

ENBRIDGE GAS INC.
Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario (FRPO)

Reference: Exhibit C1, Tab 2, Schedule 1, Page 152

Preamble: EGI evidence states: *The predominant failure mechanism for copper risers at EGD is associated only with internal pipe conditions and is not affected by external conditions or the environment. Analysis determined that turbulent flow will be reached in copper risers at pressure as low as 5 PSIG at 30,000 BTU. The average furnace uses between 70,000 BTU to 100,000 BTU. A typical gas water heater uses between 36,000 BTU to 66,000 BTU. This supports the sampling which showed wall loss on all copper risers, as turbulent flow can be reached at such low pressure from standard home appliances. The localized corrosion failure is illustrated in Figure 5.2-55.*

Question:

We are interested in understanding better the risks associated with the erosion corrosion of the copper risers.

In imperial units (psig), what is the maximum and minimum pressure of the majority of EGD distribution systems?

- a) If EGD has multiple pressure ranges for distribution, please provide what term is used to describe the system, what range of pressures and the percentage of each systems of all EGD distribution systems under 100 psig.
- b) What percentage of these 280,000 risers would actually be exposed to 5 psig?
- c) Does EGD have a study that looks at the failure rates of the copper risers in different pressure systems?
 - i) If so, please file the study.
- d) Is EGD giving priority to the replacement of those risers exposed to the lowest pressures?

Response

- a) All copper risers are operating at pressures less than 100 psig. Approximately 86% of the networks in the EGD rate zone's system operate at pressures under 100 psi.

- b) 99.6% would be exposed to 5 psig or greater. Approximately, 1000 units are operating below 5 psig.
- c) No, with the exception of the approximately 1000 units, copper risers are operating in the same range of system pressures.
- d) No, the risers at the lowest pressures would present the lowest probability of failure with all other conditions being equal.