

ENBRIDGE GAS INC.  
Answer to Interrogatory from  
Building Owners and Managers Association of Greater Toronto (BOMA)

Reference: Exhibit C1, Tab 2, Schedule 1, p20

Question:

- a) Please provide a copy of Pipeline Integrity Management Program document. Please define what integrity means. How do "integrity mains" differ from distribution steel mains? What are length, diameter, and pressures of integrity mains? Please distinguish vital mains from integrity mains. Please define CSAT Risk.
- b) Please discuss the various categories of mains, their risk/opportunities. What are typical end of life ages for those categories of mains?
- c) Please describe how "leak projections" are made.
- d) Please summarize the leak survey intervals for each category of mains. Are there any exceptions to those time periods?

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**Response**

- a) The Pipeline Integrity Management Program is described in further detail in Exhibit C1, Tab 2, Schedule 1, pages 113 to115.

Please define what integrity means.

System Integrity is described in Table 5.2-1 "Maintain the natural gas distribution system to meet or exceed codes, standards, and the requirements of applicable governmental authorities for safety and operational effectiveness." (Reference: Exhibit C1, Tab 2, Schedule 1, page 106)

How do "integrity mains" differ from distribution steel mains?

Integrity Mains are defined as "Integrity Management Program (IMP) mains are all pipelines operating at stress levels of 30% Specified Minimum Yield Strength (SMYS) and greater, and targeted Vital Mains that operate at stress levels less than 30% SMYS." (Exhibit C1, Tab 2, Schedule 1, page 113)

Distribution Steel Mains are steel pipelines operating less than 30% SMYS and do not include IMP steel mains.

What are length, diameter, and pressures of integrity mains?

There are 403 km of Integrity Mains as inventoried within Table 5.2-3 (Exhibit C1, Tab 2, Schedule 1, page 109). The diameter and pressures vary but are specified as “all pipelines operating at stress levels of 30% Specified Minimum Yield Strength (SMYS) and greater, and targeted Vital Mains that operate at stress levels less than 30% SMYS.” (Exhibit C1, Tab 2, Schedule 1, page 113)

Please distinguish vital mains from integrity mains.

Vital Mains consist of all NEB regulated lines, integrity lines, transmission lines and select distribution lines. Vital mains are critical to the safe and reliable operation of the gas distribution system.

Integrity Mains (as defined above) are a subset of Vital Mains.

Please define CSAT Risk.

Customer Satisfaction Risk (CSAT) is a risk category that is comprised of the following risk dimensions:

- i. Emissions (GHG)
- ii. Rehabilitation
- iii. Operational Reliability
- iv. Reputational

(Exhibit C1, Tab 2, Schedule 1, Page 81)

- b) Please refer to table 5.2.3. (Exhibit C1, Tab 2, Schedule 1, Pages 110 to 111)
- c) As outlined in Exhibit C1, Tab 2, Schedule 1, page 132 – section 5.2.6.1: “...leak projection model created by applying a structured methodology to convert historical failure data into a statistical model that forecasts the probability of failure (PoF). The leak projections are refined with input obtained through direct assessment, internal and external industry studies, and SMA input.” (“SMA” is a Subject Matter Advisor)
- d) A leak survey is conducted every five years for distribution steel mains and distribution plastic mains as indicated in the “Maintenance Strategy” within table 5.2.3. (Exhibit C1, Tab 2, Schedule 1, Page 110); exceptions are given for vital mains and pipelines identified with extensive hard surface cover, for which they are surveyed annually.