

## **10.0 COMMUNITY AND STAKEHOLDER CONSULTATION**

### **10.1 INTRODUCTION**

In support of the EA study, a Community and Stakeholder Consultation and Communication Plan (CSCCP) was designed to guide consultation and communication activities. The CSCCP provided a broad range of opportunities for stakeholders to obtain information, ask questions, provide comments, data and input to the EA study, and to identify and discuss any concerns or issues they had with the Project. The CSCCP also included a process to identify, document and address stakeholder concerns and issues as they arose during the EA study. The issues, issue responses and their ultimate disposition are documented in this EA Study Report.

This Chapter summarizes the CSCCP developed by OPG for the PNGS B Project.

#### **10.1.1 Goals and Objectives**

The *Canadian Environmental Assessment Act (CEAA)* requires various levels of public consultation in EAs. For a screening-level EA, the level and extent of public involvement is at the discretion of the Responsible Authority (CNSC). The EA Guidelines prepared by the CNSC for this project required OPG's EA study to include notification of, and consultation with, the potentially affected stakeholders, including the public. The EA Guidelines identified various stakeholders and interested parties that were to be consulted throughout the EA process. These included:

- Federal government;
- Provincial government;
- Local government;
- First Nations and Aboriginal communities;
- Regional and local municipal agencies;
- Established committees;
- Local businesses;
- Non-government organizations and interest groups;
- OPG employees; and
- General public.

The EA Guidelines also required that the Draft EA Study Report summarize the public and stakeholder comments received during the EA study and indicate how issues have been considered in the completion of the EA study, or how they may be addressed in any subsequent regulatory licensing and compliance process.

The following key principles for the CSCCP were developed:

- Integration of the program at all times with OPG's communication activities, particularly those related to PNGS, while at the same time maintaining a distinct project focus;
- Inclusion of all interested stakeholders and members of the public at a level of involvement suitable to their needs and interests;
- Flexibility to respond to unanticipated issues and stakeholder input throughout the study period;
- Incorporation of issues, concerns, comments and perspectives brought forward in planning the Project and carrying out the EA study.

The objectives of the CSCCP were to:

- Communicate plans and activities to stakeholders and share information with them;
- Seek informed views, perspectives, issues and concerns from stakeholders;
- Respond to and incorporate issues/concerns/questions/perspectives;
- Meet the requirements of the CNSC and *CEAA* and provide documentation of activities undertaken and comments and issues received.

In June 2006, the CSCCP was sent to the CNSC for review and comment.

### **10.1.2 Identification of Stakeholders**

Historically for EA's conducted at the PN site, the focus for communications has been on the host community, the City of Pickering, and on adjacent communities within 10 km of the Project; that is, the Town of Ajax; the Town of Whitby; and the City of Toronto. These communities are most likely to be affected by and/or interested in the PNGS B Project.

This geographic area has primarily been used for determining where to hold Open Houses, where to send unsolicited notifications (e.g. Householder Invitation Cards and for advertising), and for purposes of public attitude research. Figure 10.1.1 illustrates the host community and adjacent communities, and their relationship to the Regional, Local, and Site Study Areas.

OPG and the EA Study Team recognized that there could be additional interest in the PNGS B Project from a broader community of interest, generally represented by regional and national groups with an interest in energy and environmental issues. To ensure that this broader community of interest had the opportunity to participate in the planning and conduct of the EA study, a number of groups and organizations were identified, included in the initial notifications, and have been provided invitations to Open Houses, workshops and other consultation activities.

Stakeholder groups and individuals were identified in, but not limited to, the following stakeholder categories (in no particular order), as required by the EA Guidelines:

- Responsible Authority (RA) – CNSC;
- Federal government –departmental and agency staff likely to play a role in the approval of the project (Fisheries and Oceans, Natural Resources Canada, Environment Canada, Health Canada, Canadian Environmental Assessment Agency);
- Aboriginal communities (Local First Nations and Métis Organizations);
- Provincial government – ministry and agency staff likely to play a role in the approval of the project (Energy, Environment, Natural Resources);
- Regional and local municipal government agencies and staff likely to play a role in the approval of the project (Works, Planning, Transportation, Parks & Recreation, Economic Development, Health, Emergency Services, Conservation Authorities);
- Elected officials – Members of Parliament (MPs), Member of Provincial Parliament (MPPs), and regional and local municipal councils;
- Local, regional and national non-governmental organizations and organizations of civil society, such as ratepayers, park user groups, environmental organizations (local, provincial and regional), educational institutions and school boards, business associations, and suppliers;
- Residents/General public;
- OPG employees; and
- Print and broadcast media.

In addition, agencies, organizations, groups and individuals from outside this area (e.g. Sierra Club of Canada, Canadian Coalition for Nuclear Responsibility, Great Lakes United, Northwatch and Lake Ontario Water Keepers) who were known to have a regulatory or review responsibility in relation to the EA, an interest in the lands comprising the project study areas, or an expressed interest in the PNGS B Project were included in the project stakeholder list and notified of all consultation events.

Contact information was drawn from the following sources:

- Lists of stakeholders identified through various OPG initiatives, particularly previous EAs and their follow-up programs;
  - Pickering A Return to Service (PARTS) EA stakeholder list;
  - Pickering Used Fuel Dry Storage (PUFDS) EA stakeholder list;
  - Pickering Waste Management Facility (PWMF II) EA stakeholder list;
- CNSC contact and stakeholder lists for the PNGS plant;
- Durham Nuclear Health Committee (DNHC) and the Pickering Community Advisory Council (CAC) membership lists;
- Response to advertisements, brochures, newsletters and the Website; and
- Attendance at EA Open Houses.

### **10.1.3 Methods of Communication**

#### ***10.1.3.1 Initial Announcement***

In response to a directive from the Ontario Government (OPG's sole shareholder) to investigate the feasibility of extending the life of PNGS B, OPG initiated the Pickering B feasibility study in June 2006. OPG submitted a letter of intent and Project Description to the CNSC, informing the CNSC of the nature of the Project, including the major works and activities associated with refurbishment for life extension. This was to enable CNSC staff to evaluate the scope of the project, and to determine federal EA requirements. OPG also issued a press release at that time, indicating that an EA would help identify any potentially significant environmental effects that may arise from plant refurbishment and ensure that any necessary mitigation measures were identified early in the planning process. These factors will be important considerations in the decision by the OPG Board of Directors on whether to invest in refurbishment.

On August 3<sup>rd</sup>, 2006 a Notice of Commencement of a screening level EA of the PNGS B Project was published on the Canadian Environmental Assessment Agency Registry. At that time OPG also issued a press release regarding the commencement of the EA.

Copies of the announcements are provided in Appendix C of the TSD for Public Consultation.

### **10.1.3.2      *Project Notifications***

On August 4<sup>th</sup>, 2006, notification letters were distributed to federal, provincial and municipal government agencies, community councils, First Nations and Aboriginal communities, public libraries, business groups, non-governmental organizations, and other identified stakeholders on the project mailing list. Five separate letters were written to accommodate the requirements of various stakeholders. Accompanying each letter was a map of the PN site.

The letters introduced the Project, the feasibility studies, and the initiation of an EA on Refurbishment and Continued Operation for PNGS B. The letters explained that the CNSC was the RA for the EA and would be releasing draft guidelines explaining what was to be considered and included in the EA study. The letters further explained the role of refurbishment and the timeframe that the Project would follow, the consultation activities set in place and the importance of consultation and interviews with public stakeholders.

Letters sent to First Nations and Aboriginal communities noted OPG's practice of consulting with Aboriginal communities on EA's in Durham Region. Advice was sought on how best to engage with Aboriginal community members, and to discuss:

- whether the project would have an environmental effect on any lands and resources currently used by Aboriginal peoples;
- local and traditional knowledge that could assist in describing the existing environment; and,
- views on valued ecosystem components (VECs).

All stakeholders (individuals, organizations and committees) identified on the stakeholder list received notification letters.

A list of all stakeholders organizations and committees identified (listed by title or group) is included in Appendix B of the TSD for Public Consultation. A copy of the notification letters is provided in Appendix D of the TSD for Public Consultation.

### **10.1.3.3      *Communications with MPs and MPPs and Municipal Councils***

MPs, MPPs and members of Municipal Councils for the identified area of focus were kept informed regularly by Pickering Nuclear Public Affairs. They were notified of the project commencement and received project newsletters and invitations to all of the EA Open Houses. Mailings included:

- OPG President's speech to the Toronto Board of Trade announcing the Pickering B feasibility studies;
- Media release announcing Pickering B feasibility studies and background project materials;
- Project Commencement Notification Letter;
- Invitation letters to three rounds of open houses;
- Invitation letters to two workshops; and
- Notice of Completion of the EA (pending).

In the Project notification letter, OPG offered to attend meetings and/or give presentations to further explain the Project to interested organizations. Section 10.2.1 outlines activities held throughout the course of the Project.

#### ***10.1.3.4 Community Committees and Events***

##### Established Community Committees

Three community committees were identified for ongoing communication and consultation throughout the EA: the Pickering Community Advisory Council (CAC), the Durham Nuclear Health Committee (DNHC) and the Pickering East Shore Community Association (PESCA).

The Pickering CAC was formed in 1999 to provide advice to OPG's senior management at PN on matters related to PN operations that could have an effect on the community. The matters fall within three areas: the environment, public health and safety, and the economy. Broad definitions are used in all three areas. The council represents a large number of sectors in the community from community associations, municipal government, health, the environment, education, youth, business and members at large. All members live or work in an area from East Toronto to Ajax and serve on a volunteer basis without compensation.

The DNHC was created in the fall of 1995 by the Region of Durham, to act as a forum for discussing and addressing radiological emissions from nuclear facilities in Durham Region and to assess the potential environmental and human health impacts of the nuclear industry on the Region. The DNHC is chaired by the Region's Commissioner & Medical Officer of Health. Membership of the DNHC consists of nine public members from Ajax, Clarington and Pickering who are appointed by Council; two representatives of OPG; and four Provincial/Regional government representatives. The DNHC meets approximately once every two months alternately at Darlington Nuclear and PN. Meetings are also held at Durham Region offices.

The PESCA is an apolitical organization representing the residents of Bay Ridges (South - Lake Ontario; West - Frenchman's Bay; North - Macdonald-Cartier Freeway (401); East - Squires Beach Road). The PESCA is a volunteer organization consisting of nineteen executive members who meet approximately once a month. Their goals are to promote and enhance the cultural, civic, social and recreational life of Pickering, particularly within the PESCA boundaries.

Throughout the PNGS B EA study, OPG informed community committees of the progress of the studies, and sought their advice, guidance and input. Briefings with the PESCA were held at their request. Details of all the presentations made and events attended are further described in Section 10.2.2.

#### **10.1.3.5 Interviews / Briefings**

A number of key stakeholder interviews were conducted during October and November 2006. The purpose of the interviews was to identify stakeholders' interests and concerns early in the consultation process.

Interviews were requested with representatives of the twelve key stakeholder groups listed below. These groups have been involved in related OPG projects, represented community interests in proximity to PN and/or have previously expressed an interest in this project.

- Altona West Community Association;
- Fairport Beach Neighbourhood Association;
- Frenchman's Bay Watershed Rehabilitation Project;
- Liverpool West Community Association;
- Pickering Ajax Citizens Together (PACT);
- Pickering East Shore Community Association;
- Pickering Naturalists;
- Save the Rouge Valley System (SRVS);
- Sierra Club of Canada;
- West Rouge Community Association;
- West Shore Community Association; and
- Greenpeace.

The interviews focused on three subjects: the Project; the EA study and schedule; and the public consultation and communications activities. In each subject, the interviewees were asked:

- If they had any questions and/or preliminary views in that subject (i.e. the Project, the EA and/or the consultation activities);
- Whether the EA study were comprehensive and the planned consultation and communications sufficient; and
- What specific interests or needs their group had for project-related communications and consultations.

Explanation of the interviews held and comments received is outlined in Section 10.2.3. The complete Stakeholder Interview Report can be found in Appendix E of the TSD for Public Consultation.

### 10.1.3.6 Project Newsletters

OPG regularly publishes a *Neighbours* Newsletter, which provides information on activities at PN, planned or active projects at the site, and contact information. It is a well-known publication with recognition in the community. To inform local residents specifically about the potential refurbishment of PNGS B, the feasibility studies and the EA, a series of special edition newsletters called EA News from Pickering B Nuclear *Neighbours* (*EA News*) was developed. The newsletter currently has a circulation of approximately 154,000 in the vicinity of the PN site. The mail out distribution area includes the following postal codes:

- Pickering –L1V, L1W, L1X, L1Y (28,653 households);
- Ajax – L1S, L1T, L1Z (31,459 households);
- Scarborough – M1B, M1C, M1E, M1X (51,388 households);
- Whitby– L1M, L1N, L1P, L1R (40,338 households);
- Locust Hill & Gormley – L0H (1,505 households).

Figure 10.1-2 illustrates the mail out distribution area in relation to the Local and Regional Study Areas for this Project. The figure shows that efforts were made to reach out to households and businesses well outside of the 10 km zone (discussed in Section 10.1.2) to inform them of the Project. Copies of the newsletters are included in Appendices F, G and H of the TSD for Public Consultation.

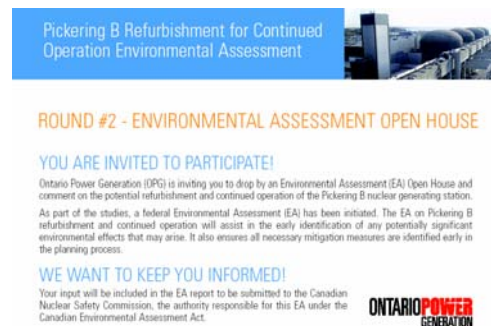
### 10.1.3.7 Open Houses

One of the primary community consultation mechanisms in the CSCCP was a series of EA Open Houses held at key stages during the preparation of the EA. Two rounds of four Open Houses each were held in Pickering, Ajax, Toronto and Whitby (September 2006 and December 2006). A third round of five Open Houses was held in Pickering, Ajax, two in



Toronto and Whitby (May 2007). The Open Houses were held to provide the opportunity for local residents, officials, stakeholders and the public to obtain information about the PNGS B Project, learn about the purpose and progress of the EA, receive answers to their questions and identify any concerns or issues that should be addressed in the EA. Representatives from OPG and the EA consultant team were in attendance at all EA Open Houses to describe the Project and EA process, answer questions, discuss visitors' concerns and address issues. Displays and handout materials described specific details of the EA at key stages in the EA process and provided results and findings of the various EA Studies.

Open Houses were well advertised with invitation cards, invitation letters and project newsletters distributed to households and businesses throughout the four communities, in the area of focus. Invitations were mailed to identified local elected officials, interested agencies and other key stakeholders. A personal invitation to the second and third round of Open Houses was also mailed to all previous Open House visitors who requested to be added to the mailing list. See Section 10.2.5 for a detailed summary of the Open Houses held. Copies of the invitation letters and invitation cards mailed for the three rounds of Open Houses are included in Appendices F, G and H of the TSD for Public Consultation.



#### **10.1.3.8 Workshops**

Two stakeholder workshops were planned for interested parties and groups who wanted to take a more active role in the Project. The first workshop was held in November 2006; the second was held in April 2007.

In total, 196 stakeholders and individuals on the project mailing list were sent letters of invitation to the first workshop; twenty-six (26) accepted this invitation. Section 10.2.6 summarizes the events of the first workshop. A copy of the first workshop invitation letter and comments and feedback received are summarized in the First Workshop Report attached as Appendix I of the TSD for Public Consultation.

For the second workshop, 292 stakeholders and individuals on the project mailing list were sent letters of invitation; twenty-four (24) accepted the invitation. Section 10.2.6 summarizes the events of the second workshop. A copy of the second workshop invitation letter and comments and feedback received are summarized in the Second Workshop Report attached as Appendix J of the TSD for Public Consultation.

**10.1.3.9 Information Line**

A toll free information telephone line (1.866.487.4600) was established in June 2006 to provide an opportunity for individuals in the community and other stakeholders to contact the EA study team to obtain information, ask questions and voice their comments or concerns. When not answered in person, a recorded message informed callers how to obtain information about the EA study and received messages left by callers. All messages were returned and questions responded to by the CSCCP consultants and recorded in an EA Stakeholder Comment Database (SCD).

**10.1.3.10 Website and Internet Consultation**

A Project Website ([www.opg.com/PickeringB](http://www.opg.com/PickeringB)) was established in June 2006 to provide information to interested persons and to function as a mechanism to receive input from interested persons as an enhancement of the public consultation program. This Website will continue to provide stakeholders and interested members of the public with information about the Project, and a means to communicate with Project managers as long as the Project remains active, including through the licensing and construction phases if OPG decides to proceed with the Project and it is approved by the CNSC.

**10.1.3.11 OPG Employee Communications**

OPG shared information with employees about the PNGS B EA in a number of ways:

- Articles were placed in OPG employee newsletters, both electronic and hard copy. To date, twelve employee articles have been published.
- Six employee information sessions were held in September, November and December 2006 and April 2007 prior to the Open Houses, so that employees could review the materials.
- Employee lunch and learn sessions are held on the third Thursday of each month to enable staff to delve into selected topics of interest. Eight Lunch and Learn sessions have been held in October and November 2006 and January, February, March, May, June and November 2007.

Details of articles published and events held are further described in Section 10.2.9.

**10.1.3.12 Media Coverage**

OPG kept local media outlets informed of the Project and upcoming PNGS B events and activities through its PN media contact program.

A media release “Backgrounder” announcing the start of the EA for the proposed Project was issued to all local media outlets in August 2006. Details of further media consultation are discussed in Section 10.2.10.

**10.1.3.13 Aboriginal Community Involvement**

OPG has sought to ensure Aboriginal and First Nations’ views and perspectives were integrated into the EA. OPG maintains an ongoing consultation with First Nations and Aboriginal communities that may have a current and/or historic interest in the areas around PN (i.e. the lands along the north shore of Lake Ontario, from Toronto east to the Bay of Quinte and north to Lake Simcoe and Rice Lake).

This involves the following First Nations, signatories to the Williams Treaty:

- The Alderville Ojibway First Nation;
- The Chippewas of Georgina Island First Nation;
- Curve Lake First Nation;
- Ojibways of Hiawatha First Nation;
- Mississaugas of Scugog Island First Nation.

OPG has maintained an ongoing dialogue with these First Nations that began in 1999 and continues through to today. This dialogue involves discussion of the environmental studies for the Pickering A Return to Service EA; the Darlington Used Fuel Dry Storage Project EA; the Pickering Waste Management Facility (Phase II) EA and currently, the Refurbishment and Continued Operation of Pickering B EA (ongoing).

In addition, OPG has also sought views and perspectives from other Aboriginal groups, organizations and communities that may also have a current or historic interest in this area, including:

- Mississaugas of the New Credit (beginning in 2002);
- Métis Nation of Ontario (beginning in 2002);
- Kawartha Nishnawbe First Nation (beginning in 2006);
- Ontario Métis Aboriginal Association (beginning in 2006);



- The Oshawa Métis Council (beginning in 2006); and
- Huron Wendat Nation (Québec, beginning in 2007).

## 10.2 ACTIVITIES AND RESULTS

### 10.2.1 Municipal Council and Committee Presentations

At the outset of the Project, municipal councils and selected municipal committees in the focus area were contacted with an offer for OPG staff to make a presentation about the PNGS B Project EA process and schedule. Table 10.2-1 lists the presentations that OPG provided to the interested councils and committees during the course of the EA.

**TABLE 10.2-1  
MUNICIPAL COUNCILS AND COMMITTEE PRESENTATIONS**

Group	Date	Presentation Topic
Region of Durham Finance Committee	27-Sept-06	<ul style="list-style-type: none"> <li>• Background information – PNGS</li> <li>• Overview of refurbishment business case assessment and feasibility studies</li> <li>• Overview of Pickering B Project EA</li> <li>• Overview of Public Consultation Program &amp; Schedule</li> </ul>
	2-May-07	<ul style="list-style-type: none"> <li>• Update presentation on EA preliminary findings</li> </ul>
	24-Oct-07	<ul style="list-style-type: none"> <li>• Update on status of the EA studies and the business case assessment</li> </ul>
Durham Region Council	4-Oct-06	<ul style="list-style-type: none"> <li>• Background information – PNGS</li> <li>• Overview of refurbishment business case assessment and feasibility studies</li> <li>• Overview of Pickering B Project EA</li> <li>• Overview of Public Consultation Program &amp; Schedule</li> </ul>
	9-May-07	<ul style="list-style-type: none"> <li>• Update presentation on EA preliminary findings</li> </ul>
	31-Oct-07	<ul style="list-style-type: none"> <li>• Update on status of the EA studies and the business case assessment</li> </ul>
Ajax Council	10-Oct-06	<ul style="list-style-type: none"> <li>• Background information – PNGS</li> <li>• Overview of refurbishment business case assessment and feasibility studies</li> <li>• Overview of Pickering B Project EA</li> <li>• Overview of Public Consultation Program &amp; Schedule</li> </ul>
	14-May-07	<ul style="list-style-type: none"> <li>• Update presentation on EA preliminary findings</li> </ul>
	22-Oct-07	<ul style="list-style-type: none"> <li>• Update on status of the EA studies and the business case assessment</li> </ul>
Pickering Council	10-Oct-06	<ul style="list-style-type: none"> <li>• Background information – PNGS</li> <li>• Overview of refurbishment business case assessment and feasibility studies</li> <li>• Overview of Pickering B Project EA</li> <li>• Overview of Public Consultation Program &amp; Schedule</li> </ul>

**TABLE 10.2-1 (Cont'd)**  
**MUNICIPAL COUNCILS AND COMMITTEE PRESENTATIONS**

<b>Group</b>	<b>Date</b>	<b>Presentation Topic</b>
Pickering Council	22-May-07	<ul style="list-style-type: none"> <li>Update presentation on EA preliminary findings</li> </ul>
	15-Oct-07	<ul style="list-style-type: none"> <li>Update on status of the EA studies and the business case assessment</li> </ul>
Whitby Council	14-May-07	<ul style="list-style-type: none"> <li>Update presentation on EA preliminary findings</li> </ul>
	29-Oct-07	<ul style="list-style-type: none"> <li>Update on status of the EA studies and the business case assessment</li> </ul>
City of Toronto	30-Mar-07	<ul style="list-style-type: none"> <li>The Office of Emergency Management and related City Services for the City of Toronto</li> <li>Presentation on EA, next steps in the process and emergency management and response</li> </ul>
	2-Apr-07	<ul style="list-style-type: none"> <li>Toronto Mayor David Miller's Office</li> <li>Presentation on EA and next steps in the process</li> </ul>
	2-Apr-07	<ul style="list-style-type: none"> <li>Toronto Councillor Gordon Perks</li> <li>Update presentation on the EA, business case assessment and next steps in the Project</li> </ul>
	29-Oct-07	<ul style="list-style-type: none"> <li>Toronto Mayor David Miller's Office</li> <li>Update on status of the EA studies and the business case assessment</li> </ul>
	29-Oct-07	<ul style="list-style-type: none"> <li>Toronto Councillors (Ron Moeser – Scarborough East; a representative from Paul Ainslie's office – Scarborough East; Raymond Cho – Scarborough Rouge River; Chin Lee – Scarborough Rouge River; Gordon Perks – Parkdale-High Park)</li> <li>Update on status of the EA, business case assessment and next steps in the process</li> </ul>

Following the presentations, attendees asked various questions about the Project and its potential effects on the environment. Enquiries received included: interest in the life span of the reactor components; how OPG would make its decision on which components need to be replaced; and the probability of the remaining components lasting through life extension. Participants asked if refurbishment was typically done around the world, particularly in the United States, and whether this would be the last life extension for PNGS B. Concerns were also raised regarding how robust the reactor buildings are and if they would continue to be sufficiently fortified.

Interest was shown in the effects of the plant on lake water temperature and specifically, the impact on algae growth. In particular, what mitigation measures OPG has in place to help reduce the potential for increases in algae growth.

Questions raised at follow-up presentations revolved around the Project timeline, financial considerations and operations of the plant during the Project. Concerns raised included moving and storing of nuclear waste and spent fuel reprocessing, studies done with respect to algae and community response to public consultation activities.

Overall, the councils welcomed the presentations and expressed interest in being kept informed as the Project progressed.

A detailed package of information on the Pickering B Project was sent to all 44 City of Toronto Councillors. The package included an offer for OPG to brief council members and their staff as well as an invitation for a special visit of the Pickering B facility. Four councillors indicated interest and were provided information.

In response to concerns expressed by City of Toronto Councillor Gordon Perks (Parkdale – High Park), a detailed letter was provided to his office in June 2007 discussing whether and if so how the EA addressed:

- Malfunctions and accidents;
- Safety and security;
- Drinking water quality;
- The business case and feasibility studies on Pickering B refurbishment; and
- Toronto energy supply planning.

As the studies proceed, update presentations will be provided to municipal councils on the findings and conclusions of the Draft EA Study Report upon submission of that report to the CNSC.

Briefing meetings were also held with:

- MPP Peter Tabuns (Toronto-Danforth, March 30th, 2007); and
- The Ontario Ministry of Environment (June 21st, 2007).

### **10.2.2 Community Committees and Events**

OPG conducted a number of presentations and/or attended meetings and community events for various stakeholder groups. Tables 10.2-2 and 10.2-3 provide summaries of the meetings and topics covered in the presentations to committees and business groups.

**TABLE 10.2-2  
PRESENTATIONS TO ESTABLISHED COMMUNITY COMMITTEES**

Community Group	Meeting Date	Topics Covered
Durham Nuclear Health Committee (DNHC)	15-Sept-06	<ul style="list-style-type: none"> <li>Presented Pickering B Project; EA project description; study process and schedule; consultation program and events</li> </ul>
	17-Nov-06	<ul style="list-style-type: none"> <li>Overview and update of Project</li> <li>Community and Stakeholder Consultation to date</li> </ul>
	12-Jan-07	<ul style="list-style-type: none"> <li>Discussion of approach to potential malfunctions and accidents &amp; human health considerations</li> </ul>
	13-April-07	<ul style="list-style-type: none"> <li>Workshop to discuss preliminary assessment findings</li> </ul>
	20-April-07	<ul style="list-style-type: none"> <li>Meeting to solicit feedback and advice on the approach to human health in the Project</li> </ul>
	14-Sept-07	<ul style="list-style-type: none"> <li>Update on Pickering B EA and business case assessment</li> </ul>
	16-Nov-07	<ul style="list-style-type: none"> <li>Update on Pickering B Project, Draft Environmental Assessment Study Report and EA Schedule</li> </ul>
Pickering Community Advisory Council (CAC)	19-Sept-06	<ul style="list-style-type: none"> <li>Overview of EA process</li> <li>CAC participation in EA process discussed</li> </ul>
	10-Oct-06	<ul style="list-style-type: none"> <li>Initiation of Pickering B EA Project</li> <li>Refurbishment business case / assessment feasibility studies and continued operation</li> <li>Consultation program and schedule</li> </ul>
	21-Nov-06	<ul style="list-style-type: none"> <li>Update regarding EA and public consultation process</li> </ul>
	20-Jan-07	<ul style="list-style-type: none"> <li>Update regarding EA</li> <li>Discussion of upcoming CAC consultations</li> </ul>
	20-Feb-07	<ul style="list-style-type: none"> <li>Session to seek advice on design of Stakeholder Workshop #2</li> </ul>
	20-March-07	<ul style="list-style-type: none"> <li>Session to seek input on approach to Human Health considerations</li> </ul>
	17-April-07	<ul style="list-style-type: none"> <li>Continuation session to seek input on approach to Human Health considerations</li> </ul>
	18-Sept-07	<ul style="list-style-type: none"> <li>Update on Pickering B EA and business case assessment</li> </ul>
20-Nov-07	<ul style="list-style-type: none"> <li>EA update including what work had been added, changes to information pertaining to fisheries and transportation management and an overview of malfunctions and accidents, including a discussion of an evacuation scenario</li> </ul>	
Pickering East Shore Community Association (PESCA)	11-April-07	<ul style="list-style-type: none"> <li>Briefing given on Project, emergency response</li> </ul>

**TABLE 10.2-3  
PRESENTATIONS TO ESTABLISHED BUSINESS GROUPS**

Business Group	Meeting Date	Topics Covered
Ajax-Pickering Board of Trade	26-Sept-06	<ul style="list-style-type: none"> <li>Networking event</li> <li>Information materials available</li> <li>Staff on hand to answer questions</li> </ul>
Whitby Rotary Club	30-Jan-07	<ul style="list-style-type: none"> <li>Overview of Project</li> <li>Where Project is at in the EA Process</li> <li>CSCCP activities</li> <li>New nuclear generation at DN site</li> </ul>
Cobourg Probus Club	19-Apr-07	<ul style="list-style-type: none"> <li>Overview of potential refurbishment of Pickering B</li> </ul>

In addition to making presentations to established community committees, OPG reached out into the community to provide information on the PNGS B Project and the EA study to residents and the general public. OPG attended a number of community events at which information about the PNGS B Project was disseminated to those in attendance. Through its participation in these types of community events OPG engaged more than 1000 people directly in discussions about the Project. Table 10.2-4 lists the events attended, the dates and numbers in attendance.

**TABLE 10.2-4**  
**ATTENDANCE AT COMMUNITY EVENTS**

Venue	Meeting Date & Attendance	Description
Ajax Family Festival and Trade Fair	9-Sept-06 200 visitors	<ul style="list-style-type: none"> <li>Booth set up at fair</li> <li>Information materials available for visitors</li> <li>Staff on hand to answer questions</li> </ul>
	8-Sept-07 141 visitors	<ul style="list-style-type: none"> <li>Booth set up at fair</li> <li>Information materials available for visitors</li> <li>Staff on hand to answer questions</li> </ul>
Durham Region Economic Prosperity Conference	11-Oct-06 75 visitors	<ul style="list-style-type: none"> <li>Sponsored event</li> <li>Table top display</li> <li>Information materials available</li> <li>Staff on hand to answer questions</li> </ul>
Pickering Town Centre Display	19 to 22-Oct-06 150 visitors	<ul style="list-style-type: none"> <li>Display booth</li> <li>Information materials available</li> <li>Staff on hand to answer questions</li> </ul>
Pickering Ajax Uxbridge Energy Forum	24-Feb-07 150 visitors	<ul style="list-style-type: none"> <li>Booth set up at forum</li> <li>Information materials available for visitors</li> <li>Staff on hand to answer questions</li> </ul>
Canadian Nuclear Association Conference	28-Feb to 1-Mar-07 150 visitors	<ul style="list-style-type: none"> <li>Booth set up at conference</li> <li>Information materials available for visitors</li> <li>Staff on hand to answer questions</li> </ul>
Metro East Home & Garden Show	2 to 4-Mar-07 180 visitors	<ul style="list-style-type: none"> <li>Booth set up at show</li> <li>Information materials available for visitors</li> <li>Staff on hand to answer questions</li> </ul>
Pickering Town Centre Display	8 to 11-Mar-07 330 visitors	<ul style="list-style-type: none"> <li>Booth set up at Town Centre</li> <li>Information materials available for visitors</li> <li>Staff on hand to answer questions</li> </ul>
Ajax Public Library	31-Mar-07 18 visitors	<ul style="list-style-type: none"> <li>Booth set up in library</li> <li>Information materials available for visitors</li> <li>Staff on hand to answer questions</li> </ul>
Scarborough Town Centre	14 to 15-Apr-07 230 visitors	<ul style="list-style-type: none"> <li>Booth set up in mall</li> <li>Information materials available for visitors</li> <li>Staff on hand to answer questions</li> </ul>
Whitby Home & Garden Show	20 to 22 Apr-07 54 visitors	<ul style="list-style-type: none"> <li>Booth set up in arena complex</li> <li>Information materials available for visitors</li> <li>Staff on hand to answer questions</li> </ul>
OPG Charity Trust Kick-off Barbeque	11-Sept-07 25 visitors	<ul style="list-style-type: none"> <li>Booth set up at event</li> <li>Information materials available for visitors</li> <li>Staff on hand to answer questions</li> </ul>

Generally, people who attended these events were unaware of the proposed Project, but showed great interest in learning about it and obtaining available literature. Many visitors wished to engage in discussion about the nature of the works and activities involved in the Project. People expressed views in support of and in opposition to refurbishment. The safety of an aging plant was expressed as a concern, as was the lack of a long-term plan to manage used nuclear fuel. Many expressed the view that the use of alternative and renewable energy sources should be further pursued. Others noted that OPG and the Pickering B make a positive contribution to the economy, and that the energy sector is an important contributor to the Region.

### **10.2.3 Stakeholder Interviews**

Interviews were held with five of the twelve identified stakeholder groups contacted, noted in Section 10.1.3.6. At least four attempts were made to make contact either by telephone and/or by e-mail, where possible.

The following summarizes comments and concerns raised by the interviewed parties.

The Project: Stakeholders were interested in the impacts of the Project on the site, including site security and plant condition and obsolescence. Some also expressed an interest in the interrelationship of this Project with the operations at PNGS A. One stakeholder expressed interest in the effects that the Project would have on thermal discharge from the site. The management and handling of nuclear wastes associated with the Project was also mentioned by a number of stakeholders. It was noted that long-term storage of wastes at the site would not be acceptable to the community.

The EA: Stakeholders found the studies being carried out for the EA to be comprehensive. Environmental effects of the Project were of interest, especially the identification of any aspects of the local environment that could be harmed. It was noted that this process should exceed regulatory expectations, not just meet them. One group identified their expertise with respect to the identification of flora and fauna for the study and offered to provide comment and assistance. An interest in energy conservation as an alternative to new or refurbished generation was also mentioned.

Communications and Consultations: The range of communications activities seemed appropriate to the stakeholders who were interviewed. There was interest in a workshop to discuss the Project in more detail, primarily in the areas of flora and fauna, and EA methodology. There was also interest in follow-up interviews. A concern was noted that the community is being over-consulted and was being asked to spread limited time over various projects taking place. Working with existing community advisory groups may be one way to help manage the

demands. Stakeholders felt the contemplated consultation and communication activities were adequate for the project.

All comments were noted and documented in the Stakeholder Interview Report, attached as Appendix E of the TSD for Public Consultation. A summary of all the key questions and comments raised throughout the public consultation activities is reported in Section 10.3.

#### **10.2.4 Project Newsletters**

The first issue of *EA News* was distributed in August 2006. It discussed OPG's plans to undertake a feasibility study on refurbishment of PNGS B. For EA purposes the newsletter explained what refurbishment means and gave an overview of the steps that must be carried out in the EA process, as well as the overall project schedule. This edition also invited the public to attend the first round of Open Houses providing dates, times and locations. Contact information was also provided. A copy of the newsletter is attached as part of Appendix F in the TSD for Public Consultation.

The second edition of *EA News* was produced and distributed in November 2006. This edition gave a brief Project overview and an in-depth look at the roles and responsibilities of the CNSC, OPG and the public throughout the EA process. One article highlighted the senior OPG management involved in the Project. The newsletter outlined the work completed to date in the process and discussed how Valued Ecosystem Components (VECs) are selected. An update was given on public consultation and communication activities held, including a question and answer section for commonly asked questions from the public. The public was informed of the next steps in the process and were invited to take part in the second round of Open Houses. A list of Open House dates, times and locations was provided. The newsletter also included contact information and a special article on the Senior Vice President of OPG. A copy of the newsletter is attached as part of Appendix G in the TSD for Public Consultation.

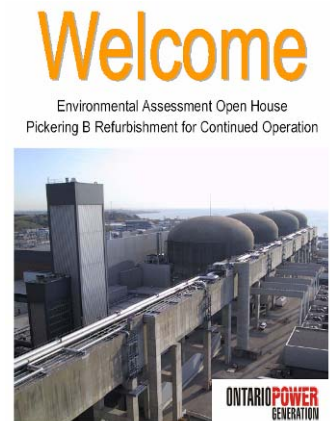
A third edition of *EA News* from PNGS B was produced and distributed in April 2007. The newsletter provided a more in-depth discussion of the Project works and activities and described some of the preliminary findings from various environmental studies. The newsletter also profiled OPG Director of Licensing for Nuclear Generation Development Laurie Swami. In addition to a question and answer section on frequently asked questions, it also provided dates, times and locations for the third round of Open Houses. A copy of this newsletter is attached as part of Appendix H in the TSD for Public Consultation.

A fourth edition of *EA News* was produced and distributed in November 2007. The newsletter provided more information on additional EA topics of public interest including Seismicity,

Heavy Water management and Malfunctions and Accidents. In addition, the newsletter described other aspects of the business case assessment for the potential refurbishment of Pickering B that OPG was undertaking at that time, including the Integrated Safety Review and Plant Condition Assessments. The newsletter also included the next steps in the EA process, and an overview of the Public and Community Consultation Program. A copy of the newsletter is attached as a supplement to the TSD.

### 10.2.5 Open Houses

Three rounds of EA Open Houses were planned for the PNGS B Project. For the first two rounds, four EA Open Houses were held per round from 3:00 p.m. to 9:00 p.m. with a presentation at 7:00 p.m. A third round of Open Houses was held in May 2007. Five EA Open Houses were held from 3:00 p.m. to 9:00 p.m. with a presentation at 7:00 p.m. A total of 331 visitors attended the three rounds of consultation. The Open Houses were considered a success in meeting the objectives of the CSCCP and positive feedback was provided by many of the stakeholders who visited them.



Each Open House consisted of a sign-in registration table, panel boards describing the PNGS B Project and the EA process; a power point presentation given by OPG staff and EA team consultants describing the Project; information/handouts including copies of the panels, the project newsletter; invitation card; draft CNSC guidelines, and a questionnaire/comment form. For the first round, a preliminary VEC list comment sheet was available for public comment. Visitors were greeted upon arrival by Open House staff, invited to sign in and provided a hard copy of the display panels and related project information. Visitors were then invited to peruse the display material and were introduced to an OPG or EA consulting team representative who explained the purpose of the project, the sequence of the information displays and offered to answer any questions or discuss any concerns the visitor may have. Colouring materials were also available for children at the second and third rounds of Open Houses.

A presentation was also given at each venue, followed by a question and answer period where visitors could ask for further clarifications, questions or give views on the Project. All visitors were encouraged to complete a comment/questionnaire form to document their concerns and questions. Copies of the panels, power point presentation slides and comment forms are included in Appendices F, G and H in the TSD for Public Consultation.

Following each Open House, OPG staff and members of the EA consulting team provided a summary of their conversations with attendees. These summaries, together with the comment

forms from each Open House were used to identify public issues, concerns and questions that needed to be addressed. A report of each round of Open Houses was prepared, including an analysis and summary of the questionnaire and comment forms. Written responses were provided to any outstanding questions or concerns raised at the Open Houses or on the comment forms. The reports are attached as Appendices F, G and H in the TSD for Public Consultation.

#### 10.2.5.1 *First Round of Open Houses*

The first round of EA Open Houses was held during the week of September 18<sup>th</sup>, 2006. The purpose of these Open Houses was to inform the public about OPG's plan to undertake a business case feasibility study on the work required to refurbish PNGS B for continued operation, to describe the components and activities included in the Project, to present the EA process and schedule, to present a preliminary list of VECs, and to provide an opportunity for the public and community stakeholders to ask questions, provide comments on the proposal and identify any concerns or issues.



The first round of Open Houses were held at the locations and dates listed below in Table 10.2.5.

**TABLE 10.2-5  
FIRST ROUND OPEN HOUSE DATES AND LOCATIONS**

Location	Date	Venue
Pickering	Monday September 18 <sup>th</sup>	Pickering Recreation Complex, O'Brien Rooms 1767 Valley Farm Road, Pickering, ON
Ajax	Tuesday September 19 <sup>th</sup>	Ajax Community Centre, HMS Room 75 Centennial Road, Ajax, ON
Toronto East	Wednesday September 20 <sup>th</sup>	Royal Canadian Legion, Banquet Hall 45 Lawson Road, Scarborough, ON
Whitby	Thursday September 21 <sup>st</sup>	Sports Garden Café, Iroquois Room 500 Victoria Street, Whitby, ON

The public and stakeholders were notified of and invited to attend the public EA Open Houses in four different ways.

1. Approximately 154,000 Open House invitation cards were distributed to households in the Consultation Program area of focus.
2. Issue One of *EA News* which included an announcement of the Open Houses, was distributed to all households within the focus area in August 2006.

3. Invitation letters were mailed to the 245 identified persons, businesses and organizations on the stakeholder list:
4. Advertisements inviting the public to attend any of the four Open Houses were placed in the newspapers listed below (Table 10.2-6) on the dates indicated.

**TABLE 10.2-6**  
**FIRST ROUND NEWSPAPER ADVERTISEMENT DATES**

<b>Newspaper</b>	<b>Circulation</b>	<b>Dates Advertised</b>
Ajax News Advertiser	circulation 25,296	September 13 <sup>th</sup> , 15 <sup>th</sup> , 17 <sup>th</sup> 2006
Pickering News Advertiser	circulation 24,604	September 13 <sup>th</sup> , 15 <sup>th</sup> , 17 <sup>th</sup> 2006
Scarborough Mirror	circulation 115,150	September 13 <sup>th</sup> , 15 <sup>th</sup> 2006
Whitby This Week	circulation 30,000	September 13 <sup>th</sup> , 15 <sup>th</sup> , 17 <sup>th</sup> 2006
Oshawa This Week	circulation 48,000	September 13 <sup>th</sup> , 15 <sup>th</sup> , 17 <sup>th</sup> 2006
Clarington This Week	circulation 24,350	September 13 <sup>th</sup> , 15 <sup>th</sup> , 17 <sup>th</sup> 2006

### ***Results of First Round Open Houses***

In total, 103 visitors attended the first round of Open Houses, with 57 taking part in the presentations. A summary of those written and verbal comments and concerns received from visitors at the Open Houses indicated that:

- The majority of visitors sought to learn more about the Project, the VECs and the EA process, specifically, the scope of the environmental studies included in the EA.
- Visitors sought clarification on the roles and responsibilities of the CNSC and how a decision was made to do a screening level EA and whether a comprehensive study EA would be more appropriate.
- Public questions were raised with respect to the safety of storing nuclear waste and the interim nature of the used fuel storage currently at the PN site. Many questions revolved around whether the Project would cause any health and/or environmental effects.
- Questions were also focused on viewpoints that there has been a lack of consideration given to alternative energy sources or conservation, and what the true cost of such a project would be on society.

Public input provided an opportunity for OPG and the EA consulting team to build on its relationship with its stakeholders. A summary of all the key questions and comments raised throughout the public consultation activities is reported in Section 10.3.

**10.2.5.2 Second Round of Open Houses**

The second round of EA Open Houses was held during the week of December 4<sup>th</sup>, 2006. The topics of these Open Houses was to update the public on progress of the EA; present preliminary findings of studies documenting the existing environmental conditions and obtain related local knowledge from the public; seek the views of the public on project interactions with the environment; present revisions to the list of VECs resulting from public input; outline future steps in the EA study; respond to public questions, comments and issues; and continue developing and building upon existing relationships in the community.

The second round of Open Houses were held at the locations and dates listed below (Table 10.2-7).

**TABLE 10.2-7  
SECOND ROUND OPEN HOUSE DATES AND LOCATIONS**

Location	Date	Venue
Whitby	Monday December 4 <sup>th</sup>	Centennial Community Centre, Regal Room 416 Centre Street, Whitby, ON
Ajax	Tuesday December 5 <sup>th</sup>	McLean Community Centre, Banquet Hall 95 Magill Drive, Ajax, ON
Toronto East	Wednesday December 6 <sup>th</sup>	Royal Canadian Legion, Banquet Hall 45 Lawson Road, Scarborough, ON
Pickering	Thursday December 7 <sup>th</sup>	Ontario Power Generation, Cafeteria 889 Brock Road, Pickering, ON

The public and stakeholders were again notified of and invited to attend the public EA Open Houses in four different ways.

1. Approximately 154,000 Open House invitation cards were distributed to households in the Consultation Program focus area.
2. Issue two of *EA News* which included an announcement of the Open Houses was distributed to all households within the focus area in November 2006.
3. Invitation letters were mailed to 260 identified persons, businesses and organizations on the stakeholder list:
4. Advertisements inviting the public to attend any of the four Open Houses were placed in the newspapers listed below (Table 10.2-8) on the dates indicated.

**TABLE 10.2-8  
SECOND ROUND NEWSPAPER ADVERTISEMENT DATES**

<b>Newspaper</b>	<b>Circulation</b>	<b>Dates Advertised</b>
Ajax News Advertiser	circulation 25,296	November 22 <sup>nd</sup> , 24 <sup>th</sup> , 26 <sup>th</sup> and 29 <sup>th</sup> December 1 <sup>st</sup> and 3 <sup>rd</sup>
Pickering News Advertiser	circulation 24,604	November 22 <sup>nd</sup> , 24 <sup>th</sup> , 26 <sup>th</sup> and 29 <sup>th</sup> December 1 <sup>st</sup> and 3 <sup>rd</sup>
Scarborough Mirror	circulation 115,150	November 22 <sup>nd</sup> , 24 <sup>th</sup> , and 29 <sup>th</sup> December 1 <sup>st</sup>
Whitby This Week	circulation 30,000	November 24 <sup>th</sup> and 26 <sup>th</sup> December 1 <sup>st</sup> and 3 <sup>rd</sup>
Oshawa This Week	circulation 48,000	November 24 <sup>th</sup> and 26 <sup>th</sup> December 1 <sup>st</sup> and 3 <sup>rd</sup>

### *Results of Second Round Open Houses*

In total, 98 visitors attend the second round of Open Houses, with 55 people taking part in the presentations. A summary of those written and verbal comments and concerns received from visitors at the Open Houses indicated that:

- The majority of visitors sought to learn more about the nature of the Project, its fuel supply and the health, environmental and socio-economic effects;
- Some stakeholders wanted further explanation on the roles and responsibilities of the CNSC in the EA process;
- Concerns for safety of the plant and its nuclear waste storage facilities, and particularly the long-term solutions for storage of used fuel continued to be raised;
- Some public inquired into what emergency preparedness measures OPG has in place;
- Others questioned the lack of consideration being given to conservation or alternative means of generating the electricity that would be produced by the Project.



A more detailed summary of the key public and stakeholder comments and concerns received at the EA Open Houses and the OPG responses is included in Section 4.3 of the TSD for Public Consultation. A summary of all the key questions and comments raised throughout the public consultation activities is reported in Section 10.3.

**10.2.5.3 Third Round of Open Houses**

The third round of EA Open Houses was held during the weeks of April 30<sup>th</sup> and May 7<sup>th</sup>, 2007. A fifth open house venue in Toronto (Scarborough) was added for this round of consultation to ensure that the interests of Torontonians were addressed. This matter was raised by stakeholders during the January 2007 CNSC hearing on the EA guidelines for this Project.

The topics of these Open Houses were to present the findings of the Draft EA Study Report to the public for their review and comment before finalizing the report for submission to the CNSC. In this round, Open Houses were held on the dates and at the locations listed below in Table 10.2-9).

**TABLE 10.2-9  
THIRD ROUND OPEN HOUSE DATES AND LOCATIONS**

<b>Location</b>	<b>Date</b>	<b>Venue</b>
Whitby	Tuesday May 1 <sup>st</sup>	Centennial Community Centre, Regal Room 416 Centre Street, Whitby, ON
Pickering	Wednesday May 2 <sup>nd</sup>	Ontario Power Generation, Cafeteria 889 Brock Road, Pickering, ON
Ajax	Thursday May 3 <sup>rd</sup>	Ajax Community Centre, HMS Room 75 Centennial Road, Ajax, ON
Toronto (Scarborough)	Monday May 7 <sup>th</sup>	Scarborough Civic Centre 150 Borough Drive, Scarborough, ON
Toronto (Scarborough)	Wednesday May 9 <sup>th</sup>	Royal Canadian Legion, Banquet Hall 45 Lawson Road, Scarborough, ON

The public and stakeholders were again notified of and invited to attend the public EA Open Houses in four different ways.

1. Approximately 154,000 Open House invitation cards were distributed to households in the Consultation Program focus area.
2. Issue three of *EA News*, which included an announcement of the Open Houses, was distributed to all households within the focus area in April 2007.
3. Invitation letters were mailed to 304 identified persons, businesses and organizations on the stakeholder list:
4. Advertisements inviting the public to attend any of the five Open Houses were placed in the newspapers listed below (Table 10.2-10) on the dates indicated.

**TABLE 10.2-10  
THIRD ROUND NEWSPAPER ADVERTISEMENT DATES**

<b>Newspaper</b>	<b>Circulation</b>	<b>Dates Advertised</b>
Ajax News Advertiser	circulation 25,296	April 22 <sup>nd</sup> , 25 <sup>th</sup> , 27 <sup>th</sup> and 29 <sup>th</sup>
Pickering News Advertiser	circulation 24,604	April 22 <sup>nd</sup> , 25 <sup>th</sup> , 27 <sup>th</sup> and 29 <sup>th</sup>
Scarborough Mirror	circulation 115,150	April 18 <sup>th</sup> , 20 <sup>th</sup> , 25 <sup>th</sup> and 27 <sup>th</sup>
Whitby This Week	circulation 30,000	April 20 <sup>th</sup> , 25 <sup>th</sup> and 27 <sup>th</sup>
Oshawa This Week	circulation 48,000	April 20 <sup>th</sup> , 25 <sup>th</sup> and 27 <sup>th</sup>
Metro (Toronto Edition)	circulation 300,000	April 25 <sup>th</sup> and May 2 <sup>nd</sup>
The Toronto Star	circulation 500,000	April 25 <sup>th</sup> and May 2 <sup>nd</sup>

### ***Results of Third Round Open Houses***

In total, 130 visitors attend the third round of Open Houses, with 66 people taking part in the presentations. The majority of visitors sought to learn more about the Project and the EA process. They asked questions and inquired about:

- Tritium;
- Seismicity;
- Human health;
- Integrated Safety Report/Safety/Accidents;
- Traffic;
- Aquatic and Surface Water;
- Greenhouse gas emissions;
- Nuclear waste management;
- Are alternative energy sources considered in the EA;
- EA methodology and process;
- Siting of a nuclear facility; and
- Project costs.

A more detailed summary of the key public and stakeholder comments and concerns received at the EA Open Houses and the OPG responses is included in Section 4.3 of the TSD for Public Consultation. A summary of all the key questions and comments raised throughout the public consultation activities is reported in Section 10.3.

Feedback received from visitors to the Open Houses will be carefully assessed and, where appropriate, incorporated into the final revised Draft EA Study Report.

## 10.2.6 Workshops

### First Workshop

The purpose of the first workshop was to establish a dialogue with stakeholders about the approaches to be used in the EA study in two key areas: significance criteria and cumulative effects assessment.

The specific objectives for the workshop were to:

- Present and explain (a) the proposed methodology for applying significance criteria in the environmental effects assessment of the EA and (b) the proposed approach to conducting the cumulative effects assessment;
- Receive participants' comments on the proposed significance criteria and cumulative effects assessment methodologies;
- Receive suggestions as to existing and proposed projects that should be considered in the cumulative effects assessment;
- Continue to develop and build positive relationships in the community; and
- Meet or exceed regulatory requirements to engage the public in an open and traceable manner.

All those who confirmed attendance at the workshop were forwarded an information package for review prior to the meeting that included an agenda and a high level overview of the concepts of significance criteria and cumulative effects assessments. Upon arrival participants were provided with: a workshop agenda; a figure depicting the EA process for project effects and significance; examples of matrices used to describe significance criteria; and a comment sheet.

#### **10.2.6.1 First Workshop Results**

This section presents a synopsis of questions that were asked, and themes that emerged from the stakeholder feedback.

#### ***Significance Criteria***

The proposed methodology for applying significance criteria in the environmental effects assessment of the EA was reviewed with the workshop participants. A generic framework was presented, which included seven distinct criteria and three effects levels (e.g. low – medium – high).

Feedback:

Overall, participants found the EA framework for determining effects significance to be reasonable. However, they noted that good explanations and clarifications are needed when presenting the framework and assessment results so that the process is transparent and people can properly understand it. For example:

- An understanding of VECs is required to appreciate how the framework is applied, so a description of VECs should be included in the context of the effects significance discussion;
- People asked how an effect is measured when there are no clear standards or guidelines against which to measure them. Hence, a clear explanation of the basis for the effect level definitions and the decision rules applied in determining the level of each effect for each criterion is called for when presenting the results of the significance assessment;
- They also wanted to know how the various effects level ratings can be combined into an overall significance rating, since the criteria and effects level definitions are so variable – “it’s like combining apples and oranges”. The write-up of effects significance determination will have to make these judgements explicit so the assessment process is transparent.

Participants also made specific suggestions about the criteria:

- Consider being specific about timeframes in the ‘Reversibility’ criterion;
- Add financial (re Project cost) and risk/benefit criteria;
- Consider human health and safety when assessing project effects; and
- Clarify the spatial extent of the assessment out over the lake.

Some felt that positive effects should also be assessed, not just adverse effects.

Strong agreement emerged from the discussions that human health and safety needs to be very explicitly addressed in the assessment. In addition, as noted, the EA team was asked to consider including in its assessment a measure of cost/economic considerations and the risk/benefit equation of the Project.

### ***Cumulative Effects Assessment***

The proposed approach to conducting the cumulative effects assessment was reviewed with the workshop participants and feedback was sought on what activities or /projects should be considered for cumulative effects.

#### Feedback:

Workshop participants identified numerous activities and projects to be considered in the cumulative effects assessment, which were grouped into six major categories:

### ***Pickering/Durham Region Growth & Development***

A number of participants identified projects and activities related to population growth and development in the Pickering and Durham area. These were seen to potentially interact with the Project in numerous ways:

- There is a pending significant population increase for Pickering associated with the Seaton development. This needs to be considered in emergency planning;
- Infill development in Pickering adds to the population density and traffic flow challenges;
- Highway 407 expansion may have an impact on workforce and materials availability;
- Expansion of Duffin Creek Water Pollution Control Plant and resulting effluents into Lake Ontario may create a cumulative effect with the Project's thermal discharge;
- University of Ontario Institute of Technology programs and OPG jobs for graduates may result in a positive synergistic education and employment effect;
- Durham Strategic Energy Alliance Activities may be enhanced by the Project;
- Construction industry – workforce shortages may create challenges for the Project.

### ***Ontario's Electricity System***

Participants identified a number of projects and activities related to Ontario's electricity system that could interact with the Project. These included refurbishment and life extension of other nuclear power plants, new nuclear generation projects, the retirement of existing coal plants and considerations related to alternative energy sources, conservation and demand management:

- Refurbishment of Darlington;
- New nuclear reactors at Darlington;
- Shut down of coal plants; and
- Building of reactors on the U.S. side (Rochester, New York).

There was a concern expressed that a decision to proceed with this Project could adversely affect options to develop alternative energy sources and conservation programs, and that there was a greater policy commitment to nuclear than to alternative (i.e. so-called green) sources of energy.

### ***Waste Management***

Participants noted that the Project includes additions to the Pickering Nuclear Waste Management Facility. This may result in two cumulative effects: the operation of the existing facility may be compromised by crowding as there is limited space available at PWNMF; and, there may be a cumulative social effect because people will oppose expansion of the interim waste facility in the absence of a time-line for and certainty about development of a facility designed for long-term storage.

### ***Environment***

Participants noted that the effects of climate change and global warming could impact on operations at the PNGS and the functioning of the ageing Ontario electricity grid, which has capacity and maintenance issues.

### ***Health and Safety***

Participants identified the increase in activities associated with public safety and security as potentially relevant for cumulative effects assessment. They felt these activities could affect the availability of resources and create a less stable society as a result of the terrorist threat, and that it should be considered how this pandemic impact on society could affect the Project.

### ***Other Projects/Activities:***

Discharge of toxic substances to lake and groundwater from other users of the lake (those who take water, discharge to or use the lake) was also noted as creating a potential for cumulative effects. The following users were identified:

- St. Mary's cement;
- Auto plants; and
- Water pollution control plants.

Participants also noted that the effects of changes in transportation/traffic volumes and patterns caused by other projects and activities should be considered for possible cumulative effects.

The project team reviewed each of these suggestions against an established set of criteria to determine which projects and activities were integrated into the cumulative effects assessment for this Project. Members of the public will be able to review and comment on the projects that

are included in the cumulative effects assessment during the third round of Open Houses in May 2007.

A copy of the first workshop report is included in Appendix I of the TSD for Public Consultation.

A summary of all the key questions and comments raised throughout the public consultation activities is reported in Section 10.3.

### Second Workshop

A second workshop was held on April 28<sup>th</sup>, 2007 to present the preliminary findings of key EA studies, and to receive feedback. Areas of discussion were the effects of the project on aquatic and socio-economic environment and human health.

The specific objectives for the workshop were to:

- Provide an overview of the preliminary findings of select EA studies and how public and agency feedback has influenced the Project;
- Provide opportunities for participants to engage in interactive dialogue with technical experts and among themselves about the EA; and
- Solicit feedback and commentary on the potential effects, proposed mitigation measures and areas of significance identified to date.

All those who confirmed attendance at the workshop were forwarded an information package for review prior to the meeting that included an agenda, an overview of the approach to EA, a cumulative effects map, the interaction matrix and a copy of the third edition Project newsletter. Upon arrival participants were provided with: an icebreaker exercise form, an evaluation and comment sheet and a workbook containing copies of the presentations, assessment tools and worksheets for roundtable discussions.

#### **10.2.6.2      *Second Workshop Results***

This section presents a synopsis of questions that were asked, and themes that emerged from the stakeholder feedback.

#### ***Pickering B Refurbishment and Continued Operation Project Overview***

Discussion following this presentation focused on OPG's business case process, government involvement in decision-making, how this project compares to the work done at Pickering A,

whether this type of refurbishment has been done before, and the physical process of refurbishing the plant.

### ***Environmental Assessment Process***

The questions raised during this presentation related to the boundaries of the three study areas (site, local and regional), the nature of the federal process for reviewing the EA, availability of maps showing the tritium in the atmosphere and groundwater, and how security and Aboriginal interests have been factored into the process. Specific examples of effective ways of engaging Aboriginal groups were offered (e.g., conference calls).

### ***Preliminary Findings - Aquatic Effects***

The Aquatic Environment presentation included consideration of effects on surface water, groundwater and aquatic biota (fish, eggs, larvae, etc.) and aquatic habitat effects. The preliminary findings focused on three areas of potential residual effects:

- The thermal plume;
- Fish impingement and entrainment; and
- Tritium in groundwater.

During the presentation participants sought clarification about the levels and location of the tritium found in the groundwater and how tritium would be controlled during refurbishment. Stakeholders were interested in the analysis done on the thermal plume, global warming and seismicity. It was stated that there is an Aboriginal cultural tradition to consider the interest of the next seven (7) generations when decisions are being made.

### ***Aquatic Roundtable Discussion***

There were six participants in the aquatic group discussion; the group had a wide-ranging discussion about the three environmental effects identified in the presentation: the thermal plume (including aquatic habitat and biota), fish impingement and entrainment, and tritium in the groundwater. The participants acknowledged that these effects were a feature of existing operations not solely related to refurbishment. The following items were discussed:

- Participants questioned whether the cumulative effects of global warming and the Project-related effect of the thermal plume had been considered in the EA, and whether the effects of the thermal plume on algae had been addressed. Additional mitigation suggestions were proposed.

- Some participants expressed concerns about zebra mussels and various control measures. Others questioned whether the Aquatic assessment considered the potential for dust and sediment from construction activities to collect in surface water, and whether any of that could be radioactive.
- Some workshop participants felt that there would be an improvement in fish levels during refurbishment activities (because fewer reactors would be operating), while others suggested that fish impingement and entrainment levels would stay the same or get worse. Several suggestions were made to mitigate impingement.
- Participants questioned whether the long-term impacts of tritium had been considered. Participants also discussed whether consideration had been given to the accumulation of tritium and other contaminants in the EA. Suggestions for mitigation included capturing the tritium for other uses and/or reducing the levels of tritium produced.

### ***Preliminary Findings - Social and Economic Effects***

The Socio-Economic Environment presentation included a discussion of potential effects on population and economic base; land use; community infrastructure; community services; municipal finance and administration; residents and communities; and transportation. The preliminary findings focused on four areas of potential residual effects:

- Increased local traffic at nearby intersections;
- Reduced use and enjoyment of property;
- Changes to the regional labour market; and
- Increased involvement of fire and police services.

Following this presentation, participants sought clarification on how the project team had considered the potential for increased stress among residents and drivers, the existing traffic congestion at the intersection of Brock Road and Bayly Street and the impacts of the Project on children and school bus traffic. It was also noted that planned infrastructure works could exacerbate any traffic impacts.

### ***Social and Economic Roundtable Discussion***

There were eight people in the small group discussion in the afternoon. The group elaborated on the four areas of potential socio-economic effects presented, and sought to determine whether parking and housing (availability and costs) had been considered.

### Transportation and Parking

The group discussed the manner in which the potential traffic related effects had been considered, particularly at intersections and during school bus operations, and during periods when the cumulative effects of additional construction-related traffic during the time the Region planned works-related improvements (water main improvements and road reconstruction). The group also discussed parking related effects. Some questioned how off-site transportation of low and intermediate level radioactive waste had been considered in the EA.

The group suggested that OPG and its contractors needed to take greater responsibility to manage traffic related effects (including parking) during project planning and suggested mitigation measures.

### Use and Enjoyment of Property

Roundtable participants discussed the manner in which the effects on users of the Waterfront Trail and the timeframe associated with the effects had been considered in the EA. Participants indicated that disruption of use of the waterfront trail is a loss to the community and suggested that some form of offset should be considered for the disruption.

### Regional Labour Market

Workshop participants discussed whether the studies had considered the real possibility of a worker shortage; the source of the workers (local or not); and the indirect effects in the local area of increased numbers of workers (for example increased demands on local accommodations, restaurants and other facilities). Suggestions to alleviate these concerns were put forward.

### ***Preliminary Findings - Human Health Effects***

The Human Health presentation addressed the potential effects of the Project on: physical well-being (including potential effects of radiation and radioactivity, atmospheric, surface water and groundwater contamination); mental well-being (behavioural considerations); and social well-being (socio-economic conditions) of workers and the general public. This presentation also discussed the potential for radiological and nuclear malfunctions and accidents, and related emergency response.

The questions received following the human health presentation related to the reporting of health indicators at PN, and an epidemiological study that was conducted by the Durham Region Health Department. It was also pointed out that the Métis Nation of Ontario did a study related to

mental health in their community and were interested to know if the Pickering project could affect the Métis community.

### ***Health Roundtable Discussion***

There were eleven people in this discussion group. Participants sought clarification on a number of questions related to human health as it relates to the EA study.

The emphasis of the group was on emergency planning and response, particularly should an off-site (non-nuclear) emergency such as a train derailment require an evacuation of residents. Concern was expressed that evacuation of the area surrounding the PN site would be complicated by the estimated 2,000 additional workers on site during refurbishment activities. The need to effectively prepare for and communicate during an emergency and to educate the public about emergency measures was emphasized.

To promote confidence in the plant, participants suggested that the public be made aware of some of the security measures in place at the PN site, such as the presence of armed guards.

There was considerable discussion about the health and safety of workers and members of the public, including radiation doses. It was suggested that worker stress should be considered as a potential health effect.

Participants questioned whether a nuclear generating station would be built today near such a heavily populated area, and sought clarification about what will happen in 2060 when the Pickering B station is at its end-of life, whether decommissioning can be done safely, and whether there is a safety problem in having a very old reactor building and calandria until 2060.

Details of the workshop discussion can be found in the second workshop report, Appendix J of the TSD for Public Consultation.

A summary of all the key questions and comments raised throughout the public consultation activities is reported in Section 10.3.

### **10.2.7 Information Line**

The toll-free information line became operational in August 2006 and the number was included on all invitation cards, newsletters and in all Open House handout information. Thirty-eight (38) phone calls were received from citizens with questions and/or concerns between August 2006 and November 2007. Most callers sought information or clarification about the upcoming EA Open Houses, provided comments on materials received in the mail, or requested more details on the PNGS B Project and other OPG related subjects such as employment opportunities.

### 10.2.8 Website and Internet Consultation

Currently, the Website consists of six main sections:

1. Overview of the PNGS B Refurbishment Feasibility Study;
  - This section provides an overview of the work activities associated with the Project and the feasibility study;
2. Environmental Assessment
  - Explains that OPG submitted a Draft Environmental Assessment Study Report (EASR) to the Canadian Nuclear Safety Commission in the summer of 2007 and contains the draft EASR and Technical Support Documents for interested parties to download and review;
3. Public involvement and consultation activities
  - This section provides multiple ways for the public to contact the project (by phone, mail, e-mail,) and lists upcoming public involvement and consultation activities;
  - It also provides an interactive and online feedback function, so that members of the public who cannot attend events in person, can participate fully;
  - Presentation of information material from Open Houses and other consultation events with a mechanism for people to provide feedback;
  - The Draft and Revised VEC lists were posted, with an invitation to comment and provide feedback;
  - Presentations and Briefings – an automatic briefing request function invites groups and organizations to submit requests to receive a briefing or presentation on the Project;
  - Reports – A listing of Reports from public consultation activities including Open Houses, Workshops and Stakeholder Interviews for the public to download and review;
4. Frequently Asked Questions
  - In August 2007 OPG posted a summary document of questions and comments that had been asked by the public throughout the consultation process. The document also contained detailed answers to those questions and comments;
5. A repository of information and reports (More Information)
  - This section includes copies of media releases, project information sheets, newsletters, the EA Guidelines, open house panels, and project reports once they are finalized. It also includes a section for CNSC Project related information, including the Draft and Final EA Guidelines, CNSC notices of public hearings, etc.
6. Contact page

The material on the Website was updated on a regular basis to ensure that it was current and to reflect the progress of the PNGS B EA study. The Website link was advertised in all issues of the Project newsletter, invitation cards and letters as well as at the Open Houses.

An email address was set up to provide the public with a means of contacting the EA study team electronically with any questions, comments or requests for information regarding the EA. The email address was: pickeringb@opg.com. A number of e-mails were received requesting more information about the Project and employment opportunities. Responses were provided and appropriate action was taken for all emails received.

### 10.2.9 Employee Communications

OPG shared information with employees about the Pickering B EA in a number of ways:

- Articles were placed in OPG employee newsletters, both electronic and hard copy. To date, twelve (12) employee articles have been published.
- Six (6) employee information sessions were held in September, November and December 2006 and April 2007 prior to the Open Houses, so that employees could review the materials.
- Employee lunch and learn sessions are held on the third Thursday of each month to enable staff to delve into selected topics of interest. Eight (8) Lunch and Learn sessions on topics related to the PNGS B Refurbishment and Continued Operation EA were held in October and November 2006 and January, February, March, May, June and November 2007.

Table 10.2-11 provides a summary of activities and communications targeted to staff.

**TABLE 10.2-11  
SUMMARY OF OPG EMPLOYEE COMMUNICATIONS & ACTIVITIES**

Date	Media / Topic
<b>Articles Published</b>	
June 30, 2006	Article in <i>Pickering The Source</i> (Pickering B Refurbishment)
July 12, 2006	Article in <i>Pickering News</i> (Pickering B Refurbishment)
August 3, 2006	Article in <i>Pickering The Source</i> (OPG launches federal environmental assessment)
September 8, 2006	Article in <i>Pickering The Source</i> (Public consultation key part of refurbishment studies)
September 18, 2006	Article in <i>Darlington On Site</i> (Public consultation key part of refurbishment studies)
September 20, 2006	Article in <i>Pickering News</i> (Public consultation key part of refurbishment studies)
November 24, 2006	Article in <i>Power News</i> (Busy nuclear public consultation line-up for November/December 2006)

**TABLE 10.2-11 (Cont'd)**  
**SUMMARY OF OPG EMPLOYEE COMMUNICATIONS & ACTIVITIES**

<b>Date</b>	<b>Media / Topic</b>
<b>Articles Published</b>	
January 25, 2007	Article in <i>Pickering The Source</i> (CNSC Hearing)
April 19, 2007	Article in <i>Pickering The Source</i> (Invitation to employee information session)
April 27, 2007	Article in <i>Power News</i> (CNSC asks for screening level assessment on Pickering B Refurbishment)
May 25, 2007	Article in <i>Power News</i> (Pickering B Refurbishment open houses continue)
October 12, 2007	Article in <i>Power News</i> (Pickering B assessment continues)
<b>Employee Information Sessions</b>	
September 15, 2006	Introduction to the Project and the EA
November 27, 2006	Overview of the Existing Environment studies
December 1, 2006	Overview of the Existing Environment studies
April 23, 2007	Preliminary findings of the Environmental Studies
April 24, 2007	Preliminary findings of the Environmental Studies
April 27, 2007	Preliminary findings of the Environmental Studies
<b>Employee Lunch and Learn Sessions</b>	
October 19, 2006	Introduction to the Project and the EA
November 16, 2006	Pickering B Plant Condition Assessment Studies
January 18, 2007	OPG Contracting Strategy associated with refurbishment
February 15, 2007	Integrated Safety Review at Pickering B
March 15, 2007	Preliminary results of the EA
May 17, 2007	Process for Dispositioning Integrated Safety Review (ISR) and Environmental Assessment (EA) Gaps.
June 21, 2007	Highlights from the 2007 International Congress on Advances in Nuclear Power Plants (held May 13-16, 2007 in Nice, France)
November 15, 2007	Overview of Periodic Safety Review (PSR)

An update on the Pickering B Project was sent to all Pickering nuclear employees from Pierre Tremblay, Senior Vice President of Pickering B in July 2007. The correspondence updated employees on the business case assessment for the Project, the environmental assessment, Integrated Safety Review, Plant Condition Assessments and the public consultation program.

An internal website for OPG employees was established in August 2007. The website includes a project page on the Pickering B Refurbishment Project. This page includes information on the environmental assessment, plant condition assessment and engineering studies, integrated safety review and financial analysis regarding Pickering B refurbishment. The site is updated on a regular basis.

### 10.2.10 Media Coverage

OPG issued a press release in June 2006, announcing it had commenced the feasibility studies on the refurbishment of Pickering B. On August 3<sup>rd</sup>, 2006 OPG issued a Media Release regarding the commencement of the EA, which was picked up by the following news media and industry publications:

- CNW Group (Canada News Wire) - August 3<sup>rd</sup>, 2006;
- Canadian Press – August 3<sup>rd</sup>, 2006;
- Kitchener-Waterloo Record – August 4<sup>th</sup>, 2006;
- The Globe and Mail – August 4<sup>th</sup>, 2006;
- St. Catherine’s Standard – August 4<sup>th</sup>, 2006;
- The Toronto Sun – August 4<sup>th</sup>, 2006;
- Brantford Expositor – August 4<sup>th</sup>, 2006;
- SNL Energy – August 7<sup>th</sup>, 2006;
- Pickering News Advertiser – August 11<sup>th</sup>, 2006;
- Ajax News Advertiser – August 11<sup>th</sup>, 2006;
- Nucleonics Week – August 24<sup>th</sup>, 2006;
- The Pickering News Advertiser and Ajax News Advertiser – May 18th, 2007 (Entitled “Pickering station on path to excellence”)
- The Pickering News Advertiser – May 25th, 2007 (Entitled “Nuclear environmental studies finished soon”)

OPG invited the media for a visit of the Pickering B facility. On June 20th, 2007 six journalists participated in the visit, which covered the Pickering B station and waste management facilities, and was followed by a presentation on the EA and a question and answer period.

There was media coverage surrounding the nuclear industry and operations at OPG’s nuclear stations in the summer of 2007. Some of those media articles included a few lines on the Pickering B Refurbishment Project as well as topics such as algae, Pickering station operations and nuclear power needs in Ontario. They are listed below for reference.

- CBC- June 25, 2007 (Entitled “Inside nuclear power”);
- The Toronto Star – July 19th, 2007 (Entitled “OPG rapped for month-old breach in reactor duct”);
- The Toronto Star – July 23rd, 2007 (Entitled “Pickering woes fuel debate”).

- The Toronto Star – August 10th, 2007 (Entitled “Algae prompt reactor shutdown”);
- The Toronto Star – August 11th, 2007 (Entitled “long, slow road to meeting nuclear power needs”);
- The Toronto Star – August 11th, 2007 (Entitled “Nuclear renaissance will deliver challenges”);
- The Toronto Star – August 18th, 2007 (Entitled “OPG hurt by Pickering poor power performance”).

In September 2007, OPG ran an advertisement featuring Patrick McNeil, Senior Vice President, Nuclear Generation Development in five local publications including the Oshawa, Whitby and Clarington This Week papers as well as the Pickering News Advertiser and the Ajax News Advertiser. The advertisement told readers about the Pickering B Project as well as other initiatives OPG is undertaking and pointed readers to the OPG website for more information, to request a briefing session, or to share their views with the company.

A series of articles providing updates about the Project were also published in the following media outlets.

- Pickering News Advertiser – June 20<sup>th</sup>, 2006 (Entitled “OPG moves to refurbish ‘B’ reactors”);
- Pickering News Advertiser – August 11<sup>th</sup>, 2006 (Entitled “Revamped nukes welcome if case is made to proceed”);
- Ajax News Advertiser – August 11<sup>th</sup>, 2006 (Entitled “OPG gets okay to begin environmental assessment”);
- Pickering News Advertiser – September 27<sup>th</sup>, 2006 (Entitled “OPG pushing to have Pickering reactors restored”);
- Pickering News Advertiser – April 13<sup>th</sup>, 2007 (Entitled “Guidelines set for nuclear industry”).

### **10.2.11 Aboriginal Community Involvement**

First Nations and Aboriginal communities outlined in Section 10.1.3.13 were sent an initial introductory notification letter to discuss how best to seek their views throughout the EA study process on the potential refurbishment and continued operation of Pickering B. The letter specifically asked:

- Whether the project may have an environmental effect on any lands and resources currently used by Aboriginal peoples for traditional purposes;

- Whether local and traditional knowledge could assist in describing the existing environment; and
- The views of the community on the proposed valued ecosystem components (environmental attributes) that have been identified for the assessment.

Follow-up phone calls were then made to ensure that First Nations and Aboriginal communities received the letters and to inquire how they wanted to be consulted on the project.

First Nations and Aboriginal community stakeholders were also sent invitation letters to the Open Houses, Workshops and kept informed with copies of Project fact sheets, panels, preliminary VEC selections, and the Project schedule sent in October 2006. In most cases, the communities contacted expressed no particular concerns about the Project and were content to receive the Project information material.

The Kawartha Nishnawbe First Nation expressed concern about cultural and archaeological resources that may be destroyed by the Project works and activities. They were advised that the results of archaeological research from previous studies would be included in the EASR, and that the site has been disturbed to a large extent by previous human activity.

In response to a request by the Alderville First Nation to tour the Pickering B station, OPG sought and received approval to conduct an in-station visit, which was held on January 31<sup>st</sup>, 2007. The visit began at the Pickering Information Centre where OPG presented information on nuclear operations, the Plant Life Extension Program and the Aboriginal Valued Ecosystem Components being used in the EA. The presentation was followed by a tour of Pickering B, which focused on the reactor airlocks, the control room, the used fuel pools, and the Pickering Waste Management Facility. A lunch and discussion period followed the tour.

The Alderville Ojibway representatives asked questions regarding: the aging plant and costs to refurbish; life expectancy of heavy water; repercussions for water in the discharge channel; storage of nuclear waste, and operating specifics.

The Métis Council of Oshawa and the Métis Women of Ontario sent representatives to the second workshop in April 2007. They made suggestions on how to improve involvement of aboriginal communities and how the aboriginal thinking concept of thinking ahead seven (7) generations can be helpful in assessing the long-term effects of undertakings.

### **10.3 STAKEHOLDER COMMENTS AND ISSUES**

#### **10.3.1 Issue Management Program**

A comprehensive stakeholder comment and issue management program was initiated as part of the CSCCP, including the development of a Stakeholder Comment Database (SCD) and an Issue database. A review of the CNSC public registry was also conducted to ensure that all comments, questions and issues related to this Project were captured.

Documentation, tracking and follow-up of stakeholder contacts and comments and questions was an important aspect of the CSCCP for the PNGS B Project. The SCD was developed and maintained throughout the Project to keep track of all stakeholder comments and issues that arose, as well as the responses given by OPG.

All stakeholder contacts and comments received were documented on a Stakeholder Comment Record (SCR) form. The SCR included the name of the person and organization, where applicable, a contact telephone number and address, a description of the comment or discussion and any response or action taken or required. This information was then added to the SCD.

Responses were provided to all comments received, as required. Comments and questions were carefully reviewed to identify any issues that required consideration in the Draft EA Study Report. These issues were catalogued in the Issue database according to the EA discipline or area of concern to which they applied, such as air quality, surface water, nuclear waste, human health, etc.

The objective of the issue management program was to address and resolve those matters under discussion, in question or in dispute that may affect the overall quality and acceptability of the EA study and subsequent approval of the Draft EA Study Report.

The ultimate goal of the issue management program was to respond to all comments and successfully resolve all EA-related issues and concerns to the satisfaction of the respective stakeholders. However, on a large complex EA project it is not realistic to expect that every issue can be successfully resolved. The realistic goal was to ensure that all concerns, issues or comments received during the Project were documented, understood, discussed, addressed in an appropriate manner and resolved to the extent reasonably possible. By formally addressing all stakeholder comments and attempting to resolve issues, the EA Project Consulting Team gained a more comprehensive understanding of all stakeholder issues and became better positioned to deal with those issues or concerns in the EA study, during the review of the Draft EA Study Report and in the EA approval process.

### 10.3.2 Summary of Key Questions, Comments and Issues

This section provides a summary overview of the questions, comments and issues that were raised by members of the public and stakeholders through the CSCCP and describes how OPG has responded to these matters either in the Draft EA Study Report, or elsewhere.

The public registry established by the CNSC is a repository of information and public submissions with respect to this Project and the EA study. To ensure that all public comments pertaining to this Project were captured, all submissions posted on the public registry up to May 2007 were also reviewed. The discussion below includes the comments raised through the CSCCP, as well as those raised through the public comment opportunities provided by the CSNC.

Many stakeholders sought more information and/or clarification about the Project and the conduct of the EA study. In addition to those information queries, three categories of comment were received:

- Those dealing with a specific or substantive component of the EA study or the EA methodology:
  - Effects on human health;
  - Nuclear waste management;
  - Effects on the environment including effects on surface water and groundwater, transportation effects, climate change, cumulative effects, mitigation measures and monitoring;
  - Effects of the environment on the Project (e.g. seismicity);
  - Malfunctions and accidents;
  - Safety and security;
  - Emergency Response capability; and
  - Assessment methodology including VECs, the geographic scope and timeframes used in the assessment.
- Those dealing with the level or scope of the EA and the EA process:
  - Level of EA; and
  - Need and Alternatives.
- Those related to the Project:
  - Project Description; and
  - Project Costs.

Each of the above-noted concerns or issues is briefly described in the following section as well as the response provided.

### 10.3.3 Effects on Human Health

#### Comments

Comments and questions concerning the effects of the Project on human health were frequently heard during the EA consultation process. This concern was expressed both directly and indirectly at the Open Houses, at the second stakeholder workshop and in the submissions to the CNSC on the Draft EA Guidelines. Comments about the human health effects of the Project included expressions of concern that:

- Health effects of the Project on nuclear energy workers (NEWs) must be considered;
- The effects of tritium releases on downstream drinking water intakes must be assessed;
- The long-term health effects of nuclear waste may be underestimated;
- During the summer of 2007, the International Institute for Concern of Public Health released a document raising concerns about the validity of the Durham Region Health study ‘Radiation and Health in Durham Region’.

A number of the submissions to the CNSC on the Draft EA Guidelines expressed concern about human health in a more indirect fashion, including:

- Releases of radiation and radioactivity associated with the Project and the potential effects of these on the public and on the workforce involved with the refurbishment;
- The adequacy of Canadian radiological standards; and
- The potential human health impact of a catastrophic accident at PN in light of the proximity of the plant to a large population centre.

#### Response

The EA Guidelines require OPG to assess the effects of the Project on human health. The World Health Organization (WHO) definition of “health” is used in the EA to provide a multi-dimensional approach to the assessment. WHO defines health as “a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity” (1946). The Human Health TSD summarizes the effects on the health of workers and the public identified in the different environmental components and discussed in the EA Study Report. For example, the Surface Water Resources study includes an assessment of the potential effects of the Project on surface water. The Human Health TSD discusses the effects on human health from swimming in or drinking such water using existing water quality standards as points of reference, based on the results from the Surface Water Resources study. This includes consideration of potential tritium releases associated with the Project. The potential effects of expanding the nuclear waste management program at PNGS B to accommodate refurbishment waste and the ongoing management of used fuel are also considered in the EA Study Report and summarized in the Human Health TSD.

In response to the comments provided at the November 2006 stakeholder workshop on Significance Criteria and Cumulative Effects, physical, mental and social well-being criteria were added to the significance criteria applied in the assessment of residual effects (Section 9.1). Also, the human health effects are summarized in Section 5.14 for easy reference and the Human Health TSD provides additional information related to the WHO definition of health. The EA study has assessed the likely Project effects, including cumulative effects of radiation doses through various pathways (breathing, drinking, eating) on the general public and NEWs as well as non-NEWs. Potential radiation doses due to normal operations, refurbishment activities and malfunctions and accidents are described in Sections 5.9.5, 5.9.6, 7.2.4 and 7.3.4. Canadian radiological standards are comparable to European and International standards.

The risks to the health of workers and the public posed by the refurbishment activities and the waste storage facilities were also raised as concerns. All refurbishment activities have been screened and evaluated for effects on workers and the general public. As summarized in Section 5.14, all potential effects have been predicted to be well within regulatory limits. OPG applies standards for radiation exposures that are more stringent than those required by Canadian regulations, and continually works to upgrade facilities and operations to meet or exceed new standards when they are revised.

Plant safety is continuously reviewed as part of the operating licence to ensure that the plant operates without harmful emissions to the surrounding environment.

OPG maintains records of NEWs throughout their period of employment with OPG. This record is carried by the employee to future employers as appropriate. Health Canada maintains a National Dose Registry (NDR) to track occupational exposures to ionizing radiation. The NDR started collecting data from 1951 and now has records for over half a million workers, including well over 100,000 who are currently monitored. It now contains monitoring records back to the 1940s. This database is used for research purposes, and provides dose histories to individual workers and organizations.

### **10.3.4 Nuclear Waste Management**

#### **Comments**

An area of concern raised in the consultation process was the ongoing interim storage of used nuclear fuel on the PN site.

The main concern is that refurbishment and continued operation increases the volumes of used fuel to be stored on site with no firm assurances, after thirty years of “interim” storage, when or whether these wastes would be transferred to a permanent storage or disposal facility. For some,

this issue is further exacerbated by concern about the safety of storing these wastes in an increasingly urbanized area with a growing population.

Related concerns mentioned were:

- The general undesirability of continuing to generate a very long-lived toxic waste that cannot be treated; and
- Concern about the safety of transporting these toxic wastes to long-term storage at the WWMF or elsewhere.

In addition, some of the submissions to the CNSC regarding the Draft EA Guidelines sought detailed information as to the definition and characterization of the radioactive wastes, and the description of waste reduction programs.

### **Response**

Used nuclear fuel has been safely stored at the PN site for more than 30 years and is carefully managed at all times. OPG's Nuclear Waste Management staff are well trained and regard safety and environmental protection as their top priority. Safe work planning, following safe work practices, attention to detail and a safety-conscious work attitude have resulted in an excellent safety record at the PWWF. The CNSC also monitors all activities at the PWWF to ensure operations pose no undue risk to people or the environment.

The Nuclear Waste Management Organization (NWMO) has recommended a risk management approach to the federal government for the long-term management of used nuclear fuel. This approach includes:

- Centralized containment and isolation of used fuel in a deep geological repository;
- Flexibility in the manner and pace of implementation to take full advantage of continuous learning, research and development;
- Continuous monitoring of the used fuel to confirm the safety and performance of the repository; and
- Potential for retrieval of the used fuel until such time as a future society determines an appropriate closure and post-closure monitoring plan.

In 2007, the federal government approved these recommendations. Hence, policies governing long-term used fuel management are under active development, but are beyond the scope of this EA study.

Continued operation of PNGS B for an additional 30 years would require two storage buildings in addition to the four buildings currently approved for the storage of used fuel. The EA Study Report addresses waste management issues associated with the refurbishment and continued operation activities in Section 2.5. Waste volume reduction programs are described as part of existing and ongoing operations in Section 2.5. A full description of all wastes arising from refurbishment is presented in Section 2.7. The analysis of radiation and radioactivity associated with all aspects of the waste arising from the Project is included in Section 5.9.

OPG is in the process of implementing its Solid Waste Minimization Plan. Initiatives to reduce solid waste include using washable cotton liners, rubber gloves and slip-on booties, and reducing packaging at the warehouses before delivery to the station.

Transportation of waste is specifically addressed in Section 2.7.4.

### **10.3.5 Valued Ecosystem Components**

#### **Comments**

During the first round of Open Houses, OPG specifically asked the public and stakeholders to review the preliminary list of VECs proposed for the effects assessment. Suggestions received included: adding bufflehead, trumpeter swan, red fox, New England aster, forage fish species, Northern Mockingbird, Rouge Park, water supply, public health (children), property values, economic base and biological population viability.

#### **Response**

All suggested changes to the preliminary list of VECs were reviewed by the technical specialists for consideration and a number of additions were made to the VEC list as a result of these suggestions. Specifically, bufflehead, trumpeter swan, red fox, and New England aster have been added. Some of the suggestions were already included in the effects assessment methodology (public health, property values, economic base); others are a subset of a larger category (Rouge Park); still others, while not appropriate as VECs (e.g. biological population diversity), are addressed in the effects assessment in other ways.

### **10.3.6 Effects on the Environment**

#### **Comments**

Comments on environmental effects of the Project included the observations that:

- Four-season effects on flora/fauna should be considered;
- Effects to fish due to impingement should be discussed;

- Effects on Lake Ontario related to the thermal plume from cooling water and related growth of algae should be assessed; and
- During the summer of 2007, the topic of algae and its effect on the operation of the Pickering B station resulted in media attention in local publications.

### **Response**

The EA study considered all potential effects of the Project on the atmospheric (air quality and noise), aquatic, terrestrial and socio-economic environmental components, including effects on the Lake, as required by the EA Guidelines. Recent field observations from all seasons of the year have been included as have the data collected from many years of study of the PN site and surrounding area. The results of these studies are reported in various TSDs and in Chapter 5.0.

Valued fish species are infrequently impinged, with fewer than 50-150 individual fish removed from the fish population each year due to the operation of PNGS B. This small quantity of fish is not measurable compared to Lake Ontario fish populations. The largest quantity of fish impinged at PNGS B are alewife (>85%). Alewife are non-native forage fish and the most abundant fish in Lake Ontario. The alewife fish population in Lake Ontario varies substantially from year to year due to natural variations in food supply and predation. Alewife populations have varied between 0.2 billion and 1 billion fish over the 1997 to 2003 period. The operation of PNGS B results in impingement of less than 0.5% of the Lake Ontario alewife population, and is unlikely to affect lake fish populations, particularly considering the large variability in population.

PN operated an eight-unit facility for many years without algae growth being identified as an issue. The thermal effluent from PNGS was relatively constant from the 1980's. This suggests that on its own, the thermal output of PNGS did not cause the significant increase in algae growth. In the late 1990's, PNGS A was shut down and only two of the four units were returned to service. As a result, PNGS's contribution to thermal discharge to the local area began to decline in the late 1990s, and was reinforced with the permanent shut down of PNGS A Units 2 and 3 recently. The thermal plume from PNGS B with all four units operating extends approximately four to five km either east or west of PN (depending on the lake currents), and will decrease during refurbishment by as much as 50% due to reactor outages. It will return to no more than existing levels following completion of the refurbishment phase when all four units at PNGS B will be operational. However, about this same time, PNGS A reactors (Units 2 and 3) are scheduled to shut down at their end of life, resulting in a reduced combined thermal plume.

The algae growth also affects the operations of PN due to algae clogging the cooling water intakes. OPG Nuclear is studying ways to reduce algae clogging of its intakes, and is working

with the Regions of York and Durham to assess the sources of algae and propose preventative or ameliorative measures as appropriate. Further discussion of this issue is provided in Section 6.2.3.

### **10.3.7 Tritium**

#### **Comments**

Comments reflected concern related to tritium found in groundwater under the plant, the movement of tritium and subsequent release to Lake Ontario, and the effects of tritium on human health.

During the summer of 2007 Greenpeace released a report on airborne tritium emissions from nuclear power plants which resulted in media attention.

#### **Response**

Tritium emissions and environmental levels of tritium are carefully monitored in the vicinity of the PN site. The monitoring data are reported annually in OPG's Annual Summary and Assessment of Environmental Radiological Data for 2005 report (which is publicly available on the OPG web site <http://www.opg.com/news/reports/index.asp> under nuclear reports and publications). The measured levels of tritium (and other radionuclides) in air, water and locally grown foods are used to estimate doses to people living nearby the station using standard internationally accepted practices (Appendix D of the above-mentioned report provides the breakdown).

Tritium in groundwater is being monitored, and is largely collected in the deep foundation drains. The EA Study Report indicates maximum tritium in groundwater concentrations under one unit at PNGS B were measured as high as 1,500,000 Bq/L in 2006. Over the past several years, tritium in groundwater under all four PNGS B reactors have averaged approximately 1,000,000 Bq/L. These historic tritium in groundwater concentrations at PNGS B resulted from maintenance and repair issues related to the operation of the auxiliary systems but are well below the CNSC-approved generic screening criterion for tritium in non-potable groundwater of 3,000,000 Bq/L. OPG monitoring has identified isolated increases in tritium under Pickering B and has a corrective action program in place to identify sources and reduce levels. Section 4.5 provides a discussion of tritium in groundwater.

From a human health perspective, the total dose to the closest human receptor (residence or workplace) from all sources of radiation, including tritium (from tritium oxide, elemental tritium and organically bound tritium), associated with the PN site was estimated to be 6.7  $\mu\text{Sv}/\text{y}$  in 2005. This can be compared to a regulatory limit of 1,000  $\mu\text{Sv}/\text{y}$  above background and an

annual background dose of about 1,350  $\mu\text{Sv}/\text{y}$  for people who live in Durham. Additional detail is provided in Section 4.6 of the EA Study Report.

Canada's drinking water guidelines for radionuclides are based on a reference dose of 0.1 mSv/y (100  $\mu\text{Sv}/\text{y}$ ) which is the reference level set by the World Health Organization (WHO). This dose equates to drinking 2 L of water containing 7,000 Bq/L of tritium a day, 365 days per year. In addition, OPG has established an internal objective of 100 Bq/L for tritium in drinking water. Tritium is routinely measured in drinking water supplies around the PN site and is consistently below 10 Bq/L. A person consuming all of their water containing 10 Bq/L would receive a dose of approximately 0.14  $\mu\text{Sv}/\text{y}$ ; this is about 0.01% of the dose from natural background.

### 10.3.8 Traffic

#### Comments

Local residents raised concerns about the traffic impact of the proposed refurbishment. They questioned:

- Whether the potential traffic-related effects had been adequately considered, particularly the timing of worker shifts in relation to school bus activity, and the cumulative effects of additional construction-related traffic for the PNGS B project when the Region planned works-related improvements (water main, roads);
- Whether the EA study had considered parking-related effects, including the availability of parking for employees at the existing site; and
- How it could be determined that the added traffic disruption to residents along Sandy Beach Road could be deemed to be "not significant".

It was suggested by stakeholders that OPG and its contractors should take greater responsibility for managing traffic-related effects (including parking) during project planning. Suggested mitigation measures included:

- Investigate methods to improve traffic flow (the creation of a dedicated lane for school buses and/or local community members, modification to traffic light timing and/or sequencing to reduce congestion, etc.);
- Consider opportunities to enhance use of the public transit system (e.g. multi-directional bus transfers);
- Improve workers' ability to get to the job site (promote car pooling, provide worker accommodation in the vicinity of the plant, provide a parking lot shuttle service); and
- Modify worker shift times to optimize parking spaces, reduce travel times and minimize traffic congestion.

**Response**

Section 5.10 indicates that population growth in the Region of Durham is forecast to be substantial over the Refurbishment and Continued Operation Phases of the Project and thus traffic is also forecast to increase substantially. The additional PNGS B contractor-related traffic associated with the Refurbishment Phase would be relatively small (11% or less) during peak traffic periods at all intersections except at the plant gate (Brock Rd. and Montgomery Rd. intersection). Traffic is not expected to exceed that experienced in 2001 and 2002 during the Pickering A Return to Service project.

The traffic analysis considers a maximum of 2000 workers distributed over at least two shifts during the Refurbishment Phase of the Project. During the shift changes, there will be a small reduction in the level of service at local intersections, primarily Brock and Bayly, and Brock and Sandy Beach Road.

The Socio-Economic effects assessment (Section 5.14.2.1) acknowledges that the general level of frustration with traffic congestion locally is likely to increase, primarily as a result of the growing population in the Region, and may be exacerbated by OPG employee-related traffic during the Refurbishment Phase of the Project.

OPG has committed to work with City of Pickering and Town of Ajax officials to ensure that traffic management on local roads and parking on site can safely accommodate the Refurbishment workforce. The suggestions raised will be considered.

**10.3.9 Climate Change****Comments**

The effects of the Project on climate and the effects of climate change on the Project are areas of concern raised in most of the consultation activities. One stakeholder group proposed that this discussion include an assessment of the effects of greenhouse gas emissions from the entire nuclear fuel cycle and that greenhouse gas (GHG) emissions caused by any potential delays in refurbishment be quantified and assessed. It was also suggested that this discussion should consider potential changes in surface water and groundwater flow patterns, fish habitat, flooding periods and levels, and extreme weather patterns due to climate change. Some wanted to see a description of OPG's GHG reduction strategy in the EA Study Report.

**Response**

A summary of the predicted environmental conditions due to climate change for the area and the effects of climate change on the Project are presented in Chapter 6.0 of the EA Study Report.

The EA Study Report includes an assessment of the potential effects of climate changes on PNGS B systems, such as the effects of:

- Lower water levels on water intakes;
- Increased water temperatures on cooling systems; and
- Increased frequency and magnitude of severe weather events on storm water management systems.

OPG's Greenhouse Gas Emission Reduction Strategy is to operate nuclear units at the highest possible capacity factors to displace greenhouse gases that would otherwise be generated by the burning of coal and natural gas. OPG recognizes there are aspects of the operation of a nuclear facility that can produce greenhouse gases (standby generators and vehicle emissions) and has taken measures to control them. Standby generators are only operated when needed to support safe operation of Pickering units; OPG vehicles are not allowed to run idle; there is an agreement with the Town of Pickering to operate a public transit route to the PN site and offices from the GO station to minimize vehicular traffic; and energy efficient lighting was retrofitted into the large open areas of the powerhouse.

With two exceptions, all the potential changes in environmental conditions mentioned above are addressed in the EA Study Report. The GHG emissions associated with the complete nuclear fuel cycle and with any potential delays in refurbishment are not assessed as those are beyond the scope of the EA study.

OPG is committed to pursuing energy efficiency (and thereby reducing greenhouse gas emissions) in its own operations and to helping to educate the general public on how they can save energy at work and at home. OPG has planted 2.5 million trees on 1000 hectares in the past seven years. Its green power portfolio consists of 32 EcoLogo-certified facilities (29 small hydroelectric, and three wind-powered stations) with a combined capacity of 133 megawatts.

OPG was among the first North American utilities to earn ISO 14001 certification of its Environmental Management System (EMS) throughout its major facilities and plant groups. The ISO 14001 EMS helps OPG to make certain that its environmental policies are managed, implemented, checked and reviewed within an overall context of continuous improvement. Within operations, the EMS is instrumental in assisting the business units to manage their environmental impacts. In 2005, the Corporate level EMS and EMS's for all of the generating facilities passed an external registration audit process to retain their ISO 14001 certifications based on upgraded standards.

In 2005 OPG achieved internal energy efficiency savings of 57,500 megawatt hours; this exceeded the company's self-imposed target by 15%, and prevented the release of 2.8 million tonnes of carbon dioxide.

Through the application of EnVision™ (OPG's energy efficiency software), large industrial customers can reduce their internal energy consumption. OPG also lends its support to education and awareness building regarding energy-saving initiatives.

### **10.3.10 Cumulative Effects**

#### **Comments**

During the November 2006 workshop and in several submissions to the CNSC on the EA Guidelines, stakeholders commented on the high level of development surrounding the PN site, and noted a number of potential cumulative effects of the Project in conjunction with other existing, or planned developments and trends that should be assessed:

- St. Mary's Cement – lake and air pollution;
- Decline in employment in nearby auto plants – reduced power demand;
- Closure of some industries – reduced power demand;
- Change in the socio-political climate – terrorist threat;
- Nuclear stations on the U.S. side – lake pollution;
- High demand for construction workers – shortage of labour and materials;
- Conservation activities – reduced demand for electricity;
- Influenza pandemic – reduced economic activity and electricity demand, labour shortages;
- Durham Strategic Energy Alliance activities – reduced electricity demand;
- Community growth (Seaton, infill development) – increased traffic congestion, changes in emergency planning needs, increased demand on community facilities;
- Space for continued waste management at PWSMF – increased community anxiety, lack of community acceptance;
- New Pickering Airport – additional traffic and related emissions, potential for aircraft accidents, demand for workers;
- Highway 407 extension – construction-related effects, stimulus to community growth, improved traffic flow;
- Expansion of water pollution control plant – additional nutrient input to Lake Ontario;
- Darlington new build/existing station – construction-related effects, traffic emissions, increased radiation to Durham residents, demand for workers;
- Growth of University of Ontario, Institute of Technology – availability of operational workforce, supportive technological development, programs supported by continued operation of nuclear stations;

- Ontario grid – black out resulting from events influenced by climate change;
- Other industry on lake – additional contaminants in Lake Ontario;
- Other water takers – water level effects, effects of radionuclides from PNGS to affect intake water;
- Other water/lake users – Project effects on usage of Lake Ontario (e.g. recreational use);
- Coal plant shutdown – increased demand for nuclear energy; and
- Climate Change – changes in water levels, storm events.

### **Response**

Chapter 8.0 contains an analysis of cumulative effects, including any projects that could interact with the PNGS B facility. A screening for potential cumulative effects identified five of the above-listed developments and trends for further consideration: increased construction activity and related demand for workers, community growth, the proposed new Pickering airport, Highway 407 extension and development of new nuclear generation at Darlington.

#### **10.3.11 Seismicity**

### **Comment**

Questions were raised with respect to the faults in the vicinity of PN as reported by Dr. A. Mohajer, Professor at the University of Toronto, Scarborough Campus.

### **Response**

There has been a specific controversy regarding observed deformation features in the Pickering area. Deformation features observed in the Rouge River Valley, within 10 km of the PNGS, were originally interpreted by Mohajer *et al.* (1992, 1995) to represent geologically young (last 80,000 years) faulting. By contrast, Adams *et al.* (1993) suggested that a glacial origin of the features was more likely. An overview of seismic hazard in the Pickering area conducted for the former Atomic Energy Control Board (Geomatrix 1997) concluded that the likelihood of the Rouge River structures representing a seismogenic fault (i.e. a fault that is seismically active) is less than 5%. This conclusion was based on the ambiguity of the origin of the features, the limited crustal extent, and the lack of association with historical seismicity.

Further investigations of the Rouge River features were then conducted. The observed fault features were thoroughly documented and analyzed by an expert team. Most features were considered to be clearly of glacial origin, but significant normal fault features affecting recent deposits in several locations along the Rouge River, that appeared to be tectonic in origin, were noted. These features were examined in greater detail. Borehole studies of the most prominent of these faults indicate that displacements affect only the surficial sediments, with no offsets being present at depth. This means that the deformation was not caused by earthquakes, because

earthquakes are deep-seated, causing displacements that increase progressively with increasing depth. It was concluded that the deformation features in the Rouge River Valley are unlikely to be seismogenic in origin (Godin *et al.* 2001); they are not earthquake faults. They do not significantly affect the estimated seismic hazard at Pickering, as concluded by Geomatrix (1997).

### **Comment**

Further questions were raised with respect to the seismic qualifications of Pickering B.

### **Response**

As a guide to levels of seismic activity in the region, the western Lake Ontario region experiences an earthquake of  $M=4.5$  to 5 about once every hundred years. (Note:  $M$  is magnitude, measured by seismologists on the moment magnitude scale, which is similar to the Richter magnitude scale). The rate of occurrence of  $M=6$  earthquakes is about 10 times lower than that of  $M=5$  earthquakes; thus we would expect an  $M=6$  event somewhere within the western Lake Ontario region about once every thousand years. The estimated recurrence rate of events of  $M=7$  in western Lake Ontario is about 1 event per 10,000 years (Wallach *et al.* 1998, Mohajer 1997). Within the immediate vicinity of Pickering (e.g., within 100 km) there have been no events of  $M > 4.2$  in the period of historic record. Additional detail is provided in Section 4.5.5 of the EA Study Report.

The reactor building, reactor core and safety systems are qualified for the design basis earthquake (DBE). The design ensures that in the event of an earthquake:

- The reactor can be shut down;
- The reactor remains shut down;
- The decay heat can be removed;
- The radioactivity released from containment is minimized;
- The status of the nuclear steam supply system can be monitored;
- Systems, other than the reactor proper, containing significant amounts of radioactivity must not be damaged to such an extent as to lead to radioactive releases above allowable limits; and
- An earthquake does not cause a loss-of-coolant accident.

Additional information is provided in Section 6.2 of the EA Study Report.

### **10.3.12 Malfunctions and Accidents**

#### **Comment**

A number of the submissions to the CNSC on the Draft EA Guidelines expressed the view that, given the age of the plant and technology, and the proximity of the PN site to a large urban centre, the health and environmental effects of a catastrophic nuclear accident should be assessed.

#### **Response**

Section 9.2.2 of the EA Guidelines requires OPG to provide information on credible project malfunctions and accidents. OPG worked with the CNSC at the outset of the EA study to define the malfunction and accident scenarios to be included in the assessment. The effects of reasonably probable conventional, radiological and nuclear malfunctions and accidents with a probability of  $1 \times 10^{-6}$  or greater per year, on both humans and non-human biota, are assessed in the TSD for Malfunctions and Accidents and summarized in Chapter 7.0.

#### **Comment**

Some questioned the appropriateness of this probability threshold and of an assessment based solely on probability to the exclusion of consequence, since risk is a function of both probability and consequence.

#### **Response**

The malfunction and accident analysis presented in the EA Study Report is consistent with the requirements of the EA Guidelines. The Guidelines define the malfunction and accidents to be assessed. It states “Identify and describe...accidents or accident sequences – that have a frequency of occurrence equal to or greater than one in a million”.

### **10.3.13 Safety and Security**

#### **Comment**

A number of the submissions to the CNSC on the Draft EA Guidelines questioned the suitability of PNGS B for refurbishment and continued operation given the physical age and potential obsolescence of its buildings, technology and design and the location of the plant relative to large population centres. Specifically, interveners questioned whether:

- The design life of the physical plant would be exceeded and safety jeopardized;
- The technology was obsolete; and
- The safety systems are not as safe as newer generations of CANDU design, especially given the sharing of the emergency shutdown systems for PNGS A and B.

**Response**

Prior to obtaining a licence to refurbish Pickering B, OPG is required to conduct an Integrated Safety Review (ISR) of the plant. The ISR, and specifically the plant condition assessments and ageing management program reviews, will determine which components require replacement/refurbishment to ensure that Pickering B will continue to meet modern high-level safety goals and applicable regulatory requirements for safe and secure operation over its operating life. In addition, all OPG nuclear plants undergo periodic safety reviews, which must be submitted to the CNSC for review and approval as a condition of its operating licence.

The emergency shutdown systems of Pickering A and B operate entirely independent of one another. The only shared component of the two plants is the containment system, which will continue to be operated and maintained as long as any one or more reactors at Pickering A and B continue to operate. The containment system is separate from the emergency shutdown system.

**Comment**

Others questioned what was done to ensure refurbishment contract workers do not jeopardize the plant security.

**Response**

All workers, including temporary contract workers who have access to the PN site, must successfully pass a security clearance before they are allowed on the site. In addition, strict screening procedures are enforced at all PN site entrances.

**Comment**

Some stakeholders also expressed concern about the threat of a terrorist strike at the plant and the consequences of such a strike given the plant proximity to a large population centre.

**Response**

The possibility of a deliberate aircraft crash into a nuclear power plant is the subject of studies that were performed collaboratively among all nuclear licensees in Canada, using as benchmarks similar studies done in the USA and Europe. All studies were submitted to the CNSC. Specific conclusions are prescribed information and cannot be released. Accordingly, this issue is not addressed in this EA study. The effects of an aircraft strike are addressed in the Malfunction and Accident Scenarios TSD.

### 10.3.14 Emergency Response Capability

#### Comments

Some people wondered about the adequacy of emergency response plans given the increase in population density surrounding the plant, the proximity of the proposed Pickering airport, and the continuing threat of terrorist activity. The City of Toronto expressed particular interest in the emergency planning and response needs associated with the Project, and how these might affect the City's own planning.

#### Response

While populations in the areas immediately surrounding the PN site are projected to double in the period 2006 through 2060 (the expected lifespan of PNGS B if refurbishment proceeds), populations in the immediate vicinity of the PN site are expected to be more limited to a few condominium developments and infill housing near the GO station and the Hwy. 401 interchange at Brock Road. OPG works closely with Emergency Management Ontario, the Region of Durham and the City of Toronto providing information to assist in the continuous review and improvement of emergency plans for which these agencies are responsible. Emergency Management Ontario testified at the January 24<sup>th</sup>, 2007 CNSC hearing, that,

*“...the Provincial Nuclear Emergency Response Plan outlines the distance beyond the facility, in this case the Pickering Nuclear Generating Station, in which protective actions may have to be taken by the public, both for purposes of protection from a plume as well as for ingestion control purposes.... From our perspective, in terms of spatial considerations, we feel we have a robust emergency response system in place that can accommodate the entire area in question.”*

This is consistent with the IAEA Safety Guide NS-G-3.2 which states that “population growth rate is considered in relation to the feasibility of implementing emergency measures”, and the CNSC stipulation (CNSC INFO-0756) that “... population density, population distribution and other characteristics of the region insofar as they may affect the implementation of emergency measures...” are considered in the evaluation of the suitability of a site over the life of a nuclear power plant.

OPG has provided detailed briefings for the City of Toronto Mayor's Office and the Office of Emergency Management to present the Project, discuss the scope of the EA being conducted and address issues of concern to the City. Related agencies such as the operators of the Water Filtration Plant, the Police and Fire departments, and the Transit Commission were also in attendance. OPG will undertake further consultations with the City to ensure the City's concerns within the scope of the EA study are addressed.

### **10.3.15 Assessment Methodology**

#### **Comment**

The first workshop (November 2006) sought stakeholder input on effects assessment methodology, related to cumulative effects and significance criteria. Participants emphasized that the need to integrate consideration of human health into the overall assessment methodology, and the need for detailed and clear explanation of the manner in which the significance assessments are carried out. In this regard, it was suggested that:

- Human health needs to be more explicitly assessed and profiled in the EA;
- Human health must be reflected in the framework used to assess the significance of effects of the Project;
- a description of VECs should be included in the context of the significance discussion;
- A clear explanation of the basis for the effect level definitions and the decision rules applied in determining the level of each effect for each criterion should be included when presenting the results; and
- It should be explained how the various effects level ratings can be combined into an overall significance rating, since the criteria and effects level definitions are so variable.

It was also suggested that the write-up of effects significance determination should make these judgements explicit so the assessment process is transparent, and that positive effects should be assessed as well as adverse effects.

#### **Response**

Chapter 9.0 describes the process used for assessing significance, and each residual effect is assessed in terms of the significance of the effects on VECs (see Table 9.3-1). Significance criteria for the assessment of human health have been included. Positive effects have also been included in the assessment of effects.

#### **Comment**

At other consultation venues it was suggested that the EA methodology should incorporate best available technology to mitigate radiation and other emissions, and to consider technologies to reduce or eliminate emissions such as tritium and thermal energy in cooling water.

#### **Response**

PNGS B currently operates well within all prescribed operating and environmental criteria and standards. The EA study for refurbishment and continued operation has not identified any significant residual adverse effects likely to occur as a result of refurbishment and continued operation. OPG practice includes ALARA (as low as reasonably achievable, social and

economic factors taken into consideration) analysis for refurbishment activities to ensure that radiation doses and other emissions to the environment are indeed kept to a minimum. Also, OPG routinely reviews and evaluates new technologies available to further reduce emissions.

### **10.3.16 Level and Scope of the EA Process**

#### **Comments**

Some people expressed the view that this EA should properly be conducted at the Comprehensive or Panel Review level. They also felt that the EA should assess the need for the Project and alternatives such as renewable energy and conservation, as well as the null alternative.

#### **Response**

Refurbishment of an existing nuclear plant is not designated by the *Canadian Environmental Assessment Act (CEAA)* regulations as a project subject to a Comprehensive level EA or a Panel Review. Therefore, it is carried out at the screening level.

In making this decision, the CNSC considers four criteria:

- Can questions or issues being raised by members of the public and stakeholders be thoroughly addressed in a screening?
- Are concerns being raised relevant to the project being assessed and can they be considered within the powers conferred to the Commission by the *Nuclear Safety and Control Act*?
- Would a Panel Review provide more meaningful opportunities for the public to obtain information and to communicate its concerns and influence the decision maker?
- Are the negative concerns expressed from a large proportion of the population living in communities that would likely be affected by the project?

Applying these criteria, the CNSC has determined that a screening level EA is appropriate.

The issue of assessing need and the supply mix of electricity is a broader policy matter beyond the mandate of OPG or the CNSC. These choices are energy policy decisions for which accountability ultimately rests with the Government of Ontario; as such, they are outside the scope of a project-specific EA.

### 10.3.17 Timeframes and Geographic Scope of the EA study

#### Comment

Concerns about the geographic scope and timeframes of the EA study were raised in the submissions to the CNSC on the Draft EA Guidelines. A number of submissions suggested that the EA study encompassed the City of Toronto and all Lake Ontario shoreline communities as well as the lake itself. A second suggestion was that the temporal limits of the EA study be expanded to include the entire active lifespan of the used fuel.

#### Response

##### Geographic Boundaries

The EA Guidelines state that the geographic study area for this EA must encompass the areas of the environment that can reasonably be expected to be affected by the Project, or which may be relevant to the assessment of cumulative effects, and establishes general boundaries for the site, local and regional study areas as depicted in the Draft EA Study Report and communication material. The actual study area used by each technical discipline was adjusted to include locations where any identified effects arising from the Project might occur. In this respect, the nature of the Project-environment interactions determined the study area used by each subject area expert. For example:

- Atmospheric Environment considers baseline air quality data from as far west as Etobicoke and climate data from Pearson International Airport in Toronto;
- Geology study area extends west to Etobicoke;
- Terrestrial, Aquatic and Surface Water study areas extend north to the southern boundary of the Oak Ridges Moraine, west to Toronto Harbour and approximately 4 km offshore; and
- Population projections out to a distance of 50 km in all directions have been developed.

This approach ensures that effects on Lake Ontario and on shoreline communities are assessed wherever potential effects have been identified.

Similar flexibility was also applied in the consultation and communication program. At the outset, the outreach area of focus was identified to include the host community, Pickering, and the adjacent municipalities (or parts thereof); namely, Ajax, Whitby and Toronto (Scarborough). The program recognized that a broader community of interests may also be interested in the Project, and also reached out to groups (e.g. regional and national interest groups) and all individuals who expressed an interest in the Project. At

the January 24<sup>th</sup>, 2007 CNSC hearing on the Draft EA Guidelines, a number of individuals expressed the view that the people of the City of Toronto should be consulted about this Project. Notwithstanding that Toronto was included from the outset in the consultation program, OPG responded to these concerns by: inviting those who made submissions at the hearing to have their names added to the Project mailing list if they were not already included; expanding its advertising of Open Houses to include city-wide media; and adding a second Toronto venue at the Scarborough Town Centre (which is accessible by Toronto public transit), for the third round of Open Houses.

### Timeframes

With respect to timeframes, the assessment is based on the duration of the Project to the end of service life of the reactors estimated to be 2060. This timeframe is considered adequate for the proposal under consideration; i.e., the refurbishment and continued operation of the reactors. The effects of managing refurbishment wastes and the used nuclear fuel during continued operation at the site during that time frame are included in the EA study.

Longer-term management of the waste will occur at separately licensed facilities that have been, or will be, the subject of separate environmental assessments under the *CEAA*.

OPG is continuing with plans for the long-term management of its low and intermediate level wastes, and the Nuclear Waste Management Organization (NWMO) has the responsibility for developing Canada's approach for the long-term management of used nuclear fuel. Applications submitted to the CNSC in relation to these other projects are subject to the *NSCA* and *CEAA*.

### **10.3.18 The Project Description**

#### Comments

Concerns about the level of detail in the Project Description were raised in the submissions to the CNSC on the Draft EA Guidelines. It was suggested the Project Description should include:

- A description of the waste management related facilities over the active lifespan of the waste;
- A plant decommissioning plan;
- A Project Execution Plan with detailed activity sequencing, timing of outages to understand the scope of Project and energy supply effects; and
- A more comprehensive description of federal approvals required.

It was also suggested that the selective replacement of pressure tubes, calandria tubes and feeder pipes was unacceptable, as all should be replaced.

### **Response**

An initial Project Description is required to enable CNSC staff to evaluate the scope of the project and the required federal EA, and to determine which other federal authorities may also have a responsibility or interest and need to be notified. Chapter 2.0 of the EA Study Report contains a more detailed project description including the sources, types and quantities of waste to be generated by the Project and the transportation of low-and intermediate-level waste to management facilities. The EA study is not an appropriate forum to discuss the waste management facilities that will be managing nuclear wastes once they leave the PN site, as these are separately licensed facilities and are subject to separate EA requirements. Furthermore, they will continue to operate whether or not the PNGS Project proceeds.

A preliminary decommissioning plan is included in Section 2.9. This is sufficient at this time. Before PN can be decommissioned, the CNSC, pursuant to *CEAA* regulations, will require OPG to conduct an EA of the decommissioning plan.

The EA Study Report provides an indication of timing and sequencing of refurbishment activities. The schedule and timing of refurbishment outages are important considerations for business planning purposes but do not affect the determination of environmental effects. A Project Execution Plan is not required for purposes of the EA study.

Federal, provincial and municipal approvals required are described in Section 1.2.

### **10.3.19 Project Cost**

#### **Comments**

Concerns about the ultimate cost of the Project and the ability to adequately manage Project costs were raised at many of the consultation activities. A few stakeholders questioned the cost effectiveness of refurbishing an old plant relative to new nuclear and alternative energy options, and others questioned whether OPG could be relied upon to complete such a project on time and within budget, given historic cost overruns. Some stakeholders felt the EA should include a measure of cost/economic considerations and the risk/benefit equation of the Project.

#### **Response**

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OPG is undertaking a review of the feasibility of refurbishing the Pickering B reactor units to extend their service lives. The EA for the PNGS B Project is one part of this review. The process for developing the business case assessment is extensive. It examines the safety, environmental, financial and logistical feasibility of life extension. Building on extensive industry experience in nuclear plant life extension and continued operations, the assessment will consider current plant conditions, refurbishment scope of work and refurbishment costs, as well as future operating costs and production levels. None of these parameters can be predicted with absolute confidence, and OPG recognizes that it must clearly identify the financial risks and uncertainties which accompany a project of this magnitude. Refurbishing PNGS B would be a significant investment, and its costs must be weighed against its benefits before a decision can be reached.

While there were cost overruns in the return to service of Unit 4 at Pickering A, lessons were learned and the Unit 1 return to service came in essentially on time and on budget. The OPG Board of Directors will consider the cost-effectiveness of refurbishing PNGS B before a final decision is taken.

### **10.3.20 Monitoring**

#### **Comment**

Stakeholders expressed interest in the monitoring programs that OPG has in place to ensure public health and the environment remain protected.

#### **Response**

OPG has an extensive and comprehensive ongoing monitoring program which will continue to function throughout the Refurbishment and Continued Operation Phases of the Project.

The Radiological Environmental Monitoring Program (REMP) will continue to routinely monitor radiation and radioactivity in air, water, soil, groundwater, foodstuffs and fish throughout and beyond the Region.

Ongoing PNGS B monitoring programs on site include:

- Radiation and radioactivity in airborne and liquid effluents;
- Worker radiation protection including exposure control and dosimetry;
- Surface water discharges for non-radiological parameters; and
- Groundwater site monitoring.

Consideration is being given to follow-up programs for: transportation/traffic monitoring; signage and notifications for users of the Waterfront Trail; public attitude research, and various studies related to the aquatic environment.