Q. **Reference: Project - Upgrade Waste Water Equalization System - Holyrood**

Hydro states, in its Evaluation of the Deferral Alternative in Section 4.2.1 that "Upgrades to the waste water equalization system are necessary to eliminate safety hazards and ensure that the effluent is properly treated and disposed of in accordance with environmental requirements." In the Section 3.0 Justification, Hydro refers to "corroded structural steel members" as one of the safety issues (along with "mold"). Has Hydro obtained an engineering assessment of these structural members and what degree of risk of structural failure is raised by the corrosion?

A. An engineering assessment of the building's structural steel members was originally completed in 2013 as part of the "Holyrood Thermal Generating Station Condition Assessment and Life Extension Study – Phase 2."[1] The assessment noted that surface coating had failed on the majority of the members, resulting in notable surface corrosion.

Due to accessibility issues associated with the active basins, the assessment was limited to readily visible sections of the steel members. At the time of inspection, the structural capacity of primary structural moment frames was not believed to be compromised. It was suggested that these members be fully exposed, sandblasted, undergo a detailed assessment, and recoated. Replacement of all secondary structural members such as roof purlins, girts, and lateral bracing was recommended in conjunction with the replacement of the building's siding and roof panels.

Action is required to ensure that the structural integrity of the facility is maintained for the required service life. Given the costs associated with exposing, accessing, sandblasting, and the application of a coating system, the refurbishment and continued use of the primary structural members is not believed to be viable. Replacement of these members, along with the remainder of the superstructure, was included as part of a pre-engineered building package for the

[1] "Holyrood Thermal Generating Station Condition Assessment and Life Extension Study – Phase 2, 2012/13 Level II Condition Assessment Civil Structures and Unit 3 Generator," AMEC Americas Limited, December 20, 2013.

purposes of completing a project cost-benefit analysis. Based on this analysis, replacement of the existing building with a floating basin cover system was determined to provide the least-cost solution. The removal of the existing facility will eliminate any risk of structural failure.