved.

ANTHC is actively working with the Alaska Energy Authority, the US Environmental Protection Agency, and Power Producers to fund and implement heat recovery projects. The largest energy saving conservation measure is the heat recovery implementation from the community's diesel power generation plants. To date, four heat recovery projects have been completed and eight are being developed.

Corporate Responsibility Award - Carpool Project

Honorable Mention: Colorado River Service Unit (CRSU) - Pharmacy Staff (LCDR Matthew Brancazio, Deputy Chief of Pharmacy, CDR David Katsules, LCDR Jeff Maxon, LCDR Gayle Lundberg, LCDR John Kurowsky, LT Thomas Scott Raisor, Don Peters, and Jeannie Jinhee Hong)

The CRSU Pharmacy Carpool Project was initiated in April 2011 initially as a way to decrease the restrictions on staffing at our service unit. Our service Unit is a 45 minute (sans traffic) drive from the nearby town of Lake Havasu. All eight of our pharmacists live in that city and to recruit others, we have used this carpool program as a major aspect. In addition to staffing, this program has decreased the amount of vehicles needed to transport the staff. We would require two to three cars daily to transport all members to work, but with this program we only use one minivan. Emissions, gas consumption, breakdown of roads, and traffic are all decreased effectively by 66%. This program can be easily replicated by any number of sites with the proper initiative. Most IHS sites are rural and necessitate carpool programs to help conserve our resources as well as provide valuable staffing incentives.

Electronic Stewardship Award - Power IT Down Day

Awarded for supporting the Office of Secretary's Initiative - Awarded to: Ken Johnson, IHS/HQ, IHS Electronic Stewardship Lead.

Power IT Down Day is a campaign to increase awareness of energy consumption by our utilized IT assets. The project provides a portal at http://www.powerITdown.org where individuals can register to join the Power IT Down Day campaign. On the selected weekend (August 26th, 2011), all registered employees were sent reminders to power off their equipment to save energy.

Before those employees went home, they were asked to simply turn off their workstations completely. This initiative took about 3 months to plan, coordinate with OPDIV IT departments, and then document the participation and broadcast the results to the user community.

In 2010, HHS participated in Power IT Down Day for the first time and approximately 13% of the HHS workforce participated and registered 8,032 participants. In 2011, approximately 23% of the HHS population participated in Power IT Down Day, which was a 10% increase from the previous year. HHS accounted for approximately 84% of participants nationwide. HHS registered 14,817 individuals across the organization which led to power savings of approximately 96,156 kWh. This decrease in energy consumption provided both financial savings and reduced the amount of pollution generated.

Energy & Fleet Management Award - Reducing Energy Consumption through Sustainable Boiler Design and Retro-Commissioning

Award to: CDR Hugo Gonzalez, Senior Staff Engineer, IHS Oklahoma City Area Office, OEHE/DFACM

CDR Hugo Gonzalez is recognized for his example in sustainable boiler design on a ARRA project at the Lawton Indian Hospital in Lawton, Oklahoma. His engineering design and project management have resulted in the model hydronic system now providing the hospital's environmental heating requirements at a substantially decreased operating cost. This hydronic system, completed in the fall of 2010, has decreased the natural gas consumption in the old section of the hospital by 37%, decreased the maintenance time and costs by over 50% and saved the Lawton Indian Hospital $27,338 over the past year.

Despite the tight ARRA tight deadlines to get this project designed, obligated and installed, CDR Gonzalez took the time to ensure the selection of the hydronic system equipment met more just the design calculation requirements. He methodically investigated the equipment service history at other health care facilities to ensure it had a proven track record for the purpose intended. As project manager, he followed his work through construction and performed the commissioning at the end.

The IHS Oklahoma City Area, the Haskell Indian Health Center underwent a retro-commissioning project that focused on addressing problems with the performance of the HVAC system and culminated in the replacement of four of the roof top units. The project emphasized using engineering methodology to determine the cause of the problems at the facility through the use of small data acquisition sensors. These sensors determined that the existing HVAC units were not functioning correctly, and further investigation determined that the condition of the existing roof top units was not optimal. The roof top units were then connected to a modernized control system, and the facility HVAC was once again performing within acceptable ranges. The project resulted in the reduction of electrical consumption by 17%, natural gas use by 29%, and saved the facility $6,713 in the first year.

Energy & Fleet Management Award - Hospital Energy Star Certification

Honorable Mention: Rob Smith, Facility Manager and the Blackfeet Hospital Maintenance Staff

The maintenance staff under the guidance the Facility Manager have proven old buildings can perform at a high level while providing a healthy environmental for its patients and employees. For a second straight year, the hospital has received EPA's Energy Star Certification scoring 82 out of 100 and being one of very few such buildings to do so within the Indian Health Service. In addition to maintaining their energy efficiency, the hospital underwent a Sustainability Assessment & Energy/Water Audit in FY 2011. The sustainability assessment benchmarked the facility with its first ever sustainability score. While the facility scored a 310 out of a possible 670, it is important first step in improving their performance through the use of metrics. The energy audit provided useful information as well. Several energy conservation measures (ECMs) were identified totaling an additional 9.9% reduction in energy intensity (kBtu/ft2). Several water conservation measures (WCMs) were identified totaling annual water savings of 145,000 gal/yr.

Environmental Stewardship Award - Hospital Recycling Program

Honorable Mention: Kia Mudge, Registered Nurse, Santa Fe Indian Hospital

Ms. Mudge diligently pursued the creation of a recycling/waste reduction program (including paper, cardboard, and plastic) at the Santa Fe Indian Hospital. She coordinated the project with general services, housekeeping, medical, and nursing staffs. She reduced the overall negative impacts of hospital waste by doing so.

Sustainable Design & Facilities Award - Red Lake Hospital Energy Reduction Project

Awarded to: Ken Ramondo, PE, Facility Manager, Red Lake Hospital

The Red Lake Hospital was constructed and opened in 1981. The facility was well maintained but is old and requires updates. In 2008 an energy audit was completed at the Red Lake Hospital. Findings from the audit were reviewed and utilized by Facility Manager and leadership team to develop/secure funding for multiple energy projects. In 2008/2009 the Red Lake hospital was in the process of hiring a contractor to expand/renovate facility. The energy projects identified were added to contract package. The energy saving improvements consisted of the following: replacement of entire hospital roof, replacement of all three hospital boilers, replacement of vestibule windows, replacement of three air handling units (AHU's), replacement of the facility chiller, installation of variable frequency drives (VFDs) on the three AHU's, and installation of Direct Digital Controls (DDC) to replace the original pneumatic HVAC control system. The expansion/renovation work and energy projects were completed in October 2010. The total cost of the energy projects was $1.9 million. The hospital energy usage for 2003 (baseline year), 2010, and 2011 was respectively 243,000 BTU's/gross square foot (BTU's/gsf); 206,000 BTU's/gsf; and 158,000 BTU's/gsf. During 2003 through 2010, usage was reduced by 37,000 BTU's/gsf, or 15% or approximately 2% per year. During 2011 usage was reduced by 48,000 BTU's/sf or 23% per year over 11 times previous average year. The new, low maintenance HVAC equipment will save the hospital operational funding (labor, fuel, machinery, etc.). The

projected savings has not been quantified to date. The replacement of non-efficient traditional HVAC equipment with energy star equipment can be accomplished in any region. The use of DDC and VFD's is quite common today and benefits are straight forward. Replacing a 1980's design roof with an energy efficient style roof again is quite common. These projects improved efficiency, reduced energy use, and save the hospital funding.

Water Use Efficiency and Management Award - Fence Lake Water System

Award to: CAPT Mary Dahl, IHS District Engineer, LCDR Ty Warner; IHS Field Engineer, LCDR Matthew Zoch; IHS Sr. Field Engineer, Scott Valliere; Tribal Utility Manager, Emerson Coy; Tribal Planning Director, and Chuck Pycha; EPA Regional 5 SDWA Coordinator

In February 2010 the Indian Health Service (IHS), Lac du Flambeau Band of Lake Superior Chippewa Indians (Tribe) and the Environmental Protection Agency (EPA) began an effort to make substantial improvements to the efficiency, sustainability and reliability of the community water system on the Lac du Flambeau Indian Reservation. The project connected the Fence Lake subdivision to the main community water system on the reservation and eliminated the small, stand-alone water system that previously served the Fence Lake subdivision. Following the completion of the Fence Lake project, the remaining project funds were used to construct a water main extension in a different area of the water system which substantially reduced electrical usage for the west pump house. Construction of the improvements was completed in October of 2011.

Project funding in the amount of $745,000 was provided by the EPA Region 5 SDWA program, planning design and construction oversight was provided by the IHS and planning assistance and support during construction was provided by the Tribe.

Overall the project improved the water supply for 604 homes served by the community water system by reducing operation and maintenance burden, reducing electrical consumption, increasing firefighting capabilities and improving system reliability.