

water activation gases) are not impacted by the power uprate using the methodology outlined in NUREG-0017. Tritium releases in the gaseous effluents increase in proportion to the increased tritium production, which is directly related to core power and is pathway allocated in the analysis in the same ratio as pre-power uprate releases. For particulates, the methodology of NUREG-0017 specifies the release rate per year per unit per building ventilation system. This is not dependent on power level. Thus, there is no change calculated for the power uprate. However, a 17.6 percent increase will be conservatively addressed.

The maximum increase in doses for gaseous and liquid effluents is estimated to be 17.6 percent. The estimated doses are a very small fraction of that allowable under appendix I.

Only minor, if any, changes in waste generation volume are expected. However, it is expected that the activity levels for most of the solid waste would increase proportionately to the increase in long half life coolant activity. Thus, while the total longlived activity contained in the waste is expected to be bounded by the percentage of the power uprate, the increase in the overall volume of waste generation resulting from the power uprate is expected to be minor.

The licensee stated that the power uprate has no significant impact on the expected annual radwaste effluent releases or doses (that is, all doses remain a small percentage of allowable Appendix I doses). The licensee concluded that following the power uprate, the liquid and gaseous radwaste effluent treatment system will remain capable of maintaining normal operation offsite doses within the requirements of 10 CFR Part 50, Appendix I.

#### **Dose Consideration**

The stretch power uprate will impact the radiation source terms in the core and the expected radiation source terms in the coolant. The actual increase in radiation levels due to the power uprate will not significantly affect radiation zoning or shielding requirements in the various areas of the plant because it is expected that the increase due to the power uprate will be offset by (1) the conservative analytical techniques typically used to establish shielding requirements, (2) the conservatism in the pre-power uprate design-basis RCS source terms used to establish the radiation zones, and (3) the plant TSs that limit the RCS concentrations to levels well below the design-basis source terms. Individual worker

exposures will be maintained within acceptable limits by the site as-low-as-is-reasonably-achievable program that controls access to radiation areas. The licensee stated that the stretch power uprate has no significant effect on normal plant operation radiation zones and shielding requirements.

Following the power uprate, the licensee stated that the post-LOCA vital area operator dose estimates will remain within the regulatory limits of NUREG-0578, Item 2.1.6.b and NUREG-0737 II.B.2 and II.B.3.

#### **Non-Radiological Environmental Assessment**

The licensee assessment included determining whether the power uprate will cause the plant to exceed the National Pollutant Discharge Elimination System (NPDES) permits' effluent discharge limitations and other conditions associated with operation of the plant. This review is based upon information contained in the State of Wisconsin, Department of Natural Resources (WDNR), WPDES Permit No. WI-0001571-06-0 and the Final Environmental Statement for the Kewaunee Nuclear Power Plant. The WPDES permit was effective beginning on August 1, 2002, and expires June 30, 2005. The licensee stated that there are no requirements in the NPDES Permit impacted by the power uprate. Circulating water outlet temperature rise increases by approximately 1.5 °F due to the power uprate. The total temperature rise across the condenser would be 16.7 °F. No change in the circulating water flow is required due to the power uprate. The 1.5 °F increase in the circulating water outlet temperature rise is acceptable because it is within the licensee's WPDES Permit No. WI-0001571-06-0.

#### **Summary**

The NRC has completed its evaluation of the proposed action and concludes that there are no significant environmental impacts associated with the proposed action.

The proposed action will not significantly increase the probability or consequences of accidents, no changes are being made in the types of effluents that may be released off site, and there is no significant increase in occupational or public radiation exposure. Therefore, there are no significant radiological environmental impacts associated with the proposed action.

With regard to potential nonradiological impacts, the proposed action does not have a potential to affect any historic sites. It has a small affect on

nonradiological plant effluents and has no other environmental impact. Therefore, there are no significant nonradiological environmental impacts associated with the proposed action.

Accordingly, the NRC concludes that there are no significant environmental impacts associated with the proposed action.

#### ***Environmental Impacts of the Alternatives to the Proposed Action***

As an alternative to the proposed action, the staff considered denial of the proposed action (*i.e.*, the "no-action" alternative). Denial of the application would result in no change in current environmental impacts. The environmental impacts of the proposed action and the alternative action are similar.

#### ***Alternative Use of Resources***

The action does not involve the use of any different resource than those previously considered in the Final Environmental Statement for the Kewaunee Nuclear Power Plant, dated December 1972.

#### ***Agencies and Persons Consulted***

On November 4, 2003, the staff consulted with the Wisconsin State official, Jeff Kitzembul of the Public Service Commission—Electric Division, regarding the environmental impact of the proposed action. The State official had no comments.

#### **Finding of No Significant Impact**

On the basis of the environmental assessment, the NRC concludes that the proposed action will not have a significant effect on the quality of the human environment. Accordingly, the NRC has determined not to prepare an environmental impact statement for the proposed action.

For further details with respect to the proposed action, see the licensee's letter dated May 22, 2003. Documents may be examined, and/or copied for a fee, at the NRC's Public Document Room (PDR), located at One White Flint North, Public File Area O1 F21, 11555 Rockville Pike (first floor), Rockville, Maryland. Publicly available records will be accessible electronically from the Agencywide Documents Access and Management System (ADAMS) Public Electronic Reading Room on the Internet at the NRC Web site, <http://www.nrc.gov/reading-rm/adams.html>. Persons who do not have access to ADAMS or who encounter problems in accessing the documents located in ADAMS, should contact the NRC PDR Reference staff by telephone at 1-800-