Constellation Energy Group
R. E. Ginna Nuclear Power Station
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Abstract

ODCM Changes for Liquid Effluent Calculations in Drinking Water Pathway at R.E. Ginna Nuclear Power Plant

R.E. Ginna Nuclear Power Plant is a 589 MWE, 2-loop, Westinghouse PWR, located on Lake Ontario in western New York. Commercial operation began in 1969, and the current extended operating license will expire in 2029.

During annual review of offsite dose at Ginna Station, a question was raised about the impact of recent changes to the nearby municipal water intake structure. The intake had been moved a significant distance further from shore into deeper water, potentially affecting the dilution factor for the drinking water pathway. Ginna contracted an engineering consultant to evaluate the change and to update the dilution factor with recent data and current technology. The result was a factor of 10 increase to the ODCM liquid effluent dilution factor including limiting conditions that still retain significant conservatism. This change is important in that liquid effluent dose from tritium in the potable water pathway comprises the majority of offsite dose consequence from the operation of Ginna.

This paper will describe the issues surrounding calculation of offsite dose due to the drinking water pathway, and changes to the Ginna ODCM as a result of changes in calculated dilution between point of release and the modified municipal water intakes.