UNDERTAKING J2.6

Undertaking

TO CONFIRM ANY ANALYSIS THAT WAS DONE WITH RESPECT TO THE FEASIBILITY OF LARGER TANKS VERSUS SMALLER TANKS IN TERMS OF MANUFACTURING AND SHIPPING AND INSTALLING THOSE TANKS AT THE D2O FACILITY

Response

OPG did not evaluate tanks larger than 100m^3 for the D2O Storage Project. The Project Charter (Ex. D2-2-10, Attachment 2b, p. 10) states that the design of the D2O Storage Project should be "similar to the existing D20 Supply and Inventory system in order to take advantage of the previous design work." It goes on to specify:

> For consistency most of the tanks should be the same size as the ones used in the existing D20 storage (Ref [7] and [8]). Some of them should be divided in two or four (or four smaller tanks should be used) in order to give further operational flexibility in the storage, handling and transferring of different grades of heavy water to and from reactor units, TRF, Upgrader, etc. (Ref [3]). (Ex. D2-2-10, Attachment 2b, p.10).

The largest sized heavy water storage tanks in use in the Heavy Water Management Building and throughout the Darlington site are 100m^3 (Ex. L-D2-02-AMPCO-131, Attachment 6, pp. 55-56).

The use of larger tanks would reduce operational flexibility and introduce risk. For example, use of single large tank would eliminate redundancy and reduce OPG's ability to separately manage various grades of heavy water in response to changing conditions.

As detailed in OPG's evidence (Ex. D2-2-10, p. 21), 100 m^3 tanks are very large, specialized equipment:

> The D2O storage tanks were constructed in Cambridge, Ontario. They were shipped to the project individually via specialized low level float trailers resting in wooden bunks. Once all the tanks were received, they were lifted into the basement using cranes. Because of their size (each of the nineteen 100 m^3 tanks has a diameter of about 3.8 m and a height of approximately 11 m, which is taller than a typical three-story building), it was necessary to place the tanks in the seismic dike prior to completing the ground level floor slab.

A picture of a fully assembled 100 m^3 tank being lowered into the seismic dike can be seen at Ex. D2-2-10, p. 84.

In addition, as Mr. Reiner explained, larger sized tanks could not have been shipped fully assembled. They would have required assembly within the seismic dike, which would have required on-site welding thereby significantly increasing construction complexity and quality assurance when compared to using fully assembled prefabricated tanks supplied by a tank manufacturer (Tr. Vol. 2, p. 73).