

Cameco Vision 2010

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Abstract

Cameco Vision 2010 is a comprehensive redevelopment plan for the Port Hope conversion facility, which is Canada's oldest continually operating nuclear facility. The project involves the removal of old or under-utilized buildings, the removal of contaminated soils, building materials and historic wastes, and the construction of new replacement buildings.

Dealing effectively with the human environment is considered equally important to a project's success as addressing the biophysical environment. The project completed a community consultation process early in 2006 and, subsequently, Cameco significantly enhanced its community outreach program.

This paper presents a summary of Cameco Vision 2010 and community engagement activities.

1. Introduction

Cameco Vision 2010 is a comprehensive redevelopment plan for the Port Hope conversion facility, Canada's oldest continually operating nuclear facility, and will require an environmental assessment (EA) of the project. In the context of EAs as well as in the wider realm of corporate social responsibility, dealing effectively with the human environment is now considered equally important to a project's success as addressing the biophysical environment. Furthermore, host community support is one of four key measures of success in Cameco's mission statement.

As such, Cameco undertook a Vision 2010 community consultation late in 2005, well before the Vision 2010 EA process was to commence. Subsequently, Cameco enhanced its community outreach to include regular community forums, newsletters, and a dedicated website as a way of establishing an ongoing dialogue in Port Hope around wider issues such as economic impact and, longer-term health and environment concerns.

2. Goals and objectives of Vision 2010

Vision 2010 is a major cleanup and renewal initiative at Cameco's Port Hope conversion facility (PHCF) that involves the removal of contaminated soils and a number of old or under-utilized buildings, building materials and stored historic wastes, along with the construction of new replacement buildings with necessary landscaping.

The project is being carried out in conjunction with the Port Hope Area Initiative (PHAI) project, a joint federal-municipal government undertaking for the cleanup and long-term management of low-level radioactive and industrial waste in the Municipality of Port Hope, Ontario. Vision

2010 presents a unique and timely opportunity to increase the operational efficiency and environmental performance of the PHCF, while also making the PHCF look more attractive and integrate better with the community's vision for the future.

Vision 2010 is to be realized through development of a preferred master plan using the following key objectives:

- Maintain plant operations at all times while soil remediation, demolition, and new construction is in progress. This will require sequential relocation of personnel, materials and tasks from one area of the site to another.
- Consolidate site operations, in particular for cylinder-handling and storage facilities, so that the analytical laboratory and other operations related to the production of uranium hexafluoride (UF₆) and uranium dioxide (UO₂) are ultimately situated as close as possible to their respective centres of activity, where practical and cost effective.
- Enhance site safety and security by ensuring that the design meets the required level of safety and security with preference given to options that more easily achieve these goals.
- Improve the working environment for Cameco employees, further inspiring employees and contributing to their health and welfare. The site should be a place that Cameco employees can show with pride and that confirms the importance of Cameco to the residents of the Municipality of Port Hope.
- Implement, to the extent possible, the stakeholder planning objectives for Vision 2010 articulated by Port Hope community members and documented in the Vision 2010 Independent Advisory Report (Gartner Lee Limited, 2006) [1].
- Optimize the site's overall operations through the remediation/construction process. Some approaches may be more effective from a construction standpoint but ultimately may not maximize the lifecycle potential for site operations. Others may present long-term flexibility but may be cost-prohibitive to achieve within the site restrictions. An optimized program that delivers maximum results when considering all technical, operational, commercial, environmental and social objectives is sought.

3. Project location

The Municipality of Port Hope, with a population of 16,500, is located on the north shore of Lake Ontario about 100 km east of Toronto. In 2001, the then Town of Port Hope amalgamated with Hope Township to form the Municipality of Port Hope.

Port Hope is celebrated as having the best preserved 19th century streetscape in Ontario and its downtown is well-known as a shopping destination for antiques and other specialty items. Port Hope is home to various industries including Cameco's PHCF and Zircotec Precision Industries (Zircotec), a Cameco company.

The PHCF occupies an area of approximately 10 hectares on the shore of Lake Ontario. Immediately to the east of the site are the Port Hope harbour, the centre pier (currently leased by Cameco) and the Ganaraska River. To the south is a beach, which is remote from the recreational activities of the inner harbour and is presently used for strolling and fishing. The VIA Rail station building sits just to the northwest of the PHCF. To the north of the PHCF are the CN and CP rail corridors whose tracks cross the Ganaraska River valley on two viaducts supported on masonry piers. Commercial and residential areas are located north of the tracks and east of the river.

4. Cameco Corporation

Cameco is a Canadian company that is involved in the exploration, mining, milling, refining and conversion of uranium containing materials as well as Candu reactor fuel and components manufacturing through its subsidiary Zircotec. Cameco's headquarters are in Saskatoon, Saskatchewan. Cameco's uranium refining and conversion operations are located in Blind River and Port Hope, Ontario, respectively. The fuel and reactor components manufacturing facilities of Zircotec are located in Port Hope and Cobourg, Ontario. Collectively all of these operations are referred to as the "fuel services division" of Cameco. The processed uranium is part of the supply chain used in the manufacture of reactor fuel for electric utilities here in Canada and around the world.

Cameco also produces electricity through its share of the Bruce Power Limited Partnership, which operates four nuclear reactors at a power plant on the south shore of Lake Huron, Ontario. Cameco also holds 53% ownership of Centerra Gold Inc., which was spun off from the company in 2004. Centerra is a growth-oriented Canadian-based gold mining and exploration company engaged in the acquisition, exploration, development and operation of gold properties in Central Asia, the former Soviet Union and other emerging markets.

5. Site history

Port Hope was settled in 1793 by United Empire Loyalists. The Town of Port Hope was incorporated in 1834 as the seventh town in Ontario. Because of its position both on Lake Ontario and at the junction of the Grand Trunk Railroad and the Port Hope-Lindsay Railroad, industry and trading grew in the town. The harbour served as a terminus for agricultural products, coal and industrial output from the 1800s to the early part of the 20th century.

The PHCF was initially established by Eldorado Gold Mines Limited in 1932 to process ore from Port Radium, in the Northwest Territories, into refined radium. The radium refining operation ran until 1939 when operations were suspended for a short period for economic reasons. In 1943 the company was renamed Eldorado Mining and Refining Limited and in 1944 the company became a Crown corporation. The operation was then converted to a uranium processing plant.

The company was renamed Eldorado Nuclear Limited in 1968. In October 1988, Eldorado Nuclear Limited and the Saskatchewan Mining Development Corporation were merged to form a

new entity, Cameco, A Canadian Mining and Energy Corporation. This organization was subsequently privatized in the early 1990s and the name was shortened to Cameco Corporation.

Currently at the PHCF, only the UF₆ and UO₂ plants continue to operate for large-scale commercial production. The facility receives nuclear-grade UO₃ from its Blind River Refinery, for conversion to UF₆, or UO₂. These products are further processed at other facilities to produce fuels for light and heavy-water reactor programs, respectively. The PHCF also produces depleted UO₂. In addition to these fuels, the PHCF is also licensed to manufacture depleted uranium metal components for use in a variety of industrial applications.

The PHCF has achieved ISO 14001 certification for its environmental management system (EMS).

6. Port Hope Area Initiative

As stated previously, Vision 2010 entails the cleanup and redevelopment of the PHCF site. Presently there are a number of old or under-utilized buildings, contaminated soils, and stored historic wastes on the PHCF site.

The federal government, through the Low Level Radioactive Waste Management Office, is currently conducting an EA to consolidate historic low-level waste that is currently located in a number of locations throughout the municipality. These wastes are the result of past industrial practices, which resulted in contaminated materials being allowed into the community. When the project is completed all historic low-level radioactive wastes will be transferred to a single waste management facility, which will be located adjacent to Highway 401. The name of the local project is the Port Hope Area Initiative (PHAI).

As part of the PHAI project, the corporation of the then Town of Port Hope, the Corporation of the Township of Hope and the Corporation of the Municipality of Clarington entered into a legal agreement with the federal government (represented by the minister of natural resources) to mitigate the effects of historic low-level radioactive waste on the municipalities, as well as the property owners within the municipalities.

The agreement between the federal government and the Municipality of Port Hope specifies that 150,000 m³ of decommissioning waste at the PHCF is to be accommodated in the long-term waste management facility (LTWMF) which is to be located in the Municipality of Port Hope. Cameco has a specified window of opportunity, during the time that the LTWMF is receiving wastes, in which to transport its decommissioning waste for placement at the facility.

7. Project works and activities

The project has two phases: a site remediation phase and a construction phase. Several activities within each phase will occur simultaneously as both phases will be undertaken in incremental stages.

7.1 Site remediation phase

A preliminary remedial action plan (RAP) has been prepared for Vision 2010. Remediation for this undertaking is comprised of three major activities: removal of historic waste, building demolition and soil excavation. All of these activities will generate contaminated material that will be shipped to the LTWMF.

7.1.1 Historic wastes

After Eldorado's off-site waste management facilities could no longer receive waste from the PHCF site, Eldorado placed its waste materials into drums. Over the years, outlets were established for many of the materials and the drummed on-site inventory has been reduced. The remaining on-site drums will be relocated to the LTWMF.

7.1.2 Building demolition

Cameco's Vision 2010 team reviewed all available construction drawings and used them to estimate the quantity and type of materials present for demolition. The buildings slated for demolition will be cleaned to remove surface contaminants. Once the buildings have been cleaned, they will be disassembled to the maximum extent possible rather than using traditional demolition methods in order to minimize the release of dust, limit the spread of potential contaminants, maximize the amount of material that can be cleaned and recycled as scrap metal or aggregate, and to reduce impacts on the operation of the facility.

7.1.3 Soil excavation

The contaminated soil to be removed from the site was identified in the report on the Phase II Environmental Site Assessment (ESA) undertaken in 2003 (SENES, 2003). This ESA was augmented in 2006 by a study undertaken to further delineate the sub-surface contamination on the main site (SNC-Lavalin Engineers & Constructors, 2006).

The excavations will be conducted sequentially around the site as dictated by operational and new construction activities. The excavations will be small in area so as to minimize disturbance to operations. The rate of excavation will likely be at a pace that is matched to the receiving schedule of the LTWMF as stipulated by the PHAI.

7.2 Construction phase

7.2.1 Construction of new buildings - master plans

Over 30 buildings are currently on the PHCF site. Of these, almost two-thirds are slated for demolition for various reasons (e.g., they overlie contaminated soils, or they will be replaced by purpose-built facilities). As a result, some new buildings will be required. With some variations, depending upon the master plan option selected, these would include the following:

- a new building near the UO₂ plant to store UO₂ drums and house other functions;

- several small additions to the UF₆ plant, for possible uses such as wastewater treatment, indoor potassium hydroxide (KOH) unloading and scrap metal processing;
- a new laboratory building housing both analytical and research labs;
- a new receiving building possibly combined with non-destructive examination (NDE), and emergency vehicles storage;
- a new visitor's centre; and
- a new building to house the UF₆ cylinders.

7.2.2 Site services

Above-ground services at the PHCF are carried on piperacks, many of which will be replaced during the construction phase. Below-ground services will be re-constructed or re-located as needed to properly service the PHCF as remediation and construction activities continue. Cameco will use the Vision 2010 project to enhance stormwater management on the property through consolidation of and improvements to the existing system.

7.2.3 Master plan options

Cameco developed a number of possible PHCF site layouts after a series of user group meetings and site inspections. The site layouts were further developed into four master plan options, each of which would meet the requirements of the PHCF. Community consultation was sought on these four options. For the purposes of the Vision 2010 Project EA study, a preferred alternative will be developed that integrates various elements of the four master plan options and addresses to the extent possible the stakeholder planning objectives articulated in the Independent Advisory Report (Gartner Lee Limited, 2006) [1]. This preferred alternative will be evaluated in detail.

7.2.4 Green space

The community consultation results indicate that a "circle of green" space is highly desirable around the PHCF and, thus, a land transfer between the municipality and Cameco may be required to maximize green space. Cameco and the municipality entered into discussions with the goal of negotiating a land transfer that could make possible the preference of stakeholders, consistent with the vision of the municipality for the community's waterfront.

8. Federal EA process

The Canadian Nuclear Safety Commission (CNSC) is the federal authority responsible for the regulation of nuclear facilities in Canada. Approval from the CNSC, pursuant to the Nuclear Safety and Control Act (NSCA), is required before Cameco may proceed with Vision 2010.

In September 2006 CNSC determined that the EA for Vision 2010 would be classed as a comprehensive study, and CNSC staff are currently developing EA guidelines for the proposed undertaking. Once these guidelines are received from the CNSC, Cameco will initiate the Vision 2010 Comprehensive Study EA, which includes a substantive public communication and consultation program.

If the EA and licence amendments for the Vision 2010 project were to be completed toward the end of 2008, construction activities could commence in 2009. The work would continue for approximately six years with closeout of this project in approximately 2015.

9. Provincial and/or municipal permits

Cameco's PHCF falls under federal jurisdiction. However, any emissions to the environment from the operations associated with the project require a Certificate of Approval under the *Environmental Protection Act (EPA)* for air emissions and under the *Ontario Water Resources Act (OWRA)* for the direct discharge of water effluents. The PHCF's current Certificate of Approval for air emissions would require modification for new, permanent facilities and new certificates would have to be obtained, as appropriate, for temporary facilities associated with the cleanup.

All building demolition and new building construction will require permits from the Municipality of Port Hope.

10. Local stakeholder consultations

In the fall of 2005, Gartner Lee Limited was engaged by Cameco to design and conduct a consultation and communication program with respect to Vision 2010. Between November 2005 and January 2006, a series of targeted communications and community engagement initiatives were implemented, with the goal of including a wide and representative cross-section of the Port Hope community in open and creative discussions about how the Vision 2010 project should evolve.

During the initial community consultation process for Vision 2010, over 150 stakeholders were directly engaged and 422 responses to a mail-out questionnaire were received.

The Vision 2010 communications and consultation program included:

- a dedicated website – www.camecovision2010.info;
- a Vision 2010 1-800 information line – 1-866-383-0307;
- consultation announcements in both local print media, and on local television and radio stations;
- seven community roundtables;
- two Cameco employee roundtables;
- separate meetings with the Municipality of Port Hope Council and senior staff;
- two meetings with local environmental community groups;
- a mail-out questionnaire to every household;
- a project display at the Port Hope Public Library; and
- establishment of the Vision 2010 stakeholder liaison committee.

Specific recommendations, consistent both with Cameco's mission statement, and with the comments and suggestions heard from stakeholders, were developed during the Vision 2010 consultation process. As reported in *Cameco Vision 2010: Connecting with Port Hope's Future Independent Advisory Report* (Gartner Lee Limited 2006), the key recommendations were [1]:

- The Project should be guided by the statement: "Vision 2010 should be an award-winning, attractive, world-class project" This means being innovative and setting high standards for architectural design, facility construction, site remediation and landscaping.
- Continue the community dialogue around detailed designs and implementation of Vision 2010 through continuation of the Vision 2010 stakeholder liaison committee or working group, and related transparent and continuous community communication.
- Establish a process and structure to enable Cameco and the community to liaise on creative community development initiatives and on continual improvement in the areas of environment, health, and social and economic performance.
- Develop a preferred concept plan for Vision 2010 that addresses the specific renewal, cleanup and modernization planning objectives put forward by community members.
- Determine the best options to include public education components in Vision 2010.

Several specific stakeholder planning objectives for the Vision 2010 project were articulated by Port Hope community members during this communications and consultation program. In summary, these planning objectives were aimed at:

- maximizing green space;
- providing for indoor cylinder and drum storage;
- maximizing public access to the waterfront;
- maximizing naturalization opportunities and environmental design features;
- integrating the PHCF site with community character and waterfront plans;
- including educational, research and development components;
- enhancing Cameco's contribution to the local and regional economies;
- minimizing site emissions and environmental effects;
- attending to health issues; and
- enhancing Cameco's corporate social responsibility initiatives.

11. Cameco's enhanced community engagement

During the Vision 2010 consultation process, a number of participants felt that there were concerns outside the renewal of the conversion facility that needed to be addressed. It was these key findings along with the analysis of Cameco's operating licence mid-term record of proceeding that have helped to structure Cameco's new community outreach program geared specifically toward dealing with a wide range of community concerns and issues.

Prior to the public release of the Vision 2010 report in March 2006 Cameco began planning the new process it would use to engage the community on an ongoing basis. That process, established in May 2006, is anchored around an ongoing and broadly-based series of community

liaison forums – open meetings where detailed plain-language briefings are accompanied by a variety of feedback mechanisms – workshops, questionnaires, Q&A sessions, etc.

11.1 Community liaison forum

Cameco decided to follow an open community forum model versus a committee model aimed specifically at special interest groups because it recognizes Cameco's relationship with Port Hope residents affects virtually everyone in the community and in many differing ways [2].

An open, flexible, broadly-based forum model enables the company to improve its outreach program with all its relationships as well as bringing a common information base to all interested parties, both active special interest groups and passive community members. As a result target audiences for this initiative include: near neighbours and residents of Port Hope, municipal council members, local businesses and business organizations, special interest groups, non-governmental organizations, local and regional media, community service organizations, and all other interested parties.

The forum process is intended to improve Cameco's outreach in the four key areas highlighted in the company's sustainability report of 2005 and correspond to the findings of the Vision 2010 community consultation and record of proceeding in the CNSC's mid-term review. They are: health, safety and security, the environment, social responsibility, and the economy.

Reporting on these forums is undertaken via newsletters mailed to every mailing address in the Municipality of Port Hope. This newsletter includes a review of the forum itself as well as other items of interest to the community identified during the forum discussions. This plain-language newsletter is aimed at broadening the outreach of the forums. The newsletter reaches the encompassing target audience as well as participants.

To accompany the community liaison forum process, Cameco launched a new website (www.camecoporthope.com) to provide local residents and other interested parties with specific, detailed, plain-language information about its Port Hope operations. This is the first community-focused website in the history of Cameco. The website is being promoted extensively as a resource for Port Hope residents to learn more about Cameco's approach to health, safety and security, its environmental performance, including a plain-language environmental scorecard, its activities in the community and the economic impact of its Port Hope operations.

A recent addition to the website and the forum newsletter, supported by an advertising campaign, is a content-rich, plain-language question and answer component. This method is particularly effective in clarifying information, dispelling rumour, providing succinct information on key issues, as well as making information, both technical and general, broadly available to the entire target audience.

Also incorporated into these outreach vehicles is reporting on ongoing developments that relate to Vision 2010.

11.1.1 Forum 1 – prioritizing future forums

The first forum, held in May 2006, asked the 80 participants to set priorities for future forums in Cameco's four key areas for sustainability. The forum agenda included an introductory briefing about Cameco in Port Hope and the company's commitment to this new process over the long term. The attendees were then broken up into eight smaller groups with professional facilitators helping the groups to prioritize future forums. These breakout groups also acted as focus groups for Cameco's ongoing outreach effort [2].

Attendees for the first forum came from the list of participants of the Vision 2010 consultation process. Subsequent forums have included both invitees as well as other interested parties. All forums have been open to the public and extensively advertised to ensure that all interested parties know that a forum is upcoming.

11.1.2 Forum 2 – introduction to Port Hope health studies

The second forum, held in June 2006, responded to the recommendations of the first and had health as its focus, particularly a review of health studies done in the past on Port Hope. An expert epidemiologist from the University of Toronto was retained to conduct that review and to advise Cameco on community health issues. The breakout groups provided all attendees with the opportunity to be heard and to have their views communicated back to Cameco.

11.1.3 Forum 3 – economic impact of Cameco and Zircatec in Port Hope

The third forum, a luncheon, took place in August 2006 in conjunction with the local Rotary club. During that luncheon the findings of an economic and financial impact analysis of Cameco and Zircatec in Port Hope and Northumberland County were presented [3]. The format for this event was altered to reflect the target audience, namely the business community in Port Hope and surrounding area, although members of the public were also invited to attend.

The findings from the company's most recent public opinion research were also released – the first-time such research has been made available to the public. Interest in this event was very high with a standing-room only audience and very positive media coverage resulted.

11.1.4 Forum 4 – the regulatory process

This forum was also held in August 2006, with the CNSC staff presenting to the community about its roles and responsibilities as well as reviewing the regulatory process. The first forum identified an interest from the community to understand the regulatory process. Although not identified as one of the highest priorities by the community, Cameco recognized that due to the timing of its licence renewal application, the community would be well served to get this briefing earlier. Presenting to and receiving questions from an audience of approximately 70, CNSC staff explained to the community how to get involved in the licensing process and the role of the CNSC as a regulator of the nuclear industry.

11.1.5 Forum 5 – health panel

A daylong health forum that included a panel discussion with varying views on community health issues was held in October 2006. This forum and others that will be based on health and environment issues are aimed at ensuring the public has a full understanding of the effects on people's health of both emissions and legacy issues. To support this effort, Cameco is actively seeking permission to post all relevant health studies on Port Hope, including author summaries, on its Cameco Port Hope website. To date, approvals from the organizations, which conducted the studies, have been very slow. Copies of all studies listed as references on the web site are available at the Port Hope library.

11.1.6 Forum 6 – environment

At a daylong forum on the environment in February 2007, Cameco sought public input to develop an emissions reduction plan for the conversion facility. Presentations were provided on the ISO 14001 certification process, background on new emission standards planned by the Ontario Ministry of the Environment, as well as information about Cameco's environmental management plan and on the conversion facility's current emissions performance. Participants were asked to identify their individual top three priorities for the plan based on information they were provided about the significant environmental aspects that pertain to emissions from the conversion facility and Cameco's current environmental performance. Approximately 95 people attended the forum.

11.1.7 Future forums

Cameco is committed to its community engagement program. Future forums will be held approximately quarterly to continue to address community issues.

11.2 Other community outreach initiatives

11.2.1 Port Hope fall fair

In an effort to reach out to members of the community about Cameco's operations and to help the community celebrate 175 years of Port Hope's Fall Fair (September 2006), Cameco placed a 40' x 60' tent on the fairgrounds and filled it with over a dozen educational displays, including two videos and two scale models of the Vision 2010 project. Every visitor was given a "passport to information", which not only provided information about the conversion facility and Zircatec, but also contained a fun series of questions that allowed visitors to find the answers by reading the displays. Over 4,500 residents toured the Cameco tent and approximately 50 employees from Cameco and Zircatec were on hand over the course of the weekend to answer visitors' questions.

11.2.2 Community walk

In October 2006, Cameco undertook its first community walk program. Employees of the facility and Zircatec volunteered to travel the streets of Port Hope for four evenings and a

Saturday afternoon to provide residents with information and answer their questions about Cameco, and to invite them to the community forum on health. The objective was to follow 31 routes and reach over 1,400 households. The volunteers included members of employees' families and each visited up to 50 homes. Cameco sent follow-up letters to local residents who posed questions that the walkers were unable to answer themselves.

11.2.3 Public opinion research

Cameco has been conducting public opinion research for several years, including polling and regular media monitoring and analysis. The results show that the majority of Port Hope residents strongly support Cameco and public trust in the company is high. A survey done in June 2006 by Fast Consulting found that 80% of Port Hope residents support continuation of uranium conversion, up from 70% in June of 2005. A majority (53%) indicated that they are strongly supportive, up from 34% one year ago. The majority (82%) agree that Cameco does everything possible to ensure public safety and 74% agree that the regulatory process adequately ensures the safety and security of Port Hope residents. Vision 2010 also enjoys widespread support at 92%.

11.2.4 Ongoing activities

The above program events were in addition to Cameco's other ongoing community outreach activities. The following are some examples: quarterly updates to Municipal Council, school outreach programs, open houses, facility tours, participation in local home and trade shows, special guest speakers, etc.

In addition Cameco provides financial and other forms of support to approximately 60 local organizations, institutions and events, including the Northumberland Hills Hospital, the Port Hope Public Library, the United Way, Port Hope Soccer Club, the Capitol Theatre, the All-Canadian Jazz Festival, Cameco Women Build, Dragon Boat Races, scholarships to graduating students, etc.

12. Conclusion

Cameco's mission statement identifies supportive communities as one of four key measures of success for the company. In the context of Port Hope where local interest in the nuclear industry in general and PHCF activities in particular is perennially high, the company has a responsibility to engage the community meaningfully and substantively. Ensuring strong relationships, understanding, and mutual co-operation underpins Cameco's new approach to community outreach as it enters what promises to be a very busy 2007 with the Vision 2010 comprehensive environmental assessment.

13. References

- [1] Cameco Vision 2010: Connecting with Port Hope's Future, Independent Advisory Report, Gartner Lee Limited, March 2006. Available at http://www.cameco.com/port_hope/vision2010/independent.php Click on: Independent Advisory Report
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