Nonradiological Environmental Assessment

Power uprate will not change the method of generating electricity nor the method of handling any influents from minor effluents to the environment. Therefore, no new or different types of environmental impacts are expected.

The NRC staff reviewed the nonradiological impact of operation at uprated power levels on influents from and effluents to Lake Ontario. NMP-2 utilizes a closed-loop circulating water system and a natural draft cooling tower for dissipating heat from the main turbine condenser. Other equipment is cooled by the service water system. The cooling tower and service water system are operated in accordance with the requirements of the State Pollutant Discharge Elimination System (SPDES) Permit No. NY-000-1015, which was issued by the New York State Department of Environmental Conservation (NYSDEC) on October 26, 1994, and became effective on December 1, 1994. It expires on December 1, 1999. This new discharge permit was issued by New York State since the previous permit had expired.

The withdrawal of cooling water from Lake Ontario is expected to increase slightly due to the increased heat loads. Emergency system flows are expected to remain generally unchanged. Increased heat loads are expected for nonsafety related loads such as the main generator stator coolers, hydrogen coolers, and exciter coolers. These systems, as well as other systems (e.g., RHR heat exchangers, emergency diesel generator coolers, and spent fuel pool heat exchangers) noted in Section 6 of the July 22, 1993, submittal are expected to require additional cooling and an increase in flowrate. The increase in water intake to the cooling tower is due to increased evaporation in the cooling tower. The increase in flowrate is expected to be small and within a nominal 5 percent increase. Conservatively assuming a 5 percent increase in the withdrawal rate, the intake approach flowrate velocity is expected to increase from 0.5 fps to 0.53 fps. Observations by the licensee have shown fish impingement to be very low and in most cases nonexistent. The NYSDEC has evaluated the potential effects of the current intake flowrate and has concluded that no special aquatic studies are required to assess the biological impact. No aquatic studies were included in the licensee's new SPDES discharge permit which was effective December 1, 1994. The licensee has stated that because the current intake flowrates are low and the aquatic

impacts of withdrawal are minimal, an increase of 5 percent is not expected to result in a significant impact, if any impact at all. The NRC staff agrees with the licensee's assessment and does not expect any significant impact due to the 5 percent increase in withdrawal flowrate.

The licensee does not expect an increase in the cooling tower blowdown. The cooling tower blowdown rate is controlled by total copper concentration in the circulating water system and the economic use of water treatment chemicals. The current blowdown rate is approximately 40 percent of the designed rate and is restricted to ensure compliance with the total copper concentration limitation imposed by the SPDES permit and by economic use of water treatment chemicals. The licensee has stated that if the blowdown rate was increased by 5-10 percent in order to evaluate cooling tower efficiency and to reduce the cycles of concentration of natural salts in the circulating water system, the copper limitation could still be met and the flowrate impact would be less than design. In addition, the NYSDEC has evaluated the service water and cooling tower blowdown based on the original design flowrates, as well as the state of the art technology of the discharge diffuser. The NYSDEC has concluded that no thermal measurements or thermal plume studies are necessary because of the low flowrates and the design of the discharge structure. Therefore, the licensee concluded that because the withdrawal rate is currently low and the cooling tower blowdown rate is currently below original design, the 5 percent increase in water withdrawal or an increase in blowdown is not expected to result in any additional environmental impact since any increase in flowrate is expected to be no more than the original system design. The NRC staff has reviewed the licensee's assessment and concludes the increased flowrates will not result in a significant increase in environmental impact.

The licensee has conservatively estimated that the power uprate will result in an annual increase in dissolved solids from water passing through the soil in the area of the Energy Center of approximately 0.012 ppm. Since even the most sensitive species are not affected by soil salinization of less than 1,280 ppm, it is highly unlikely that even salt-sensitive species would be measurably affected by this additional deposition rate during operation of the NMP–2 cooling tower at power uprate conditions. Therefore, the NRC staff has concluded that the increase in cooling tower drift due to the proposed power uprate will have no significant increase in environment impact and would still be well below the levels of concern to local soil and vegetation.

Nonradiological effluent discharges from other systems were also considered. Nonradiological effluent limits for such systems as floor and equipment drains are established in the SPDES permit. Discharges from these systems are not expected to change significantly, if at all, because operation at uprated power levels are governed by the limits in the SPDES permit. Thus, the impact on the environment from these systems as a result of operation at uprated power levels is not significant.

With the exception of the cooling tower, all other significant noise producing equipment associated with the service water and circulating water systems are located inside buildings and/or well below grade where the noise level would have little, if any, environmental impact. There is no expected increase in cooling tower noise levels associated with the proposed power uprate since there are no plans to increase its flow rate as part of the proposed power uprate. The main turbine and generator will operate at the same speed and thus will not contribute to increased offsite noise. Although the main station transformers will operate at a slightly (approximately 4.3 percent) increased kilovolt-ampere level, the slight increase will cause an insignificant increase in the overall noise level. Therefore, the NRC staff has concluded that the outside noise level increase will be insignificant.

The licensee has stated that the proposed power uprate will not require any changes to the SPDES discharge permit nor to the NMP–2 Environmental Protection Plan. The NRC staff agrees with this assessment and, therefore, we have concluded that the proposed power uprate will have an insignificant impact on the nonradiological elements of concern.

Radiological Environmental Assessment

The licensee evaluated the impact of the proposed power uprate amendment to show that the applicable regulatory acceptance criteria relative to radiological environmental impacts will continue to be satisfied for the uprated power conditions. In conducting this evaluation, the licensee considered the effect of the higher power level on liquid radioactive wastes, gaseous radioactive wastes, and radiation levels both in the plant and offsite during both normal operation and post-accident.

The floor drain collector subsystem waste collector subsystem both receive