

NOVA SCOTIA UTILITY AND REVIEW BOARD

IN THE MATTER OF THE PUBLIC UTILITIES ACT

- and -

IN THE MATTER OF AN APPLICATION by **HALIFAX REGIONAL WATER COMMISSION** for an Order approving amendments to its Regulations to provide for the repair and replacement of lead service pipes in the provision of water service

BEFORE: Peter W. Gurnham, Q.C., Chair
Murray E. Doehler, CPA, CA, P.Eng., Member
Steven M. Murphy, MBA, P.Eng., Member

APPLICANT: **HALIFAX REGIONAL WATER COMMISSION**
James G. Spurr, LL.B.

INTERVENORS: **CONSUMER ADVOCATE**
John P. Merrick, Q.C.

FINAL SUBMISSIONS: June 30, 2017

DECISION DATE: **August 22, 2017**

DECISION: **The Application to replace all the lead service lines is approved.**

1.0 INTRODUCTION AND BACKGROUND

[1] This is a Decision of the Nova Scotia Utility and Review Board (Board) in respect of an application by the Halifax Regional Water Commission (Halifax Water), dated February 23, 2017, for approval of amendments to the Halifax Water Regulations to provide for the repair and replacement of lead service lines in the provision of water service (Application).

[2] The Application proposes the following addition to Regulation 51 'Water Service Connection':

(da) where the Commission concludes that repair, replacement or other disturbance of a Water Service Connection composed of lead should be undertaken on an urgent basis, it will replace such Water Service Connection at the Commission's expense.

(db) contemporaneous with the replacement of the Water Service Connection referred to in clause (da) the Commission will seek the consent of the Customer for the Commission to replace the Customer's lead Service Connection pipe, terminating at its connection to the water meter on the Customer's premises.

(dc) where a Customer advises the Commission that it intends to replace its lead Service Connection pipe, the Commission shall replace the Water Service Connection composed of lead leading to such Customer's property as soon as practicable thereafter.

(dd) a Customer who replaces a lead Service Connection pipe, as contemplated in clause (dc), shall be reimbursed by the Commission 25% of the cost of such replacement, to a maximum of \$2500.00, upon completion of replacement of the Water Service Connection by the Commission.

(de) the reimbursement referred to in clause (dd) shall be limited to the cost of excavating the Customer's property to replace the lead Service Connection pipe and reinstating excavated materials.

[Exhibit H-1, Appendix F]

[3] The service lines, which connect a watermain in the street to premise plumbing, are the joint responsibility of Halifax Water and customers. The section of the line between the watermain and the street boundary line (public portion or right-of-way), is Halifax Water's responsibility, while the remainder of the line is owned by the customer (private).

[4] The Application notes that up until the mid-1950's, lead was the standard material for service line pipes up to 50 mm (2") in diameter, and Halifax Water's service pipe installation was consistent with this industry practice. Since that time, copper tubing has generally been used. It is estimated that at one time, Halifax Water's service area had 10,000 to 15,000 lead service line pipes.

[5] Lead exposure has been identified as a concern, related to a wide range of adverse health issues, as well as being linked to delayed mental and physical development, and behavioral problems in children. Lead in drinking water is primarily associated with lead service lines and premise plumbing containing lead solders and lead in brass fixtures. The Canadian Plumbing Code banned lead solders in 1986, and lead in brass fittings has been significantly reduced.

[6] Halifax Water's practice has been to replace the public portion of lead service lines in coordination with Halifax Regional Municipality (HRM's) street reconstruction, as well as doing replacements as a part of planned watermain renewals. In addition, when customers have advised of replacing the private portion of a lead service line, Halifax Water has replaced the public portion. Even with this practice, it is estimated that there are still between 2,000 to 2,500 lead service lines in the public portion within Halifax Water's water service area, mainly on the Halifax Peninsula.

[7] As the private portion of the service line is not owned by Halifax Water, and customers may have replaced their portion without advising Halifax Water, there is no reliable estimate of the number of private lead service lines within Halifax Water's water service area. Halifax Water assumes that less than 10% of the private property portion of the lead service lines have been replaced after the replacement of the public section.

If the estimate and assumption are accurate, there could be more than 10,000 connections in which the privately owned section is lead.

[8] Halifax Water has obtained a better understanding of the health issues related to lead in drinking water through its sponsorship of a Natural Sciences and Engineering Research Council of Canada Industrial Research Chair. In addition, in the United States, both the American Water Works Association (AWWA) and the National Drinking Water Advisory Council (NDWAC) have issued statements related to lead service line connections. Based upon this research, it has been found that:

- partial replacement of a lead service line typically does not reduce lead levels and in some cases, causes an increase in lead concentrations, and
- that in such instances of high lead levels in residences, the removal of the lead service line is necessary in order to reach acceptable levels.

[9] NDWAC submitted recommendations to the United States Environmental Protection Agency, based upon the following five fundamentals:

- a. Complete replacement of lead service lines (LSL's) within a reasonable period of time (defined as by 2050). LSL replacement must be a shared responsibility between the Utility and its customers. (While not mandating shared financial responsibility, it clearly expects utilities to work with customers to address LSL's).
- b. Increased communication with customers. (Utilities must make increased efforts to inform customers about lead, including making contact with customers with LSL's a minimum of once every three years.)
- c. Utilities must develop an inventory of public and private LSL's (Unknown LSL material should be assumed to be lead unless determined otherwise.)
- d. Sampling must continue at a minimum of the level conducted under the Lead Copper Rule (LCR) but they [sic] type of testing should be tailored to the needs of the customer.
- e. Mandatory corrosion control treatment.

[Exhibit H-1, Application p. 8]

[10] Due to the associated health concerns, the AWWA endorsed the NDWAC recommendations.

[11] Testing shows that most of Halifax Water's customers with lead service lines (full or partial) are being exposed to drinking water with high levels of lead. As such, Halifax Water has determined that actions must be taken to deal with lead in drinking water, through the removal of the entire length of lead service lines. Currently, Halifax Water's Regulations include the use of rate base funds for expenditures on the public portion of the service lines, which creates an issue when most customers do not replace the private property portion. Since 2012, Halifax Water has ceased doing partial lead service line replacements, except in necessary circumstances such as main repairs which involved the lead service line. This has also resulted in Halifax Water no longer coordinating the replacement of the public portion of the lead service line pipe with HRM street works. Due to these changes, the current level of Halifax Water's lead service line replacement activity is approximately half of previous years.

[12] Halifax Water has estimated that avoided costs (such as would be incurred for traffic control and street restoration) through coordination with HRM, is 35% of the cost of replacement of the public right-of-way lead service line. The average cost of replacement of the public portion of the lead service line is \$10,000. Halifax Water estimates that if 1,800 of the remaining replacements can be done in coordination with HRM, there would be a savings of \$6,300,000.

[13] Halifax Water prepared a business plan for a revised lead service line replacement program, which is consistent with NDWAC recommendations, and is attached as an Appendix to the Application. The basis of the Application is that the most significant recommendations relate to the necessity of the complete removal of the lead

service line, and that utilities must view the private property service issues as a shared responsibility, to be resolved through working with the customer.

[14] The Board has determined that the issues that need to be addressed in this Application are:

1. Awareness program;
2. Emergency replacement criteria and funding;
3. Provision of a grant for private line replacement; and
4. Budget for:
 - a. Public line replacement; and
 - b. The awareness/management/execution of the program.

[15] Halifax Water was represented by James G. Spurr, LL.B., Corporate Legal Counsel. The Consumer Advocate (CA), represented by John P. Merrick, Q.C., requested intervenor status, and issued information requests (IRs) to Halifax Water on May 5, 2017, to which a response was received on May 19, 2017.

2.0 JURISDICTIONAL ISSUE

[16] As a preliminary matter, on March 6, 2017, the Board wrote to Halifax Water expressing a concern as to whether it had jurisdiction, under the *Public Utilities Act*, R.S.N.S. 1989, c.380, as amended, to approve that portion of the Application to finance the non-emergency replacement of private lead service connections of individual customers. The Board requested submissions on the jurisdictional issue.

[17] Submissions were received from Halifax Water and the CA, both parties arguing that the Board had jurisdiction and both relying on a previous Decision of the Board: *Kentville Water Commission (Re) 2002 NSUARB 25*.

[18] Section 52 of the *Public Utilities Act* states:

Duty to furnish safe and adequate service

52 Every public utility is required to furnish service and facilities reasonably safe and adequate and in all respects just and reasonable.

[19] In a brief letter Decision dated April 11, 2017, the Board advised that it was persuaded it had jurisdiction to hear the matter on the basis that the service provided to residents served by lead lines may not be, in all respects, safe and adequate, and just and reasonable, and would provide further reasons in this Decision. These are the further reasons.

[20] In its submission, Halifax Water (or HRWC) made reference to the seminal Nova Scotia case on regulation:

Nova Scotia Court of Appeal

The Nova Scotia Court of Appeal (“NSCA”) has considered and commented on the jurisdiction of the Board under the *Public Utilities Act* in ***Nova Scotia (Public Utilities Board) v. Nova Scotia Power Corporation***, [1977] 1 ACWS 86 as follows in paragraph 17:

[17] The scheme of regulation established by the Act envisages and indeed compels control by the Board of all aspects of a utility’s operation in providing a controlled service. **Two great objects are enshrined** - that all rates charged must be just, reasonable and sufficient and not discriminatory or preferential, and **that the service must be adequately, efficiently and reasonably supplied to the public**. Almost all provisions of the Act are directed toward securing these two objects - that a public utility give adequate service and charge only reasonable and just rates. (emphasis added by HRWC)

The NSCA quoted the Board’s own summary at paragraph 26:

A public utility is obligated to provide services that are reasonably safe and adequate and is entitled to compensation therefor by the charging of rates that are not unjustly discriminatory and will provide the public utility with sufficient revenue to enable it to pay its operating expenses including depreciation and income taxes, and have net earnings sufficient to enable it to obtain and service normal and needed capital requirements. [...] (emphasis added by HRWC)

For the reasons discussed more fully below, HRWC submits that its future ability to honour such an obligation to “provide services that are reasonably safe and adequate” will be substantially challenged if the Board concludes it is unable to approve the Application. HRWC further submits that there will be no “unjust discrimination” as between rate payers if the relatively modest subsidy proposed is provided to encourage those customers who currently have lead Service Connection pipes to have them replaced. The proposed

program strikes a fair balance between the “two great objects” of the Act as described by the NSCA.

[HRWC, April 3, 2017 Submission, p. 2]

[21] In the *Kentville* case a few customers of the Kentville Water Utility requested that a water main be extended to their properties and that standard service laterals be installed to replace the existing unconventional, substandard, service connections.

[22] Based on the evidence presented, the Board was not satisfied that the service the Kentville Water Utility supplied to the affected residents was reasonably safe and adequate and, in all respects, just and reasonable.

[23] The Board went on to say:

... According to the Commission's policy, if a break occurs on the service lateral between the curb stop and the residence, the repair is the financial responsibility of the customer. The Board is aware that this is a standard practice for the majority of water utilities in the province. However, in the Board's view, this policy concerning financial responsibility for the service lateral from the curb stop to the residence should apply to situations where there is a standard configuration of a main located adjacent to the properties which it is serving, with the service lateral extended through to the curb stop near the property to reach the residence. In terms of service connection costs to be applied to the residents of Nichols Avenue, the Board understands that these customers have paid standard rates for what appears to be substandard configuration and substandard water service. In the special circumstances of this case, the Board believes that it would be fair and reasonable for the residents of Nichols Avenue to first be provided with a standard water configuration before Regulation 11 is applied. Accordingly, in view of the circumstances in this case, the Board believes that the Utility should bear the cost of service laterals from the main to the residences.

[2002 NSUARB 25, p. 14]

[24] Halifax Water argued that it would be just and reasonable for customers to receive assistance with replacing the private portion of their existing lead service lines with copper lines, such as those serving the balance of Halifax Water's customers.

[25] Once these dangerous lead service lines are replaced the normal payment rules would apply.

[26] The CA made similar submissions as follows:

The amendments to the regulations sought by the Commission would have the effect of some customers having the cost of replacing the service lines either waived or subsidized. That results in other customers having to cover the shortfall. The question is whether in these circumstances that constitutes a discriminatory rate structure that is outside the jurisdiction of the Board to approve.

It is the submission of the Consumer Advocate the amendments sought do not constitute a discriminatory rate structure and therefore the amendments are within the jurisdiction of the Board.

The Consumer Advocate refers to the Kentville Water Commission decision (2002 NSUARB 25), the HRWC Stewardship Program and the decision of this Board in Heritage Gas Limited (2014 NSUARB 41). They support the point that work performed on customers' property for which the customer does not have to pay or receives a subsidy can be supported as non-discriminatory if the work in question is required to bring the customer's level of service to a level of quality that is provided to other customers.

The Consumer Advocate submits similar reasoning applies in the present circumstances. Customers who are presently getting their water through connection pipes that are putting lead in the water are receiving a degraded water service. Providing free or subsidised installation is necessary to bring those customers' level of service that is of a reasonable equivalency to customers on the rest of the system.

[CA April 3, 2017 Submission, p. 2]

2.1 Findings

[27] Under Section 52 of the *Public Utilities Act*, Halifax Water has an obligation to furnish service and facilities that are reasonably safe and adequate. Because of the health concerns noted with respect to lead service lines, discussed elsewhere in this Decision, the service being received by customers with lead service lines may not be, in all respects, safe and adequate.

[28] In these circumstances, based on the same reasoning the Board applied in *Kentville*, the Board is persuaded that it has jurisdiction to consider Halifax Water's proposal to financially assist with replacement of the private portion of the lead service lines of individual customers.

3.0 APPLICATION ISSUES

3.1 Awareness Program and Budget

[29] The NDWAC recommendations state that utilities should communicate with customers with lead service lines at least once every three years. Halifax Water acknowledges that for its business plan to be successful, it must increase its communication with customers. This includes providing information on its website to help customers identify ownership of lead service lines, and to explain the risks associated with lead in drinking water. Halifax Water also notes that its program must include the availability of educational materials on the subject and to offer water testing to customers who have been identified as having lead service lines.

[30] A key component of the awareness program is the development of Halifax Water's inventory of public and private lead service lines. While Halifax Water has an inventory of public lead service lines which is reasonably complete and accurate, its inventory of private lead service lines is incomplete and reportedly contains errors. Halifax Water is developing an inventory program which includes:

- reporting to a Halifax Water database of the service material observed as part of the Automated Meter Infrastructure installation project, scheduled to begin later in 2017;
- contacting all customers who may have lead service lines every three years;
- review of existing records to fill gaps;
- a customer web portal to provide information about individual services;
- education of staff to record routine observations of service line material; and
- excavation at strategic locations to observe service material.

[31] Halifax Water's business plan for the lead service line replacement proposes annual operating costs of \$350,000 for items such as staffing, laboratory, materials, supplies and advertising. It is expected that about half of the effort, for at least a five year period, will be needed to prepare an inventory of private lead service line locations.

[32] While it is estimated that an inventory for high priority areas will be completed within the next five years, Halifax Water notes it will most likely be 10 years before a reliable inventory is completed and available.

3.1.1 Findings

[33] The Board agrees that it is imperative that customers have the necessary information readily available to understand the risks associated with lead service lines, and the options available to them to deal with the issue. This includes the development of a reliable and accurate lead service line inventory, and increased communication with customers by Halifax Water staff, as well as the use of website tools.

[34] The Board finds Halifax Water's described awareness program and budget to be reasonable and accepts it as proposed.

3.2 Emergency Replacement Criteria and Funding

[35] The Application requests Board approval to provide Halifax Water with the authority to replace the private portion of a lead service line at its expense, in unplanned or emergency circumstances, when the lead service connection line is disturbed, or needs to be replaced. It notes that in such circumstances, the customer has little opportunity to react, or plan for funding the cost of replacement of the private portion. Examples of this type of replacement include:

- a. An emergency water main repair where the service is damaged or repair of the main requires removal of a section of pipe with a lead service connected to it.
- b. A leak is detected on a lead Service Connection pipe and repair is required.
- c. A lead Service Connection pipe is disturbed while repairing or replacing a sewer Service Connection pipe.

[Exhibit H-1, p. 9]

[36] Research indicates that a significant disturbance of a lead service line creates a high probability of increasing the lead levels in the water at the premises. This results in the possibility that a customer, who may not have previously experienced high lead levels in their drinking water, being exposed to high levels due to actions by Halifax Water. The Application notes that the only reliable mitigation, and appropriate response, is to remove the entire lead service line and replace it with a suitable material, such as copper.

[37] It is estimated that there will be approximately 10 such emergency/unplanned replacements per year, at an average cost of \$5,000 each, for a total annual cost of \$50,000.

[38] The CA's letter to the Board dated April 3, 2017, notes the difference in the terminology used by Halifax Water to explain these circumstances. The words "unplanned" and "emergency" are used in the motion passed by Halifax Water, while "urgent basis" is used in the proposed Regulation. He assumes that these circumstances will be evaluated on a case by case basis and that there be clarification of the criteria. The CA further notes that consideration be given as to whether Halifax Water should attempt to come to an agreement with the customer to pay a portion of the cost, acknowledging that there will be some cases where such contribution is refused or not possible. The CA also observes that there may be situations where a customer refuses

Halifax Water permission to access their property to carry out the work, and that in such cases, Halifax Water should not engage in trespass.

3.2.1 Findings

[39] The evidence presented indicates that a customer could experience increased levels of lead in their drinking water because of actions by Halifax Water to repair or replace its infrastructure. It further explains that the replacement of the entire service line, as soon as possible, has been identified as the only reliable means to resolve the issue. Halifax Water's estimate of the annual cost of this type of replacement is \$50,000, which represents 0.09% of its total revenue requirement.

[40] The CA raised some points with respect to the proposed emergency replacement. From the information filed, this proposed replacement appears to relate to any work by Halifax Water which will involve the disturbance of a lead service line, and may result in increased lead levels in a customer's drinking water. Given the risks involved, and the unplanned nature of the work, the descriptions used appear to be appropriate. However, the Board expects that each such replacement will be reviewed on a case by case basis and in accordance with Halifax Water's Regulations.

[41] Given the short time frame to replace the service pipe in these situations, which are not done on a scheduled basis, it may not be appropriate, or even possible, to attempt to negotiate payment arrangements with customers for the private portions. Also, this could introduce a level of disparity among customers as some may simply refuse to pay anything, while others will offer to pay the entire cost.

[42] The replacement of the entire lead service line, at no cost to the customer in the circumstances noted, could be considered as a benefit to the customer. Even so,

the Board notes that there may be cases, even after being informed of the risk associated with lead in drinking water, that the customer could refuse Halifax Water access to replace the private portion. In such circumstances, the Board expects that Halifax Water will act in accordance with its proposed Regulation 51 (db), as noted above, which states that Halifax Water *will seek the consent of the Customer* prior to commencing any work on the customer's property.

[43] Given the responsibility of Halifax Water, albeit unintentionally, in causing the disturbance to the lead service line, and the relatively insignificant impact on the revenue requirement, the Board finds Halifax Water's proposed emergency replacement and estimated funding to be reasonable. The program is approved as proposed.

3.3 Provision of a Grant for Private Line Replacement and Budget

[44] Halifax Water, consistent with NDWAC recommendations, has developed a business plan which proposes to replace all lead service connection pipes by 2050. This includes the removal of all 2,500 public right-of-way lead service connection pipes and the 10,000 remaining private property connections. It is believed that in most locations where the public portion of the service line is lead, the private portion is as well. However, there are approximately 200 locations where the public portion is lead and there is a copper private portion. Halifax Water must therefore work with the 2,500 customers to facilitate the replacement of the private portion in conjunction with its public portion replacement program, as well as encourage replacement to those with only a private lead service pipe.

[45] Halifax Water notes that to achieve this goal, it will be necessary to motivate customers and remove as many barriers as possible, with the authority to provide

financial assistance to customers as an important element. In addition to increased communication and education, the Application lists several other components of Halifax Water's proposed program, including:

- identifying replacement opportunities up to two years in advance through the development of a rolling five year lead service line replacement plan;
- requesting that HRM establish a financing mechanism for customers, which could see the cost of the private portion being financed through a 10 year loan through the Municipality's Local Improvement Charge;
- working with other levels of government to mandate lead service line replacement upon the sale of a property; and
- identifying any other sources of funding to assist homeowners.

[46] Most jurisdictions in Canada currently have no regulatory framework with respect to water utilities dealing with lead service line issues. Halifax Water states that it is aware of three other water utilities in North America, including one Canadian utility, that provide some form of financial assistance to homeowners for the replacement of lead service lines. It further notes that with the proposals in the Application, Halifax Water will be among the first utilities in Canada to incorporate practices with respect to lead service lines, which are consistent with the NDWAC recommendations.

[47] Halifax Water proposes to reimburse customers for 25% of the cost of the replacement of the private portion of the lead service line, up to a maximum of \$2,500. The Application notes that as the average cost to replace the private portion of a lead service line is \$5,000, an average subsidy of \$1,250 for each of the estimated 10,000 remaining private portion, results in a total subsidy, in 2017 dollars, of \$12,500,000 over 30 years. Halifax Water further believes that the program will aid in the creation of a base of customers who will be willing to replace their lead service lines in conjunction with

HRM's capital program, which could potentially result in offsetting savings of \$6,300,000 in 2017 dollars, over the 30 year period.

[48] Halifax Water's lead service line replacement program is a component of its capital budget, funded through debt and depreciation, with the possibility of applying for funding from other levels of government, if available. The most recent annual replacement rate was 25 to 50 service lines, and an average capital budget of \$300,000. It notes that to meet its objective of replacing all private service lines by 2050, it will need to average 310 annual replacements in the next 32 years. Halifax Water explained that it expects to ramp up the number of replacements in the earlier years of the program with a ramp down in the later years. During the program's mature middle years, the rate of replacement is expected to drop to 100 annually. The Application states that the annual capital budget will increase, on average, to one million dollars per year due to the proposed replacement program. Halifax Water justified the one million dollars, noting that there is a potential for cost savings through integration with HRM capital works projects, as well as developing more cost effective replacement methodologies.

[49] In response to the CA's IR on the rate impact to all customers of the proposed subsidy for the next ten years, Halifax Water responded that if the number of annual replacements is ramped up from the current level to 350 in the period 2021 to 2026, the additional total revenue requirement over the ten years is \$3,187,500, with the largest annual requirement being \$437,500. This represents 0.78% of the 2016/17 revenue requirement. Based upon Halifax Water's assumptions of a 3% annual decrease in consumption and a 0.5% growth in customers, the largest rate impact associated with

the proposed subsidy, over the next ten years, is \$0.0128 per cubic metre of consumption, in 2026.

[50] In response to the CA's IR inquiring why the proposed Regulation 51 (de) does not include reimbursement of the cost associated with the replacement of the service pipe, and connecting that pipe to Halifax Water's pipe and meter, Halifax Water noted that the intent was not to exclude these costs, and revised the wording to:

(de) the reimbursement referred to in clause (dd) shall be limited to the cost of excavating the Customer's property, installing the replacement service, connection to the Commission's service and meter and reinstating excavated materials.

[Exhibit H-3, IR-11]

3.3.1 Findings

[51] As research indicates that partial lead service connection replacement could result in elevated lead levels in the customer's drinking water, it is important to replace the entire connection pipe. However, as outlined in the Application, there are often barriers to prevent the replacement of the private section at the time of the replacement of the public portion of the lead service line. Halifax Water's proposed program, including the financial reimbursement, attempts to reduce these barriers. The proposed replacement program, and estimated cost, are not considered by the Board to pose a significant financial burden on Halifax Water's customer base, in terms of rate implications.

[52] Based upon the information provided, the Board approves the proposed capital budget associated with the lead service line replacement program, including the grant component of the program. The Board further approves the addition to Regulation 51 (d), which includes the reimbursement by Halifax Water, with the amendment provided by Halifax Water to Regulation 51(de), as outlined above.

[53] Given the uncertainty in estimating the number of replacements, and the costs, the Board directs Halifax Water to provide annual updates on the progress and costs of its lead line replacement program, including: emergency replacements, Halifax Water's replacement program, replacements initiated by customers, and integration with HRM projects. This can be communicated either through a status report to be filed with the Board by June 30 of each year, or through Halifax Water voluntarily including this information in its Annual Report.

4.0 SUMMARY

[54] Service lines from the main to the premises, when partially or fully consisting of lead pipe, can lead to elevated lead levels in a customer's drinking water.

[55] It is estimated that there are between 10,000 and 15,000 lead service lines within Halifax Water's service boundary. Most of these are in the Halifax Peninsula.

[56] In compliance with recommendations from the National Drinking Water Advisory Council (US) and the American Water Works Association, Halifax Water has prepared a program to replace all lead service lines by 2050.


[57] Halifax Water will start a campaign to increase public awareness of the need to replace lead service lines, plus provide options available to deal with the issue.

[58] Halifax Water will, at its cost, replace the entire length of the lead service line in emergency situations with the approval of the customer.

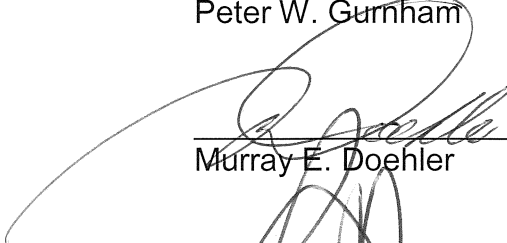
[59] Halifax Water will provide a grant of up to 25% of the cost of replacing the private portion of the lead service line and request HRM to establish a financing mechanism for the remainder.

[60] An Order will issue accordingly.


DATED at Halifax, Nova Scotia, this 22nd day of August, 2017.



Peter W. Gurnham



Murray E. Doehler



Steven M. Murphy