

Record of Proceedings

In the Matter of

Applicant Zircatec Precision Industries Inc.

Subject Mid-term Performance Report on the Operation
of the Port Hope Fuel Fabrication Facility

Date May 18, 2005

RECORD OF PROCEEDINGS

Applicant: Zircatec Precision Industries Inc.

Address/Location: Zircatec Precision Industries Inc., 200 Dorset Street East
Port Hope, Ontario, L1A 3V4

Purpose: Mid-term performance report on the operation of the Port Hope
Fuel Fabrication Facility

Application received: N/A

Date(s) of hearing: February 23, 2005

Location: Canadian Nuclear Safety Commission (CNSC) Public Hearing
Room, 280 Slater St., 14th. Floor, Ottawa, Ontario

Members present: L.J. Keen, Chair A.R. Graham
C.R. Barnes M. J. McDill
J.A. Dosman M. Taylor

General Counsel: J. Lavoie
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Intervenors	Document Number
See appendix A	

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1. Introduction

Zircatec Precision Industries Inc. (Zircatec) is licensed by the Canadian Nuclear Safety Commission (CNSC¹) to operate a Class IB nuclear fuel facility in the Municipality of Port Hope, Ontario. The Zircatec fuel facility (the facility) is used in the production of nuclear reactor fuel from uranium dioxide (UO₂) and zircalloy metal tubing. Zircatec manufactures fuels containing natural, depleted and low-enriched uranium. Cameco Corporation (Cameco) supplies Zircatec with the UO₂ powder from its Port Hope Uranium Conversion Facility and the zircalloy tubes come from Zircatec's non-nuclear facility located in Cobourg, Ontario. The finished fuel bundles are shipped to Canadian nuclear power plants and small quantities of UO₂ pellets are exported to other countries for use in the fabrication of "light-water" type reactor fuel bundles. The facility is currently licensed by the CNSC to produce up to 125 megagrams of UO₂ as pellets in fuel bundles in any calendar month. Zircatec is also licensed to possess limited quantities of low-enriched uranium under specified criticality controls.

Following a public hearing held on November 15, 2001 and January 17, 2002, the Commission issued Nuclear Fuel Facility Operating Licence FFOL-3641.0/2007 to Zircatec for the operation of the facility for a five-year period. In its *Record of Proceedings, Including Reasons for Decision*², the Commission requested that CNSC staff prepare a report on the performance of the facility at the approximate mid-point in the five-year licence term. The Commission required that the report include, among other safety performance matters, the results of revised CNSC staff projections of the effects of the facility on the health and safety of persons and the environment. The Commission further required that the mid-term report be presented at a public proceeding of the Commission. The Commission subsequently decided to hold a public hearing on the mid-term report.

2. The Public Hearing Process

The public hearing on the mid-term report was held on February 23, 2005 in Ottawa, Ontario and was conducted in accordance with the *Canadian Nuclear Safety Commission Rules of Procedure*. While the hearing was held in the CNSC Hearing Room in Ottawa, a number of intervenors and observers were able to participate from Port Hope, Ontario via teleconference and videoconference.

This *Record of Proceedings* contains a summary of issues and information presented by the participants during the course of the hearing, as well as the views of the Commission where appropriate. The official record of each submission to the Commission is contained in the written submissions listed in Appendix A and in the transcripts of the hearing. The mid-term

¹ In this *Record of Proceedings*, the *Canadian Nuclear Safety Commission* is referred to as the "CNSC" when referring to the organization and its staff in general, and as the "Commission" when referring to the tribunal component.

² Canadian Nuclear Safety Commission, February 18, 2002, *Record of Proceedings, Including Reasons for Decision, in the matter of Zircatec Precision Industries Inc., Application for a Licence to Operate the Port Hope Nuclear Fuel Facility*.

report was presented for information and the Commission was not required to make, and did not make, a licensing decision following the hearing.

Requests for Postponement:

A number of intervenors requested that the hearing be postponed because of what they considered to be a lack of information in the mid-term report prepared by the CNSC staff (CMD 05-H4). Those intervenors were of the view that the CNSC staff report did not meet the aforementioned requirements specified by the Commission, including sufficient specific information on the performance of the facility that would allow for informed public comment. Prior to the commencement of the public hearing on February 23, 2005, a Panel of the Commission considered the above-noted requests for postponement and decided not to accede to those requests³. The Commission noted that it would consider all of the information presented during the public hearing from all participants as constituting the report to the Commission on the performance of the facility.

Other Relevant Proceedings:

The Commission also held on February 23, 2005, a public hearing on the mid-term performance of Cameco Corporation's Uranium Conversion Facility which is also located in the Municipality of Port Hope. The Commission renewed the operating licence for the Cameco facility in 2002 at approximately the same time as it renewed the operating licence for the Zircotec facility. In its decision on the Cameco facility licence renewal in 2002⁴, the Commission made a similar request of CNSC staff for a mid-term performance report on Cameco's operation.

Because the two facilities are located in the same geographic area, and recognizing the interest many of the intervenors have in both facilities, the Commission decided to hold both hearings on the mid-term reports on the same day and to consider for both hearings any relevant information presented on either hearing record.

Hearing Venue:

A number of intervenors expressed concern and disappointment that the hearing was not being held in the Municipality of Port Hope and requested that the venue be changed to Port Hope. That request was also considered by the above-noted Panel of the Commission and the Panel decided that the hearing would be held in Ottawa as planned.

The Commission notes that it had earlier intended to take the opportunity to hold the mid-term report hearing in Port Hope in conjunction with a hearing on the environmental assessment of a proposal by Cameco to add a Slightly-Enriched Uranium (SEU) blending circuit to its uranium

³ Canadian Nuclear Safety Commission, January 5, 2005, *Record of Proceedings, Ruling on Requests from Intervenors for the Deferral of Hearings and the Relocation of the Hearings in Port Hope Concerning the Mid-Term Reports of Cameco's Port Hope Facility and Zircotec Precision Industries*

⁴ Canadian Nuclear Safety Commission, February 18, 2002, *Record of Proceedings, Including Reasons for Decision, in the matter of Cameco Corporation., Application for a Licence to Operate the Port Hope Nuclear Fuel Facility*

conversion facility. The Commission stated that it will hold the hearing on the SEU proposal in Port Hope if the matter proceeds. Due to delays in the SEU project assessment, the Commission could not further delay the hearings on the mid-term performance report on the existing operations. Furthermore, logistical and financial considerations prevented the Commission from holding both the mid-term and SEU project hearings outside of Ottawa at different times. Presentations on mid-term reports are normally held in Ottawa, as are the majority of licensing hearings. To facilitate the involvement of Port Hope residents in the proceedings, the Commission made provisions for the people of Port Hope to intervene and observe the proceedings by teleconference and videoconference.

3. Issues and Commission Views

In reviewing Zircatec's performance in the operation of the Port Hope Fuel Facility, the Commission considered the information presented by CNSC staff, Zircatec and all other hearing participants on a variety of issues related to Zircatec's qualifications to carry out the activities permitted under the licence, and to the adequacy of the measures Zircatec has in place to protect the environment, the health and safety of persons, national security and international obligations to which Canada has agreed. The Commission's views on those issues are summarized below.

3.1 Radiation Protection

3.1.1 Worker Protection:

With respect to the protection of the workers at the facility from the effects of radiation, CNSC staff stated that Zircatec's Radiation Protection Program is acceptable and has been effective in protecting the workers.

CNSC staff reported that:

- worker dose rates have remained well below the regulatory limits;
- Zircatec successfully developed and instituted a new internal dose assignment program in accordance with the requirements of the CNSC Regulatory Transition Plan; and
- Zircatec has taken appropriate corrective actions to address deficiencies in contamination control, dose control and radiation protection training that were identified by CNSC inspectors during the review period.

With respect to the improvements made in the area of radiation protection, Zircatec noted that it installed new, highly sensitive personnel and area radiation monitoring equipment to enhance dose control and reduce the potential spread of contamination. Zircatec further noted that other improvements, including the use of a third-party review of its health physics program, have been effective. In support of its assessment, Zircatec presented evidence of continuing downward trends in whole-body doses and bioassay results.

In response to questions from the Commission on the workers' acceptance and participation in the new internal dosimetry programs, Zircatec stated that there is full mandatory participation and that cooperation has been excellent. The unions representing the workers on the site also noted that they were involved in the development of the program and that their membership is fully supportive of it. The unions also attested to the proactive approach to dose control at the site, including union participation on an ALARA (as low as reasonably achievable) Committee, the establishment of dose targets, and the active promotion of dose reduction on the shop floor.

An intervenor expressed concern that the individual workers at the site may not have adequate access to their dose records and recommended that they have access to that information at least annually. In response to this intervention, Zircatec confirmed that all workers have access to their dose records and that summary reports are updated on a quarterly basis.

An intervenor, who is a former employee of Zircatec, provided a detailed account of his health problems that began, and which have persisted, since approximately the time he started employment at Zircatec in 1995.

In response to the Commission's questions on this intervention, including whether there have been reports of other current or former employees with similar afflictions, the union representative at the hearing reported that there have been no compensable claims of record in the history of the facility operations. The union also stated that the intervenor has not approached the union for assistance with his concerns. Zircatec added that all claims of harm have been dismissed by the Workplace Safety Investigation Board.

The Commission notes that it has no evidence to link the intervenor's illnesses to the past operation of the Zircatec facility, including the review period that is the subject of this hearing. This intervenor's information was also considered by the Commission in its review of Zircatec's performance in conventional health and safety discussed in section 3.3 below.

Commission Views on Worker Radiation Protection:

Based on this information, the Commission is satisfied with Zircatec's performance with respect to worker radiation protection during the mid-term review period.

3.1.2 Public Radiation Protection:

The Commission received information during the hearing on a wide range of topics related to existing and potential public exposures to radiation emitted from Zircatec's operations.

The Commission notes that the matter of public radiation protection is closely related to environmental protection. Therefore, section 3.2 below contains additional discussion of Zircatec's performance in regard to broader human and environmental health issues, including in respect of radiological and non-radiological emissions and effluents.

CNSC staff reported that Zircatec's performance in protecting the public from radiation has remained acceptable and within the regulatory individual effective dose limit of 1 mSv/year. CNSC staff reported that, based on conservative projections, the radiation dose to a maximally exposed critical group is estimated to be at 0.032 mSv per year, or 3.2% of the dose limit.

In response to this assessment by CNSC staff, several intervenors expressed concerns about the adequacy of the regulatory limits, the quality and reliability of the environmental monitoring data used in the calculations of personal exposures, and the methods used by the CNSC to assess the effects of exposures (modelled projections as opposed to direct measurement through health studies). These issues are discussed further in the following subsections and in section 3.2 (Environmental Protection).

3.1.2.1 Regulatory Dose Limits:

With respect to the regulatory dose limits, some intervenors were critical of the risk assessments used by the International Commission on Radiation Protection (ICRP) on whose recommendations the CNSC has based its regulatory public dose limit of 1 mSv/year. Some of those intervenors cited other scientific reports and opinions that they consider support their view that the CNSC's dose limits should be lowered. The intervenors' submissions (see Appendix A) and the transcripts of the hearing contain further details on the arguments presented and the specific reference materials cited.

In response to these submissions, CNSC staff noted it has copies of the studies cited by the intervenors and stated that it reviews such the material in the context of the CNSC's ongoing review of the international work on radiation risk assessment and protection standards.

In explaining the regulatory dose limits, CNSC staff noted that, for added safety, nuclear facilities in Canada are not permitted to operate at or near these limits. CNSC staff explained that, through the application of various engineered and administrative controls under the ALARA principle, licensees, including Zircatec in Port Hope, are required to operate at a small fraction of the dose limit. By using conservative exposure pathways analyses in translating the dose limits into Derived Release Limits for a nuclear facility, a further margin of safety is introduced.

In related comments, a number of intervenors expressed concern over the fact that there are no specific safety guidelines or standards for uranium in air that would help them judge the acceptability of the levels present in the air in Port Hope. In this regard, CNSC staff stated that it uses the above-described Derived Release Limits, Action Levels and ALARA practices to ensure worker and public doses are maintained as low as reasonably achievable below any standards.

Commission's Views on the Dose Limits:

The Commission is satisfied that the regulatory public dose limits in conjunction with the ALARA principle provide an acceptable basis for measuring Zircatec's performance in public radiation protection.

The Commission notes that CNSC staff actively monitors the evolving science that forms the basis of the international recommendations on the assessment and regulation of radiological risk. A detailed review of the regulatory dose limits is not within the scope of the current hearing.

3.1.2.2 Adequacy of the CNSC Public Dose Assessment Method:

A number of intervenors were critical of how the CNSC estimates the actual radiation exposures that are being received by the public. In general, these intervenors are concerned that the CNSC bases its assessments too much on theoretical modelling projections and not enough on measurements of radioactivity and radiation exposures of the public in their actual environment, including the combined exposures from the historic radioactive contamination in the area from when Eldorado Nuclear operated the nearby uranium conversion facility (currently operated by Cameco Corporation).

Several intervenors questioned the reliability of the meteorological data used by CNSC to predict how radioactivity from the current operation is dispersed in the environment, both within Port Hope and in neighbouring municipalities, and how it is combining with the historic contamination in the area. In related comments, intervenors expressed concern that electromagnetic fields near electrical transmission lines may be adversely skewing the measurements of radioactivity in the environment to which people could be exposed. Furthermore, many intervenors are of the view that systematic health studies should be conducted on the residents of Port Hope to measure the actual rather than projected effects that all radiological and non-radiological contamination from the past and current nuclear operations in the area is having on the health of the people.

In response to these comments on the radiation risk assessment methodology, CNSC staff noted that the CNSC's primary tool for assessing public radiation risk involves the use of a conservative critical group modelling assessment (i.e., a method that is conservatively designed to overestimate, rather than underestimate what the actual public exposures would be). This is a method that assumes a theoretical group of people, including particularly sensitive types of individuals such as children, that is maximally exposed to the radiological releases through a variety of potential environmental pathways. CNSC staff also stated that the radiological risks are examined in relation to any historic radiological contamination in the area. From this assessment, the monitoring of the workers in the plant, and a strategic sampling within the actual environmental pathways (e.g., ambient air quality monitoring), CNSC staff concluded that the Zircatec facility does not pose a significant radiation risk to the public.

The Commission notes the role of, and requirement for, appropriate monitoring of contaminants in the environment to validate the conservatism in exposure predictions, mark trends and identify opportunities for further minimizing exposures to people and the environment. The specific issues raised by the intervenors on the release, dispersal and measurement of radioactivity in the environment are clearly linked to an understanding and validation of public radiation exposure and are discussed in section 3.2 below in the context of environmental protection. Similarly, the discussion of health studies, due to its broad environmental, radiological and non-radiological focus, is also discussed below in the context of environmental protection. Refer also to section 3.11 below (Public Information Program) for a discussion of the Commission's views on the

importance of providing meaningful information to the public on the amounts, forms and distribution of radiation and radioactivity, and other types of potentially harmful contaminants being released into their environment.

Commission's View on the Public Dose Assessment Method:

The Commission accepts that the risk-informed assessment method described by CNSC staff is the appropriate means for assessing public radiation risk. The Commission is also satisfied that CNSC staff has properly applied that method in assessing Zircatec's performance against the regulatory requirements for public radiation protection. Issues related to quality of the environmental radiological monitoring data used in that assessment method are discussed in section 3.2.

3.1.2.3 Transportation Doses to the Public:

In addition to the potential sources of radiation exposure from the plant, some intervenors expressed concern about potential public exposures to radiation during the transport of the completed nuclear fuel bundles on public roadways. Noting that the materials are transported in the urban areas of Port Hope, these intervenors requested that more detailed information on the transport routes, the contents of the vehicles, and the calculations of public radiation exposures be made available to the public.

In response to the Commission's examination of these concerns during the hearing, CNSC staff and Zircatec reported that uranium products are being transported to and from the facility in compliance with the CNSC's *Packaging and Transport of Nuclear Substances Regulations* and the requirements of the *Transportation of Dangerous Goods Act* and regulations. Zircatec added that, even in the event of an accident that exposes fuel bundles, the radiation risks would be very low. The Commission further notes that the uranium fuel is in a solid form and encased in the welded metal tubing and thus would not be dispersed in an accident that breaches the packaging.

Based on this information, the Commission is satisfied that the public is being adequately protected from radiation during the transport of nuclear substances from the Zircatec facility. The Commission concludes that, due to security considerations and the low radiation risk of the material, further information on the transportation of the materials should not be released.

3.1.2.4 Commission Views on Public Radiation Protection:

Based on the above information and considerations, and taking into account the related discussion in section 3.2 of the actual radioactive contamination in the environment, the Commission is satisfied with Zircatec's overall performance in regard to the protection of the public from radiation during the licence mid-term review period.

3.2 Environmental Protection

In considering Zircatec's performance in protecting the environment (including the health and safety of persons in that environment), the Commission considered information presented by the hearing participants on a wide range of topics. These topics, each of which is discussed further below, include emission and effluent monitoring, the impacts of emissions and effluents on the surrounding air, soil and surface water quality, and a request by a number of the intervenors for support for additional general health effects studies in the community.

3.2.1 Emissions to the Atmosphere

With respect to emissions from the facility to the atmosphere, CNSC staff reported that the facility stack monitoring indicates that contaminant releases have remained consistently well below the licence limits (approximately 0.016% of the limits). CNSC staff further reported that the measured concentration of uranium in the surrounding ambient air is at approximately 0.2% of the licence limit. The uranium in air is measured with high-volume air sampling devices that are located at the estimated points of maximum impingement of the stack emissions in the surrounding area.

The Commission noted that the air emission data presented for the first half of 2004, if extrapolated for the rest of the year, would appear to give a result that is significantly higher than that reported for previous years. In response to the Commission's questions on this, Zircatec explained that the emissions vary through the year due to operational variations such as holiday shutdowns later in the year. Zircatec stated that a linear extrapolation of the data would, therefore, not be representative. Zircatec stated that the emissions in 2004 are not atypical and remain a small fraction of the licence limit.

With respect to the measurement of uranium in ambient air near the facility, some intervenors expressed the view that the location of some of the environmental monitoring devices on or near electrical transmission poles will not provide accurate readings due to the effect that the electromagnetic fields from the transmission lines could have on the behaviour of the charged particles of contamination in the air. In response to this concern, CNSC staff reported that there is no measurable variation in the results recorded by the air quality monitors located either near or distant from electrical transmission lines and, therefore, the accuracy of the data appears to be uncompromised by any electromagnetic fields present. CNSC staff also noted that the monitors are not located on or near the type of high-tension transmission lines where relatively stronger electromagnetic fields are known to exist.

Some intervenors also questioned whether the CNSC's practice of using meteorological data from weather stations located in other municipalities on the shore of Lake Ontario to calculate the dispersion and concentrations of radioactive particles in the environment in Port Hope is reliable. In response, CNSC staff stated that it relies for regulatory purposes on strict emission monitoring and controls, conservative environmental exposure pathway modelling of an assumed maximally exposed population, and selected monitoring of the ambient environmental conditions. CNSC staff considers that, given this approach and the very low levels of emissions, the available meteorological data from neighbouring communities is sufficient for this purpose.

The Commission accepts the above responses of CNSC staff and is satisfied that the environmental monitoring of air quality is adequate for assessing the performance of the Zircatec facility. The Commission is also satisfied that the concentration of uranium in the air surrounding the Zircatec facility does not pose a significant risk to the public.

3.2.1.1 Accumulation of Uranium Air Emissions in Soil

A number of intervenors also expressed concern about how they could be at risk from the uranium particulate once it settles and accumulates in the surrounding soils. An understanding of how uranium is accumulating and behaving in soil is of particular importance to the people of Port Hope in light of the historic soil contamination that occurred in Port Hope during previous uranium facility operations by Eldorado Nuclear (at the nearby uranium conversion facility now operated by Cameco Corporation). Some intervenors were specifically concerned about internal radiation doses that could result from eating vegetables grown in the soils that may be affected by both current and historic nuclear facility operations in the area. Some of those intervenors reported that they are engaged in commercial vegetable growing operations and feel an additional responsibility to their customers.

In response to the Commission's questions on the risk associated with soil contamination, and specifically the risk from eating vegetables grown in the soils affected by current or historic operations, CNSC staff stated that the rate of uranium uptake by plants from soil is very small and thus, in its view, does not constitute a significant human exposure pathway. CNSC staff also concludes that, based on current emissions, the projected accumulation of uranium in area soils will not reach levels toxic to plants or other biota. CNSC staff noted that the levels near the Zircatec facility are currently at a very small fraction of the Ontario Ministry of Environment (OMOE) observed phytotoxic effect levels. CNSC staff further reported that the results of tri-annual soil sampling at 18 locations on and near the Zircatec property show no measurable increase in uranium over time.

The Commission notes that the issue of potential uranium accumulation in soil in Port Hope received considerable attention at the Commission's public hearing for the renewal of the operating licence for Cameco's uranium conversion facility in 2002, as well as during the public hearing on the mid-term report for Cameco's facility that was held on the same day as this hearing on the mid-term report for Zircatec. During those hearings, the preliminary findings and plans for a study (led by the OMOE) of uranium accumulation in soil was discussed⁵. While that study is focussing primarily on the effects of the Cameco facility emissions, the Commission notes that the findings may provide further insight into how soils near the Zircatec facility emissions could be affected in the long-term by either or both operations.

⁵ Canadian Nuclear Safety Commission, February 18, 2002, *Record of Proceedings, Including Reasons for Decision, in the matter of Cameco Corporation, Application for a Licence to Operate the Port Hope Nuclear Fuel Facility*.

Canadian Nuclear Safety Commission, May 18, 2005, *Record of Proceedings, in the matter of Cameco Corporation, Mid-term Performance Report on the Operation of the Cameco Corporation's Port Hope Uranium Conversion Facility*

Further with respect to what the actual uranium contamination levels are in the commercial gardens referred to by the intervenors, the Commission notes the offer made by the representative of the OMOE during the hearing to do additional soil sampling on at least one of those properties. The Commission welcomes this initiative of the OMOE. The Commission requests CNSC staff to collaborate as appropriate with the OMOE in the completion of that sampling as soon as practical in the 2005 growing season.

Commission's Views on Uranium in Soil:

The Commission accepts the CNSC staff's conclusions that uranium emissions from Zircatec's facility do not currently pose a significant radiation or toxicity risk. The Commission is of the view, however, that a better understanding of how and where uranium may be accumulating in soils is needed, both for enhancing the CNSC's regulatory process and for addressing a clearly identified need for public information on this issue in Port Hope. The Commission is therefore supportive of the efforts being made by the OMOE, CNSC staff and Cameco Corporation to reinstate the uranium-in-soil study as quickly as possible. While the Commission notes that Zircatec is not directly involved in this soil study, the Commission encourages Zircatec to cooperate in the study where appropriate and to incorporate the findings wherever applicable in its environmental protection programs. The Commission will consider how these issues related to soil quality have been addressed at the time the operating licence comes again before the Commission for renewal.

3.2.1.2 Proximity of Emission Sources to Urban Areas:

The Commission notes that many of the concerns expressed by the intervenors with respect to the protection of the environment relate to the location of the Zircatec facility in an urban area of Port Hope. Some intervenors are of the view that this proximity, or lack of "buffer zone", is unacceptable for a facility like the Zircatec Fuel Fabrication Facility.

In its consideration of these views of the intervenors, the Commission notes that it is not a requirement that there be a zone of restricted land use surrounding Class IB nuclear facilities to protect the health and safety of persons. In this case, the Commission is of the view that the routine emissions and effluents from the Zircatec facility are being controlled and monitored to an enhanced extent, such that they do not pose a significant risk to the public, despite the close proximity of the facility to populated areas.

However, the Commission notes that adequate measures must be in place to also take account of the proximity of the facility to populated areas in respect of contaminant releases that could result from emergencies at the facility, such as a major fire. This issue is discussed further in section 3.6 on Emergency Preparedness and Response.

3.2.2.3 Commission's Views on Routine Atmospheric Emissions:

Based on the above information and considerations, the Commission is satisfied that Zircatec's performance during the mid-term review period has been acceptable with respect to the protection of the environment from routine emissions to the atmosphere.

3.2.3 Liquid Effluent Releases

With respect to the release of liquid effluents from the facility to the sanitary sewer system, CNSC staff reported that Zircatec's effluent quality has remained well within the licence limits.

Some intervenors expressed concern about what they understood to be large and uncontrolled releases of uranium to Lake Ontario through the sewer system. In response to this issue, CNSC staff explained that the figure of 9,500 kilograms per year in the licence represents only what would have to be released to result in an effective radiation dose to a member of the public of 1 mSv per year (the regulatory dose limit for the public). CNSC staff explained that this Derived Release Limit should not be interpreted as what a licensee is allowed to release. CNSC staff stated that releases must be maintained as low as reasonably achievable below that level (ALARA). Zircatec confirmed that it actually discharges only about 1.2 kilograms of uranium per year in its liquid effluent. Zircatec further expressed the view that such a release is insignificant in comparison to the amount of naturally occurring uranium in the waters of Lake Ontario.

With respect to the intervenors' concern about how effluents are controlled, Zircatec stated that it has a waste water handling and treatment system at the facility which includes a "lock tank" that allows for quality verification prior to release to the sewer.

Commission's Views on Liquid Effluent Releases:

Based on this information, the Commission is satisfied with Zircatec's performance in protecting the environment from liquid effluent releases.

3.2.4 Hazardous Materials Control

With respect to the use and control of other hazardous (non-radiological) materials at the facility, Zircatec stated that it has undertaken a number of initiatives to reduce the potential for environmental harm. For example, Zircatec reported that it has removed all PCB containing light ballasts and bulk chemical storage from the site. Zircatec also stated that it has eliminated the use of hazardous chemicals such as beryllium and trichloroethylene from its process. The Commission notes these proactive steps by Zircatec to reduce the environmental risk associated with hazardous materials.

3.2.5 Canadian Environmental Assessment Act (CEAA)

A number of intervenors expressed concern over what they view as an inadequate environmental assessment that was conducted for the Zircatec facility pursuant to the requirements of the CEAA as part of its relicensing in 1995. From their review of the 1995 environmental assessment, these intervenors consider that the environmental effects of the facility, particularly in respect of the enriched uranium at the site, are not adequately understood. Furthermore, these intervenors expressed concern that the CNSC's amendment of the licence in 2003 to allow the

manufacture of 1% enriched uranium fuel at the facility should have triggered a further environmental assessment under the CEEA. Other intervenors asked the Commission to call for a panel review of the facility operation under the CEEA.

In its consideration of these interventions, the Commission is satisfied that the requirements of the CEEA were met at the time of facility relicensing in 1995. The Commission further notes that a screening conducted pursuant to the CEEA is not the only means for assessing and managing environmental effects of a nuclear facility operation. While the Commission acknowledges the importance and value of the CEEA process as an environmental planning tool, the Commission notes that requirements for protecting the environment forms a central part of the CNSC's mandate under the *Nuclear Safety and Control Act*. The Commission is satisfied that this part of its mandate is being properly fulfilled in the regulation of the Zircotec facility. The Commission also notes that a consideration of the application of the CEEA, including any consideration of a review panel, is not applicable or relevant to this mid-term performance review.

With respect to the commencement of 1% enriched uranium fuel production in 2003, CNSC staff explained that it determined that this activity could occur within the existing operating envelope of the facility and therefore a further environmental assessment under the CEEA was not required. Zircotec noted that it has been licensed to handle and process enriched uranium at the facility for many years.

3.2.6 Health Studies

Taking their above-noted concerns about past and current radiological and non-radiological emissions and effluents to the environment into account, and considering the close proximity of the facility to the urban areas of Port Hope, a number of intervenors expressed their long-standing request to have more health studies carried out directly on the Port Hope population. The purpose of those additional health studies would be to attempt to directly measure what the actual long-term effects of exposures to those contaminants have been on public health over the history of nuclear operations in the area. These intervenors are of the view that direct measurement of health is the only way that the long-term cumulative health effects of all types of contamination from past and present nuclear operations in the community could be understood in a holistic way. Some intervenors requested that the Commission make formal statements in support of additional comprehensive health investigations in Port Hope. Other intervenors also requested CNSC funding for those studies or require that Zircotec provide funding. The Port Hope Community Health Concerns Committee, in its intervention referred to a proposed project for testing residents that it hopes to initiate with the Uranium Medical Research Centre.

Several of the intervenors referred to the information gathered as part of a cancer and general mortality study completed in 2002⁶. The study was commissioned by the CNSC's predecessor,

⁶ Cancer and General Mortality in Port Hope, 1956-1997, Surveillance and Risk Assessment Division, Centre for Chronic Disease Prevention and Control, Population and Public Health Branch, Health Canada
June, 2002

the Atomic Energy Control Board (AECB) and undertaken by Health Canada. Health Canada concluded in its report that there was no evidence of increased overall cancer mortality in Port Hope compared to the rest of Ontario, and that there was no excess mortality for cancers known to be associated with radiation exposure. In this regard, a number of intervenors cited a separate interpretation of the study data by Dr. E. Mintz. Dr. Mintz is of the opinion that significantly higher than average incidences of cancers and other diseases can be identified in the data for Port Hope.

With respect to these submissions, the Commission notes the strongly held views of many of the intervenors concerning their desire for additional health studies in their community. The Commission notes the CNSC's past participation of the in these types of health studies; however, recognizing the more prominent role of other authorities and industry in this regard, the CNSC is not planning any further general health effects studies. The CNSC will consider participation in studies initiated by others on a case-by-case basis.

The Commission further notes that the purpose of the current hearing is to present information on the performance of Zircatec's existing operations at its Port Hope facility in respect of the applicable regulatory requirements and operating licence conditions, including an update on the projected risk that the facility poses to the health of Port Hope residents.

Based on the information presented at this current hearing, including CNSC staff's statements regarding how its regulatory oversight conservatively accounts for uncertainties in dose consequence and historic environmental contamination, the Commission remains of the opinion that there currently exists an adequate scientific basis and information to reasonably predict the risks that the facility operations pose to human health and safety and thereby to assess Zircatec's regulatory performance in this respect.

As noted above in section 3.1.2.1, the CNSC remains engaged in, and responsive to, the ongoing examination of radiation protection standards.

3.2.6 Commission's Views on Environmental Protection

Based on the information and considerations summarized above, the Commission is of the view that Zircatec's performance in protecting the environment has been acceptable during the mid-term licensing period. Furthermore, the Commission is satisfied that the evidence on radioactivity released to, and present in, the environment supports the CNSC's projections of radiation risk to the public (as discussed in section 3.1.2 above).

3.3 Conventional (Non-Radiological) Worker Health and Safety

In addition to examining Zircatec's mid-term performance in protecting workers from radiation, the Commission examined Zircatec's performance in respect of conventional health and safety.

In this regard, CNSC staff reported that there were 4 non-serious lost-time accidents during the review period. There were no such accidents reported in 2004. CNSC staff noted that it finds the safety programs at Zircatec acceptable.

Zircatec added that it is strongly focussed on developing a good safety culture at the facility with the support of the worker unions. Zircatec reported that, at the time of the hearing, it had surpassed a total of 640 days without a lost-time injury.

In response to questions from the Commission, Zircatec confirmed that there is a joint Health and Safety Committee (management, staff and union) active on the site, as well as a special Ergonomics Committee. Zircatec also explained that a Job Safety Analysis is completed for each job and that safety is at the top of every meeting agenda.

Some intervenors expressed scepticism that the testing of worker occupational health is being freely offered by Zircatec. An intervenor also expressed concern that workers may not be reporting all events due to fear of retribution.

In their interventions, the unions representing the workers on the site expressed their full support for Zircatec's efforts in promoting and maintaining safety at the site, including the provision of all necessary resources in support of safety training. The unions described Zircatec as being sensitive, cooperative and forward thinking in regard to site safety, and that it is acting in excess of the regulatory requirements. The unions further rejected any suggestion that workers may not be freely reporting on accidents and other safety issues.

Based on this information, the Commission is of the view that Zircatec's performance in the area of conventional health and safety at the facility during the mid-term review period has been satisfactory. The Commission notes, in particular, Zircatec's effort to promote a positive safety culture at the facility. The Commission received no evidence to suggest that Zircatec is not monitoring worker health as required, or that the workers are reluctant to report accidents or raise safety issues.

3.4 Criticality Safety

Zircatec is licensed to store and process limited quantities of enriched uranium and therefore Zircatec must make adequate provisions to protect against the occurrence of nuclear criticality involving that material.

In this regard, CNSC staff reported that Zircatec has an acceptable criticality program in place and that regular CNSC staff inspections have confirmed Zircatec's compliance with that program, including the maintenance of procedures and provision of refresher training to its staff in accordance with the conditions of the licence. Zircatec added that it has recently installed a new, state-of-the-art criticality monitoring system and that it engaged third-party experts to review the overall criticality program.

Some intervenors expressed concern about the presence of enriched uranium at the facility. These intervenors are concerned that a criticality accident at the site could, in their view, have severe consequences for the people living and working nearby. Some intervenors believe that the facility structure is not sufficiently robust to contain such an accident and that a greater zone of separation to other land uses is warranted. Some intervenors questioned whether the use of water or other fire fighting materials, such as foams, during a fire could raise the risk of a criticality accident by introducing a neutron moderator to facilitate a nuclear reaction in that material.

In response to these concerns, Zircatec explained that even in the extremely unlikely event of a criticality accident at the site (and no such accident has occurred in the history of the facility), there would be no explosion or potential for off-site effects. While there would be radiation in the immediate work area that could pose a risk to the workers present, there would be no risk to the public outside the facility. CNSC staff explained that the criticality controls ensure that the mass of material stored in any one place never exceeds 45% of the smallest critical mass. With this mass control, criticality would not be possible with any type of moderator present. Zircatec added that, even if a critical mass of material were gathered in the precise geometry necessary, and in the presence of a moderator, the initial heat of the nuclear reaction would cause an expansion of the material and the boiling-off of the moderator, both of which would stop the chain reaction almost immediately.

Based on this information, the Commission is satisfied that Zircatec's performance in the area of criticality safety is acceptable. The Commission is satisfied that the risk of a criticality accident is sufficiently low and that, even in the extremely unlikely event of a criticality accident at the facility, the consequences to people off site would not be significant.

3.5 Fire Safety

During the hearing, the Commission received and discussed a considerable amount of information on the topic of fire safety. This section contains a summary of that information and discussion as it pertains to the facility's current state of compliance with the *National Building Code* and *National Fire Code*. Comments and concerns related to the ability to combat a serious fire at the facility are discussed below in section 3.6 (Emergency Preparedness and Response).

With respect to the applicable code compliance, CNSC staff reported that the facility was inspected against the *National Fire Code* in January 2004 and that 17 deficiencies were identified. CNSC staff expressed the view that the deficiencies were relatively minor and, taking into account the multiple levels of defence at the facility, did not represent an unreasonable risk. CNSC staff further reported that 13 of the deficiencies have since been corrected and that the remaining issues are scheduled to be corrected in 2005. The remaining deficiencies relate to an update of the fire safety plan, an upgrading of the fire separation ratings for the laboratories, the removal of combustible construction materials from some walls, and an improvement to the fire water delivery capacity to the rear of the building. CNSC staff noted that a third-party review of the facility modifications was done and that Zircatec has committed to following the four recommendations that came from that review.

Some intervenors expressed concerns about the above-noted remaining deficiencies in respect of the applicable fire code. Some intervenors recommended that the operations be suspended within 30 days pending full compliance with the *National Fire Code* and inspection by the Municipality.

In response to these concerns of the intervenors, Zircatec reported that, while not a requirement, the most recent inspection of the facility by municipal officials occurred on February 11, 2005. Zircatec also explained that it is continuously striving to remain fully compliant with the applicable codes, but that as those codes change and evolve, it is not unusual that minor deficiencies of the type identified may exist while the appropriate actions are taken to meet the new requirements.

Commission's Views on Fire Safety:

The Commission accepts that as the applicable codes continue to evolve over time, building owners periodically need time to make the necessary adjustments to meet the revised standards. In this regard, the Commission is generally satisfied that Zircatec is giving this matter adequate attention and that overall performance in the area of fire safety is acceptable. The Commission requests that CNSC staff remain attentive to these issues to ensure they are brought to resolution in a timely manner. The Commission will expect an update on this topic at the time the licence comes again before the Commission for a decision on its renewal.

3.6 Emergency Preparedness and Response

In its examination of Zircatec's performance in the area of emergency preparedness and response, the Commission examined not only what Zircatec is required and reasonably capable of doing within the boundaries of its property, but also how those measures are supported and complemented by the emergency response capabilities within the surrounding municipality and province. By understanding how the safety of persons and the environment will be protected in the event of an emergency, through the coordinated response by all responsible parties and jurisdictions, the CNSC is able to specify and assess what licensees reasonably must maintain in terms of their own on-site emergency response capabilities. That assessment is done on a site-specific basis, taking into account the geographic setting (including the type and proximity of neighbouring land uses) and the assurances provided by the local and provincial authorities over whom the CNSC does not have authority.

During the hearing, CNSC staff reported to the Commission that it became aware in October 2004 of concerns raised by the Municipality of Port Hope Fire Department. The Fire Department reportedly informed the CNSC at that time that it lacked the necessary training and equipment to respond to fires involving hazardous materials. CNSC staff further reported that this information differs from that provided by the Fire Department at the time of the last facility relicensing in 2002. At that time, the Fire Department had signed-off on Zircatec's Emergency Response Plan, clearly indicating its capability to respond to all types of fires.

CNSC staff noted that the Fire Department has the ability to request assistance from neighbouring municipalities and the province if necessary, but that no formal mutual aid agreements for this are currently in place. CNSC staff estimated that a response time from a neighbouring force would be in the order of 30 minutes depending on its location.

When questioned by the Commission on how significant this recent information from the municipality is with respect to the health and safety of Zircatec's workers and people of Port Hope, CNSC staff responded that, due to the very low probability of a major event and taking into account compensating defences currently in place at the facility, sufficient margins of safety exist in the short term. Zircatec added that it does not store or use significant quantities of hazardous materials at the facility and, in its opinion, no special measures would be needed to fight a fire at the site. Zircatec stated that, with respect to the radioactive materials at the site, the use of water and other standard fire fighting materials would not pose a criticality hazard (see section 3.4 above for a further discussion of criticality safety).

In response to follow-up questions from the Commission on how long it will take to get a longer-term solution in place, CNSC staff stated that the initial step of getting a formal mutual aid agreement in place with an outside agency that has hazardous materials capability could take a few months. The Municipality of Port Hope confirmed that this type of agreement will be initially explored. The Municipality also stated that, if it were to become fully self-sufficient, this could take more than a year to put in place.

Several of the intervenors at the hearing expressed their concern upon hearing of the above-noted shortcomings in the combined emergency response capabilities in the municipality. Some intervenors also expressed concern that the CNSC was only recently made aware of the problems. In expressing their concerns, these intervenors reiterated their concerns about the lack of a "buffer zone" which, if in place, would lessen the risk and impact on the public in the event of a major fire. One intervenor expressed the view that such buffer zones are mandatory for this type of facility in other jurisdictions.

The Commission questioned Zircatec on the capabilities of its on-site staff and how it would respond to a major fire in the intervening period. Zircatec stated that, while its employees are not specifically trained to combat large fires, or fires involving hazardous materials, it is familiar with the facility and locations of hazards and is able to direct trained response personnel from a safe distance. A call-in procedure is in place to ensure knowledgeable Zircatec employees are available 24/7 to respond to emergencies. Zircatec further noted that four of its employees are members of the Port Hope volunteer fire department.

In response to questions from the Commission on the degree of ongoing interaction between Zircatec and the local fire department, Zircatec stated that, while it does not provide specific training to the municipal staff, it does provide periodic familiarization tours to the Fire Department and is an active participant in the CAER (Community Awareness and Emergency Response) group. The last formal drill involving the Fire Department took place 2 years ago. In response to follow-up questions to CNSC staff on the adequacy of this approach, CNSC staff stated that site visits of the type described by Zircatec are appropriate and should be carried out

at least annually. CNSC staff also stated that a 2-year interval between formal drills is not unreasonable for this type of facility.

With respect to transportation accidents involving its nuclear fuel products, Zircatec noted that this is addressed in its Emergency Preparedness and Response Plan. Zircatec staff is available to assist the municipal staff in the event of a transport accident. In Zircatec's view, special training of the municipal staff for transportation events is not necessary.

Further with respect to Zircatec's on-site Emergency Preparedness and Response Plan in particular, CNSC staff stated that it is satisfied that the plan meets the relevant CNSC guidance document (G-255), including with respect to personnel training and exercises.

Some intervenors also expressed concern that the automated public alerting system in Port Hope is deficient in their view in that it does not function in certain areas (or Wards) within the municipality. Some intervenors are also concerned that the public does not have specific instructions or a plan on how to evacuate in the event of an emergency.

Concerning the public alerting system, Zircatec noted that options for supplementing the telephone-based Community Alert Network in Port Hope, to ensure all areas of the municipality can be appropriately notified of emergencies, are being examined through the CAER group.

With respect to evacuation plans, a representative of Emergency Management Ontario (EMO) commented that, under the *Emergency Management Act*, Port Hope is not specifically required to have an evacuation plan. This is at the discretion of the municipality under the authority of the Mayor. EMO added that Port Hope is in full compliance with the *Emergency Management Act* and that EMO considers the municipality to be proactive in undertaking its responsibilities under that Act. The Commission was also informed that the municipality maintains an Emergency Response Organization with a Command Centre where any instructions for the public during an emergency would originate.

In response to the Commission's questions on the need for a zone of restricted land use (or "buffer zone") to mitigate the potential impact of releases that could occur during emergencies, CNSC staff stated that, based on its assessment of worst-case accident and emergencies at the Zircatec facility, a zone of restricted land-use is not required in its view. CNSC staff also noted that such zones are not prescriptively required at similar facilities in other jurisdictions, including the United States.

Commission's View on Emergency Response and Preparedness:

While the Commission accepts the CNSC staff assessment of Zircatec's on-site emergency plans and capabilities, and acknowledges the above statements of the EMO concerning the municipality's compliance under the *Emergency Management Act*, the Commission is concerned about the current lack of combined long-term capability to respond to a major emergency at Zircatec's facility – specifically a fire involving radioactive and/or other hazardous materials. The Commission is particularly concerned that CNSC staff was not informed of this issue in a timely manner.

While the Commission accepts CNSC staff assurance that adequate compensating defences are in place at the facility to manage the deficiency in the short term, the Commission finds the apparent lack of communication and the lack of a more permanent solution to be unacceptable. The Commission notes that its authority is limited to the licensee and the operations of the regulated nuclear facility. However, the Commission expects that there exists an effective collaboration between the various jurisdictions and authorities responsible for protecting the public and environment during emergencies at the nuclear facilities it regulates. In the event that a competent collaboration and coordination of on- and off-site planning and resources to respond to an emergency does not exist or diminishes, the Commission has the authority to, and will if necessary, require a licensee to take the necessary compensating measures within its capability to assure continued and adequate provisions for protecting the health and safety of persons and the environment, including, if appropriate, the modification or curtailment of facility operations to reduce the risks associated with credible emergencies to acceptable levels. While the Commission is not prepared to take such action at this time at Zircatec's Port Hope operation, the Commission expects that all of the responsible parties involved in this situation, including CNSC staff, will proceed forthwith to address the remaining concerns.

The Commission requests CNSC staff to report to the Commission on the progress that has been made in this regard. The report should be in the form of a Significant Development Report presented at a regular meeting of the Commission within one year, or sooner as circumstances may warrant.

3.7 Quality Assurance

With respect to Zircatec's performance in the area of quality assurance during the review period, CNSC staff reported that it identified minor deficiencies in Zircatec's quality programs during earlier CNSC inspections. CNSC staff reported, however, that Zircatec has corrected all of the deficiencies in a timely manner.

Based on this information, the Commission is satisfied with the performance of Zircatec in meeting the CNSC's requirements for quality assurance.

3.8 Security

With respect to Zircatec's performance during the review period in the area of security, CNSC staff reported that Zircatec is operating in compliance with all requirements.

A number of intervenors expressed concern about the adequacy of the security requirements and with Zircatec's adherence to them.

While it would not be appropriate for the Commission to discuss security matters in detail in a public document, such as this *Record of Proceedings*, the Commission did examine the relevant information and is satisfied that Zircatec's performance with respect to maintaining security at the facility has been acceptable during the review period.

3.9 Non-Proliferation and Safeguards

CNSC staff reported that Zircatec is implementing all of the applicable safeguard requirements in an acceptable manner. CNSC staff noted that the facility is subjected to periodic inspections in this area by the International Atomic Energy Agency and the CNSC. No significant issues have been identified.

Some intervenors expressed concerns about the lack of detailed public information on the movements, amounts, forms and isotopic contents of all nuclear materials moving to and from the site.

The Commission is satisfied that Zircatec's performance in respect of maintaining Canada's international obligations for non-proliferation and safeguards has been acceptable during the review period. Due to security considerations and the low radiological hazards associated with the transport of nuclear materials to and from the site, the Commission was not persuaded that additional public information on the details requested by the intervenors is necessary or appropriate.

3.10 Decommissioning Plans and Financial Guarantees

The CNSC requires that licensed nuclear facility operators have in place a Preliminary Decommissioning Plan (PDP) and related financial guarantee that ensures adequate funds will be available to safely decommission the facility at the end of its operating life, even in the event that the facility owner becomes financially insolvent. While a PDP is by definition a conceptual planning document, it must contain sufficient detail to allow a reasonable estimation of the costs that will be associated with the decommissioning process.

With respect to Zircatec's Port Hope facility, CNSC staff reported that an acceptable PDP has been in place since December 2001. CNSC staff also reported that Zircatec has an acceptable financial guarantee in place in the form of an irrevocable letter of credit valued at \$3.3 million.

An intervenor expressed the view that the value of the financial guarantee was too low. In response to the Commission questions on how the value of the financial guarantee was calculated, CNSC staff and Zircatec explained that the decommissioning costs assume that the site will be cleaned up to a condition suitable for other industrial uses and that maximum efforts would be made to decontaminate materials and equipment for reuse and recycling. The PDP also assumes that all radioactive waste arising from the decommissioning would be transported to Atomic Energy of Canada's radioactive waste management facilities at Chalk River Laboratories in Chalk River, Ontario for storage. Zircatec noted that the cost estimates were reviewed by a third-party reviewer and accepted by CNSC staff.

Based on this information, the Commission is satisfied with Zircatec's performance in respect of its decommissioning planning and maintenance of an acceptable financial guarantee for decommissioning.

Liability Insurance:

Some intervenors expressed concern about what they consider to be a lack of sufficient liability insurance carried by Zircatec. In this regard, the Commission notes that it has limited responsibilities under the *Nuclear Liability Act* (NLA) and that the Government of Canada is responsible for the policy framework on which it is based. The Commission is aware, however, that a review of the NLA is in process.

3.11 Public Information Program

With respect to Zircatec's performance in regard to the public information program requirements, Zircatec stated that it has been actively working through the CAER group to raise public awareness about the facility and its operations. Zircatec noted that it continues to host tours of the facility and is currently in the process of developing a new Public Information Program.

The Municipality of Port Hope, in its intervention, noted that the lines of communication between Zircatec and the municipality could be further strengthened. As examples, the municipality is of the view that Zircatec's Preliminary Decommissioning Plan and Emergency Response Plan should be made available through the CAER group.

In response to the Commission's questions on why this information was not being shared in this manner, Zircatec explained that some of the information contained in the PDP is commercially protected. Zircatec offered to provide as much of the information as possible (such as on the details of the proposed decommissioning end-state) by including it in the publicly available Facility Licensing Manual. On the matter of the emergency plans, Zircatec stated that this plan is currently shared with the Fire Department and can be made available to the CAER group as suggested. In response to follow-up questions on this, CNSC staff confirmed that, while some of the information contained in the PDP may warrant protection for security and commercial reasons, it did not have a concern with the rest of the information being shared with the municipality or the public in general.

Another intervenor recommended that Zircatec be required to make quarterly reports to the Port Hope Council, similar to what Cameco does in respect of its nuclear facility in Port Hope.

Some intervenors, with reference to a public presentation made by Zircatec on October 19, 2004, expressed their disappointment and displeasure with the information being provided by Zircatec. These intervenors are of the view that the information provided in the above-noted presentation by Zircatec was misleading, incomplete with respect to the dangers of human exposures to radiation (particularly internal dose), trivializing of the concerns of the public, and warranting of a formal apology from Zircatec.

In response to the Commission's questions on the presentation, Zircatec disagreed with the statements of the intervenors. Zircatec is of the position that the information presented on the radiation risk associated with its operation was accurate and explicitly addressed both internal

and external exposure pathways. CNSC staff stated that while it did not review the presentation materials in detail, the information appeared to be technically accurate and generally available elsewhere.

In considering the above information and comments, the Commission is of the view that, while Zircatec is making an effort to provide information to the public and other stakeholders, Zircatec needs to address how that information is being communicated and whether it is effectively addressing the information needs of its various audiences. The physical, historical and social setting in which this facility is located is unique. As such, Zircatec must place a higher level of attention and sensitivity on public information than would otherwise be necessary. The Commission notes that Zircatec is in the process of developing a new Public Information Program and the Commission will expect to see improvements in this area during the remainder of the licence period and at the time an application for licence renewal comes again before the Commission.

With respect to the requests of intervenors that the Commission now direct Zircatec to provide certain information to the public or the municipality, the Commission is satisfied that Zircatec has heard and has taken account of the comments made during this hearing. The CNSC has guidelines on its expectations for public information programs and the Commission encourages Zircatec to take this information into account in the design of its new program.

4.0 Conclusion

The Commission has considered the CNSC staff's report on the performance of Zircatec Precision Industries Inc. in the operation of its nuclear fuel fabrication facility located in the Municipality of Port Hope. The Commission also considered, as part of that mid-term performance report, the written and oral submissions of Zircatec and 14 intervenors who participated in a public hearing held by the Commission on the matter on February 23, 2005.

Based on the information available for reference on the record of the hearing, the Commission is of the view that Zircatec's performance has been acceptable in respect of its compliance with the regulatory requirements and conditions of its licence during the approximate first half of the current licence period.

A number of issues and concerns were raised and discussed during the course of this hearing. The Commission wishes to thank all of the hearing participants for bringing these matters to the Commission's attention in such detail and with such conviction of purpose. The totality of the evidence has contributed to the Commission's understanding of Zircatec's operation, its performance, its challenges, and the breadth of views held by the public and other stakeholders involved and affected.

Through this *Record of Proceedings*, the Commission has identified some areas and issues which it expects will be given attention by Zircatec, CNSC staff and the Municipality of Port Hope during the balance of the current licensing period. Among others, the Commission will review these matters again at the time an application for renewal of the operating licence comes again

before the Commission. The Commission does not consider that those issues warrant compliance or enforcement action by the Commission at this time.

The purpose of the mid-term performance report, including this public hearing, was to inform the Commission, rather than to support an application for licensing. As such, the Commission did not make any decisions with respect to the licensing of the facility pursuant to section 24 of the *Nuclear Safety and Control Act*.

Marc A. Leblanc
Secretary,
Canadian Nuclear Safety Commission

Date of decision: February 23, 2005

Date of release of Reasons for Decision: May 18, 2005

Appendix A – Intervenors

Intervenors	Document Number
United Steelworkers of America, Local 14193, represented by R. Stata and W. Dowsett	CMD 05-H4.2
J. D. Morand	CMD 05-H4.3 CMD 05-H4.3A
I. W. M. Angus, B. Eng., LL B., P. Eng., Barrister & Solicitor	CMD 05-H4.4 CMD 05-H4.4A
P. Lawson	CMD 05-H4.5
J. Fishlock	CMD 05-H4.6
D. Rudka	CMD 05-H4.7
Canadian Nuclear Workers Council, represented by B. Walker	CMD 05-H4.8
Municipality of Port Hope, represented by R. Austin and M. Stevenson	CMD 05-H4.9
P. McNamara	CMD 05-H4.10
Port Hope & District Chamber of Commerce, represented by W. Meadows	CMD 05-H4.11
Port Hope Community Health Concerns Committee, represented by F. More	CMD 05-H4.14 CMD 05-H4.14A CMD 05-H4.14B
R. Cowan	CMD 05-H4.15
T. Lawson	CMD 05-H4.16
W. J. Crowley	CMD 05-H4.17