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Communities and Government



ISSUE 17, SEPTEMBER 2007

Welcome to the 17th edition of the *Federal Buildings Initiative (FBI) Update!*

This issue of the *Update* highlights recent federal government efforts to increase the energy efficiency of operations through energy performance contracting and comprehensive training for building staff.

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LEADERS in Energy Management

The FBI's LEADERS wishes to recognize and encourage leadership in energy management.

[Communications Research Centre Canada continues to demonstrate its commitment to energy efficiency.](#)

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THE DEPARTMENT OF FOREIGN AFFAIRS AND

INTERNATIONAL TRADE CANADA ISSUES AN EXPRESSION OF INTEREST FOR A POTENTIAL ENERGY EFFICIENCY PROJECT IN WASHINGTON, D.C.

The Department of Foreign Affairs and International Trade Canada (DFAIT) provides office and residential accommodations for Canadian diplomatic facilities located abroad. Within DFAIT, the Physical Resources Bureau, located in Ottawa, Ontario, is responsible for overall project management services for upgrades to existing properties.

DFAIT is currently developing its first energy efficiency project for its embassy in Washington, D.C.

The project is part of a broader initiative called the Sustainable Buildings Initiative, which is aimed at incorporating more sustainable and energy-efficient measures into its new and existing buildings.

As Jean-Maurice Charron, then Manager, Energy Initiatives, Bureau of Physical Resources at DFAIT, explains: "The organization is continuously looking for new ways to improve energy usage in its buildings through new designs, maintenance programs and commissioning."

As part of its plan, DFAIT hopes to achieve recognition through the Leadership in Energy and Environmental Design for Existing Buildings (LEED-EB) Rating System.

In order to implement its energy efficiency plans, DFAIT sought help from the FBI. The program offered the guidance and tools DFAIT needed to get its project started.

Keys to Success: Early Planning and Involvement

To determine the potential for implementing energy and water efficiency measures at its facilities abroad, DFAIT carried out an opportunity assessment, which was prepared and paid for by the FBI.

The assessment provided technical data and an analysis of the facilities, possible energy-savings opportunities and preliminary savings estimates. This information enabled DFAIT to move forward with the energy efficiency retrofit, while ensuring the project was of market value to the private sector.

Once it was determined that facilities in Washington, D.C. would offer the most opportunity for an energy performance contract (EPC), DFAIT issued an expression of interest to gauge the interest of energy service companies (ESCOs) on the FBI's qualified bidders list (QBL).

The organization received four responses from qualified bidders. "A positive response to the expression of interest was essential in order to continue with the development of the EPC project," explains Mr. Charron. Having the FBI model documents was pivotal to ensuring the project would get off the ground.

For example, the FBI's pre-qualification process and model documents were helpful in securing highly qualified, experienced and capable firms to work cooperatively with the organization.

Also, using these documents demonstrated that there was a well thought-out and industry-proven framework to guide the EPC process. "This is one of the main strengths of the FBI approach," says Mr. Charron "and it was looked upon very favourably by DFAIT, given the many additional challenges of working in a foreign country."

Because the project is being implemented outside Canada, a few issues need to be resolved before proceeding with an EPC. "It has been very helpful to have the FBI assist DFAIT in identifying some of these key issues, including foreign value-added taxes, currency fluctuations and effects on payback, issuing a Canadian contract for delivery in a foreign country, and different working practices," explains Mr. Charron.

The FBI will continue to work with DFAIT to help the department increase the energy efficiency of its buildings, and achieve its sustainable building objectives by assessing, implementing and delivering a comprehensive EPC.

More specifically, the FBI is providing the following services:

- delivering presentations to DFAIT employees and decision makers to support project development efforts;
- providing model performance contracting documents and working with DFAIT contracting officers to customize the tender package;
- working with DFAIT representatives to overcome barriers to implementing an international performance contract;
- assisting DFAIT in developing and implementing employee awareness initiatives associated with energy efficiency programs; and
- working with DFAIT representatives to plan and carry out project celebrations and special energy efficiency events.

For more information about DFAIT and its energy efficiency project in Washington, D.C., please contact [Marc Lalonde \(ARB\)](#), Sustainable Development Specialist, Sustainable Buildings Program, Foreign Affairs and International Trade Canada.

To learn more about the FBI and how it can help you implement an EPC project, please contact [FBI program representatives](#) via the Web.

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Engaged

LEADERS in Energy
Management

Communications Research Centre Canada



Demonstrated Commitment:

The initial project included replacing an aging chiller in the central heating and cooling plant, replacing high-pressure boilers with low-water-content boilers, reviewing and recalibrating cooling distribution patterns, and installing energy-efficient lighting.

Description:

The Communications Research Centre Canada (CRC) is located at the Shirley's Bay Campus in Ottawa, Ontario. For over 50 years, the campus's federal labs have performed world-class research and development. Working independently, and with other government departments and private-sector partners, they continue to develop

A second phase of work at CRC has focused on modernizing the heating and cooling plant. There has been investment in new infrastructure as well as the installation of automated system monitoring and troubleshooting services. The 6.9-year, \$400,000 energy efficiency project is expected to bring in an additional \$58,000 in annual energy savings.

leading-edge technologies that advance innovation in Canada and abroad.

In 1994, CRC signed a comprehensive energy performance contract that included a retrofit of 37 of the 75 buildings at the Campus.

Initial Project Investment – 1st Phase:

\$3.5 million

Annual Savings – 1st Phase:

\$600,000 and \$700,000

Estimated Annual Greenhouse Gas Emission Reduction – 1st Phase:

5,000 tonnes

Awards Received:

2003 – Real Property Institute of Canada – Group Award for Best Practices:

Acknowledges the contributions made by CRC and the energy service company in setting a high standard of efficiency and contributing to the real property field through innovation, achievement, quality and leadership.

2005 – Ontario Power Authority – Certificate of Recognition for Energy Conservation:

Acknowledges CRC's energy conservation efforts during Hydro Ottawa's appeal to promote energy efficiency and conservation during the summer months.

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TRAINING BUILDING STAFF A KEY ASPECT OF THE NUNAVUT ENERGY MANAGEMENT PROGRAM

The Territorial Government of Nunavut's Department of Community and Government Services has recently awarded the preparation of an Investment Grade Feasibility Study to MCW Custom Energy Solutions Ltd.

The comprehensive Nunavut Energy Management Program (NEMP) is modeled on the FBI and will include retrofits to owned and leased facilities located throughout Nunavut communities.

The first phase of the project comprises 39 buildings in the capital city of Iqaluit with an area of over 60,000 m² and energy costs in excess of \$3.4 million per year. The second phase of the program is intended to cover over 500 buildings in 26 other Nunavut communities. Once both stages of the project are complete, energy savings are expected to reach over \$4 million annually with an investment of over \$25 million.

The NEMP will also include an education component designed to train building operators and managers in operating newly retrofitted facilities.

In collaboration with Nunavut Arctic College, the tailor-made education program will be based on Seneca College's Building Environmental Systems (BES) program.

The BES program will give staff an opportunity to acquire in-depth skills and earn college accreditation.

A trained and informed building management professional is more likely to deal with challenges first-hand, and, as a

It provides support for sustainable energy savings, enhanced competitiveness and enlightened environmental management through systems-focused, energy management training for all building sectors.

The intent is to upgrade the skills and knowledge of building managers and operators so as to increase efficiency and ensure that savings extend beyond the term of the NEMP.

Detailed Training Needs Assessment

result, to contribute ideas for better energy efficiency, operate equipment and systems properly, help eliminate defects and breakdowns, report failures, inefficiency and misuse, and follow current guidelines and procedures.

The education component of the NEMP will be especially beneficial to both the Government of Nunavut and its employees, as it will provide the organization with individual Training Needs Assessments. These Assessments will include:

- a readiness test to determine the individual's competency level in math, science, language, and information technology;
- classification of the individual's background, including years of service and workplace title, previous education and certification, and generalist/specialist category of work; and
- an assessment of the individual's competency level in building systems, including heating, refrigeration, air handling, etc., by means of three assessments: an individual self-assessment, a confidential supervisor assessment of the individual, and a personal interview/assessment by a program specialist.

The Assessment will also provide the individual with a professional college evaluation as a foundation for future study.

General knowledge and energy management training recommendations will be provided, as well as suggested delivery options and order of training. An outline of subject courses needed to complete the BES Class I and Class II Certificate program will also be supplied.

For the Government of Nunavut, this strategic human resources approach will provide an overview of the scope of skills required to improve the knowledge of building staff and maximize workplace productivity. It will also allow the government to determine the potential for future studies based on the qualifications of its employees, increasing the likelihood that both the employer and employee are working together towards a common goal.

As part of the Assessment, the individual is awarded advanced standing for previous academic competency, and through a Prior Learning Assessment, workplace experience is verified and considered for future training recommendations.

In turn, the assessment will be beneficial for building staff who may wish to broaden their knowledge and skills in their own as well as other fields, while working towards a widely recognized professional qualification.

For more information about the Territorial Government of Nunavut's Department of Community and Government Services' Energy Management Program, please contact the following individuals:

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YOU ASKED US

Can renewable technologies be incorporated as part of an FBI project?

FBI model documents specify that all FBI project proposals be assessed for the inclusion of renewable energy. Client departments can further specify that renewable energy options are encouraged and can adjust the rating criteria to weigh more favourably on the integration of renewable energy options.

As with more traditional energy technologies, the FBI recommends not being prescriptive in determining a scope of work for an energy efficiency project. While it may be tempting to detail exactly what measures the energy service company (ESCO) should undertake, it is valuable to use the ESCo's technical expertise to identify and assess the most valuable and cost-effective measures for your facilities.

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Send us your Suggestions, Comments or Questions

We would like to hear from you about the efforts and/or initiatives that have helped make your workplace more energy efficient. Or, if you feel that your organization has some opportunities to reduce energy consumption and greenhouse gas (GHG) emissions within its facilities, please contact the [FBI](#).

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