

EA NEWS

DARLINGTON USED FUEL DRY STORAGE PROJECT

OPG COMPLETES ENVIRONMENTAL ASSESSMENT

This is the third newsletter on the Environmental Assessment (EA) of the Darlington Used Fuel Dry Storage project. For a copy of the previous newsletters, call 1-888-413-2226.

After more than twenty months of fieldwork, studies and consultation with the community and other stakeholders, Ontario Power Generation (OPG) has completed its environmental assessment (EA) of the Darlington Used Fuel Dry Storage (DUFDS) project. The draft EA Study Report was submitted to the Canadian Nuclear Safety Commission (CNSC) in November 2002 and is on file at several information repositories in the surrounding communities (see page 4).

The results of the EA studies are provided in the Main Report (Volume 1) and Appendices (Volume 2). Twelve Technical Support Documents provide additional details on the assessment methods and findings for the environmental components in the EA, as follows:

- Aboriginal Interests;
- Atmospheric Environment;
- Geology, Hydrogeology and Seismicity;
- Hydrology, Water Quality and Aquatic Environment;
- Land Use and Resources;
- Physical and Cultural Heritage Resources;
- Radiation and Radioactivity;
- Socio-economic Conditions;
- Terrestrial Environment;
- Community and Stakeholder Consultation and Communication;
- Malfunctions and Accidents; and
- Cumulative Effects.

In addition, the EA studies examined the environmental effects of locating the DUFDS facility at each of four possible candidate sites. All four sites are located entirely within the Darlington Nuclear property, south of the CN railway line. The EA studies determined that the project could only have measurable effects in three areas of the environment: radiation and radioactivity, terrestrial environment and socio-economic conditions. However, in assessing those effects and taking into account proposed feasible mitigation measures, the EA concluded that the project is NOT likely to result in significant adverse environmental effects.

The following sections briefly describe the three components where the EA studies found that measurable effects would be likely.



Four candidate sites A, B, C and D were studied in the Environmental Assessment.

Radiation and Radioactivity

The EA analysis determined that workers; members of the public; and plants, birds and animals in the vicinity of the DUFDS Facility would be subject to small amounts of gamma radiation resulting from the presence of the used fuel in Dry Storage Containers (DSCs) at the facility. Based on several years' experience at a similar dry storage facility at the Pickering Nuclear site, the estimated total radiation dose exposures during construction and normal operation are well within regulatory limits and guidelines. For example, a person living at the Darlington Nuclear fence line, eating local



A specially designed Transfer Vehicle will be used to transfer DSCs from the fuel bays in the Darlington Nuclear generating station to the Used Fuel Dry Storage Facility.

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produce and drinking local water, would receive a calculated dose of approximately 2 microsieverts per year, including the effects of both the Darlington Nuclear generating station and the proposed DUFDS Facility. This may be compared with background levels of about 2000 microsieverts per year and the regulatory limit of 1000 microsieverts per year. Therefore, the EA concludes that there will be no significant adverse effects due to radiation from the DUFDS Facility.

Terrestrial Environment

The EA determined that none of the four candidate sites contains unique habitat supporting species at risk that is not also found elsewhere on the Darlington Nuclear property. Because there is only sparse vegetation and little wildlife present at sites A and B, construction of the DUFDS Facility at these sites would have a negligible effect on vegetation and wildlife communities. At sites C and D, removal of up to 13 hectares of vegetation would be required, but the EA concludes that other areas of the Darlington Nuclear property could be enhanced to replace any vegetation and wildlife habitat lost if the DUFDS Facility were constructed at these sites. Therefore, the EA concludes that there will be no significant adverse effect on the terrestrial environment resulting from the construction and operation of the DUFDS Facility.

Socio-economic Conditions

The EA determined that a few people's use and enjoyment of nearby community and recreational

facilities such as the on-site sports fields, Waterfront Trail and Darlington Provincial Park might be adversely affected by the construction and operation of the DUFDS Facility. However, the EA determined that continued communication with facility operators and users combined with ongoing maintenance and enhancement of the facilities on the Darlington Nuclear property should ensure users' continued use and enjoyment of these facilities. As a result, the EA concludes that there will be no significant adverse effects on socio-economic conditions resulting from the DUFDS project. The EA also concludes that the increased tax revenue for the Municipality of Clarington that would be generated by new buildings on the Darlington Nuclear property would constitute a positive effect of the project.

Site B Preferred

Site B was identified as the preferred site by OPG at the beginning of the EA based on a combination of preliminary technical, environmental and economic factors. The results of this EA and related stakeholder consultations confirmed that site B is clearly preferred over sites C and D from an environmental and public point of view. Site B is preferred over site A on the basis of technical/operational factors as well as the potential need for additional soil investigation and mitigation at site A. Therefore, site B remains the preferred location for construction of the DUFDS Facility.

Little vegetation and wildlife were found at Sites A and B.



Site A looking southwest.



Site B looking south.



The local community enjoys the soccer fields and park located on the Darlington Nuclear property.

COMMUNITY ISSUES ADDRESSED IN EA

Throughout the EA, OPG conducted an extensive consultation process providing many opportunities for members of the public and key stakeholders to become informed, ask questions, provide comments and express any concerns they had. The consultation process included:

- Briefings and interviews held with MPs and MPPs, regional and local municipal councils, Durham Nuclear Health Committee, Darlington Site Planning Committee, local environmental groups and other key stakeholder representatives at the outset of the EA and thereafter;
- Fifteen Open Houses – notification included distribution of 95,000 invitations to households on three separate occasions as well as newspaper ads;
- Two workshops for key stakeholders who had indicated a special interest in the project;
- Information repositories in seven libraries throughout the area and at the Darlington Information Centre where EA reports and other information continue to be available to the public;

- Community displays mounted for a total of 101 days in six different high-traffic locations within the Regional Study Area;
- Three project newsletters including this one distributed to 95,000 households each;
- A Mail-back Comment Card distributed to the 95,000 households before completion of the EA; and
- A toll-free information line, email address and website through which interested persons could obtain information about the project and the EA, ask questions and submit comments.

All comments, questions and concerns raised during the EA were noted and responses provided. The Open House and Workshop reports document these concerns in detail, and the EA Study Report includes a section summarizing these comments and indicating where in the EA they are addressed. We reported on a number of these comments in the last newsletter.

RECENT HUMAN HEALTH STUDIES

Throughout the EA, a number of questions and comments were received from members of the community concerning health effects resulting from the DUFDS and other nuclear facilities. For this reason, the draft EA Study Report submitted by OPG includes a detailed summary of the state of international scientific knowledge about human health effects of exposure to ionizing radiation. The following chronology summarizes the findings of the most recent studies on the effects of nuclear facilities on the health of nearby residents.

2002

In the past two years, the CNSC has been considering the establishment of a surveillance system for tracking the incidence of cancer around nuclear facilities in Canada. Pickering Nuclear and the surrounding community were selected for a pilot study. A feasibility study has been prepared to assess whether the cancer incidence rates in the population around Pickering Nuclear are related to exposures from the station. The protocol for a pilot study has been partially completed by the CNSC, but the study is on hold pending a review of the CNSC regulatory mandate.

1996

Radiation and Health in Durham Region: Published by the Durham Region Health Department and authored by its epidemiologist at the time, this study updates extensive earlier studies comparing a variety of health measures for the Region's population with those in comparable communities. Indicators associated with exposures to ionizing radiation were given particular attention. The overall conclusion was that "there is no consistent pattern among significant radiological health indicators to suggest that ionizing radiation is affecting the health of Durham Region residents."

1994

UNSCEAR Report to the United Nations General Assembly: In its 1994 report to the General Assembly, UNSCEAR reviewed the current information on cancer in populations living near nuclear facilities in the United States, the UK, France, Germany and Canada. The largest of these was a U.S. study, in which 900,000 cancer deaths in 113 counties containing or adjacent to nuclear facilities were compared to 1,800,000 cancer deaths in control counties with similar population and socio-economic

characteristics. It concluded that there was no general increase in cancer deaths in the vicinity of nuclear facilities.

1992

Occupational Exposure of Fathers to Ionizing Radiation and Risk of Leukemia in Offspring – A Case Control Study: Published by the Atomic Energy Control Board (AECB, predecessor to the CNSC), this study investigated whether there was a relationship between occupational exposure at Ontario nuclear facilities of male workers, who are also members of the community, and leukemia in their children. No evidence of such a birth risk was observed.

1991

Tritium Releases from the Pickering Nuclear Generating Station and Birth Defects and Infant Mortality in Nearby Communities 1971 – 1988: Also published by the AECB, this report was prepared by epidemiologists at Health Canada. The study looked at the possible relation between releases of tritium from the Pickering stations and birth defects and infant mortality in the local community. Many end-points were reviewed, and for only one, Down Syndrome, was there any evidence of a statistical increase. However, because no correlation could be established with emissions from the station, the authors concluded that the result could have occurred by chance.

Childhood Leukemia around Canadian Nuclear Facilities – Final Report: The AECB also published the final report of a multi-year project conducted by the Ontario Cancer Treatment and Research Foundation, to determine whether childhood leukemia rates in populations local to Ontario nuclear facilities differed from those in Ontario as a whole. The authors found no evidence of a statistically significant increase for any of the populations studied.

For more information on these studies, contact:

- Canadian Nuclear Safety Commission, 280 Slater Street, P.O. Box 1046, Ottawa, Ontario, K1P 5S9. Phone: 1-800-668-5284. Fax: (613) 992-2915. Email: info@cnsn-ccsn.gc.ca
- Regional Municipality of Durham, Health Department, 1615 Dundas St. E., Suite 210, Whitby, Ontario L1N 2N1. Phone: 905-723-8521.

NUCLEAR FUEL WASTE ACT PROCLAIMED IN FORCE

In our last newsletter, we reported on the federal government's Nuclear Fuel Waste Act, which requires nuclear energy corporations in Canada to establish a waste management organization. This organization, known as the Nuclear Waste Management Organization (NWMO), has been established. The Nuclear Fuel Waste Act received Royal Assent on June 13, 2002 and was proclaimed in force on November 15, 2002.

The NWMO is now responsible for studying various approaches for long-term management of used nuclear fuel, and recommending a preferred approach to the federal government, within three years from this date.

In fulfilling the legislative mandate, the NWMO will be engaging in dialogue with a broad range of communities of interest.

NEXT STEPS

- CNSC staff and specialists from Federal, Provincial and Municipal Governments review Draft EA Study Report submitted by OPG;
- OPG finalizes EA Study Report;
- CNSC staff prepare Draft Screening Report;
- Public review of Draft Screening Report and EA Study Report;
- CNSC staff finalize Screening Report;
- CNSC conducts public hearing;
- CNSC issues decision as to whether the DUFDS project is likely to cause significant adverse environmental effects, taking into account the proposed mitigation measures.

OPG ESTABLISHES EA INFORMATION REPOSITORIES

DUFDS project EA documentation is available for public review at the following locations:

- Clarington Library,
62 Temperance St., Bowmanville
- Clarke Library,
127 Church St., Orono
- Courtice Library,
2950 Courtice Rd., Courtice
- McLaughlin Library,
65 Bagot St., Oshawa
- Newcastle Library,
50 Mill St., Newcastle
- Port Hope Library,
31 Queen St., Port Hope
- Scugog Library,
231 Water St., Port Perry
- Darlington Nuclear Information Centre

Documents filed in the repositories include:

- Project Description
- Open House Report, June 2001
- Workshop Report, October 2001
- Open House Report, April 2002
- Open House Report, October 2002
- Workshop Report, June 2002
- EA News, June 2001
- EA News, March 2002
- EA News, December 2002
- Draft EA Study Report

HOW TO REACH US

Darlington Used Fuel Dry
Storage Project
c/o Darlington Information
Centre
Box 4000,
Bowmanville, Ontario
L1C 3Z8

Tel: 1-888-413-2226
Website:
www.opg.com/DarLEA

RELATED WEBSITES

CEAA:
www.ceaa.gc.ca
CNSC:
www.cnscc.gc.ca