DECISION **2020 NSUARB 129**
M09494

NOVA SCOTIA UTILITY AND REVIEW BOARD

IN THE MATTER OF THE PUBLIC UTILITIES ACT

- and -

IN THE MATTER OF AN APPLICATION by the **HALIFAX REGIONAL WATER COMMISSION** for approval of a revised Regional Development Charge for Water and Wastewater Infrastructure and for approval of Amendments to the Schedule of Rates, Rules and Regulations for Water, Wastewater and Stormwater Services to revise the Regional Development Charge

BEFORE:	Roland A. Deveau, Q.C., Vice Chair Steven M. Murphy, MBA, P.Eng., Member Jennifer L. Nicholson, CPA, CA, Member
APPLICANT:	**HALIFAX REGIONAL WATER COMMISSION** John MacPherson, Q.C. Heidi Schedler, Counsel
INTERVENORS:	**NORTH AMERICAN DEVELOPMENT CORP.** Nancy G. Rubin, Q.C. **CONSUMER ADVOCATE** William L. Mahody, Q.C. Emily Mason, Counsel
BOARD COUNSEL:	S. Bruce Outhouse, Q.C.
HEARING DATE(S):	June 11-12, 2020
FINAL SUBMISSIONS:	August 6, 2020
DECISION DATE:	**October 29, 2020**
DECISION:	**The Board approves the revised water and wastewater RDCs, subject to the findings and directives outlined in this Decision.**

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1.0 SUMMARY

[1] Halifax Water applied to the Board for approval to revise its Regional Development Charge (RDC) for water and wastewater infrastructure. An RDC is a one-time charge that is paid by a developer or builder when obtaining a building permit. It is meant to recover the future costs of those infrastructure needs which are defined as regional. An RDC assigns a portion of Halifax Water's estimated water and wastewater infrastructure capital costs to growth over a 20-year term on a per unit basis (residential and non-residential). This application proposed changes to the current RDC rates for both water and wastewater.

[2] After reviewing all the evidence, the Board approves the revised water and wastewater RDCs, subject to the findings and directives outlined in this Decision. In its findings, the Board has directed revisions to parts of the RDC calculations, including:

- a portion of the estimated costs of the Harbour Solutions wastewater treatment facilities' (WWTFs) secondary treatment upgrades to be allocated to the proposed RDC;
- the allocation of a portion of the Port Wallace Water Transmission Main project costs used to develop the proposed RDC;
- the ratio of single-unit dwellings (SUDs) to multi-unit dwellings (MUDs) used in the residential RDC calculation;
- the approval of the settlement on the blended average Floor Space per Worker (FSW) amount in its RDC calculation; and
- the allocation of RDC costs between residential and Industrial, Commercial and Institutional (ICI) development on the basis of 781 square feet per employee.

These changes are to be reflected in a Compliance Filing to be filed with the Board setting out revised RDC rates.

[3] The most significant changes directed by the Board above relate to costs associated with the Harbour Solutions WWTFs. The Utility's wastewater assets require the greatest capital investment over the next 30 years compared to other asset classes and the Harbour Solutions WWTFs represent the largest investment area within the Utility's wastewater asset category.

[4] The optimization of current treatment processes or upgrades to the WWTFs are required to meet federal Wastewater System Effluent Regulations (WSER) discharge limits by 2041. The total estimated cost of these upgrades is $286.4 million. These upgrade projects are not included in the RDC capital program associated with the current RDC application. However, the RDC does include a planned $25.1 million upgrade for the Halifax WWTF and a $12.6 million upgrade for the Dartmouth WWTF, which are allocated 95% and 100% to growth, respectively. This $286.4 million figure, or a portion of it, represents a significant amount that could be added to the $275.2 million of capital costs that are currently included in the proposed wastewater RDC. If these costs were to be excluded from the proposed RDC, the costs included in the RDC calculation would be lower than otherwise required to help cover the cost of these upgrades which are anticipated during the 20-year RDC term. The Board believes that this could significantly disadvantage those required to pay future RDCs. These future costs are potentially significant and the Board finds that a portion of such costs expected to be incurred by 2041 should be included in the proposed RDC calculation.

[5] Further, the Board finds that there are information gaps related to Halifax Water's secondary wastewater treatment upgrade needs and the timing of Halifax Water's Harbour Solutions WWTFs. The Board, therefore, directs Halifax Water to address these gaps by completing further studies of its various WWTF upgrade project needs prior to the next five-year update.

[6] Finally, the Board directs Halifax Water to engage with its stakeholders on the following issues:

- "information gaps" concerning Halifax Water's Wet Weather Management Program, Asset Management Program and Stormwater Management efforts;
- refining its BTE methodology and calculations prior to the next RDC application;
- reviewing the RDC on an annual basis to determine whether the RDC would change by ±15%, and where that threshold is triggered, to pursue an update of the RDC;
- developing a new ICI cost allocation methodology in time for incorporation into the next RDC five-year update; and
- identifying potential Demand Side Management (DSM) initiatives and evaluating those initiatives so the cost-effective measures can be included in the next RDC application.

[7] The Board directs Halifax Water to provide the Board with annual reporting on its progress with that engagement, starting on September 30, 2021.

2.0 BACKGROUND

[8] The Halifax Regional Water Commission (Halifax Water or Utility) applied to the Nova Scotia Utility and Review Board on November 21, 2019, for approval of a revised RDC for water and wastewater infrastructure and for approval of corresponding amendments to its Schedule of Rates, Rules and Regulations for Water, Wastewater and Stormwater Services (*RDC Rules and Regulations*). The application requested that the proposed changes become effective on or after April 30, 2020.

[9] Halifax Water is a body corporate, incorporated under the *Halifax Regional Water Commission Act*, S.N.S. 2007, c. 55 (*Act*). It is a public utility regulated under the *Public Utilities Act*, R.S.N.S. 1989, c. 380 (*PUA*), and has responsibility for the supply of municipal water and fire protection services, municipal wastewater services and municipal stormwater services within the Halifax Regional Municipality (HRM).

[10] The current RDC was approved by the Board in its Decision dated April 17, 2014 [2014 NSUARB 69] (*2014 RDC* Decision). The *RDC Rules* and *Regulations* were most recently amended by the Board on July 30, 2019.

[11] The Consumer Advocate (CA) and North American Development Corp. (NADC) requested, and were granted, standing as intervenors. Board Counsel also participated in the proceeding. On January 20, 2020, Halifax Water responded to Information Requests (IRs) from the CA, NADC, Board Counsel consultants and Board staff.

[12] After reviewing the evidence filed by NADC and the Board Counsel consultants, Halifax Water filed its Rebuttal Evidence on March 9, 2020, in which it agreed with some of the intervenors' recommendations to revise certain inputs used in the calculation of the respective RDCs. Halifax Water reflected those changes in the

recalculated RDCs outlined in its Rebuttal Evidence, which resulted in lowering the proposed RDCs.

[13] The current RDC charges, the proposed RDC increases from Halifax Water's present application, and the proposed changes to the RDC amounts filed in Halifax Water's Rebuttal Evidence, are summarized in the following tables:

Proposed Regional Development Charge - Wastewater

Type of Development	Current	Application	Rebuttal
Single Unit Dwellings	$4,080.80/unit	$4,941.04/unit	$4,433.59/unit
Multiple Unit Dwellings	$2,740.84/unit	$3,318.61/unit	$2,977.79/unit
ICI*	$2.24/ft^2	$2.40/ft^2	$2.25/ft^2
* Industrial/Commercial and Institutional			

Proposed Regional Development Charge - Water

Type of Development	Current	Application	Rebuttal
Single Unit Dwellings	$182.88/unit	$1,810.10/unit	$1,619.99/unit
Multiple Unit Dwellings	$122.83/unit	$1,215.74/unit	$1,088.05/unit
ICI*	$0.09/ft^2	$0.88/ft^2	$0.82/ft^2
* Industrial/Commercial and Institutional			

[14] The hearing with respect to the present application was originally scheduled for March 23, 2020. However, due to the emerging circumstances arising from the COVID-19 pandemic, the hearing was adjourned to June 11 and 12, 2020, by agreement of the parties.

[15] Halifax Water presented a witness panel which included Kenda MacKenzie, Director of Regulatory Services; Kevin Gray, Manager of Engineering Approvals; and Chris Hamel, President, GM BluePlan. NADC called Daryl Keleher as its witness. Mr. Keleher is Senior Director at Altus Group Economic Consulting (Altus). Board Counsel called William Brown, Chairman Emeritus and Senior Consultant at Wright-Pierce, and

James Goldstein, Associate Fellow at Tellus Institute (referred to collectively as Brown and Goldstein); and Ken Mills, Energy Consultants International Inc. (ECI).

[16] A few days before the hearing, on June 8, 2020, Halifax Water and NADC filed a Settlement Agreement resolving the points of dispute between those two parties. The CA was not a party to the Settlement Agreement. As canvassed later in this Decision, Halifax Water and NADC agreed that a blended average Industrial, Commercial, Institutional (ICI) rate of 781 square feet per employee (Floor Space per Worker or FSW) should be used in the calculation of the ICI RDCs. The relevant terms of the Settlement Agreement provided as follows:

> NOW THEREFORE, THE UNDERSIGNED AGREE:
>
> 1. HRWC shall employ a blended Industrial, Commercial, Institutional ("ICI") rate of 781 sqft/employee (Floor Space per Worker or 'FSW').
>
> 2. Based on the current model, using an FSW of 781 (and subject to any other adjustments as ordered by the NSUARB), the proposed rates will change to:
>
>   Water ICI RDC $8.32/m^2 ($0.77/sq.ft.)
>
>   Wastewater ICI RDC $22.76/m^2 ($2.11/sq.ft.)
>
> 3. Should new data become available that impacts the charge by +/- 15%, an adjustment may be proposed to the NSUARB between the prescribed 5-year updates to the RDC.
>
> 4. With the implementation of the RDC, HRWC will continue to monitor the flows within every sewershed, along with observed and projected growth rates to ensure that capacity exists within the Regional Infrastructure for continued growth, including on NADC lands.
>
> [Exhibit H-21, pp. 1-2]

[17] As noted later in this Decision, the Board accepts the blended average ICI FSW rate for the purposes of the current application, and further confirms the requirement outlined in Clause 3 above to require an adjustment to the RDC between five year updates if new data impacts the rates in excess of ±15%. Further to Clause 2, the Board requires other changes to the RDC as outlined later in this Decision. Clause 4 does not directly

impact the RDC calculation, but the Board endorses Halifax Water's continuous monitoring of these infrastructure capacity issues.

[18] Generally, a regional development charge is a one-time charge which is paid by a developer or builder when an application is made for a building permit. In its *2014 RDC* Decision, the Board reviewed Halifax Water's basis for cost recovery of such "regional" capital costs:

> [22] HRWC has identified three categories of infrastructure which are considered to be related to growth. They are:
>
> - **Local** – Infrastructure that is required to directly service (on-site or off-site) developing properties.
>
> - **Area Master** – Oversized or enabling infrastructure that is required to directly support the designated master planning areas and the specific development (both inside and outside the master plan area) and that is not considered "Regional" in nature.
>
> - **Regional** – Infrastructure that is required to provide core treatment, water transmission, trunk sewer collection services and their associated appurtenances. This infrastructure provides benefit to the larger serviced community and extends across master plan areas.
>
> [Exhibit H-1, p. 26]
>
> [23] Mr. Hannam defined who should pay for each of the three components of growth as follows:
>
> > ... The local infrastructure, the small pipe on each street is paid directly by the developer. The oversized infrastructure within the Master Plan area, or just outside of it, if you will, is paid for by the developers directly, or facilitated by a Halifax Water capital cost contribution. And then the regional impact of that -- of that development area, such as the capacity at the treatment plant downstream, is paid by the utility funded through regional type charges. ...
> >
> > [Transcript, December 4, 2013, pp. 536-537]
>
> [24] The RDC is meant to recover the future costs of only those infrastructure needs which are defined as regional.
>
> [*2014 RDC* Decision, paras. 22-24]

[19] The Board stated:

> [6] Thus, costs related to the strategic drivers of regulatory compliance and asset renewal will be funded by Utility customers through rates and charges or through available third party funding programs provided by the Federal or Provincial governments. The costs related to projects and programs aimed at providing regional level infrastructure to support

> the strategic driver of growth, and to manage flow allocations to optimize system capacity, are proposed to be recovered through the RDC.
>
> [7] While HRWC is applying for an RDC in relation to both its regional wastewater and water infrastructure, the bulk of funds required over the proposed planning horizon of the RDC relate to the wastewater portion of HRWC's operations.
>
> [*2014 RDC* Decision, paras. 6-7]

[20] The Board approved the current RDC, stating that it "should be based on the principle that growth pays for growth". When the original RDC application was submitted to the Board in 2013, the Board concluded that the RDC proposed at that time was consistent with regional development charge practices in other Canadian municipalities.

[21] The formula to calculate the water and wastewater RDCs proposed in Halifax Water's current application before the Board was summarized by Altus, as follows:

> The RDC rates are essentially calculated by spreading the net growth-related capital costs in the numerator over the new housing units and non-residential gross floor area in the denominator to reach a per unit and per square foot charge.
>
> [Exhibit H-9, p. 2]

[22] The numerator and denominator of the formula were described as follows:

> In the numerator is the capital costs required by growth – all of the projects required by growth are listed with their capital costs. There are some deductions made - one to account for the degree to which the existing community will benefit from some of these works, known as "benefit to existing" or "BTE", and another to account for the degree to which capital works being built will have additional capacity available to accommodate additional growth after the planning horizon of 2041, also known as "post period benefit" or "PPB".
>
> ...
>
> In the denominator is the forecasted growth – both in terms of population and housing units, but also employment and the resulting gross floor area ("GFA") that will be required to accommodate these jobs.
>
> [Exhibit H-9, p. 2]

[23] Halifax Water projects its long-term infrastructure needs by developing a plan over a 30-year planning horizon. In October 2012, it completed its first comprehensive Integrated Resource Plan (IRP), which developed a 30-year, $2.6 billion

capital investment plan for the Utility. The IRP provided important background for the development of the initial RDC approved in the *2014 RDC* Decision. The plan was based upon three drivers for the Utility's water, wastewater and stormwater infrastructure, namely asset renewal, regulatory compliance and growth.

[24] When the initial IRP was prepared, it was acknowledged that significant uncertainties and data gaps existed within the plan, including further detailed infrastructure planning studies. One of the infrastructure planning studies that resulted from the IRP is Halifax Water's Infrastructure Master Plan (IMP). As described later in this Decision, the IMP is a key foundational document for the current RDC application. The IMP assesses the long-term capital investment needs of Halifax Water to meet the Utility's projected growth through 2046.

3.0 ISSUES

1. Does the 20-year term of the RDC remain appropriate?
2. Is the relevant data properly allocated within the 20-year term of the RDC?
3. Are the proposed lists of RDC capital projects appropriate?
4. Does the RDC appropriately account for future wastewater treatment facilities, including secondary treatment upgrade costs for the Harbour Solutions plants?
5. Are Halifax Water's calculations and allocation methodology for the Benefit to Existing (BTE) and the RDC appropriate?
6. Are Halifax Water's calculations and allocation methodology for the Post Period Benefit (PPB) and the RDC appropriate?
7. Is residential growth appropriately reflected in the RDC in terms of Persons per Unit (PPU)?
8. What is the appropriate proportion of single-unit dwellings (SUDs) to multi-unit dwellings (MUDs) for the residential RDC?

9. Is ICI (Industrial, Commercial and Institutional) growth appropriately reflected and allocated in the RDC (Floor Space per Worker v. Residential Equivalent Units)?

10. Is the cost of the RDC appropriately split between residential and ICI development?

11. Should the Board approve the proposed amendments to the Schedule of Rates, Rules and Regulations?

12. Does the Board have the jurisdiction to waive or reduce RDC charges for developers of non-profit housing?

13. Are there other issues to be considered in the calculation of the RDC?

14. Are there any gaps in the RDC's foundational documents, including Halifax Water's Infrastructure Master Plan and the Integrated Resource Plan?

15. Was stakeholder consultation effectively carried out by Halifax Water?

16. Should Halifax Water continue to review and update the RDC every five years?

4.0 ANALYSIS AND FINDINGS

4.1 Does the 20-year term of the RDC remain appropriate?

[25] In its *2014 RDC* Decision, the Board concluded that a 20-year term was an appropriate planning horizon for the RDC and it directed Halifax Water to apply it in the calculation of the RDC. While Halifax Water had originally proposed its RDC based on a 30-year planning horizon, a consultant for the Urban Development Institute of Nova Scotia (UDI) noted that, in his experience, local governments applied a shorter timeline for calculating such charges. The Board accepted UDI's evidence during that proceeding that industry practice was to use a shorter timeframe:

> [94] As noted by Mr. Cebron [consultant for UDI], the incremental cost method adopted by the HRWC "places a heavy weight of reliance on future predictions". The Board notes that numerous inputs must be estimated for the purposes of calculating the RDC. Implicitly, the longer the time horizon used for the RDC, the less certain the estimation of these inputs becomes. The Board considers that in such an exercise, the estimates for the outward years are increasingly speculative.

> [95] Mr. Cebron noted that in his 30 years of consulting experience in the United States and Canada, it was rare to even see a 20 year forecast time horizon used as the cost basis for a regional development charge. He stated that in most cases the incremental cost method just uses the first 10 years of a comprehensive capital plan.
>
> [96] The Board is mindful of HRWC's submission that calculating the RDC over a longer period, in this case 30 years as proposed by the HRWC, has the effect of "smoothing" the costs for all customers throughout the duration of the timeframe. Further, the Board recognizes that HRWC's proposed five year rolling updates to the RDC are a mitigating factor. However, the Board concludes that adopting a lengthy timeframe for the calculation of the RDC perpetuates, on a rolling basis, the uncertainty of projections or estimates for the outward years. As noted by Mr. Cebron, even with the adoption of five year rolling updates, any upward bias in projections or estimates can remain indefinitely.
>
> [97] The Board finds that a shorter planning horizon would be more reasonable in the circumstances. While rare, some instances of a 20 year timeframe are used in other jurisdictions. Further, any impact from the proposed RDC will be mitigated by the rolling five year updates, which HRWC noted are not generally applied to other regional development charges.
>
> [98] Taking into account all of the evidence and the submissions, the Board concludes that a term of 20 years is an appropriate planning horizon for the RDC and it directs HRWC to apply it in the calculation of the RDC.
>
> [*2014 RDC* Decision, paras. 94-98]

[26] In its Rebuttal Evidence in the current proceeding, Halifax Water correctly noted that a consequence of the difference between the 30-year IMP planning horizon and the RDC 20-year term was the need to calculate a Post Period Benefit (PPB):

> The result of that decision [i.e., to use a 20 year term for the RDC] was the creation of a PPB. This is the first RDC application which has explicitly considered the impact of the PPB on the calculation of the RDC. It is in this context that potential future concerns in respect of the operation of the PPB were identified.
>
> [Exhibit H-17, p. 6]

[27] The result of applying a 20-year RDC term is that all projects required post-2041 are not eligible for inclusion in the RDC. Halifax Water noted in its application that projects implemented before 2041 are sized to accommodate growth post-2041. To ensure fairness to developers within the current RDC term, a PPB is accounted for in the proposed RDC calculation.

[28] ECI and Altus proposed different methodologies for the calculation of PPBs in this proceeding. While the issue of the calculation of PPBs is addressed later in this

Decision, the Board notes that Halifax Water appeared to suggest in its Rebuttal Evidence that a uniform term for the IMP and RDC would eliminate the need to calculate a PPB:

> Some of the issues which arise in regard to the PPB are a result of discordance between the timeframe for the RDC (20 years) and the reports which provide inputs into the charge – e.g. the Infrastructure Master Plan utilized a 30 year planning horizon. A harmonization of those periods would result in the elimination of the PPB and thereby address the issues flowing from that concept.
>
> [Exhibit H-17, p. 4]

[29] When referred to the above excerpt by the Board during the hearing, Halifax Water confirmed it was not seeking a change in the 20-year term used in the calculation of the RDC.

Findings

[30] Despite Halifax Water's suggestion that the harmonization of the RDC term and the 30-year IMP planning horizon would eliminate the need to calculate PPBs, the Utility confirmed at the hearing that it was not advancing that position. There was no evidence presented in this matter that a different term should apply. The Board remains of the opinion that a 20-year term is the appropriate period to be used in the calculation of the RDC.

[31] As noted above, the use of a 20-year term for the RDC means that projects sized to accommodate post-2041 growth results in a PPB to ensure fairness to developers under the current RDC. In its Rebuttal Evidence, Halifax Water stated:

> At the end of the planning period for this RDC, there is $85 million in wastewater post period benefit and $30 million in water post period benefit. As the RDC is not designed to fund this post period benefit, an issue may arise as to how this portion of the capital projects will ultimately be funded.
>
> These post period costs will "roll ahead" to the subsequent RDC charge periods. This does not create any problem if growth continues at the same rate as currently.
>
> ...

> Halifax Water also considers that it is appropriate to specifically state that the PPB, at the end of the RDC review period, will "roll forward" into the calculation of the next RDC.
>
> [Exhibit H-17, p. 6]

[32] Halifax Water elaborated on its concerns relating to the recovery of the PPB costs in the future if population growth declines or ceases after the current 20-year planning cycle, including possible inequity for current contributors to the RDC, or the possibility of an unfunded portion of the PPB if population growth ceases (resulting in less or no new development activity to fund these costs). However, Halifax Water acknowledged these concerns are not a "live issue" in the current application as it is anticipated there will be significant growth during the period addressed in the application.

[33] The Board considers it appropriate that Halifax Water "roll ahead" post period costs to subsequent RDC updates. Further, the Board concurs with Halifax Water that there is no material concern at this time about any significant decline, or cessation, of population growth in the outward years of the IMP planning horizon. Indeed, such concerns may never materialize, or the costs attributable to growth may be otherwise dealt with by that time.

4.2 Is the relevant data properly allocated within the 20-year term of the RDC?

[34] As noted in the preceding section of this Decision, the calculation of the RDC is based on a 20-year term. As directed by the Board, Halifax Water must review the calculation of the RDCs every five years, using updated population growth projections and master plans for its infrastructure. These updates are on a rolling basis, such that at each five-year interval the RDCs will be recalculated on the basis of the next ensuing 20-year planning horizon.

[35] In at least three instances in this proceeding, ECI indicated that data for inputs to the RDC had not been correctly allocated to the proper 20-year design period in Halifax Water's financial modeling. With respect to projections for population growth, ECI noted in its Evidence:

> ...Residential Growth is determined for each 5-year period starting in 2016-2021 through to 2036-2041. Period 2016-2021 is pro-rated by 0.40 to account for using two years, namely years 2020 and 2021, for the purposes of this Application. ECI notes that the last period of 2036-2041 is not prorated resulting in an effective population growth period of 22 years rather than the stated 20-year period. ECI recommends prorating of the 2036-2041 period to bring the RDC calculations within the required 20-year design period. ...
>
> [Exhibit H-10, p. 5]

[36] With respect to net escalated costs for water and wastewater projects during the RDC term, ECI stated:

> ...The calculations in Tabs *Water – Phase Costs* and *Wastewater – Phase Costs* are similarly spanning in excess of the 20-year RDC period. Both calculations begin in year 2019 and end in 2040. ECI recommends adjusting the model to the 20-year period.
>
> [Exhibit H-10, p. 8]

[37] Similarly, Halifax Water's financial models reflect financing and cash flow in and out during the 20-year term. ECI stated:

> The Water and Wastewater – Financial Models summarize annual cash in and cash out from the RDC account. Adjustments are made for debt (both pre-2019 and 2019 onward) and surplus financing from inputs located on the *Financial Assumptions* Tab. ECI notes that the financing assumptions are reasonable. ... and similar to the population calculations, ECI recommends the financial model be adjusted to a 20-year period.
>
> [Exhibit H-10, pp. 8-9]

[38] In its Rebuttal Evidence, Halifax Water accepted these recommendations and reflected the changes in its revised financial modeling for the calculation of the RDCs.

Findings

[39] The Board is satisfied that, with these revisions, Halifax Water has properly allocated its data within the appropriate 20-year term of each RDC, subject to the Board's findings outlined below with respect to certain inputs to the RDC modeling.

4.3 Are the proposed lists of RDC capital projects appropriate?

[40] The application contains lists of the Utility's proposed RDC related wastewater and water capital projects required to 2046, totaling $512,641,009 and $278,497,000, respectively. After deducting any funding subsidies, amendments related to Benefit to Existing (BTE) and PPB are then applied, resulting in a total adjusted RDC program of $276,910,372 (wastewater) and $92,169,494 (water). As a result of stakeholder feedback, these amounts were revised prior to the hearing to $275,200,000 (wastewater) and $88,300,000 (water) to be reflected in the RDC calculation over the correct 20-year period.

[41] Halifax Water explained that in preparing its 2013 RDC application, the 2012 IRP was the key document used in identifying and prioritizing future capital projects needed to deliver services. However, since that time, the Utility has adjusted its strategy for updating the RDC, using the IMP as the key document to provide the RDC capital infrastructure program lists. Halifax Water described the IMP as a comprehensive water and wastewater servicing plan, which was also used to update the IRP. The final version of the IMP, completed in December 2019, was submitted in response to the IRs (a draft version of the IMP had been filed with the application). The revised IRP, completed in

March 2020, was submitted to the Board as a part of Halifax Water's General Rate Application (M09589).

[42] The proposed RDC program lists include some water and wastewater capital projects which are shown to have no cost eligibility to the RDC. Halifax Water explained that all projects from the IMP were reviewed for the application, and while these non-eligible RDC projects are included in the lists for completeness, they have no impact on the RDC calculations. Halifax Water further noted that stormwater projects were not included in the IMP, and are not eligible for RDC funds, as stormwater is conveyed locally and does not require regional infrastructure.

[43] The RDC for water is proposed to increase significantly compared to the current water RDC (i.e., in excess of an 800% increase). Halifax Water explained that the development of the IMP provided the opportunity to review regional water infrastructure needs, which was recommended in the 2012 IRP as a method to establish a water master plan program. Halifax Water noted that the increase in the RDC for water is driven by the nature of some projects which were identified in the IMP as required for growth. These projects include: the Bedford to Burnside system interconnection; Pockwock Transmission Twinning; Fall River to Bennery Lake Airport System; and the Lucasville Road Twinning.

[44] In their evidence, Brown and Goldstein acknowledged that the completion of recent studies, including the IMP, represents a significant advancement in Halifax Water's planning, filling many of the data gaps identified in the 2012 IRP. However, they questioned the timing of the completion of the studies, recommending that future RDC applications rely on completed foundational studies. They noted that the RDC application

represents a more complete understanding of water system improvements and provides for a more cost-effective wastewater collection system solution for growth. They stated that, in their opinion, with the exception of the WWTFs, both the wastewater collection system projects and the water projects included in the RDC, appear to be based upon a well-documented methodology, with reasonable planning level cost estimates.

[45] One concern related to RDC capital project lists focused on the exclusion of some Halifax Water Corporate Projects from the RDC. In its IR-9 to Halifax Water, Brown and Goldstein identified a number of Corporate Projects in the 2019 IRP Update that have growth related components but are excluded from the RDC calculation. The costs for these projects are, therefore, assigned entirely to existing ratepayers in general rates. When asked to explain the rationale for this exclusion, Halifax Water responded that it did not include studies such as the regional development charge, or the IMP or IRP updates in the RDC. However, the Utility provided no reasoning in its IR response for this exclusion, except to say that the Corporate Projects in the 2019 IRP Update do not relate to the RDC application. This issue was explored further during the hearing:

> **BY MR. MURPHY:**
>
> **Q.** But you can see, Panel, on those -- on those clips, these are from the IRP projects list that was included in Board Response -- or sorry, in response to Board IR-3, which is Appendix H-8. PDF pages 39 and 40 of 106.
>
> So, in those IRP project lists, there's a number of projects there. You can see I've got them sort of boxed in red. There's a -- their management flow program, corporate flow monitoring program, regional growth charge studies. And there's a couple more on another exhibit. I can call them up. Now there they are there. Fleet. I guess a lot of fleet upgrade programs and whatnot.
>
> But anyway, those projects that I had boxed in red, they're all assigned -- their costs are all assigned at least in part to growth. But I didn't see them in the RDC capital projects that I referred to earlier on pages 40 to 42 of the capital program.
>
> So, I guess I want to confirm that those are, in fact, not in the projects list, and if they are not in that list, why not, as the -- it does appear that they do have a component that's related to growth.

> **A.** (Hamel) Yeah, Mr. Murphy, I'm aware that our team cross-referenced the infrastructure master plan with the -- I -- the IRP project as well to ensure that the inclusions were appropriate.
>
> I would have to confirm these specific examples that you've highlighted here, but it's my understanding that the growth components of these projects are included in the DC charge. But the specifics, as you've highlighted, I would need to confer.
>
> **Q.** Okay. Maybe we can get that confirmed. Because if they are -- if they are included in those RDC project lists. I don't see them identified specifically as projects in those lists, but if they're incorporated into another -- another project somehow, we'd like to know that.
>
> [Transcript, June 12, 2020, pp. 12-14]

[46] Halifax Water provided the requested information in Undertaking U-10. In this Undertaking, the Utility classified the projects, programs and studies for which the Board was seeking clarification into four groups: Wet Weather Management, Future RDC Charge Studies/Infrastructure Master Plans, Future Integrated Resource Plan and Fleet Upgrade Program. Halifax Water also explained why the costs of these projects, programs and studies were excluded from the RDC.

[47] Further, in response to ECI's concern that pre-2019 projects are included in the wastewater RDC, Halifax Water explained that as this is an adjustment to the 2014 RDC, an assessment of all projects, including the collections and expenditures for projects completed from 2014-2018, is required.

[48] The application proposed changes to the *RDC Rules and Regulations* to allow Inflow and Infiltration (I/I) reduction projects to be considered in creating capacity for growth in wastewater systems, and to allow for demand side management projects to provide capacity for growth in the water system. This represents a change from the 2013 RDC application in which Halifax Water did not support allocating the capacity gained through I/I reduction projects to growth. The proposed change is the result of enhancements to Halifax Water's flow monitoring and wet weather management

programs, allowing for the measurement of capacity gains from I/I reduction projects to be allocated to the RDC.

[49] In response to NADC IRs, Halifax Water identified eight proposed I/I reduction projects included in the wastewater RDC. It noted that there are no individual water demand reduction measures to provide capacity for growth in the water RDC, and that none are currently contemplated.

Findings

[50] Except for some issues related to the WWTFs discussed below, there was little opposition to the projects included in the RDC program lists. Halifax Water provided explanations for the projects which were questioned, which generally appear to be reasonable. However, it seems to the Board that some of the projects which are not included, identified in the response to Undertaking U-10, such as future RDC studies and the IMP, would have an RDC growth component.

[51] For the current RDC application, the Board accepts Halifax Water's explanation why the growth components (as identified in the 2019 IRP Update) for the projects, programs and studies listed in the four groups identified in Undertaking U-10 have been excluded from the RDC calculation. However, it is clear from the IRP Update that the Utility believes growth is one of the drivers for these projects, programs and studies. The Board also believes that growth, if not entirely, at least in part, drives the need for these projects, programs and studies. For example, the Board questions whether RDC studies would even be required if it were not for expected growth and the related impact on regional infrastructure. As such, for the next RDC update, the Board

directs Halifax Water to work with stakeholders to review these projects, programs and studies and assign an appropriate percentage of the related costs to growth related needs for regional infrastructure. These growth driven costs are then to be included in the calculation of future RDCs.

[52] The Board accepts the RDC project lists included in the application, except for some costs associated with the Harbour Solutions WWTF projects and the Port Wallace Transmission Project, which are the subjects of separate discussions later in this Decision.

4.4 Does the RDC appropriately account for future wastewater treatment facilities, including secondary treatment upgrade costs for the Harbour Solutions plants?

[53] The optimization of current treatment processes or upgrades to the Harbour Solutions WWTFs are required to meet federal Wastewater System Effluent Regulations (WSER) discharge limits by 2041. As noted in the 2019 IRP Update, the total estimated cost of these upgrades is approximately $286.4 million, and the work is expected to be required by 2041. However, these upgrade projects are not included in the RDC capital program associated with the current RDC application. This $286.4 million figure, or a portion of it, represents a significant amount that could be added to the $275.2 million of capital costs that are currently included in the proposed wastewater RDC calculation.

[54] The application does, however, include costs for other WWTF capacity upgrade projects in the 2036 to 2041 timeframe. These costs include a planned $25.1 million upgrade for the Halifax WWTF and a $12.6 million upgrade for the Dartmouth WWTF. These costs are allocated 95% and 100% to growth, respectively, as they are

intended to increase the flow and primary treatment capacity of each WWTF to accommodate wastewater flows resulting from growth. These projects are not, however, intended to address treatment process changes to upgrade each facility to secondary treatment to meet WSER regulatory requirements. This was confirmed by Halifax Water during hearing testimony:

> **Q.** (Murphy)...So, my first question is can you tell me what approach Halifax Water used to estimate wastewater treatment plant expansion and upgrade needs over the IMP timeframe from both a capacity and a treatment perspective?
>
> **A.** (Hamel) Yes. So, the process, as identified, is primarily at an IMP level as a capacity exercise. It's understanding the current state of flows to the facility, the available capacity remaining, projecting growth at that plant level to determine when the capacity would be reached, and then that's the timing for the new expansion, and then it's a function of how much additional capacity is needed to meet the 2046 needs.
>
> The exercise in terms of in-depth process components, exactly which components would be expanded, etcetera, is not completed at the IMP level at this time.
>
> **Q.** So, the costs included in the IMP and RDC are strictly related to flow capacity issues.
>
> **A.** (Hamel) That's correct.
>
> ...
>
> **Q.** Thank you. I'll jump back to that question I had earlier, Ms. MacKenzie, related to the secondary treatment upgrades that might be required for the Harbour Solutions Projects. If I understand correctly, currently within the RDC, there's about thirty-seven/thirty-eight million allocated for upgrades at both Halifax and Dartmouth treatment plants within the RDC timeframe. And what I understand, based on Mr. Hamel's response a little bit earlier, those particular projects are strictly to address, I guess, capacity issues or flow issues. Is that correct?
>
> **A.** (MacKenzie) Yes.
>
> ...
>
> **Q.** No treatment-related stuff.
>
> **A.** (MacKenzie) They would have to -- the flow would have to be treated to the level that is in place from a regulatory standpoint at the time of the upgrade.
>
> **Q.** So that 37.7 million includes upgrade costs to accommodate flow and some costs associated with increasing the capacity of the existing advanced primary system to accommodate growth. No secondary treatment costs.
>
> **A.** (MacKenzie) Correct. [Emphasis added]
>
> [Transcript, June 11, 2020, p. 236, pp. 245-246, pp. 247-248]

[55] According to Halifax Water's IMP, the Halifax, Dartmouth, and Herring Cove WWTFs (Harbour Solutions WWTFs) now provide advanced-primary wastewater treatment. However, as noted previously in this Decision, optimization of current treatment processes or upgrades to the WWTFs are required to meet the WSER discharge limits by 2041, at an estimated total cost of $286.4 million. The Halifax and Dartmouth WWTFs currently operate under Transitional Authorizations (TA) as they exceed current WSER discharge limits. The Herring Cove WWTF currently meets the WSER discharge limits. There was some discussion during the hearing about whether these upgrades might, in fact, be required sooner than 2041:

> **Q.** (Murphy) Right. Is there a risk that the secondary treatment requirements for both Halifax and Dartmouth could be required much further -- I shouldn't say "much further," but earlier than 2040?
>
> **A.** (MacKenzie) So, right now, we're in the process -- Dartmouth and Halifax have transitional authorizations, and we're required by the federal government to submit updates to our transitional authorization plans at the end of this month. And so, if, for some reason, the federal government sees a need to advance those, then we would have to respond. However, looking at the efforts and the compliance that has been gained and maintained in those facilities, we're comfortable with the current operations and timeframes that are laid out in our Infrastructure Master Plan and Integrated Resource Plan.
>
> [Transcript, June 11, 2020, pp. 250-251]

[56] Board Counsel asked Brown and Goldstein about this issue:

> **Q.** (Outhouse) Okay. Yesterday, the Halifax Water Panel was asked whether the Halifax Harbour Solution wastewater treatment facilities might need to be upgraded to secondary before the regulatory -- current regulatory deadline of 2040. And as I understood the response from Halifax Water was that they did not think that would happen. What's your opinion?
>
> **A.** (Brown) I don't know is the honest answer to that question. I think there's a risk that it might need to be upgraded sooner. And it's a risk that I think needs to be explored as part of a greater comprehensive study of the wastewater treatment issues.
>
> The -- and why I say it's a potential risk is the current facilities at Dartmouth and Halifax both struggle occasionally in the summer months when it's very dry and there's minimal infiltration inflow. They struggle to meet the transitional performance standards.
>
> The growth that's projected to occur over the next 20 years is apt to make that problem worse. Whether it makes it a chronic compliance problem or not is to be determined, I guess, and would be the subject of a good analysis in the near future to understand that.

> But it's -- there's certainly a possibility, I don't know how remote it is, that shorter term compliance problems could drive that secondary upgrade before 2040. So, it's something that ought to be explored in the comprehensive wastewater treatment study that we suggested be done. [Emphasis added]
>
> [Transcript, June 12, 2020, pp. 149-150]

[57] Even though these secondary treatment upgrade projects are expected to occur within the current RDC timeframe, none of the associated costs are in the proposed RDC, as the costs are not allocated to growth. Instead, the 2019 IRP Update indicates that these costs are driven by regulatory compliance requirements. Given that these facilities will be sized for existing demand plus projected growth, and given the magnitude of population growth projected through 2041 and the resulting cost impact on the upgrade of these facilities, in its IR-3 Brown and Goldstein asked Halifax Water to provide the rationale for allocating zero costs for these facility upgrades to growth.

[58] Halifax Water responded that the upgrades to the Halifax and Dartmouth WWTFs for growth are outside the RDC planning horizon, and that they will be added to the RDC once the planning horizon matches the projects' timelines. The Utility also stated that there is no planned capacity upgrade to accommodate growth at the Herring Cove WWTF. However, in its Rebuttal Evidence, Halifax Water noted that its response to Brown and Goldstein's IR-3 was incorrect, and that the planned treatment upgrades to the WWTFs are, in fact, projected to occur within the current RDC planning period of 2036 to 2041.

[59] In their evidence, Brown and Goldstein stated that some portion of the estimated $286.4 million in secondary treatment upgrade costs for the Harbour Solutions WWTFs should be allocated to growth within the RDC:

> The design of the secondary upgrades will certainly take into account the increased flows and pollutant loadings at each of these facilities. Even if the design flow to the upgraded secondary WWTFs is no more than the current WWTF design flow, the new secondary

> facilities will be sized for the significantly higher pollutant loads as a result of growth and this will significantly impact the cost of these secondary upgrades. It is appropriate, therefore, to allocate some of the secondary WWTF upgrade costs to growth, even if the secondary upgrades and expansion upgrades were completed as sequential projects.
>
> [Exhibit H-11, p. 19]

[60] Through the IR process, Halifax Water asked Brown and Goldstein to explain how some of these costs could be appropriately assigned to growth using information currently available. Brown and Goldstein suggested that one possible method is to relate the capital cost of the secondary treatment upgrades to design loadings, such that the fraction of each design loading parameter associated with growth can be computed to determine the growth component of the total capital cost.

[61] This issue was explored further during the hearing. During cross-examination of Brown and Goldstein, counsel for Halifax Water questioned the consultants' evidence:

> **Q.** Yeah. The -- there are two specific concerns addressed, and at page 26, one of them is back to our favourite topic, the wastewater treatment plants. And you indicate that there is not a sufficient allowance in the RDC for those plants. Correct?
>
> **A.** (Brown) I believe -- is that the reference to the harbour solution plants?
>
> **Q.** Yes. Yeah.
>
> **A.** (Brown) Yeah. Yes, that's correct.
>
> **Q.** And you opine that -- and I think you repeated that testimony today, that if there was what in your view would be a more adequate allowance, it would increase the amount of capital costs which would have to be included in the RDC?
>
> **A.** (Brown) Correct.
>
> **Q.** And again, the recommendation is that this be revisited in the next cycle, if I can call it that, of IMP, IRP, RDC. Lots of ---
>
> **A.** (Brown) Yes.
>
> **Q.** --- acronyms there, but -- yeah.
>
> **A.** (Brown) Correct.
>
> [Transcript, June 12, 2020, pp. 189-191]

[62] The Board subsequently followed-up on this line of questioning:

Q. (Murphy) Good afternoon, Brown and Goldstein. Just two or three questions just to follow up from some of the testimony you just provided.

I wanted -- you had referenced earlier on, I guess, in responses to the questions by Mr. Outhouse, there was questions about the Harbour Solutions plants' secondary upgrade costs. And I think -- correct me if I'm wrong, but I think you said that those projects are within the RDC timeframe? Is that correct?

A. (Brown) That is -- that is correct.

Q. What was the year that they were scheduled? Was it 2040?

A. (Brown) They have to be online by 2040 and the current plan, the schedule in the IRP shows it going -- starting in 2036.

Q. I -- this -- I guess this would be a better question for Halifax Water, but since you're before me, I don't -- I don't see those projects in the list of RDC projects that

---

A. (Brown) Right.

Q. --- were provided ---

A. (Brown) And -- and you don't because they show 0 percent allocated to growth. They show ---

Q. No, I under ---

A. (Brown) --- I think 100 percent compliance related. So, it's in the IRP.

Q. I understand that, but there ---

A. (Brown) But it's not in the RDC.

...

Q. Okay. That aside, I guess, if the -- those costs are in fact RDC costs, would you agree that there should be no percentage allocated to growth?

A. (Brown) That's a very good question. I -- the -- I think there will be -- once the treatment plants are studied and they realize how much they cost and what the upgrades are going to cost, they'll have a better ability to allocate growth on kind of the pollutant and flow parameters, because they'll know, you know, what fraction of the future flows and what future -- the future pollutant loads are associated with the growth, and they should be able to make a reasonable estimate.

At this point, that hasn't happened. I believe it's because the estimates are so preliminary that -- in fact, I think the estimate we're dealing with for the upgraded secondary comes from a real rule of thumb estimate used in the 2012 IRP and simply updated with inflation for the 2019 IRP update or -- yeah, IRP update.

So, I don't think there's much info about it. I mean, in these -- and you probably well know that the real estate limitations at the Halifax plant particularly, I mean, the site is largely the building and upgrades that were conceptualized when that primary plant was built initially was that secondary would be built on the roof of that building. Very, very, very expensive and complex to pull off, if it can be done at all.

I think until they've done a study they really -- we really don't know what it's going to cost. I think it could be substantially more than it's currently envisioned, but we won't know until that study's done.

Q. Right. Okay.

...

-- and I understand that it's short of a high level estimate at this point for those -- for those secondary upgrade costs, but regardless, they are -- the project, as far as I understand, based on what you just told me, the projects are within the RDC timeframe.

And there certainly would be within the next 20 years, certainly some of those secondary upgrade treatment costs are going to be related to growth within those 20 years. So ---

A. (Brown) Absolutely. So -- yeah, so could you rationalize a fraction of that -- let's see, for the Halifax plant, 160 million towards growth? Yeah, sure, you could. And would that be inappropriate? No.

I think -- I think we said in our evidence we suspect that will be the conclusion of a more advanced study that we hope gets done in the next five years. But could you make an allocation now through that of some form? Sure.

Q. I guess my question is really should it be done. If it's not done, there's a project that's been within the current RDC that will not have cost allocated to growth at least within the next five years.

A. (Brown) Correct. So, you know, there'll be that opportunity cost of -- and that's the -- the price you pay for underestimating the needs. I mean, I think in general, all the other needs are fairly well quantified with this most recent IMP and IRP.

But this is one area that I suspect we'll find that the current estimate's low and the fact that there's next to nothing assigned to growth out of them, that will change, and there will be a bigger allocation.

I guess the only saving grace here is, these are late in the twenty year planning in the RDC period, so they hit towards the end of it, so it's not like recovering a large fraction of this cost in this planning period total.

But it's a very valid point you're raising, and in fact it was a point raised in our IRs and ---

A. (Goldstein) And this is exactly why the comprehensive study of the treatment challenges should be taken up in the next five years, not wait another five years. This is one of the main reasons for that. [Emphasis added]

[Transcript, June 12, 2020, pp. 242-249]

Findings

[63] The Board finds that it is appropriate to include the planned $25.1 million capacity upgrade for the Halifax WWTF and the $12.6 million capacity upgrade for the Dartmouth WWTF in the calculation of the proposed RDC. The Board also finds that the associated RDC allocations of 95% and 100% to growth, respectively, are suitable. The Board notes, however, that these projects and related RDC allocations are not intended to address treatment process changes to upgrade each facility to secondary treatment to meet WSER regulatory requirements.

[64] During the hearing, under cross-examination from Halifax Water counsel, Brown and Goldstein agreed with Halifax Water that the Utility's existing information gaps with respect to its WWTFs has no direct impact on the proposed RDC:

> **Q.** Okay. Thanks. Now, but more generally, as it relates to this application, and apart from the ongoing debate between yourselves and Halifax Water, what you're recommending as it relates to the wastewater treatment plants in -- as it relates to this application is that the knowledge gaps be filled in the next five year IMP planning cycle?
>
> **A.** (Brown) Correct.
>
> **A.** (Goldstein) Yes.
>
> **Q.** Right. So, it's -- there's no direct impact on the calculation of the RDC in this proceeding?
>
> **A.** (Brown) Correct.
>
> [Transcript, June 12, 2020, pp. 188-189]

[65] The Board agrees with the conclusion that there are information gaps. In particular, in Section 4.14.1 of this Decision, the Board finds that there are gaps in Halifax Water's information about the secondary treatment upgrade needs and timing of Halifax Water's Harbour Solutions WWTFs. The Board has, therefore, directed Halifax Water to address these gaps by completing a WWTF planning study within the next IMP, IRP, RDC planning cycle.

[66] While the Board acknowledges that there are existing information gaps related to the Harbour Solutions WWTFs secondary treatment upgrade needs, the Utility's 2019 IRP Update has clearly identified estimated costs of approximately $286.4 million for these upgrades. Further, the 2019 IRP Update indicates that these upgrades are to be completed within the latter part of the current RDC 20-year timeframe. Halifax Water's Rebuttal Evidence also confirmed that these upgrades are planned to occur within the current RDC 20-year timeframe. In fact, hearing testimony by both Halifax Water and Brown and Goldstein has suggested that these upgrades may even be required sooner.

[67] This notwithstanding, Brown and Goldstein have recommended that the methodologies and RDC allocations for the Harbour Solutions WWTFs secondary treatment upgrades be revisited once a more robust WWTFs planning study is completed before the next IMP, IRP, and RDC update. As noted above, this was confirmed during cross-examination of Brown and Goldstein by Halifax Water counsel.

[68] The Board agrees with Brown and Goldstein that the estimated costs for the Harbour Solutions WWTFs secondary treatment upgrades will likely change as more advanced WWTF planning confirms the specific upgrade needs. Nevertheless, current estimated costs for these upgrades have been presented by Halifax Water within its 2019 IRP Update. The Board assumes that these cost estimates have been prepared using the best information currently available to Halifax Water, similar to the cost estimates for all the other capital projects included within the proposed RDC calculation. Again, it is also clear to the Board that the Harbour Solutions WWTFs secondary treatment upgrades are scheduled to occur within the current RDC 20-year timeframe.

[69] Brown and Goldstein believe that a portion of the costs for the Harbour Solutions WWTFs secondary treatment upgrades should be assigned to growth within the RDC. The Board agrees. Regulatory compliance will certainly be the main driver for these upgrades. However, in order to meet these regulatory requirements, the upgrades will need to be sized to accommodate existing wastewater flows and pollutant loads, as well as flow and loads from projected growth.

[70] However, the Board does not agree with Brown and Goldstein that the RDC cost allocations for the Harbour Solutions WWTFs secondary treatment upgrades should be delayed until the next RDC update. If these costs were to be excluded from the proposed RDC, the costs included in the RDC calculation would be lower than otherwise required to help cover the cost of these upgrades which are anticipated during the 20-year term. The Board believes that this could significantly disadvantage those required to pay future RDCs.

[71] Over the next IMP, IRP, and RDC planning cycle, the estimated costs for these upgrades may be refined through the Board directed WWTF planning process, and the related RDC costs can be updated again at that time. The Board believes this is, in fact, how Halifax Water's infrastructure planning process and related RDC development is intended to work, through further analysis and refinement over time. Therefore, the Board finds that the estimated costs (as identified in Halifax Water's 2019 IRP Update) for the Harbour Solutions WWTFs secondary treatment upgrades are to be included in the proposed RDC.

[72] Given the above findings, the next issue the Board will address is what percentage of the estimated costs of the Harbour Solutions WWTFs secondary treatment

upgrades should be assigned to growth within the RDC. The 2019 IRP Update assigned these costs entirely to regulatory compliance and, therefore, zero percent to growth. As noted above, in its IR-3 to Halifax Water, Brown and Goldstein asked the Utility to provide the rationale for not allocating any of these costs to growth. The Board finds that Halifax Water's response, and subsequent clarification in its Rebuttal Evidence, did not adequately address this question.

[73] The only evidence presented in this proceeding with regard to how the Harbour Solutions WWTFs secondary treatment upgrade costs could be allocated to growth was in Brown and Goldstein's response to Halifax Water's IR-3. While Halifax Water may not agree that some portion of these costs should be allocated to growth, no party challenged the methodology put forward by Brown and Goldstein. Therefore, in its Compliance Filing, Halifax Water is directed to include the estimated costs for the Harbour Solutions WWTFs secondary treatment upgrades in the RDC calculation, with an allocation to growth as calculated by the methodology suggested by Brown and Goldstein in their response to Halifax Water's IR-3. Halifax Water shall provide the calculations used to determine the allocation to growth with its Compliance Filing.

[74] If Halifax Water believes that there is insufficient data available to use the methodology suggested by Brown and Goldstein, the Utility's Compliance Filing shall:

- identify what data is unavailable and why it cannot be readily obtained;
- propose and describe an alternate methodology for allocating the Harbour Solutions WWTFs secondary treatment upgrade costs to growth; and

- use the alternate methodology to allocate the Harbour Solutions WWTFs secondary treatment upgrade costs to growth, and use these costs in the RDC calculation.

[75] Pending submission of the Compliance Filing, the Board reserves its jurisdiction related to the allocation to growth and the acceptability of any proposed alternate methodology to assign Harbour Solutions WWTFs secondary treatment upgrade costs to growth.

4.5 Are Halifax Water's calculations and allocation methodology for the Benefit to Existing (BTE) and the RDC appropriate?

[76] As part of the RDC development process, Halifax Water reviewed the proposed RDC capital projects lists to determine whether implementation of those projects would not only support growth but also provide any BTE from an asset renewal or compliance perspective. BTE is typically associated with upgrades to existing systems or facilities needed to continue meeting Level of Service (LOS) targets for existing Utility customers. These projects may also involve, or be triggered by, upgrades or expansions which provide additional capacity to meet growth in a service area. The premise is that any costs associated with BTE are removed from the RDC rate calculation, as these costs are the responsibility of existing customers.

[77] In Halifax Water's 2013 application for Board approval of the initial RDC, consideration was also given to the BTE. In the initial RDC, each capital project was reviewed and a percentage of either 0%, 5%, 10% or 15% was assigned to BTE. This was based on industry practices at the time. In the current application, the BTE approach has been formalized in a Benefit to Existing Position Paper (BTE Position Paper). In its

response to NADC's IR-10, Halifax Water stated that the industry practices used in the 2013 RDC application for identifying the BTE component are consistent with the current application. The BTE Position Paper has documented these practices more formally as Halifax Water's standard approach to allocating BTE components.

[78] The BTE Position Paper assessed various potential methods for determining BTE. This assessment concluded that most Halifax Water capital projects should be considered to have some benefit to existing customers through improved level of service, reduced servicing costs and environmental improvements. Based on the level of information currently available to Halifax Water, the BTE Position Paper concluded that the LOS and the flow split method are the most appropriate in the context of assigning a BTE percentage to the proposed RDC capital projects. In particular, the LOS method (also termed Method 2 by Halifax Water) was used as the means for assigning BTE to the vast majority (92%) of Halifax Water's RDC capital projects. Although this method uses a "rule of thumb" approach, according to Halifax Water, it is fair, accounts for existing system deficiencies, is easily understood and provides transparency. In addition, a key condition for the BTE analysis is that each capital project is reviewed individually to determine an appropriate BTE allocation.

[79] There has been a significant increase in the allocation to BTE under the current application. For example, the overall wastewater BTE has increased from approximately 10% in the 2014 RDC to roughly 30% in the current application. This is generally attributable to Halifax Water's change in wastewater servicing strategy between 2014 and 2019. The 2019 wastewater servicing strategy associated with the RDC has an increased focus on I/I reduction projects, as opposed to "big pipe solutions" in the 2014

servicing strategy. Halifax Water stated that these I/I reduction projects inherently have an increased benefit to existing customers, who should bear the costs incurred by the Utility in providing that benefit. Similarly, Halifax Water has advanced its water infrastructure master servicing plan since the initial RDC application. Averaged across all the applicable RDC projects, the BTE represents approximately 31.0% of the total capital program costs for wastewater and approximately 56.3% for water.

Findings

[80] The Board finds that the rationale for using a BTE component in the RDC calculation is well-founded. Furthermore, this rationale was not contested by any parties in this proceeding. The Board acknowledges that the allocation of BTE to capital projects may be difficult to quantify, particularly if construction of those projects is not expected to start for a number of years. Nonetheless, the Board agrees with Brown and Goldstein:

> The methodology and the allocation Halifax Water selected appear appropriate for the majority of the RDC projects. For most of the RDC projects, Halifax Water has used a rule of thumb approach (Method 2) to the RDC/BTE allocation.
>
> [Exhibit H-11, p. 25]

[81] The overall BTE methodology used in the current RDC application has also been substantially improved since the initial 2013 RDC application, as noted in Halifax Water's BTE Position Paper. The Board, therefore, finds that the approach used by Halifax Water for assigning BTE to individual capital projects is a fair means of apportioning the related project costs between growth and existing customers.

[82] The above notwithstanding, some concerns were presented during this proceeding regarding the use of BTE. Some of these concerns relate to the assignment

of BTE to specific capital projects identified in the RDC application. These particular concerns will be addressed in Section 4.5.1 of this Decision.

[83] One area of concern noted by Brown and Goldstein relates to which specific BTE allocation method (i.e., LOS Method, Flow Split Method, or some other method) was used by Halifax Water for each capital project:

> From the RDC Application, it is not clear which methods were applied to which projects. Based on Halifax Water's responses to IR-6NSUARB, Halifax Water used Method 2, which relies on rules of thumb rather than project-specific analysis, for determining the BTE for most of the projects. Other methods were also used on a few projects and in several cases, the cost split suggested in the last RDC Application was maintained. It would be appropriate on future RDC Applications for Halifax Water to include information regarding the BTE methodology used for each project.
>
> [Exhibit H-11, p. 25]

[84] In the Utility's Closing Submission, Halifax Water stated that it agreed with Brown and Goldstein's recommendation. Therefore, for future RDC applications, the Board directs Halifax Water to indicate which of the methods for determination of BTE it has utilized for each project, as was done in the Utility's response to Board IR-6 in this proceeding.

[85] In addition, the BTE Position Paper suggests not selecting a single preferred method for allocating BTE to capital projects. Instead, it recommends testing the methods over time and assessing each project individually, presumably with the methodology best suited for that project. The Board agrees with this proposed approach. As such, for future RDC applications, as more information becomes available, Halifax Water should use some of the more detailed BTE allocation methods that consider unique project-specific factors to determine the appropriate BTE allocation. Moreover, during cross-examination by the CA during the hearing, Halifax Water agreed to work with stakeholders to refine its BTE methodology and calculations. Therefore, prior to the next

RDC application, Halifax Water is directed to engage in such stakeholder consultation. Status reports related to this stakeholder engagement are to be submitted to the Board on September 30th of each year, starting in 2021.

4.5.1 Assignment of BTE to Specific Capital Projects

4.5.1.1 I/I Reduction Projects

[86] Various I/I reduction projects included in Halifax Water's wastewater RDC capital program use a 95%/5% RDC/BTE allocation. In its response to Brown and Goldstein's IR-2b), Halifax Water explained:

> The RDC/BTE ratio for Rainfall Derived Inflow and Infiltration (RDII) reduction projects is driven by the primary driver that triggered the need for the project. Since the Infrastructure Master Plan is a growth driven project, most of the I/I projects are driven only by the need to provide capacity for growth. Where an RDII reduction project was identified in an area not currently requiring attention for the drivers of asset renewal or regulatory compliance, the ratio of 95/5% was applied. Where the project addresses existing deficiencies for asset renewal or regulatory compliance, a different ratio was applied.
>
> [Exhibit H-6, Response to IR-2b), p. 2]

[87] Similarly, in response to the CA's IR-7, Halifax Water noted:

> ... Rainfall-derived inflow & infiltration (I/I) reduction efforts are made to offset the increases in flow that would occur due to growth. Projects are reviewed on a case by case basis using the BTE policy contained in the application.
>
> [Exhibit H-4, Response to IR-7, p. 1]

[88] In addition, in response to ECI's IR-9a), Halifax Water indicated all RDC projects and proposed BTE allocations were presented to stakeholders for comment, and that no suggestions for different allocations were received through that process.

[89] Brown and Goldstein expressed concern with Halifax Water's approach to assigning BTE to I/I reduction projects. Specifically, Brown and Goldstein believe that if an I/I reduction project driven by growth also has a significant benefit to existing customers, such as extending the useful life of a sewer, the BTE allocation should be

adjusted accordingly. Contrary to Halifax Water's response to ECI IR-9, Brown and Goldstein also stated that they raised this issue during two of the RDC stakeholder meetings. In their response to Halifax Water's IR-4, Brown and Goldstein identified six specific RDC I/I reduction capital projects (in addition to the Fairview, Clayton Park, Bridgeview I/I reduction project that they identified in their evidence) for which they have this concern. Brown and Goldstein further noted:

> Without information concerning the specific I/I reduction methods Halifax Water is planning to use in each of the above sub-sewersheds (FMZs) it is difficult to know whether we have concerns over the 95/5 allocation. If Halifax Water planned to do additional main relining, as was done in the first two phases of the Fairview/Clayton Park/Bridgeview sub-watershed and is planned for the third/final phase of this project, we would have similar concerns. If Halifax Water used other I/I reduction approaches that do not involve significantly extending the life of existing assets, the 95/5 split would be reasonable.
>
> [Exhibit H-13, Response to IR-4, p. 1]

[90] The Board canvassed this issue further with Halifax Water during the hearing:

> **BY MR. MURPHY:**
>
> **Q.** ...So, my question is really, would you not agree that an [I/I] reduction project such as a CIPP project, based on this information here -- would you not agree that that would extend the life of the sewer and would not -- and it would have significant benefit to existing users?
>
> ...
>
> **A.** (Hamel) Yes. Thank you, Mr. Murphy. I just wanted to confirm the memo with my colleagues. But, yeah, we're not disagreeing with your statement that many or some of the I&I projects, and in this case a cured-in-place or rehab to an existing pipe will extend the lifespan. I think as we've been indicating before, it's really a function of level of service and whether the existing area was seeing any deficiency or problem before and to what level that's even improved. And in this case, where we have I&I projects intended to service growth, it's this rehab that's providing the additional capacity to support growth.
>
> **Q.** Correct. But it's also extending the life of a pipe that provides benefits to existing users by 75 years.
>
> **A.** (Hamel) And if I may, Mr. Murphy, there's times where the age condition of those existing pipes vary greatly to some that are already in relatively new or in decent shape or otherwise. And in some cases, the lifespan extension of the infrastructure is dealt with through the asset renewal program. But I don't disagree that some rehabs, as you've described here, do extend the life.

Q. So, would you still suggest that a BTE allocation of five percent for those types of projects would still be appropriate?

A. (Hamel) I would in many cases, particularly in a lot of these areas we're dealing with wet weather flows or we could be dealing with a combined system where the impact in a lot of cases is the wet weather component or the rain or a combined component. So, the base flow that's in some of these pipes attributed to the existing area is smaller in relation to the total flow.

Q. Correct. I agree with that. But, regardless, existing users are getting a new pipe to service their needs that, according to Halifax Water's most recent submission on the Trenches Rehab Program, would extend the life of that sewer by 75 years. So, in effect, the existing users are getting a new pipe, but the allocation as it's set out right now within the RDC, they would only be responsible for five percent of those costs.

A. (Hamel) And that's fair. And through our methodology, we're able to review a case-by-case basis to determine what level of benefit they may receive, and that's why we have the five to 25, 50 and 75 percent thresholds in terms of BTE. But I then -- I do come back to the need of the project and whether someone in this case would have replaced the pipe anyways. [Emphasis added]

[Transcript, June 11, 2020, pp. 202-205]

[91] Halifax Water counsel also questioned Brown and Goldstein about this issue during the hearing:

Q. Yeah. And when I'm saying that, I'm not saying they're not important issues, but I just want to clarify what impacts on the rate. Now, two specific [I/I] projects are identified in your evidence at page 27.

And I'll just refer to them as the Fairview Clayton Park projects. And they were addressed by Halifax Water in its rebuttal at page 7, essentially saying if there weren't capacity issues, these projects wouldn't be built. And I believe that was addressed with Mr. Hamel at some point over the last day and a half as well.

Given that situation, do you still have a concern with the allocation of the majority of those projects to growth?

A. (Brown) Well, I think the answer really is, we had a problem with those projects not being the best [I/I] reduction strategy. I think as it relates to [I/I] reduction in general, your 95/5 split is probably appropriate.

Because I don't think relining projects like you did in Fairview is the best way to go for [I/I] reduction. But if you were to do more projects like that moving forward, I would definitely -- we would definitely be arguing it as a bigger benefit to existing users with the asset renewal benefit.

I think it was Mr. Murphy that went over that in his cross -- his questioning yesterday and I think it's a very valid point. There is some meaningful asset renewal benefit that isn't reflected in a 95/5 split.

That said, I don't see this as a big issue moving forward, because I think there won't be many RDII reduction projects that are relining -- you know, primarily relining projects.

A. (Goldstein) And may I add something, Mr. MacPherson?

Q. Of course.

A. (Goldstein) I agree fully with what Mr. Brown said. These two particular projects, though, are in the RDC and they do have much more significant benefit to existing customers. It's not a huge dollar value.

But our testimony on these two projects stands that 95/5 is not an appropriate split, given that there is more significant benefit to existing from these projects.

A. (Brown) And we'll say this in terms of these benefit to existing issues. You've mentioned -- you've just mentioned two different ones that in one case increases it, the allowance to growth and one decreases it.

In general, I would say when you have more study moving forward, you will probably have more allocated to -- more cost allocated to growth than you currently do and not less. [Emphasis added]

[Transcript, June 12, 2020, pp. 191-193]

Findings

[92] For the current RDC application, the Board finds the BTE allocations to the I/I reduction projects are satisfactory. However, the current RDC application is the first RDC application before the Board to include I/I reduction projects as eligible RDC projects. In fact, in the *2014 RDC* Decision, the Board noted that Halifax Water argued:

> ... Any benefits resulting from I/I reduction should benefit the entire rate base through improved service - eg. a reduction in the number of overflows. Therefore the costs of reducing I/I should be borne by the entire rate base. HRWC submits that it would not be appropriate to utilize the benefits achieved by better controlling I/I to provide additional capacity for growth. To do so would provide a benefit to those who have not paid the costs (rates) to achieve that benefit to the detriment of those who have paid those costs.
>
> [*2014 RDC* Decision, para. 143]

[93] Given Halifax Water's change in approach, and the related concerns raised by Brown and Goldstein, the Board finds that the issue of BTE allocation to I/I reduction projects needs to be reviewed more closely. Therefore, Halifax Water is directed to establish a specific methodology for apportioning I/I reduction project costs to BTE and to growth in future RDC applications. Status reports related to the development of this

methodology are to be submitted to the Board on September 30th of each year, starting in 2021.

4.5.1.2 WWTF Projects

[94] In their evidence, Brown and Goldstein expressed concern regarding the BTE cost allocation for some of the WWTF projects listed in the RDC capital projects list. They recommended that WWTF BTE allocation methodologies and allocations be revisited once more robust WWTF planning studies are completed.

Findings

[95] In Section 4.14.1 of this Decision, the Board directed Halifax Water to complete a WWTF planning study prior to the next IMP, IRP, and RDC update. Once this study is complete, Halifax Water is directed to establish a specific methodology for apportioning WWTF project costs to BTE and to growth in future RDC applications. Status reports related to the development of this methodology are to be submitted to the Board on September 30th of each year, starting in 2021.

4.5.1.3 Port Wallace Water Transmission Main

[96] Within the water RDC Capital Program, there are four separate projects numbered W22.1, W22.2, W22.3 and W23 that are collectively referred to as the Port Wallace Water Transmission Main project. The project is part of Halifax Water's regional master plan to twin the existing water transmission main from Main Street, Dartmouth, to the Burnside Industrial Park. The total combined estimated capital cost for these RDC

Capital Program projects is approximately $18.4 million. None of these projects have been allocated to growth, and the related capital costs are, therefore, not included in the RDC.

[97] During the hearing, the Port Wallace Water Transmission Main project was raised by the Board, and Halifax Water confirmed that the project would be funded by Capital Cost Contribution (CCC) charges rather than the RDC:

> **Q.** (Murphy) Okay. Thank you. I want to ask a question specifically about the Port Wallace transmission main, which I think is in the RDC project list. I think it's Projects W-22.1 to 22 -- or W-23.
>
> ...
>
> Those projects been identified 0 percent to RDC growth.
>
> The application has recently come into the Board for Phase 1 of that project and it ... but within that application, it says:
>
> > "The new transmission main will be completed in a number of phases over years, will provide additional capacity to expand the development within Burnside, will provide redundancy and support to the Caledonia transmission main and support plan development in the Port Wallace area."
>
> So, is the reason there's no allocation to RDC growth for those particular projects is again, because they'll be picked up within a CCC?
>
> **A.** (Hamel) Sorry. Yes. If there's -- the cost allocation, if there is a benefit to the local Port Wallace area, will be allocated through a CCC.
>
> **Q.** So, none of those -- none of those projects, W-22.1 to W-23 would be considered regional in nature at all?
>
> **A.** (Hamel) No.
>
> [Transcript, June 12, 2020, pp. 30-31]

[98] According to Halifax Water's BTE Position Paper, the charge recovered under Halifax Water's CCC Policy is intended to capture costs directly attributable to the subdivision of land rather than all costs associated with new infrastructure required for the core area of HRM. The CCC Policy relates to specific areas or sites. Once identified, the cost of infrastructure required to service a CCC area is calculated and then

apportioned amongst the developers of the area. A CCC does not include provision of costs related to regional infrastructure, as those costs are covered under the RDC.

[99] In a letter dated June 9, 2020, prior to the hearing, the Board approved Halifax Water's request for funding of the construction phase of the Port Wallace Transmission Main – Main Street to Caledonia Road project (Matter M09721) in the amount of $6,323,000 for a total estimated project cost of $6,443,000. This project is identified as project W22.1 in the water RDC capital program. The approved funding for the project, as stated by Halifax Water, was within the Utility's 2020/21 Capital Budget. There was no reference to CCC.

[100] Given the response by Halifax Water during the hearing indicating that the project would be funded by CCCs, the Board followed up with a letter to the Utility, after the hearing, on June 15, 2020. The letter asked the Utility to confirm that the project cost will, in fact, be funded by CCCs. The letter also requested Halifax Water to explain why the project's infrastructure components do not meet the Utility's definition of regional water infrastructure, which would require the project cost to be funded (in whole or in part) under the RDC.

[101] On July 17, 2020, Halifax Water responded to the Board's letter, stating:

> The following is to provide clarity and address a misunderstanding created during the hearing for the Regional Development Charge (RDC) (M09494).
>
> The Port Wallace Transmission main project involves multiple phases for the twinning of the existing transmission main and installation of a second connection to the Burnside system through Shubenacadie Park. The main driver of this project is asset renewal to provide resiliency (support) to the Burnside Industrial park area and the general north Dartmouth area inclusive of the Caledonia and existing and future Port Wallace areas.
>
> The Port Wallace Transmission main is considered a regional asset, but there is no allocation to growth. When the analysis was completed through the Infrastructure Master Plan, it was determined that the existing projected growth in the area served by the main could be accommodated within the existing transmission main therefore there was no allocation to growth for the multiple phases of the project as identified in W22.1, W22.2, W22.3 and W23 (M09494 Exhibit H-1, pdf page 42, Appendix A RDC Capital Program).

...

> There is currently no CCC for Port Wallace, and the current transmission main project does not include an allocation of cost to a potential future Port Wallace CCC. When the master plan advances and the growth projections are confirmed, if it is determined through more detailed review that a portion of the Port Wallace Transmission main should be included in a CCC, it will be done at that time and the appropriate application will be presented to the NSUARB.
>
> The intention in Mr. Hamel's testimony was to confirm that there is no Regional Development Charge component for growth within the Port Wallace Transmission main, not that it was not regional infrastructure. [Emphasis added]
>
> [Exhibit H-50, pp. 1-2]

Findings

[102] In its July 17, 2020 letter, Halifax Water acknowledged that the Port Wallace Transmission Main has a regional water infrastructure component. As such, the question the Board now considers relevant is whether the project cost should be excluded entirely from the RDC calculation. Halifax Water notes that projected growth in the area serviced by the main can be accommodated by the existing transmission main. Therefore, the Utility argued that the project cost should be excluded from the RDC, as the new twin transmission main is not required to support growth and is driven by asset renewal needs (to provide system resiliency). The Board disagrees.

[103] The Board notes that the Executive Summary of Halifax Water's IMP references the Port Wallace Transmission Main project, and states:

> - A capacity increase is recommended from the Topsail Chamber to Burnside to improve system resiliency under the 2046 horizon. This will be achieved through a new 30-inch diameter watermain, and will allow increased conveyance to Akerley Reservoir, support the Bedford-Burnside connection, and allow for full Lake Major system resiliency.
>
> - It is recommended that the flow capacity through Tacoma PRV is increased to eliminate the needs for significant linear upgrades. It is recommended that the PRV chamber is upgraded while the Topsail to Waverley projects are being constructed to strengthen and optimize system operations as demands increase with growth. [Emphasis added]
>
> [Exhibit H-1, p. 103]

[104] In addition, the Board's approval of Halifax Water's capital application for the first phase of the Port Wallace Transmission Main project was based on the information submitted by Halifax Water at that time. This information included the following:

> ... The new transmission main, which will be completed in phases over a number of years, will provide additional capacity to the expanding development within Burnside Industrial Park. This phase of the Transmission Main project also provides redundancy and support to the existing Caledonia Road Transmission Main and will support planned development in the Port Wallace area. [Emphasis added]
>
> [M09721, Exhibit H-1, p. 1]

[105] Halifax Water's response to Board IR-2 for the project also stated:

> ... The IMP notes that the transmission main is needed to support long term growth (2046 horizon). [Emphasis added]
>
> [M09721, Exhibit H-2, Response to IR-2, p. 1]

[106] The Board also notes that the new twin transmission main for this project is 750mm in diameter, while the existing transmission main is 600mm in diameter.

[107] Given the above, it is clear to the Board that one of the drivers for the Port Wallace Transmission Main project is to accommodate growth. In fact, the Board has already approved Phase 1 of the project based on Halifax Water's related application, which clearly stated the project will provide additional capacity for expanding development. The Board understands that the twinned transmission main will also provide system resiliency. However, as noted in the design report submitted in Halifax Water's response to IR-4 under Matter M09721, the design of the new transmission main for Phase 1 of the project assumed that the 600mm diameter existing main will be unavailable and the new 750mm diameter main will be used to convey the design flow. In such a case, the new main would need to be sized to accommodate the projected growth in the area serviced by the main.

[108] Therefore, the Board finds that the estimated costs for the Port Wallace Transmission Main project (identified as projects W22.1, W22.2, W22.3 and W23 in the water RDC capital program) are to be included in the proposed RDC. In its Compliance Filing, Halifax Water is directed to include the estimated costs for the Port Wallace Transmission Main in the RDC calculation, with a percentage allocation to growth as determined by Halifax Water. Halifax Water shall provide the rationale used to determine the allocation to growth within its Compliance Filing. Pending submission of the Compliance Filling, the Board reserves its jurisdiction related to the acceptability of the proposed percentage allocation to growth

[109] Additionally, to avoid confusion, in future Halifax Water RDC applications before the Board, for every project in the related IMP and IRP that is noted as being driven entirely or in part by growth, the Utility is directed to identify whether the growth will be funded by CCCs or the RDC. If a project's growth component is to be funded by both CCCs and the RDC, Halifax Water shall also identify the percentage funded by each.

4.6 Are Halifax Water's calculations and allocation methodology for the Post Period Benefit (PPB) and the RDC appropriate?

[110] As discussed earlier in this Decision, in 2014 when the RDC was introduced, the Board directed Halifax Water to use a 20-year planning horizon when calculating the charge. This results in a PPB to account for the allocation of costs in the period between the end of the 20-year RDC and the 30-year IMP and IRP.

[111] Halifax Water discussed its approach to determining the PPB in its application:

> ... In keeping with that approach, all projects required post 2041 are not RDC eligible. However, projects implemented before 2041 are sized to accommodate growth post 2041. To ensure fairness to developers within the 2041 horizon, the post period benefit was determined by calculating the ratio of projected population growth between 2041 and 2046. The post period benefit was calculated to be 18.01% and all the Regional Development Charges were reduced by 18.01% so as to only account for growth to 2041.
>
> [Exhibit H-1, pp. 12-13]

[112] ECI's evidence noted that the population projections for residential growth in the application are determined for each five-year period from 2016-2021 to 2036-2041. While the first five-year period was pro-rated by 0.40 to account for using only the years 2020 and 2021, the last five-year period (2036-2041) was not pro-rated, resulting in a growth period of 22 years, rather than 20 years for the RDC calculation. ECI recommended that the Utility's financial model be adjusted to a 20-year period, to which Halifax Water agreed. As noted in Halifax Water's Rebuttal Evidence, this adjustment resulted in an amendment to the PPB from 18.01% to 21.4%, effectively reducing the proposed RDCs.

[113] ECI further recommended that Halifax Water calculate the PPB on an individual project basis, using either the pro-rated life span of the assets, or the pro-rated flow capacity of the infrastructure proposed to be constructed. Similarly, Altus identified two projects, the Pockwock 60-inch diameter Transmission Twinning project and the Bedford-Burnside System Interconnection project, as including capacity post-2046. As such, Altus stated the PPB used in the application for those projects did not appear sufficient. In its evidence, Altus recommended that additional PPB be applied to both projects upon determination of the available capacity of each to service growth post-2046.

[114] In its' Rebuttal Evidence, Halifax Water indicated that, as the IMP assessed the required infrastructure to accommodate growth to 2046, it does not have the detailed information necessary to calculate the PPB on an individual project basis using the

infrastructure's pro-rated lifespan or flow capacity. The Utility noted that if some infrastructure has a lifespan beyond the RDC 20-year timeframe, this is relevant for asset renewal. It added that there may be capacity beyond 2046, but there is currently a lack of information with respect to any associated growth. That capacity will be reviewed in conjunction with the next IMP development and RDC update.

Findings

[115] The Board accepts the revised PPB percentage of 21.4% as recommended by Board Counsel consultants and agreed to by Halifax Water.

[116] The Board accepts Halifax Water's submission that it does not currently have adequate information to calculate the PPB on an individual project basis and the Board does not require it to do so.

4.7 Is residential growth appropriately reflected in the RDC in terms of Persons per Unit (PPU)?

[117] The purpose of the RDC is to have "growth pay for growth". In order for this to happen, Halifax Water must determine the anticipated growth within the 20-year timeframe of the RDC. Important factors in this calculation are projections for population growth within the service area of the Utility.

[118] Halifax Water used 2.3 PPU in its application when developing housing unit forecasts. This number was published by Statistics Canada, based on the 2016 census, and represents the most recent statistical information available. Halifax Water chose this data source because it said it is the most objective and independent information available.

[119] Through the review of the evidence submitted by the intervenors, Halifax Water determined that the 2.3 PPU included rural growth within HRM. Rural development is not serviced by Halifax Water and therefore should not be included in the RDC calculation. The household size for serviced growth was revisited and determined to be 2.2 PPU in Halifax Water's Rebuttal Evidence. The revised PPU value was determined using the Utility's service boundary and occupied dwelling units.

[120] Altus stated that 2.0 PPU was more appropriate based on data provided by Halifax Water in its application. This figure was derived from a table found in the IMP relating to household size information. Halifax Water received the information set out in that table from HRM but did not use this household size information in its calculations, stating that the Statistics Canada information was objective and verifiable and, therefore, more reliable. The information used by Altus in its calculations was based on projections developed for the IMP and not specifically for the RDC.

Findings

[121] The Board accepts Halifax Water's PPU calculation of 2.2 per household. This is based on Statistics Canada data which the Board finds appropriate in the circumstances.

4.8 What is the appropriate proportion of single-unit dwellings (SUDs) to multi-unit dwellings (MUDs) for the residential RDC?

[122] Another important input used in the residential RDC calculation is the proportion of SUDs to MUDs. Different rates are charged for residential development than those charged for ICI development. Within the residential group there is a

breakdown between SUDs and MUDs that depends on the ratio between the two. This is used to allocate the overall costs of RDC projects assigned to expected residential growth between those two forms of development.

[123] Halifax Water explained its rationale for the 45%/55% SUD/MUD ratio used in the proposed RDC calculation:

> a) The single unit / multi unit ratio is used to allocate the residential costs of the RDC as to the type of development in the most accurate way possible. A review of historical information on the types of units built is the best available information to estimate these ratios for future years. A similar process was used for the 2012 RDC, the actual building permit statistics from HRM from previous periods were reviewed to determine the single/multi split. There was a larger amount of historical information available for the 2019 RDC update (14 years vs 6 years). This review has shown a trend toward more multi unit developments being built in Halifax than single detached homes. As such, the ratio was updated from 55/45 to 45/55 for the 2019 RDC planning horizon.
>
> b) As noted, the historical trending information is the best available information to use for the next RDC period. Based on this information, Halifax Water believes that the proposed ratio is reasonable to use moving forward. Ongoing building permit applications continue to demonstrate a similar ratio.
>
> [Exhibit H-5, IR-2, p. 1]

[124] In its evidence, Altus proposed a SUD/MUD split of 61.9%/38.1%. This is based on information it applied from HRM's Regional Municipal Planning Strategy. This information was produced in 2014, but was forward looking at that time.

[125] The data Halifax Water used to develop its proposed SUD/MUD ratio is an average of the historic ratio over an 11-year period from 2005-2016. However, more current data provided in Halifax Water's Rebuttal Evidence shows an average SUD/MUD ratio of 26% SUD to 74% MUD from 2014 to 2019. When the RDC is recalculated using this updated ratio, it results in an increased charge for both SUDs and MUDs:

2005 to 2016 Averages – (Current Application - 11 years, not 14 years)

Single-unit dwelling share 45%
Multi-unit dwelling share 55%

	Water RDC (2019 base)	Wastewater RDC (2019 base)
Single-unit dwelling	$1,619.99 / unit	$4,433.59 / unit
Multi-unit dwelling	$1,088.05 / unit	$2,977.79 / unit

2014 to 2019 Averages (refer to Attachment U-9)

Single-unit dwelling share 26%
Multi-unit dwelling share 74%

	Water RDC (2019 base)	Wastewater RDC (2019 base)
Single-unit dwelling	$1,753.50 / unit	$4,798.98 / unit
Multi-unit dwelling	$1,177.73 / unit	$3,223.19 / unit

[Exhibit H-42, U-9, p. 1]

[126] There is no change in the ICI RDCs when using the 2014-2019 SUD/MUD ratio.

Findings

[127] Halifax Water argued that historical data over 5-year periods tends to have varying ratios, and that there is potential for the next five years to result in another ratio that would not necessarily match that of 2014 – 2019. Residential development trends in HRM have undoubtedly changed over the past 15 years. However, the Board finds that the SUD/MUD calculations based on the last five years are likely more representative of current and short-term future growth trends in the municipality than the 11-year average used by Halifax Water in its RDC calculation.

[128] The Board, therefore, directs Halifax Water to use the ratio of 26% SUD to 74% MUD in its RDC calculation and use this ratio in its Compliance Filing. The Board

also directs Halifax Water to monitor and adjust the SUD/MUD ratio in future RDC applications, as may be required, to ensure the RDC is reflective of recent development activity.

4.9 Is Industrial, Commercial and Institutional (ICI) growth appropriately reflected and allocated in the RDC (Floor Space per Worker v. Residential Equivalent Units)?

[129] Halifax Water's application includes proposed water and wastewater RDCs for ICI growth. The Utility stated that RDCs for ICI growth are most often imposed on a cost per square foot of building space. This assertion is based on the practice of some Canadian water/wastewater utilities, primarily located in Ontario. Using this approach, it is common to see a factor incorporated that converts projected employment growth into floor space forecasts. These factors are known as Floor Space per Worker (FSW).

[130] In the current RDC application, Halifax Water proposed a single, blended FSW value of 733 square feet per employee to represent ICI growth. This value is consistent with that approved in the *2014 RDC* Decision. The Utility then applied this FSW value to the total projected employment growth over the RDC timeframe to calculate the projected growth in total ICI square footage. The total calculated ICI water and wastewater RDCs, as modelled by Halifax Water, were then divided by this total square footage to determine the related ICI RDCs on a $/sq.ft. basis. The application proposed an ICI water RDC of $0.88/sq.ft. and an ICI wastewater RDC of $2.40/sq.ft.

[131] In its response to Board IR-18, Halifax Water stated:

> Growth projections supplied by HRM are in the form of non-residential employment growth. The non-residential employment projections were converted to sq.ft. using:
> - Industrial 1,100 sq.ft /employee
> - Commercial 400 sq.ft. / employee
> - Institutional 700 sq.ft. / employee

> Halifax Water averaged the three uses to obtain 733 sq.ft./employee.
>
> Utilizing a blended average of the three sub-categories in the non-residential classification accounts for the fact that land uses may change in the future. Using a blended figure avoids the need to reconcile the regional development charges collected in the past when the use of the property changes.
>
> Halifax Water considers this a fair allocation which provides flexibility for developers in the use of their property and ease of administration for Halifax Water.
>
> [Exhibit H-8, Response to IR-18, p. 1]

[132] Furthermore, in response to ECI IR-8b), the Utility stated that it did not consider other ICI cost allocation options because, during the stakeholder engagement process, stakeholders did not identify this component of the RDC as an area they wanted to review further.

[133] Altus stated that re-using the FSW assumptions from the 2014 RDC is inappropriate. It noted that the current RDC calculations do not account for changes in employment densities of buildings, particularly industrial buildings, over the past number of years. Noting factors such as an increasing share of warehousing uses in industrial buildings (warehousing uses are particularly low employment density uses), and increased use of automation in all types of industrial buildings, Altus indicated the employment densities of industrial buildings are falling. This means that the FSW factors for industrial buildings are increasing compared to those used in the 2014 RDC calculation.

[134] Based on recent development trends in Ontario, Altus suggested that the industrial FSW number used by Halifax Water should be increased by 19% to 1,305 sq.ft./employee. This would then result in a blended average FSW of 802 sq.ft./employee rather than 733 sq.ft./employee. If the average FSW factor of 802 is applied to Halifax Water's RDC calculation, the ICI RDC rates for both water and wastewater would each

fall by 9%. Altus subsequently acknowledged an error in its calculation. Correction of this error resulted in a change in its calculated average FSW from 802 sq.ft./employee to 781 sq.ft./employee.

[135] As noted earlier in this Decision, Halifax Water and NADC submitted a Settlement Agreement for Board approval related, in part, to the proposed ICI RDC. Within the Settlement Agreement, both parties agreed to a blended average FSW of 781 sq.ft./employee to be used in the RDC calculation. On the basis of this new FSW amount, both parties also agreed to a revised water ICI RDC of $0.77/sq.ft and a revised wastewater ICI RDC of $2.11/sq.ft., subject to other Board findings.

[136] Brown and Goldstein, as well as ECI, argued that the use of ICI RDCs based on a $/sq.ft. basis is an inequitable means of allocating RDC costs to ICI development. ECI provided the following example to show why it considers this method to be inequitable:

> The Halifax Water claims as noted above can be valid when discussing large developments such as Bedford West because larger developments tend to approach the average whereas smaller developments are more susceptible to disparities in ICI land use. For discussion purposes only, compare two small developments – each with similar land mass and similar building footprints. One development is a commercial strip mall with a number of small-contained units. The second development is a car wash facility with a number of wash bays. The first has 25 employees in total while the second has 5 employees. The first uses the equivalent water of 5 single family residences whereas the second uses the equivalent of 25 single family residences. Under the current Halifax Water ICI RDC rates, both developments would contribute the same charges however, the second development should clearly contribute more to growth related costs due to greater water consumption.
>
> [Exhibit H-10, pp. 9-10]

[137] Brown and Goldstein stated:

> - The RDC costs allocated to new ICI customers are based on building area square footage. Because average water demand per square foot varies substantially depending on the nature of ICI establishments, this approach will inevitably result in considerable inequity among the various types of ICI customers.
>
> [Exhibit H-11, p. 11]

> Even if there were a meaningful correlation between ICI square footage and water use (which we contend there is not), using the square footage from just these three segments of ICI customers results in commercial customers being overcharged by the ICI RDC by 83% (733 vs 400 sq. ft./employee) and industrial customers being undercharged by 50% (1,100 vs 733 sq. ft. per employee).
>
> [Exhibit H-11, p. 30]

[138] To address the inequity that they believe exists in Halifax Water's proposed method of calculating and allocating ICI RDC costs, Brown and Goldstein, as well as ECI, recommended an alternative approach. This alternative approach involves the use of Residential Equivalency Units (REUs). Using the REU method, the water demand of each ICI development that contributes to growth is equated to an equivalent number of residential units. An ICI development would then be charged water and wastewater RDCs by applying the respective unit RDC rate to the corresponding number of REUs for the development. Using ECI's example from the preceding paragraph, under the REU method, the commercial strip mall would be charged 5 REUs and the car wash 25 REUs.

[139] Brown and Goldstein suggested that the REU method is simpler, more common, and more equitable than the ICI methodology proposed by Halifax Water. They believe that the REU approach eliminates the cost allocation concerns between the residential and ICI groups and provides more equity within the ICI group. They also stated that the REU method is used widely, particularly in the United States, and is one of the methodologies suggested for use by the American Water Works Association (AWWA).

[140] Halifax Water stated that the ICI RDC methodology it proposed converts residential population projections to residential units and employment projections to building floor area. The Utility argued that this approach equates to the REU method. Halifax Water stated:

> The Infrastructure Master Plan used regional employment growth projections developed in consultation with HRM. The Infrastructure Master Plan used the population equivalent

> methodology described in section 2.3.4.2 "Flow Equivalent" of the Atlantic Canada Wastewater Guidelines Manual for Collection, Treatment and Disposal 2006) (https://www.novascotia.ca/nse/water/docs/AtlCanStdGuideSewage.pdf) to assign employment flows to areas designated for employment growth. The population equivalent (PE) method is the same as the residential equivalent units (REU) method in that they both create a flow conversion between ICI uses and residential uses for use in hydraulic modelling. Halifax Water chose to use the PE method as it is already commonly used in Atlantic Canada and it avoids the need to factor the number of persons per unit (PPU) into this flow calculation.
>
> Flow monitoring data was used to model existing condition scenarios. As flow monitoring cannot distinguish between flows originating from industry or residential it is common practice to combine these in the hydraulic model as a population equivalent ("PE") for existing flows. Growth was assigned to the model as a total PE and flows generated using design criteria.
>
> Although the steps in the process differed in producing the PE, the end result of the process is essentially similar to that used to develop REUs. This information was used to estimate the infrastructure required to facilitate employment growth.
>
> [Exhibit H-17, pp. 5-6]

[141] Halifax Water's Rebuttal Evidence also laid out additional reasons explaining why the Utility believes its proposed ICI RDC methodology is preferred over the REU approach:

> The average blended ICI rate utilized by Halifax Water, and approved by the Board in 2014, is a commonly used method in Canada for the calculation of this type of charge. The REU approach proposed by both ECI and Tellus is only used by one Canadian utility, Vancouver, (Exhibit H-13 Tellus Response to IR-6 JGWB).
>
> The current average blended ICI rate for the RDC also is readily understandable and simple to administer. The introduction of an entirely different method of calculation of the RDC for ICI customers, in only the second application before the Board dealing with the RDC, is likely to cause confusion among those required to pay this charge. Such a change may also result in rate instability if a different method of calculation of the RDC is approved by the Board in each of the two applications which have considered this matter. Halifax Water also notes that none of the stakeholders who participated in the stakeholder sessions requested a different method of calculation of the RDC for non-residential customers.
>
> Halifax Water relies on information received from the Halifax Regional Municipality ("HRM") for inputs into the RDC. A building permit issued by HRM only denotes that the permit is for "non-residential" construction. The building permits do not further delineate whether the permit has been issued for an industrial, commercial or institutional building.
>
> HRM also provides Halifax Water with projections concerning predicted population growth within the municipality over the timeframe of the RDC which are then used in the calculation of the averaged blended rate for the RDC for ICI customers. Population growth projections supplied by HRM do not further refine employment growth projections into uses – eg. industrial, commercial or institutional. Therefore employment growth by use cannot be projected nor can a fair charge for each ICI use be calculated.

HRM also does not provide, nor to the best of Halifax Water's knowledge does it have, information on which to provide projections concerning the proportion of construction within the timeframe of the RDC which might be related to either industrial, commercial or institutional buildings.

A change in the method of calculation of the RDC for ICI customers will introduce significant additional risk for Halifax Water in respect of this charge and may negatively impact revenue stability. It will also result in a substantial administrative burden should there be a change in use of a property which would then require a recalculation and reconciliation of the initial RDC charged for that building.

Halifax Water has no way of monitoring any change [in] the use of a building unless there has been a change in the size of the meter used to service that building. If the meter size remains the same the building might be changed in use from, for example, an industrial warehouse to a commercial restaurant, without the knowledge of Halifax Water. The use of the average blended rate for the RDC and ICI customers, while not providing perfect equity, avoids these types of administrative difficulties and also provides for relative ease of application and collection.

[Exhibit H-17, pp. 3-4]

[142] During the hearing, the issue of the ICI RDCs and related cost allocation methodologies was discussed extensively. In particular, under questioning from Board Counsel regarding Halifax Water's Rebuttal Evidence, the Utility explained some of the reasons that currently limit its ability to switch to an REU methodology, as well as some of the steps that are needed to change methodologies:

Q. Down further on that page, you assert that:

> "Halifax Water can't adopt REU-type methods for calculating an ICI RDC because Halifax Water relies on information from HRM, specifically building permits, for inputs, and that permits don't indicate whether a proposed building is for industrial, commercial or institutional purposes."

And I've asked you this question before. Is there any reason why you can't get that information at the point in time when you're proposing to charge a customer often times in excess of a hundred thousand dollars ($100,000) in these ICI projects?

A. (MacKenzie) We could make it a requirement of the application, but one of the things that we have to be mindful of, there's certain zones within the Municipality where the industrial zone, for example, allows for a wide range of uses. So, if the applicant was to indicate that they were going to construct a building that aligns with the zoning of that building, it could range from a car wash to a hotel to a warehouse, depending on the specific zone. And those zones are buried throughout the Municipality, so, some of the uses that are applicable in an I-2 zone, for example, in Halifax may not be the same uses as an I-2 zone in Dartmouth. And so, we would have to really hone in and be specific on what the end use is going to be, and then, one of the things that we're highlighting is it would remove some of the flexibility for that owner if they were to change the use and still be compliant with the zone but impacting either consumption of water or discharge of wastewater.

Q. In fact, the customer ---

A. (Hamel) And, Mr. Outhouse, could I answer that?

Q. Sure. Go ahead.

A. (Hamel) Yes. Thank you. And I don't think we're disagreeing with the fact that information can be collected at the time of submission, but I think what's important here is that it needs to be fit in with the projections developed under the Infrastructure Master Plan. So, we need to have similar projections of how much of each of those categories may be built so that we can attribute the appropriate amount of flow, etcetera, use attributed to them, and then size the infrastructure. And then it's a function of ensuring that we do get good and accurate information from those applicants at the time, and the accuracy of their water assumptions, etcetera. So, unfortunately, it's a function of needing to produce the master plan in a similar format to then administer the DC afterwards.

[Transcript, June 11, 2020, pp. 142-144]

...

Q. ... Is there any reason why better data can't be obtained to make the ICI development charge more equitable than it currently is?

A. (Hamel) Mr. Outhouse, you highlighted an opportunity going forward, and I think the step undertaken through this IMP and ultimately the RDC process -- the work undertaken with HRM, as well as Halifax Water and our team, I think was a very good step forward, and there's always opportunity for continual improvement moving forward. And I think to move toward the shift in methodology would require all groups committing to that level of detail to help develop it.

Q. Okay. So, my last question is -- I know that Halifax Water has said -- at least I understand it to be the case that they would look at this, if it's going to change the methodology, to doing it at the end of this five-year cycle. My question to you is how much time would it take to gather that data? Is two years reasonable? Three years reasonable? Can you say?

A. (Hamel) Again, it's going to take effort from multiple groups, so I don't want to speak for them. You're correct in that, if data is available, the timeframe is definitely manageable within the next five-year period. I think the most important step will be not just looking backwards but looking forwards and having comfort that we can project based on the different ICI uses to be able to accurately understand what we think will be built in those various categories.

[Transcript, June 11, 2020, pp. 153-154]

[143] Board Counsel also cross-examined Halifax Water with respect to the REU methodology as discussed in Chapter VII.2 "System Development Charges" of the AWWA Manual M1:

Q. Are you familiar, Mr. Hamel, with the AWWA Manual?

A. (Hamel) Yes. Well, there are many, but I'm familiar with AWWA.

Q. Yeah. And I'm talking about the current version. And I'm looking at Chapter -- I guess it's 17.2, System Development Charges.

...

Q. I'm not going to go through the entire chapter, but this entire chapter is devoted to system development charges, what we're referring to here in this hearing as RDC charges. You'd agree with me, Mr. Hamel, they're the same thing?

A. (Hamel) Similar thing. It's not always exactly the same thing. They can be area specific or regional.

Q. Okay. And can you tell me any difference between system development charges and RDC charges?

A. (Hamel) Well, like I said, I'd have to clarify exactly how they're defining it in the AWWA Manual, but it's -- again, it's charges related to growth on a system. And again, the difference can be both either regional or area specific. But, for the intents and purposes, I believe they're similar, yes.

Q. Okay. Well, you've been qualified as an expert in development charges. Are you not familiar with this chapter of the AWWA Manual?

A. (Hamel) I am familiar with Manual M1, yes.

Q. Okay. And if you go to page 324, you'll see the Rational Nexus Test:

> "A common legal consideration related to SDCs is establishing a reasonable relationship or rational nexus between the amount of SDC and the cost associated with serving the new development."
>
> Do you see that?

A. (Hamel) Yes.

Q. And you'd agree with that.

A. (Hamel) Yes.

Q. And it says:

> "In general terms, the rational nexus test requires that there be a connection established between new development and the newer expanded facilities required to accommodate new development and appropriate apportionment of the cost to the new development in relation to benefits reasonable expected to be received by the new development."
>
> Correct?

A. (Hamel) Yes.

Q. You agree with that.

A. (Hamel) Yes.

Q. Okay.

...turn now to page 327.

Q. And if you look under "New Customer Demands," you'll see the opening statement there is that:

> SDCs are most commonly charged on a per equivalent residential unit (ERU basis)."

Do you agree with that statement?

A. (Hamel) Well, I see that the statement is written. I don't disagree with it. [Emphasis added]

[Transcript, June 11, 2020, pp. 145-148]

[144] Halifax Water's counsel also pursued this issue with Brown and Goldstein:

Q. Okay. A few more questions coming out of questions from my friend, Mr. Outhouse. Just give me one moment.

With regard -- and I believe Mr. Brown answered this question, but obviously whichever you feel appropriate can certainly answer it. With regard to the AWWA manual, which of the methods to calculate a system development charge does Halifax Water use, in your opinion?

...

A. (Brown) They're not using a method that's described in the AWWA manual.

Q. You're suggesting that they are not using the -- let me just turn it up here. They're not using the incremental cost approach?

...

A. (Brown) And it's not -- that's nothing to do, though, with the mechanism by which they go and collect it from the users.

Q. Right. But the method by which they are calculating it is an approved method under the AWWA manual, correct?

A. (Brown) The method of calculating their revenue needs is in fact consistent with the AWWA manual, yes.

Q. Right. And the AWWA manual is a guide. It's not prescriptive, isn't it?

A. (Brown) Absolutely it's a guide. It's an industry guide and it's kind of an industry standard guide. It's the guide that the vast majority of utilities in North America reference. In fact, it's referenced as a guide in the RDC application.

...

A. (Brown) Okay. So we're still talking about calculating the revenue needs.

...

A. (Goldstein) There's some confusing ---

Q. And ---

A. (Goldstein) Yeah. Over revenue need and then allocation of the costs. And we've been focusing in our evidence on the allocation of the RDC costs.

Q. Right. But you're not disputing that -- I just want to be clear, that Halifax Water is using a valid method to calculate the RDC?

...

Q. You would agree that Halifax Water is using the appropriate method of calculating?

A. (Brown) Method of calculating the revenue needs.

A. (Goldstein) Revenue needs, not allocation. Correct.

...

BY MR. MACPHERSON:

Q. So, I'm reading the second line in the introductory paragraph:

> "The three basic or common methods for calculating the SDCs are as follows."

You're saying that there is qualifying words contained in there that aren't in the document. Is that what I'm understanding?

A. (Goldstein) No.

A. (Brown) No.

A. (Goldstein) Mr. MacPherson, I think we're having just a fundamental misunderstanding about two related but separate issues.

One is the calculation of the overall RDC amount. And we are not disputing that, other than the -- this population discussion that we've had before. But not in terms of approach or method.

If you go on to page 337, these are the methods for allocating among customers. And that is where our dispute lies between the square footage approach and the REU type approach. [Emphasis added]

[Transcript, June 12, 2020, pp. 197-204]

[145] In Undertaking U-12, Halifax Water was asked to confirm whether there are, apart from the AWWA Manual M1, different Canadian or regional/provincial guidelines that address the allocation of RDC costs among ICI development. In that Undertaking,

Halifax Water stated that AWWA Manual M1, Water Environment Federation (WEF) Manual of Practice No. 27, and the *Ontario Development Charges Act* are the most relevant to RDC costs for ICI development. However, Halifax Water acknowledged that the latter two sources do not prescribe a specific methodology for the allocation of RDC costs to ICI development.

[146] The Utility suggested that the development charge practices for Ontario municipalities, particularly those in the Greater Toronto Area, typically used by two consulting firms (i.e., Watson and Associates Economists Ltd. and Hemson) have influenced and guided development charges across Canada and are the most relevant Canadian references for ICI related RDCs. Halifax Water also stated that the Ontario references use square footage and not REU methodologies for ICI charges. Further, the Ontario references use blended ICI charges per square foot, and where background information is available, use separate ICI charges per square foot for industrial, commercial and institutional uses.

[147] In its Closing Submission, Halifax Water argued that there is no compelling reason for it to use the REU method to calculate RDCs for the ICI sector. The Utility described further reasons why the REU method should not be used. One of these reasons is the lack of acceptance by the development community. The Utility argued that the HRM development community has not had an opportunity to express its views regarding the REU methodology, and, therefore, it would be highly unlikely that they would accept the methodology. Another reason related to understandability, with Halifax Water suggesting that little evidence has been provided explaining how the REU

approach would be applied, and that the data needed to support the approach is not readily available.

[148] Further, the Utility stated that the methodology it used to develop the ICI RDCs is more consistent with the IMP. Halifax Water also argued that the REU methodology would place an increased administrative burden on the Utility should there be a change in use of a property, which would then require a recalculation and reconciliation of the initial RDC charged for that building. The Utility stated that by using a blended $/sq.ft. charge, a developer can be assured that once it has paid the ICI RDC, it is free to use the building in whatever way it choses. There would be no additional charges if the building is subsequently used for another purpose, which the Utility suggested would not be the case using the REU approach. Nevertheless, Halifax Water appeared to concede that the REU methodology may be a more equitable approach if the appropriate data is available to support its use.

Findings

[149] In addressing the ICI RDC issue, the Board finds it necessary to present its findings in two separate sections. The first section deals with the ICI RDC for the current application. The second section focuses on how to address the ICI RDC in future RDC applications to the Board.

ICI RDC for the Current Application

[150] It is clear to the Board that Halifax Water expended a great deal of effort in advancing its most recent IMP and IRP Update. It is also clear that the Utility has

undertaken considerable thought and expended significant effort throughout the RDC development process, resulting in the current application before the Board. The Board commends Halifax Water for its work.

[151] Recognizing these efforts, the Board finds that considerable effort would likely be required at this point to change the ICI RDC methodology for the current application. This, in turn, could significantly delay implementation of the proposed revised RDCs. The Board finds that Halifax Water has sufficiently demonstrated that new RDC rates are required based on the Utility's proposed RDC capital program (notwithstanding any Compliance Filing issues identified elsewhere in this Decision). As such, a significant delay in implementing the new charges resulting from a change in the ICI RDC methodology would be a concern.

[152] Furthermore, maintaining Halifax Water's ICI RDC methodology for the next five-year RDC cycle will address the Utility's concerns of understandability, acceptability, and administrative burden during a five-year transitional period over which the Utility will be required to develop a new ICI RDC methodology (as outlined in the following section of this Decision).

[153] As noted above, Halifax Water and NADC concluded a Settlement Agreement, wherein it agreed to a blended FSW of 781 sq.ft./employee for the purposes of calculating the ICI RDC. In the circumstances, the Board accepts that FSW number as an RDC calculation input for the purposes of this proceeding. The Board also approves Halifax Water's ICI RDC methodology for the next five-year RDC cycle. In its Compliance Filing, Halifax Water is directed to calculate revised water and wastewater ICI RDC rates

(on a $/sq.ft. basis) based on the blended FSW of 781 sq.ft./employee and other Compliance Filing directives outlined in this Decision.

ICI RDC for the Future RDC Applications

[154] As noted above, Halifax Water submitted various reasons why the ICI RDC methodology should not be changed. In this respect, the Board notes that the issue canvassed here is not Halifax Water's calculation of ICI revenue needs. The concerns raised by the Board Counsel's consultants relate to the allocation of those costs among ICI development.

[155] During the hearing, Halifax Water acknowledged that it had not undertaken any analysis to confirm its assertion that a change in the ICI RDC methodology would result in rate instability:

> **Q.** (Outhouse): You say there that -- in paragraph 1, you talk about changing the current method to an REU method.
>
> "Such a change may also result in rate instability if a different method of calculation of the RDCs is approved by the Board in each of two applications which have considered this matter."
>
> And you're referring to the fact that this method, square footage method, was approved the first time. Has Halifax Water done any analysis to indicate that the adoption of an REU approach would cause rate instability?
>
> **A.** (MacKenzie) No, we have not undertaken any in-depth analysis.
>
> [Transcript, June 11, 2020, pp. 141-142]

[156] Without this analysis, the Board cannot conclude that a change in the ICI RDC methodology would result in rate instability.

[157] Similarly, when asked in the hearing about its contention that a change in the ICI RDC methodology would create confusion and not be understood by those developers required to pay the charge, Halifax Water stated that the REU methodology

was not presented as an option to stakeholders to consider and stakeholders did not raise the issue as a concern.

[158] The Board is mindful that a new ICI RDC methodology may lead to some questions for those developers required to pay the ICI RDC. However, such inquiries would most likely arise because the REU methodology was never presented as an option for the HRM ICI development community to consider and provide input.

[159] Halifax Water also argued that a change in the ICI RDC methodology would result in a substantial administrative burden should there be a change in use of an ICI property. The Utility indicated that such a change would require a recalculation and reconciliation of the initial RDC charged to the property. To complicate this issue further, the Utility stated that it has no means of monitoring any change in ICI building use unless there is a change in water meter size. While it does not want to minimize this issue, the Board considers it appropriate to weigh that administrative burden against the importance of equity in the RDC cost allocation system. For Halifax Water's RDC, the Board finds that equity deserves a higher weighting. The Board also agrees with Brown and Goldstein's hearing testimony that the administrative burden referred to by Halifax Water can be overcome:

> **A.** (Brown)...Every system -- rate system clearly has its own unique set of administrative requirements that you have to get up to speed on and administer. And I don't want to minimize that, but they're day in and day out kinds of issues the utilities -- I think the issue is not are they insurmountable. The issue is it's change.
>
> And I think ultimately, making that change is -- is a worthwhile exercise to get a system that's substantially more equitable than what they have.
>
> **A.** (Goldstein) And Mr. Outhouse, may I add something to that response?
>
> **Q.** (Outhouse) Sure.
>
> **A.** (Goldstein) One of the administrative hurdles that was discussed at some length this morning is the lack of information on the HRM building permit which then Halifax Water

accesses or is provided to them. And we don't dispute that currently the building permit application does not include information on what usage the proposed building would have.

However, as one of the documents -- in fact, two of the documents that you provided this morning, one was an HRM document, I believe it's the planning application, and one was a Halifax Water document, the meter size determination application have very extensive data that would provide all the necessary information to move beyond a simple square footage approach to an REU approach.

And part of that depends on the timing of when the RDC charges are calculated and collected. We can get into that if you like. But the lack of data is not -- well, it's convincing for right now. But moving forward, it should be fairly simple to get the kind of data that would allow an REU type approach.

...

Q. (Outhouse) Thank you, Mr. Goldstein. We've heard numerous times in the rebuttal and in the evidence here that the method that Halifax Water is using is simple to administer, it's readily understandable.

And I guess one of the questions the Board has to answer is whether that simplicity of administration and understandability is an adequate reason to prove the RDC calculation, despite its relatively benign approach to equitability.

A. (Goldstein) I would say there is a balancing act that does take place between administrative ease, if you will, and equity. But the rates could be made much more equitable.

And as Mr. Keleher said this morning, no RDC type rate will be perfectly equitable. But there's a wide range, if you will, of equitability and the current system, we would argue, is not as equitable as many others and an REU type rate.

And in this balance between administration and -- ease of administration and equity, the administrative issues I would argue have been solved by every utility who has been using the REU approach.

And this has been well established in -- I don't know the number, but many, many utilities across the U.S. I believe in our -- in our IR responses we gave a number of examples.

So, I wouldn't overstate the administrative barriers. And administrative ease here, in our view, is not an adequate reason not to pursue a considerably more equitable approach.

Q. (Outhouse) The -- one of the other problems that Halifax Water has identified in its rebuttal and its evidence -- oral evidence is that change in use creates a significant problem in an REU methodology, whereas using the square footage methodology, it doesn't create any problem.

What do you say about that particular issue, in terms of the advisability of adopting an REU approach?

A. (Goldstein) Well, I will start with that, and Bill if you want to add something. This is a very common issue that utilities with RDC type charges faced. And they have regulations that require an incremental RDC assessment for significant alterations,

expansions or replacements of buildings or development which result in greater demand on the water or wastewater system.

[Transcript, June 12, 2020, pp. 167-175]

[160] Under questioning from Board Counsel during the hearing, Halifax Water also acknowledged that use of water and wastewater systems by ICI growth is the main driver of the ICI RDC costs, and that there is a wide range of those uses in ICI development:

Q. You agree with me, Mr. Hamel, there's a -- what really drives the cost is the usage of the system, by growth. Correct? That's what drives the RDC.

A. (Hamel) That growth drives the RDC.

Q. Yeah.

A. (Hamel) Yes.

Q. And it's use, growth and use of the water and wastewater system. Right?

A. (Hamel) Yeah, it's the growth and the water and wastewater needs of that growth that sizes the infrastructure. Correct.

Q. Sure. Sure. And it's that growth and the usage -- it's the person who uses it the most who is driving the most growth who should pay the price for that. Correct?

A. (Hamel) Yes, we try to proportionate it based on use. That's correct.

Q. Yeah. Sure. And so, you acknowledge and know, based on your experience, that there is a wide range of use by ICI customers.

A. (Hamel) I have seen, yes, more general wider range of use in ICI. Correct.

[Transcript, June 11, 2020, pp. 128-129]

[161] Taking such evidence into account, the Board finds that the FSW method of ICI RDC cost allocation likely does not result in high use ICI development paying a fairer share of RDC costs than those who use the systems less. During further questioning by Board Counsel, Mr. Hamel also did not disagree that System Development Charges (SDCs) (as defined by the AWWA Manual M1, and which Mr. Hamel agreed are similar to RDCs) are most commonly charged on an REU basis.

[162] The FSW approach allocates ICI RDC costs on a building square footage basis rather than on a system use basis. As ECI pointed out in its evidence, this can cause inequities in that ICI developments with the same building footprint are charged the same ICI RDC even though they may have dramatically different levels of water usage. The current ICI RDC allocation methodology was approved by the Board in its *2014 RDC* Decision. However, this methodology was not challenged in that proceeding, and the inequity issues were not raised.

[163] Halifax Water argued that its ICI RDC allocation approach equates to the REU method. Based on the evidence presented in this proceeding, the Board simply does not agree, and finds that the FSW method of ICI RDC cost allocation could be improved upon for future RDC applications. The Board understands that different ICI RDC methodologies have varying pros and cons, and that no one approach is perfect. Nevertheless, the Board finds the REU ICI RDC cost allocation methodology is a much more equitable approach to allocate ICI RDC costs than the current method used by Halifax Water. The Board also considers that a switch to the REU cost allocation methodology may not result in the degree of concerns expressed by Halifax Water related to acceptability, understandability, and ease of administration.

[164] Perhaps the main reason presented by Halifax Water against moving to the REU cost allocation method is the lack of available data. Brown and Goldstein acknowledged that there is insufficient data to change to the REU methodology at this time. This lack of data includes items such as meter size, fixture units/counts, and estimated water usage. Nevertheless, Brown and Goldstein acknowledged that if Halifax Water changed to the REU approach, it could commission a study or carry out its own

research to develop the details needed to adopt the methodology. In terms of general principles, Halifax Water appeared to agree that the RDC should be made more equitable if the required data is available:

> **Q.** (Deveau) Okay. And same would apply to methodologies? If we're able to -- you know, if there's a better methodology out there that better reflects what the charge should be with the principle of growth pays for growth and same would apply, that that should be considered for the update to the RDC?
>
> **A.** (MacKenzie) Certainly, yes.
>
> Q. (Deveau) Yeah. And the same thing in relation to equity? That if something -- if the formula can be developed in such a way to provide a more appropriate allocation or equity, you know, and there might be a -- you know, a variety of those types of situations, again, to the extent that improvements can be made to the fairness of the charge internally as between various groups, then that should be done as well, if possible?
>
> A. (MacKenzie) Yes. If data presents itself or new methodologies appear to be more equitable and we can support them, yes.
>
> [Transcript, June 12, 2020, p. 35]

[165] Furthermore, when questioned by the Chair about the opportunity to improve Halifax Water's ICI RDC methodology, Mr. Hamel stated:

> ...I think, in any methodology, there's risk in any methodology of over or under collecting. I think it's, for us, primarily a function of having the collective partners onboard and on the same page of how to do this process, and I think it -- personally I think it starts at the planning projection side with HRM to help provide enough data to support this analysis, but it's absolutely doable on a go-forward basis. [Emphasis added]
>
> [Transcript, June 11, 2020, p. 235]

[166] The Board prefers the evidence of Brown and Goldstein to that of Halifax Water with respect to the change from the FSW to the REU methodology. The Board notes that the evidence of Brown and Goldstein relied on industry practice as outlined in the AWWA Manual M1 respecting development charges, which is generally used in many U.S. jurisdictions. On this point, Halifax Water, in the Board's opinion, did not provide any compelling evidence which contradicted the AWWA guidelines. Except for the AWWA Manual M1, the industry guidelines referred to by Halifax Water in Undertaking U-12 (i.e., WEF Manual of Practice #27 and the *Ontario Development Charges Act*) do not refer to

any specific methodology for the allocation of costs among ICI RDC developments. However, it appears from Undertaking U-12 that the Canadian practice which has developed, primarily in the Ontario region, is to apply an FSW methodology.

[167] Given the above, the Board directs Halifax Water to work with stakeholders, including HRM and the HRM ICI development community, over the next five-year RDC cycle, to develop a new ICI RDC methodology. This new methodology shall be based on the REU approach and should follow the guidelines in AWWA Manual M1. The new methodology shall be in place and used for Halifax Water's next five-year RDC application. If RDC updates are required before the next five-year update, as a result of the annual 15% variance threshold being exceeded, Halifax Water can continue to use its current ICI RDC methodology for those updates.

[168] During the five-year transitional period over which the new ICI RDC methodology is advanced, Halifax Water is encouraged to work closely with stakeholders, particularly with HRM and the development community, to collect and incorporate the data it believes is needed to develop the new methodology. Halifax Water shall submit annual reports to the Board regarding its stakeholder engagement on the advancement of the new ICI RDC methodology. These reports shall be submitted on September 30th of each year, starting in 2021.

4.10 Is the cost of the RDC appropriately split between residential and ICI development?

[169] The RDC applies to all residential and ICI development. The appropriate split of the RDC between residential and ICI development can be calculated two ways. The first method calculates ICI growth as a ratio of employment growth in people divided by

total estimated population growth (residential plus employment) over the 20-year RDC period. This ratio is then applied to the total RDC cost to calculate the cost that is attributable to ICI growth. This is the method currently used by Halifax Water.

[170] Halifax Water said:

> To establish the baseline population numbers Census Data was used and distributed using the dissemination blocks to civic address points, allowing system population to be actively added to the hydraulic models. The baseline employment numbers were determined from Industrial, Commercial and Institutional (ICI) customer billing points, that were then converted to population equivalence (PE), following design standards.
>
> The growth projections defined under the Infrastructure Master Plan reflect growth trends and planning guidelines to develop the Regional Centre as outlined in the Centre Plan and Integrated Mobility Plan. Population growth was set at a 1% rate per annum, and employment growth equating to 58% of population growth Growth was divided between the Regions (sub-boundaries) based on meeting the Integrated Mobility Plan population and employment growth splits and aligning with the Growth Areas and Allocation table, which included data on developments occurring over the protect horizon to 2016 to 2046.
>
> [Exhibit H-47, p. 4]

[171] It can also be calculated by looking at the percentage of actual water and wastewater flows attributed to residential and ICI development. This was the methodology that was proposed by Brown and Goldstein. They argued that Halifax Water had an error in its calculations by assuming that an employee uses as much water as a residential customer:

> - HW's implicit assumption in the IMP is that the average ICI customer's water consumption on a per employee basis is the same as one resident consumes. This assumption drives the IMP future flow projections and the capital cost estimates to accommodate growth that the RDC Application relies on, as well as the RDC Financial Model cost split between the residential and ICI groups. However, HW has not provided historic data to demonstrate the validity of this assumption. If the assumption is not correct, the cost split between residential and ICI customers will be skewed.
>
> [Exhibit H-11, pp. 10-11]

[172] They also said there is great variability in ICI water usage depending on the type of business and the wrong assumptions may unfairly overcharge or undercharge ICI

development. These calculations were discussed at length in the hearing as there was confusion about how the ICI percentages were calculated.

[173] In Undertaking U-16, the NADC asked Brown and Goldstein to recalculate the RDC based on four scenarios. Scenario #1 is based on the population information as presented in the IMP with the existing square footage assumption of 733 sq.ft./worker. Scenario #2 uses the same IMP population with the square footage as per the Settlement Agreement of 781 sq.ft./worker. Scenario #3 uses IMP water consumption information and the original 733 sq.ft./worker. Scenario #4 uses IMP water consumption information and the Settlement Agreement square footage of 781 sq.ft./worker. Their observations noted:

> 1. Changing only the Employment Density from 733 to 781 square feet per ICI employee had no impact on the Residential-ICI RDC cost allocation nor on the Residential RDC rates. However, increasing the square feet per employee to 781 does reduce the ICI square foot rate by 6%, because there is an implicit assumption that more building area will be built under the existing model, as noted on the last line of the summary tables.
>
> 2. With the Scenario #1, #2, #3 & #4 assumption changes referenced on the attached Financial Model run spreadsheets, the Residential RDC cost allocation and the Residential RDC rates increased by 1 to 3%. The ICI RDC cost allocation decreased about 8 to 9% (shown only on the model run spreadsheets and not on the summary tables), but the ICI square foot rates either remain unchanged or increase by 1% because there are fewer employees assumed and because the Financial Model implicitly assumes different ICI building square footage over the 20-year RDC period based on the ICI Employment Population and Employment Density assumptions, as noted on the last line of the summary tables.
>
> 3. Assuming the 781 sq.ft./employee Employment Density is the best current professional judgement (consistent with the proposed Settlement Agreement between HRWC and NADC), the most equitable scenario appears to be Scenario #4 (Water Consumption data approach) followed by #2 (IMP Population data approach).
>
> [Exhibit H 44, pp. 1-2]

[174] Based on this analysis, Brown and Goldstein determined that Scenario #4 provides the most equitable split of RDC costs between residential and ICI development.

Findings

[175] Brown and Goldstein have suggested that Halifax Water's ICI RDC methodology contains an implicit assumption that the average ICI customer's water consumption on a per employee basis is the same as one resident consumes. The Utility argued that Brown and Goldstein are incorrect. However, Halifax Water stated as follows during the hearing:

> **Q.** (Murphy) Okay. So, based on the information that was provided in the rebuttal evidence, can you explain to me how the specific regional employment growth projections developed in consultation with HRM -- and it's in the IMP -- jive with the guidelines manual? Particularly where the guidelines manual relates to 85 people per hectare for commercial areas, I'd like to know how that corresponds to the numbers used to develop the ICI RDC charge where you used a thousand square feet per employee for industrial, 400 for commercial and 700 for industrial.
>
> **A.** (Hamel) Yes, if you will, Mr. Murphy, I'll probably need to back up into a larger context to describe the whole process. The consistency with -- is with establishing an equivalent flow as it relates to the employment uses. So the information that we're able to use that comes from our planning data is we simply have people and we have jobs, and our goal is to establish the equivalency of those jobs to their flows.
>
> From our design criteria review, we did look at separate residential flows versus separate employment flows, and it was determined from that review that -- and that was looking at not just billing but flow monitoring of catchments ultimately looking at plant flows -- that the criteria was similar for both residential and employment when we look at people and we look at jobs.
>
> So, what we're able to do is establish, when we input into our hydraulic models, a single number, if you will, so a single jobs and people, and that's the equivalent -- if you will, the population equivalent number. And because the criteria is the same, we're able to put that equivalent number against the singular criteria -- and 357 in water and 300 in wastewater -- to establish the flows relative to growth only. [Emphasis added]
>
> [Transcript, June 11, 2020, pp. 220-221]

[176] Based on this exchange, it is the Board's view that for RDC development, Halifax Water has, in fact, equated employee and residential water and wastewater demands. In other words, the Board finds that Halifax Water has applied the same per capita flow criteria to both residential and employee population growth to estimate future demands.

[177] In addition, Halifax Water's RDC cost allocation between ICI and residential is based on the proportion for each of employee and residential population growth to the total of both. The Board agrees with Brown and Goldstein that this allocation is only equitable if the Utility is correct that average ICI water consumption on a per employee basis is the same as the per capita residential consumption. However, the Board finds that Halifax Water has not provided sufficient evidence to show this is the case. In fact, as noted by Brown and Goldstein in their testimony and in Undertaking U-16, the material provided in Halifax Water's IMP suggests that this is not the case.

[178] The Board, therefore, accepts Brown and Goldstein's recalculation scenarios and recommendation, and, in its Compliance Filing, directs Halifax Water to recalculate the RDC based on Scenario #4 of Undertaking U-16.

4.11 Should the Board approve the proposed amendments to the Schedule of Rates, Rules and Regulations?

[179] As noted in Halifax Water's application, amending the RDC requires consequential amendments to the Schedule of Rates, Rules and Regulations for Water, Wastewater and Stormwater Services. Thus, Halifax Water incorporated its proposed revised RDC rates into Sections 29 and 30 of the Rules and Regulations for wastewater and water, respectively. In addition to the revised RDC rates, Halifax Water also proposed indexing the RDC each year on April 1st in accordance with the indexing set out in the Consumer Price Index for Halifax.

[180] Further, Halifax Water proposed four other sets of substantive amendments to its Rules and Regulations, including the introduction of "Infrastructure Master Plan" as a defined term (along with related revisions throughout the Schedule to incorporate the

new IMP phrase), the deferral of payment of the RDC for up to 10 years respecting units within HRM's Housing Affordability initiative, allowing I/I reduction projects to be considered in creating capacity for growth within the wastewater systems, and allowing DSM projects to provide capacity for growth within water infrastructure.

[181] The specific amendments were outlined in Appendix H of the original application, with updated RDC rates contained in Appendix G of Halifax Water's Rebuttal Evidence, reflecting revisions made to the RDC rates during the Information Request process. The above amendments include:

> 29.(1)(c) [s. 30(1)(c)] "Infrastructure Master Plan" is the long-term infrastructure planning and engineering study that identifies the optimal regional water and wastewater infrastructure implementation plan for Halifax Water to service growth for 30 years.
>
> 29(13) [s. 30(13)] The Regional Development Charge may be deferred for units considered within the Housing Affordability initiatives as defined by Halifax Regional Municipality. Deferrals may be considered for these units up to ten years. Interest will be charged after year two. Halifax Regional Municipality will place a lien on the Property to ensure payment of the RDC.

[182] With respect to the ability to allow I/I reduction projects to be considered for regional wastewater infrastructure, the following was proposed to be added to s. 29:

> 29(1)(b)
>
> ...
>
> (iv) inflow and infiltration reduction and/or sewer separation projects for the purposes of gaining capacity within the wastewater system for the benefit of planned growth.

[183] With respect to the ability to consider DSM projects for regional water infrastructure, the following was proposed to be added to s. 30:

> 30(1)(b)
>
> ...
>
> (iv) demand reduction measures to provide capacity for growth and are a cost-effective alternative to new regional hard infrastructure are considered eligible.

[184] In its application, Halifax Water outlined its reasons for the change in its position on the consideration of I/I reduction projects:

> In the initial application in 2014, Halifax Water did not support allocating capacity gained through I/I reduction projects to support growth. However, since that application, Halifax Water has enhanced its flow monitoring and wet weather management programs, so that discrete projects can be executed to measure capacity gains and allocate the cost to the RDC.
>
> [Exhibit H-1, lines 589-593]

Findings

[185] Except as noted earlier in this Decision with respect to revisions directed by the Board to recalculate RDC rates, no party in this proceeding opposed the above amendments to the Rules and Regulations. Revised Schedules of Rates, Rules and Regulations must be filed in a Compliance Filing to incorporate the changes to the RDC rates that have been directed by the Board. Subject to that filing to revise the actual RDC rates, the Board approves the other amendments to the Rules and Regulations for Water, Wastewater and Stormwater Services.

4.12 Does the Board have the jurisdiction to waive or reduce RDC charges for developers of non-profit housing?

[186] The Board received a letter of comment from the Housing Trust of Nova Scotia requesting that it approve different RDC rates for non-profit and affordable housing projects. Further, it submitted: "Ideally, the RDC charges should be reduced to zero.", which the Board infers was intended to apply to such projects. It noted that the Housing Trust is a non-profit housing organization that was formed in 2009 to address the growing problem of housing affordability in Nova Scotia. It stated that:

> ...Financing for these types of projects is extremely hard to put together, and every additional cost adds to the rent that must be charged to tenants. If the costs become too high, the financial viability of the project can become unviable.

> A review of best practices in Canada shows that most progressive communities are providing free land, and waiving all building permits to assist in the production of needed affordable housing. ... HRM did implement an affordable housing bylaw in 2017, however this bylaw only waives the building permit fee for qualified affordable housing projects, not the regional development charges. These fees are substantial, and are a real barrier to the production of affordable housing. ...
>
> [Exhibit H-16, p. 3]

[187] As an example, the Housing Trust referred to its first proposed project at 2250 Maitland Street in Halifax. It calculated the cost of building permits for the project, under the current fee structure, at $482,000, including $326,000 for RDCs (or 68% of the total). It noted Halifax Water's current application for increases to the RDCs would add $66,000 to the cost.

[188] The Board also received a letter of comment from the Affirmative Ventures Association, which outlined the challenges of providing affordable housing. It asked the Board to deny Halifax Water's requested RDC increases. It stated:

> Affirmative Ventures is a non-profit organization working to build independent living options for mental health consumers in our community. ...
>
> ...
>
> In the late 1990s it became evident that the advances we were making in employment for our clients were being compromised by the lack of stable, affordable housing. We were able to open our 10-unit "Affirmative House" in Dartmouth in 2007 and many of our tenants were able to advance their independent living goals during the 5 years they lived in this supportive housing project.
>
> [Exhibit H-16, p. 1]

[189] Affirmative Ventures is currently developing 45 units of affordable housing at its Main Street property in Dartmouth. It noted that while its 2007 permits cost $845 per unit (less a $5,000 rebate provided by HRM), its permit budget for the current Main Street project is $4,973 per unit, an increase of 1,441% over 2007. It concluded:

> We have asked that Halifax Water waive or reduce their fees but have been advised they are unable to do so under the Public Utilities Act. Halifax Water fees will therefore form part of our project costs. Their fees will be capitalized and will be paid by our clients in the form of rent.

> We are writing in opposition to Halifax Water's application to increase its fees for wastewater and water connections and respectfully ask that the Utility and Review Board set aside these proposed fee increases.
>
> [Exhibit H-16, p. 2]

[190] While Affirmative Ventures has not requested that the Board allow a waiver or reduction in the RDC, it raised similar concerns to that of the Housing Trust of Nova Scotia respecting the impact of the RDC on the development of affordable housing.

[191] Upon questioning from the Board during the hearing, Halifax Water confirmed its understanding that there is no provision under the *Public Utilities Act* for the waiver or reduction of rates or charges for a sector of the public by reason of affordability. The Board did not receive any submissions from the parties respecting this issue.

Findings

[192] The Board's jurisdiction to waive or reduce rates or charges under the *Public Utilities Act* for a segment of the public, by reason of their affordability, was considered by the Board in *Dalhousie Legal Aid Service, Re*, 2005 NSUARB 65 (CanLII); appeal dismissed in *Dalhousie Legal Aid Service v. Nova Scotia Power Inc.*, 2006 NSCA 74; leave to appeal refused in 2007 CanLII 1149 (SCC). In that matter, Nova Scotia Power applied to the Board for a rate increase. Dalhousie Legal Aid intervened and requested that the Board approve a Rate Assistance Program featuring power rate credits for low income customers. The Board concluded that the legislation did not authorize it to reduce power rates based on the income level of the customer and denied the requested rate relief.

[193] The ratemaking authority which applies to Halifax Water falls under the same regulatory provisions in the *Public Utilities Act*, particularly s. 67, among others. In

its judgment dismissing the appeal by Dalhousie Legal Aid, the Nova Scotia Court of Appeal held:

> [8] ...The Board accepted that "all customers, regardless of income, receive 'substantially similar' electrical service from NSP". The Board concluded that it had no power to consider DLA's proposed Rate Assistance Program:
>
> ...
>
> [21] The court must also grapple with the basis of the Board's ruling, s. 67(1):
>
> > 67(1) All tolls, rates and charges shall always, under substantially similar circumstances and conditions in respect of service of the same description, be charged equally to all persons and at the same rate, and the Board may by regulation declare what shall constitute substantially similar circumstances and conditions.
>
> ...
>
> [24] With respect, the factum's submission misinterprets s. 67(1). The provision refers to "substantially similar circumstances and conditions ***in respect of service of the same description***." To justify a rate difference, the relevant dissimilarity is not in customers' incomes. It is in the service from NSP. The Board accepted, and there is no basis to question, that NSP provides substantially similar electrical service whatever the domestic customer's income.
>
> [25] Section 67(1) is mandatory. The rates and charges "shall always . . . be charged equally" to persons of similar circumstances and conditions in respect of service. The statute does not endow the Board with discretion to consider the social justice of reduced rates for low income customers. It is not for the Board or this court to read into s. 67(1) the words:
>
> > . . . similar circumstances and conditions in respect of **the income level of customers** and service of the same description,
>
> It is for the Legislature to decide whether to expand the Board's purview with the italicized words.
>
> ...
>
> [29] The *Act* connects the Board's rate-making to NSP's "service". Section 2(f) of the *Public Utilities Act* defines "service" as including:
>
> > (iii) the production, transmission, delivery or furnishing to or for the public by a public utility for compensation of electrical energy for purposes of heat, light and power, [in relation to Halifax Water, s. 2(f) defines service as: (v) the production, transmission, delivery or furnishing to or for the public by a public utility for compensation of water,],
>
> Section 44 authorizes the Board to make rates "for services rendered or facilities provided". Section 52 requires the public utility to "furnish services and facilities that are adequate, just and reasonable". Section 64(1) prohibits the utility from charging compensation for any "service" until the Board has approved the rate for that service. Section 107, entitled "offence and penalty for unjust discrimination", prohibits the utility from charging "for any

> service" a rate that is higher or lower than charged to any other person "for a like and contemporaneous service".
>
> ...
>
> [33] ... The Board's regulatory power is a proxy for competition, not an instrument of social policy.
>
> ...
>
> [39] Section 67(1) is not ambiguous: "rates . . . shall always . . . be charged equally to all persons and at the same rate" in substantially similar "circumstances and conditions in respect of service of the same description". The Board cannot reduce the rate to a low income customer who receives the same service as a high income customer. There is no latitude for the interpretive presumption. [Emphasis in original]
>
> [*Dalhousie Legal Aid Service v. Nova Scotia Power Inc.*, 2006 NSCA 74, paras. 8-39]

[194] Accordingly, while the Board is mindful of the impact of RDC rates on the development of affordable housing, the Board does not have the jurisdiction under the *Public Utilities Act* to waive or reduce the RDCs by reason of the affordability of those rates or charges for a segment of the public. All customers of Halifax Water who receive a similar service from the Utility must be charged the same rate.

4.13 Are there other issues to be considered in the calculation of the RDC?

[195] ECI and Altus raised some other issues respecting the calculation of the RDC. The Board will canvass these issues, in turn.

4.13.1 Halifax only escalation factor

[196] In its financial modeling, Halifax Water uses an escalation factor to account for inflation in the RDC calculation. The basis of the escalation factor is from the Statistics Canada Consumer Price Index (CPI) for Canadian and Halifax non-residential building construction. ECI Recommendation 2 noted:

> ...ECI notes that the inclusion of the Canada non-residential price index results in a 0.15% higher escalation factor. ECI recommends using a Halifax only escalation factor that results in a lower RDC calculation and less Inflation Adjustment required in calculating the RDC.
>
> [Exhibit H-10, p. 1]

[197] In its Rebuttal Evidence, Halifax Water stated:

> Halifax Water purchases numerous items related to its operation and the expansion of its water and wastewater facilities to accommodate growth outside Halifax and outside of Nova Scotia. Given that these inputs to the costs utilized in the calculation of the RDC are priced outside of the Halifax area, Halifax Water has used a "blended" rate for the escalation factor to reflect those costs.
>
> Halifax Water uses an average of the five year CPI for Halifax and Canada together with the twenty year CPI for Halifax and Canada to calculate the escalation factor used in the RDC. The use of this blended inflation factor better reflects the cost to Halifax Water of products and services (e.g. consultants and materials) which it must source from outside the local area.
>
> [Exhibit H-17, p. 3]

[198] The Board accepts the submission of Halifax Water on this point and finds it appropriate to take into account local and national inflation indexing in applying the escalation factor.

4.13.2 Construction interest adjustment

[199] ECI and Altus both questioned Halifax Water's application of construction interest in the RDC calculation. In summary, an annual interest rate of 1.77%, based on Bank of Canada sources, was applied. However, the data was "hard-entered" into Halifax Water's spreadsheet in its financial modeling. ECI accepted the figure as reasonable, but its Recommendation 3 suggested that Halifax Water directly link the cell entry for the interest rate to the Canadian Interest Rate Tab to eliminate errors in future iterations of the RDC if interest rates are revised. Altus stated it did not understand the rationale for the construction interest adjustment and had not encountered it elsewhere.

[200] Halifax Water accepted the recommendation to link the cell entry in its financial model spreadsheet to the appropriate tab. With respect to Altus' concern, it stated:

> Halifax Water has used a construction industry adjustment in the Capital Cost Contribution, as approved by the Board, for a considerable period of time. (See Appendix "F" - Halifax Water Schedule of Rules and Regulations, Attachment 3, Part I, Section 13 and Part II, Note 2)
>
> The inclusion of interest during construction protects Halifax Water from incurring costs that support development when a major component of infrastructure is required before the contributions from developers are collected.
>
> [Exhibit H-17, p. 10]

[201] The Board is satisfied the "cell entry" in the spreadsheet has been addressed. The Board is also satisfied it is appropriate to apply the annual construction interest adjustment in the RDC financial modeling.

4.13.3 Surplus financing figure

[202] Similarly, ECI Recommendation 7 provided that the surplus financing figure entered on the Financial Assumptions Tab should be linked to the data source located on the Tab Bank of Canada Bonds, rather than being "hard-entered". Halifax Water accepted this recommendation and updated its financial model to reflect the linkage.

[203] The Board is satisfied this issue has been addressed.

4.13.4 Layering of contingency factors

[204] In its Evidence, Altus suggested that contingency factors should be applied in the same step as other related adjustments. Contingency factors would be applied in the same step as the three other adjustments to construction costs (engineering/design, professional fees, construction/contract management), so that the contingency factor is

not applied to the soft cost elements. This would reduce costs by varying amounts for different Class estimates (e.g., 6.6% less costs for a Class 4 project estimate and 4.4% less costs for a Class 3 project estimate): see Altus report, Exhibit H-9, p. 11.

[205] In its Rebuttal Evidence, Halifax Water replied:

> In the development of Halifax Water's costing framework it was determined that it was appropriate to apply a contingency factor to costs, referred to by Altus as "soft cost estimates", because they are project related components that would be cost impacted by any unforeseen changes in the project that therefore would be expected to be covered by the project contingency.
>
> [Exhibit H-17, p. 10]

[206] This point was not pursued at the hearing after NADC and Halifax Water resolved their other contested issues in their Settlement Agreement. In the circumstances, the Board does not consider it necessary to deal with this issue in the present matter. However, it notes that all Halifax Water capital projects in excess of $1 million must be approved by the Board under the *Public Utilities Act*. All submitted capital expenditures must be reasonable and prudent.

4.13.5 Lifecycle costs

[207] Altus also had a concern with what it referred to as "lifecycle costs", citing references in Halifax Water's application and in the IMP to the lifecycle costs applied to each project, including operation, maintenance, rehabilitation, and replacement. Altus expressed its concern as follows:

> If these costs have been included in the capital costs being recovered in the RDC Calculation, it would be inappropriate. These ongoing costs are operating costs in nature and should be funded by ongoing revenues such as property taxes and user rates, which allow for distribution of costs to all users. The purpose of capital charges such as the RDC is to fund one-time capital costs associated with the construction and installation of infrastructure - not to fund annual operating, maintenance and ultimate replacement costs that are more appropriately funded through ongoing sources of revenue.
>
> [Exhibit H-9, pp. 12-13]

[208] Halifax Water clarified this point in its Rebuttal Evidence:

> The life cycle costs were used in the evaluation of the strategies to be included in the Infrastructure Master Plan. These costs were not included in the capital cost estimates generated for the Infrastructure Master Plan capital program and were not carried forward into the RDC.
>
> [Exhibit H-17, p. 10]

[209] The Board is satisfied with this clarification.

4.14 Are there any gaps in the RDC's foundational documents, including Halifax Water's Infrastructure Master Plan and the Integrated Resource Plan?

[210] In October 2012, Halifax Water completed its first comprehensive Integrated Resource Plan, which developed a 30-year, $2.6 billion capital investment plan for the Utility. The plan was based upon three drivers for the Utility's water, wastewater and stormwater infrastructure, namely asset renewal, regulatory compliance and growth. When this initial IRP was prepared, it was acknowledged that significant uncertainties and data gaps existed within the plan. As a result, several recommendations were made in the IRP, including the continued implementation of Halifax Water's Asset Management Program, development of a Wet Weather Management Program, and further detailed infrastructure planning studies. Since the completion of the initial IRP, Halifax Water staff have been working to collect data to reduce the uncertainty contained in the 2012 IRP assumptions.

[211] One of the infrastructure planning studies that resulted from the IRP is Halifax Water's Infrastructure Master Plan. This plan is a key foundational document for the current RDC application. The IMP assesses the long-term capital investment needs of Halifax Water to meet the Utility's projected growth through 2046. The IMP, as well as other recent Halifax Water initiatives (such as asset management plans, compliance

plans and the 2019 IRP Update) have filled many of the data gaps identified in the 2012 IRP. In fact, during this proceeding, Brown and Goldstein indicated that these initiatives represent a significant advancement in Halifax Water's infrastructure planning. As a result, Brown and Goldstein acknowledge that:

> - HW's RDC Application reflects its planning advancements in terms of a more complete understanding of the needed water distribution system improvements and substantially more cost-effective wastewater collection system solutions to accommodate growth.
>
> [Exhibit H-11, p. 9]

[212] Nonetheless, Brown and Goldstein have suggested that Halifax Water's recent infrastructure planning activities have not addressed all the data gaps identified in the 2012 IRP. These include WWTFs needs planning, performance-based asset condition assessments, sub-sewershed level analysis of wastewater demand management options (including I/I reduction and low-impact development opportunities), and climate change impacts on existing infrastructure. During the hearing, the CA asked Brown and Goldstein to describe the major steps, major milestones and related task sequencing that will need to be completed by Halifax Water between now and the next RDC filing in five years to fill these outstanding data gaps. Brown and Goldstein provided this information in Undertaking U-14 (although they did not provide a recommended specific task sequencing in this Undertaking, as they viewed this as Halifax Water's responsibility).

[213] In Undertaking U-14, Brown and Goldstein recommended four near-term initiatives aimed at addressing data gaps associated with several specific Halifax Water capital projects. These projects include the Mill Cove WWTF Upgrade, the Biosolids Management Program, the Dalhousie University Wastewater Research Program Pilot and Dartmouth WWTF Ballasted Flocculation Pilot, and several sewer separation and I/I

reduction projects. The Undertaking also identified the following data gaps and associated recommendations for improvement that Brown and Goldstein believe still need to be addressed by Halifax Water:

1. Halifax Water's planning process needs to continue to evolve so that the next planning cycle is more comprehensive, including all assets, and reflects an integrated solution development process across all drivers: growth, compliance, and asset renewal.

2. Given the importance of wastewater treatment facility (WWTF) assets and investment requirements, as well as the complexity, cost, and time required to address WWTF upgrade requirements, a comprehensive analysis of WWTF issues is needed as part of the next 5-year planning cycle.

3. Halifax Water needs to continue advancing its asset management program, including enhancing its asset condition data, to prioritize asset renewal and minimize costly and disruptive emergency repairs.

4. Private I/I reduction and efforts to overcome jurisdictional hurdles require more attention to achieve the IRP Update's I/I reduction goals.

5. HW needs to continue expanding its knowledge of the existing conditions and long-term capital needs of the stormwater system.

6. More robust consideration of potential future regulations (e.g., reduction in CSO overflows) and impacts on long-term capital plans is needed.

7. HW's future planning should include sensitivity analyses to assess the impact of changes to key assumptions (e.g., population projections, water and wastewater system design criteria) on its plans.

8. In its submissions to the UARB for project approvals, HW should include the supporting planning studies for several key near-term projects (e.g., Mill Cove WWTF Upgrade, biosolids management program, various sewer separation and inflow and infiltration (I/I) reduction projects; see Section IV above) to demonstrate the most cost-effective solutions are selected for the identified challenges.

9. To track Halifax Water's progress in filling the important planning/data gaps, we recommend that the UARB require HW to make annual progress submittals to the Board regarding advancement of Halifax Water's Wet Weather Management Program, Asset Management Program, and Stormwater Management efforts.

10. For the next planning cycle, HW and the Board Counsel's consultants should work towards enhancing the collaborative process through early engagement in planning processes, realistic schedules, timely sharing and review of work products, and timely resolution of review comments.

11. Explicit Board direction may be required to affect the above noted recommendations.

[Exhibit H-41, pp. 10-11]

[214] With regards to the analysis of Halifax Water's WWTF needs (Item 2 in the data gaps listed above), the Board will address this issue below in Section 4.14.1 of this Decision.

[215] Brown and Goldstein have also recommended that the Board direct Halifax Water to file annual reports describing the Utility's advancement of its Wet Weather Management Program, Asset Management Program, and Stormwater Management efforts. The CA supported this initiative in his Closing Submission. However, in its Rebuttal Submission, Halifax Water repeated its view that there are no "information gaps" in these programs and efforts. As such, the Utility believes that the additional reporting requirements recommended by Brown and Goldstein, and supported by the CA, are not necessary.

[216] During the hearing, Halifax Water's counsel questioned Brown and Goldstein about some of the information gaps that they believe exist:

> **Q.** ... In your evidence in this proceeding as well as in the rate application, you identified other information gaps. You also, in fairness, were quite complimentary to Halifax Water in regard -- as you were today, in terms of addressing those gaps.
>
> But essentially, as I take it, the position you've taken is -- or not the position you've taken, your conclusion is that Halifax Water has in place plans to address, apart from those noted, the other information gaps at -- that you noted at page 16 and 17 as moving forward with those plans.
>
> **A.** (Brown) Yes.
>
> **A.** (Goldstein) That's correct.
>
> [Transcript, June 12, 2020, pp. 194-195]

[217] The Board notes, however, that the information gaps referred to on pages 16 and 17 of Brown and Goldstein's evidence, for which they agree Halifax Water has plans to address, only refer to development of preliminary asset condition assessments (based on proxy information) for most asset classes, a recently developed Wet Weather

Management Program Project Decision Matrix to assess and prioritize preferred I/I reduction options, and a framework to assess the impacts of climate change on new infrastructure.

Findings

[218] The Board commends Halifax Water's efforts to close many of the information gaps in its 2012 IRP. This work has resulted in a much more robust 2019 IRP Update, as compared to the 2012 IRP. Similarly, these efforts have contributed to the development of the Utility's IMP, which, for the most part, appears to be a well-conceived plan, particularly as it relates to linear infrastructure assets. However, based on the evidence presented in this proceeding, the Board finds that data gaps remain in Halifax Water's infrastructure planning process. These gaps, in turn, may potentially have an impact on the development of the Utility's RDC. As such, the Board finds that Halifax Water needs to address these outstanding data gaps and related infrastructure planning issues.

[219] The Board agrees with the initiatives recommended by Brown and Goldstein in Undertaking U-14. Therefore, the Board directs the following:

a. Prior to the next RDC Update, Halifax Water is to complete a comprehensive study of its biosolids challenges and the most cost-effective solutions. The completed study shall be submitted with Halifax Water's eventual application for Board approval of the biosolids solution capital project. The study shall demonstrate that the most cost-effective solution has been selected for the identified challenges.

b. For all future sewer separation projects, Halifax Water shall evaluate the most cost-effective separation alternatives prior to initiating the design of the specific projects. These evaluations shall be submitted as part of the Utility's related capital applications for Board approval. The studies shall demonstrate that the most cost-effective project solutions have been selected.

c. Halifax Water shall complete detailed sewer system evaluation survey studies for all future rain derived I/I reduction projects. These studies shall be submitted as part of the Utility's related capital applications for Board approval. The studies shall demonstrate that the most cost-effective project solutions have been selected.

d. Halifax Water's future infrastructure planning and analysis (including future IRPs and IMPs) shall include sensitivity analyses to assess the impact of changes to key assumptions (i.e., population projections, water and wastewater system design criteria) on potential infrastructure solutions.

e. Halifax Water shall submit annual reports to the Board regarding advancement of the Utility's Wet Weather Management Program, Asset Management Program, and Stormwater Management efforts. These reports shall be submitted on September 30th of each year, starting in 2021. Items to be addressed in these reports shall include, but not be limited to:

    i. A description of Halifax Water's continuing advancement of its asset management program, including enhancing its asset condition data, to prioritize asset renewal and minimize costly and disruptive emergency repairs;

ii. Identification of private I/I reduction efforts to overcome jurisdictional hurdles;

iii. An update on the existing conditions and long-term capital needs of the Utility's stormwater system;

iv. An assessment of potential future regulations (i.e., reduction in CSO overflows) and related impacts on long-term capital plans; and

v. A schedule of activities planned for each upcoming year.

[220] Halifax Water shall submit annual reports describing its collaborative efforts with stakeholders on these issues, as appropriate. These reports shall be submitted on September 30th of each year, starting in 2021.

4.14.1 WWTFs

[221] During this proceeding, Brown and Goldstein argued that the most significant data gaps remaining in Halifax Water's infrastructure planning processes relate to the Utility's WWTFs. They stated that Halifax Water's 2019 IMP Update is narrowly focused on the growth impacts of the Utility's horizontal assets (i.e., wastewater collection system and water distribution system). They also suggested that the 2019 IRP Update and Halifax Water's Compliance Plan only superficially address the needs of the Utility's WWTFs, and have not utilized a robust method for determining the sequencing and significant costs associated with required WWTF upgrades and expansions. In their evidence, Brown and Goldstein stated:

> The WWTFs are prominent components of the wastewater servicing strategy for each region and they need to be studied as rigorously as the collection system in order to confirm that the necessary treatment capacity to service the growth will be in place, and to develop

> appropriate capital cost estimates. This is a significant knowledge gap that needs to be addressed.
>
> [Exhibit H-11, p. 18]

[222] As such, Brown and Goldstein have recommended the following:

> HW needs to address the remaining information and data gaps. The most important need is for a more robust study of the WWTF capital investment needs in order to ensure that the necessary treatment capacity to service growth will be in place and to develop appropriate project sequencing plans, capital cost estimates, and RDC allocations. Given the complexity of the WWTF upgrade needs, the constraints of the existing sites and the potential need for additional land acquisition, the more robust study of WWTF upgrade project needs should be addressed prior to the next IMP/IRP/RDC five-year planning cycle.
>
> [Exhibit H-11, p. 12]

[223] In its Rebuttal Evidence, Halifax Water stated:

> At this time, Halifax Water is undertaking a number of initiatives to endeavor to mitigate the timing and treatment levels for WWTF upgrades or expansions - for example, I/I initiatives which have the potential impact [to] plant expansions, size and timing. Halifax Water is also investigating adjustments to its treatment options and facility optimizations through Dalhousie University Research program which may impact the final treatment.
>
> As the Infrastructure Master Plan and hydraulic models are updated on a regular cycle, Halifax Water will be able to assess the results of these types of projects and their impact on the WWTFs.
>
> Halifax Water is of the view that, at this point, it is premature to engage in the type of detailed planning proposed by Tellus. However, Halifax Water will revisit this issue prior to the next update to the RDC to assess the degree of success of the above noted initiatives and will make a determination, at that time, in regard to the type of detailed planning and associated infrastructure costing recommended by Tellus.
>
> [Exhibit H-17, p. 8]

[224] During the hearing, the Board asked Halifax Water to clarify whether the Utility was committing to only assess the success of its planned initiatives to mitigate the timing and treatment levels for WWTF upgrades and expansions for the next RDC update. Alternatively, the Board asked if the Utility was, in fact, committing to do that work as well as complete the related detailed WWTF planning and costing work (as recommended by Brown and Goldstein) prior to the next RDC. In response, Halifax Water indicated that the recommended WWTF planning work may not be complete by the next RDC update (i.e., within the next five years):

A. (MacKenzie) So, when you look at the initiatives that are listed above, Halifax Water is continuing to advance the [I/I] program and are seeing successes with that program. Further, we'll be looking at enhancing the optimization at the treatment facilities. As these projects are completed and we're seeing the benefits and the gains that are achieved, we're going to be incorporating what we know from those initiatives into evaluating what we think the right sized values would be for the wastewater treatment facilities in the next five-year update. Depending on the nature of the initiative and the optimization, some of them may not be fully completed by the time we do the next five-year update, so we are going to make the adjustments to the regional development charge to reflect the information that we know within the next five-year update and we'll continue to work at maintaining the compliance parameters for our treatment facilities from an operational standpoint and continue to optimize the facilities and -- with the goal to try and minimize the capital expenditures.

Q. (Murphy) Okay. Understood. So, if I'm hearing you correctly then, it doesn't sound like Halifax Water is committing to do the sort of detailed treatment plant planning studies that had been recommended or suggested by Telus prior to the next RDC.

A. (MacKenzie) I think some of that detailed planning, it may be dependent on the timing of when any future capital works may be needed, but we want to see the outcome of a lot of those initiatives first before we commit to the actual timing as it relates to the RDC for the detailed planning studies that are required.

Q. (Murphy) So those studies may not be done by the next RDC. Correct?

A. (MacKenzie) Correct.

[Transcript, June 11, 2020, pp. 244-245]

[225] Brown and Goldstein believe the WWTF planning initiatives that they have suggested should be completed within the next five years. They provided the following testimony with respect to Halifax Water's position regarding WWTF data gaps and related planning issues:

Q. (Outhouse) Mr. Brown, I don't want to revisit an issue which was thrashed out a little over a week ago, but in your evidence in this proceeding, you reference knowledge gaps in the planning documents with respect -- particularly with respect to the wastewater treatment facilities.

And you suggested that it was very important to fill those gaps over the next five year planning cycle. And you know that in Halifax Water's rebuttal, page 7, they make the case that it's premature to engage in wastewater treatment facility planning. Do you agree with that assessment?

A. (Brown) I would say it's fair to say that's a point that we strongly disagree with Halifax Water on. The treatment plant issues really have the potential to impact the growth servicing plans that are in the current IMP and IRP.

It could impact the capital need forecast. It could -- and the resulting needed RDC revenues, and it certainly could impact project schedules.

So, the treatment plant issues in our mind are just simply too complex, too pivotal to long range planning to delay comprehensively studying these issues beyond the next five year planning cycle.

This is relevant to the RDC as -- because its capital cost estimates usually go up once the assets are more comprehensively studied.

We also suspect more treatment plant study will result not only in larger upgrade costs for some of those facilities, but a larger fraction assigned to growth, so that could impact the RDC in that way.

You know, just as an example of this, the 2019 IRP and supporting studies significantly advanced Halifax Water's understanding of growth related water system capital needs.

And these needs are now understood to be approximately nine times what was understood in 2012. As a result, the currently proposed water RDC rate is about nine times the current water RDC rate.

So, this prior knowledge gap resulted in failure to collect the true cost of growth from recent development and thus, this shortfall's going to be passed on to other users.

So, that's the reason for making sure you -- your capital cost estimates and your planning is as good as it can be because, you know, until the planning catches up, it can have a shortfall in which you're collecting from the development going on at that time.

So, for all these reasons, we think it's really, really important for these wastewater treatment facility gap -- knowledge gaps to be filled in the next five year planning cycle.

Q. (Outhouse) There was a reference yesterday, and I think also in the rebuttal, to the Dalhousie Research and the pilot study at the Harbour -- at the Harbour Solutions plants. Is that effort an acceptable substitute for what you have been recommending?

A. (Brown) No. No. Not at all. I mean, I -- as I understand those two pieces of work, it's more geared for kind of short term challenges they're facing there.

And I think even those -- the Dalhousie research and the pilot study that's been referenced at Dartmouth would benefit from this study in advance, this comprehensive study that we're suggesting, because it would give context to what the long range problems are.

[Transcript, June 12, 2020, pp. 152-155]

[226] Halifax Water is of the opinion that it is more appropriate to conduct WWTF planning work beyond the next five years, closer to when the actual WWTF upgrade work is currently envisioned:

A. (MacKenzie) ... And what we're suggesting in the statement back in, I believe, our rebuttal that you referred to, we want to undertake a few more optimization projects and try and do some more advanced studies with the treatment plants first. We're not disputing that we won't do the advanced studies and more detailed studies, but the timeframe, where this is 2020, and if we'd be looking at doing upgrades in the 2030/40

> horizons, we would like to undertake more IR reduction, more optimization of the facilities and looking at some piloting before we get into the detailed studies that would include some of that coordination.
>
> [Transcript, June 11, 2020, p. 250]

[227] Similar issues were raised in Halifax Water's recent General Rate Application (GRA) (Matter M09589). Therefore, it was agreed by the parties that the GRA transcript of both the direct and cross-examination of Brown and Goldstein would form part of the evidence in this RDC proceeding. This evidence was submitted as Exhibit H-37. This testimony further outlined the disagreement between Halifax Water and Brown and Goldstein regarding outstanding WWTF data gaps and related planning issues. This is highlighted by the following exchange during the GRA cross-examination by Mr. MacPherson:

> **Q.** Let's talk about steps for a second. The current steps in place are found at paragraph 58 of the rebuttal evidence of Halifax Water, which you've looked at. And would you agree that that — those are the steps which the Board has currently put in place for the review of capital projects by Halifax Water?
>
> **A.** (Brown) I don't have those in front of me. I suspect what you're saying is correct. And as we've discussed in our response that — you missed — our point was the best design process in the world is not good if the foundational decision to what you're going to design is bad. If you haven't done the proper planning to say, "We've looked at the range of options. This is what we're going to commission a design for."
>
> There isn't, in some cases, that kind of level of master planning done before commissioning massive projects. And have oh, by the way, a cursory review of options in that design process. That's not industry normal. Normal is a much more comprehensive study before that design process starts. That was our own point.
>
> **Q.** At this point in time, Mr. Brown, that is not the process that's mandated by this Board, as I understand it. It is the three steps that are contained in the evidence, correct?
>
> **A.** (Brown) No. Let me just comment on this. What we're saying is this Board did mandate this IRP process. And what we're really saying is, and everybody recognizes it's going to be a while before this is comprehensive and integrated as everybody wants it. There's holes to be filled.
>
> And a lot of those holes were, in fact, filled very successfully since 2012. That said, the 2019 IRP and IMP still have significant holes with respect to asset classes here, asset categories. So, there isn't a master plan done yet. And what we're saying is that has to get done before these move to design.

We're not talking about the processes that you're saying is fine. We agree that's fine. But the preceding process

....

A. (Goldstein) Mr. MacPherson, if I can just add -- you're pointing to paragraph 58. And 58(a) is on the IRP process. And what we've said and what we're hammering home about that, I guess, is that, that is not really complete or comprehensive.

And filling those gaps, we view as continuing that process over the next few years. So, normally that's not done at the end of a project design. It's done upfront in the IRP. Since it's not, we're suggesting that those opportunities to shape those directions prior to project approval, individual project approval, take place.

...

Q. Right. And I understand the position that you're advocating for, Mr. Brown, in terms of this all being a continuation of the IRP process. But surely, you would agree with me, at some point the IRP process ends as a strategic document. And you get into individual project approvals?

A. (Brown) Well, absolutely, to the extent there was foundation laid for the project you're talking about. For example, there are, you know, tens of millions of dollars' worth of projects that the foundation was laid in the IRP and IMP. The wastewater treatment projects, for example, is not one of them.

...

Q. I think we'll have to agree to disagree in terms of what the evidence is on that. But you've eloquently described that a number of things can happen over a 20-year timeframe. And you've heard the position of Halifax Water that it is prudent to get closer to the time when they are actually going to be required to upgrade that plant to do studies. So, that they can continue with their studies currently ongoing, about plant optimization, and also (inaudible) housing studies that may, in fact, lead them to solutions other than those that might be undertaken now.

And I take it that you disagree with that and are taking the position that an in-depth study currently could be undertaken prudently. And that it would be, in fact, relevant and up-to-date 15 years from now when the plant's going to be upgraded.

A. (Brown) My position is that things always change. And we see the huge changes that happened in the strategic plan from 2012 to now; just massive changes. So, I'm not going to say there's not going to be any changes going through.

But I'm saying the things that may be discovered in a near term wastewater treatment plant study could impact very significantly the current servicing plan. These things are very inter-related. And it's not like -- if your treatment facilities were setting on green field kinds of site, with excess room already allocated for expansion to meet these future standards, I'd be less concerned than I am.

But what I know about the upgrades here, there is zero real estate. You have to build on the roof of an existing building with a proprietary technology that has a bunch of limitations. That may well drive a whole bunch of CSO work that you haven't considered. There's a whole bunch of related issues that waiting ten years down the road to consider is, in my view, very shortsighted.

And it's totally inconsistent. You're worried about sewers for the next 30 years in your planning. And have done an extraordinary job analyzing the sewer system and what it's going to take to service growth. But you've considered the treatment plants almost not at all.

...I — you know, while you're being very strategic on many aspects of the system, the water pipes, the wastewater pipe, the water treatment plants. You're being very short term tactical on your wastewater treatment resources.

Q. Well, a lot going on with that answer, Mr. Brown. And, certainly, it's not me being any of those things, let me assure you. The — you would at least agree with me, I trust, that there is a risk in doing detailed and expensive study now for a capital project that may not need to be undertaken until 2040. And then it may become totally redundant and a total waste of money.

A. (Brown) Well, let me — James, go ahead, James .

A. (Goldstein) I'm sorry. Just a quick response, Mr. MacPherson. We are not talking about a design process for a specific facility. We're talking about a planning level analysis of the wastewater treatment facility issues, as they relate to the overall strategic planning.

...

Q. Let's talk about a couple other of the projects you've identified. One is the Mill Cove wastewater treatment plant, which you say that requires further study. And that there should be a study to be reviewed by consultants before initiating preliminary design. You'll agree with me that that is not currently contemplated in the process that the Board has for the approval of capital projects?

A. (Brown) No, I disagree strongly. The Board clearly contemplated master planning, integrated resource planning. And our point is that has not happened for Mill Cove, or any of the other treatment plants. So, you are starting a design without the benefit of a master plan.

Q. So, you have — I'm guessing this application — we've got about 1,000 pages of documents in front of us. We've got an IRP. We've got an infrastructure master plan. You say none of that relates to any planning that's happened with the wastewater treatment facilities?

A. (Brown) Correct. That's exactly what I'm saying. That's about the horizontal assets. There's some minor references to those resources, but they haven't been studied.

[GRA Transcript, pp. 197-207]

Findings

[228] It is clear to the Board that Halifax Water disagrees with Brown and Goldstein on how to proceed with respect to planning for the Utility's WWTF upgrades and expansions. It is Brown and Goldstein's opinion that within the next five years there should be extensive studies of the WWTFs that are scheduled to be upgraded in the 2036

to 2041 timeframe. Halifax Water's position is that it has certain WWTF initiatives and pilots currently underway and planned, and that it would be premature to undertake the WWTF planning studies recommended by Brown and Goldstein until those initiatives are complete. As such, Halifax Water considers it more appropriate to undertake the recommended WWTF planning studies closer to the dates of the actual WWTF upgrades. Brown and Goldstein believe that such an approach is not comprehensive enough or early enough in the planning cycle.

[229] The Board accepts the evidence of Brown and Goldstein. According to Halifax Water's IMP and 2019 IRP Update, the Utility's wastewater assets require the greatest capital investment over the next 30 years compared to other asset classes. Further, upgrades and expansions of Halifax Water's WWTFs represent the largest investment area within the Utility's wastewater asset category. The evidence presented in this proceeding describes the upgrade and expansion challenges associated with the WWTFs. Addressing these challenges could result in significant costs and risks to ratepayers and to future RDC calculations. In addition, the Board has no doubt that validation of Halifax Water's recommended IMP wastewater servicing strategies is dependent upon confirmation of the Utility's WWTF upgrade needs, constraints and expected costs. The Board also believes that the BTE cost allocation on these types of projects would ideally be informed by a more detailed approach that considers the unique factors of these projects. Nevertheless, when considering all these issues, it appears to the Board that the WWTFs are currently among the least studied of Halifax Water's assets.

[230] Given the costs and risks associated with the WWTF upgrades and expansions, as well as the potential impacts on Halifax Water's overall IMP wastewater servicing strategy, the Board finds that delaying WWTF planning studies would not be appropriate. The Board agrees with Brown and Goldstein that the WWTF planning issues are too complex and pivotal to the Utility's long-term servicing plans to wait beyond five years before related planning studies are completed; there is too much risk. As noted earlier in this Decision, the current estimate of future Harbour Solutions WWTF capital costs is $286.4 million, a portion of which is required in the RDC by 2041 to meet WSER regulations. These capital costs should be within the current RDC 20-year timeframe. However, Halifax Water seeks to delay further planning studies even beyond the next RDC five-year cycle. The Board finds that a delay of these activities could result in a direct impact on Halifax Water's capital and RDC revenue needs.

[231] Additionally, as stated by Brown and Goldstein, a more robust understanding of the Utility's WWTF needs and capital project options will help ensure that near-term improvements to the WWTFs are compatible with long-term solutions and meet the "No Regrets/Unavoidable Need" criteria established by the Board.

[232] Based on the above, the Board finds that Halifax Water needs to complete further studies of its various WWTF upgrade project needs prior to the next IMP, IRP, and RDC five-year update. The Board, therefore, directs that the following items be completed before the next IMP, IRP, and RDC update:

a. Halifax Water is to complete a comprehensive study of the Mill Cove WWTF to identify the most cost-effective facility upgrade solutions. The completed study shall be submitted with Halifax Water's eventual application for Board

approval of the Mill Cove WWTF upgrade capital project. The study shall demonstrate that the most cost-effective solution has been selected for the identified challenges.

b. In conjunction with the Dalhousie University Wastewater Research Pilot Program and the Dartmouth WWTF Ballasted Flocculation Pilot, Halifax Water is to complete a planning analysis of growth impacts on wastewater strength and removal efficiencies required to achieve both the transitional and WSER standards, so the research and pilot work are informed by the end goals. Upon completion, this analysis shall be submitted to the Board.

c. Halifax Water shall complete a WWTF planning study. Halifax Water is directed to prepare terms of reference and a work scope for this study. The terms of reference are to be prepared by June 1, 2021. The study, at a minimum, shall address the following:

    i. ensure that the necessary wastewater treatment capacity to service existing development and projected growth will be in place when required;

    ii. identify potential WWTF upgrade/expansion constraints and means to address these constraints;

    iii. develop appropriate project sequencing plans, capital cost estimates, and WWTF BTE cost allocations;

    iv. confirm (and refine as may be necessary) Halifax Water's IMP wastewater servicing plan, and

    v. assess the needs and timing of the Harbour Solutions WWTFs

secondary treatment upgrades to meet WSER regulatory requirements.

[233] Halifax Water shall submit annual reports describing its collaborative efforts with stakeholders on these issues, as appropriate. These reports shall be submitted on September 30th of each year, starting in 2021.

4.15 Was stakeholder consultation effectively carried out by Halifax Water?

[234] In its *2014 RDC* Decision, the Board noted the concerns of certain intervenors with the stakeholder engagement process followed by Halifax Water to develop the RDC. The development community (including developers and builders) was particularly frustrated with what it stated was Halifax Water's failure to respond to reasonable requests for information and explanations concerning components of its RDC methodology. Among the frustrations, some elements of the RDC were approved by the Utility's Board of Directors before final consultation on the issue occurred with the development community.

[235] In that matter, the Board concluded:

> [255] Nevertheless, this does not necessitate resubmitting the matter to the HRWC to design a refined RDC. The Board is satisfied that the issues were fully canvassed in the hearing process. However, in the Board's view, future consultation should be carried out in a more productive manner. This will first apply in the course of the five year rolling updates. It is important that HRWC keep all of its stakeholders aware of any information which could impact the RDC, whether during a five year update or between such updates. This involves full and timely disclosure of any pertinent information, as well as answering inquiries about the application of the information. If there is any disagreement as to process, the Board can be asked to provide direction on the matter.
>
> [*2014 RDC* Decision, para. 255]

[236] Similar concerns resurfaced during the present matter. This said, the Board notes at this point that it did not receive notice from any party in the intervening period

leading to the present application that there were any difficulties in the stakeholder engagement process.

[237] Peter Polley a participant in the 2014 matter also made a presentation to the Board during the public session of the current hearing. He is the President of Polycorp Co., a real estate developer, which has one of the largest inventories of multi-unit land in HRM, with land inventory for development currently at approximately 2,000 suites. In the last 25 years, Polycorp has been involved in the creation of about 1,000 units of residential development. Mr. Polley is also a long-time volunteer member of the board of the Urban Development Institute (UDI), which was an intervenor in Halifax Water's initial RDC proceeding in 2013. He outlined his concerns about Halifax Water's consultation with the development community. In his prepared comments, he stated that UDI was not an intervenor in this application for a number of reasons, including:

> o General industry member frustration with nature of engagement with HRWC; The general sentiment by industry is that Halifax Water will not listen to stakeholders, and has no interest in industry feedback. This is because Senior Halifax Water staff have actually verbalized these exact words to industry members at the 2013 round of RDC consultations and in the limited interaction since 2013. This statement is not embellished.
>
> [Exhibit H-30, p. 2]

[238] Following his presentation, the Board reminded Mr. Polley of its above direction in the *2014 RDC* Decision about stakeholder engagement, and its expectation that members of the development community would advise the Board if there were concerns with that process:

> Mr. Polley: Regarding the stakeholder consultation that took place, I don't even know where to start on that. The 2016 meeting appears to have been triggered by my email to staff saying, "Where are you guys at with getting these answers?" Nothing is heard for three years. A schedule is then laid out with, I believe, three stakeholder sessions over about a one-month period with reference already being made to "Basically we've worked this back, we going to have a hearing in spring 2020. We've already checked with the board to get the dates that we want. Our Halifax Water board meeting is going to be in October. In order for us to work things back, we need to jamb in multiple stakeholder sessions in the next month in order to pull this off to get this approved for next summer." So, having

meetings in the middle of the summer when industry views it as a waste of time to attend. I went to the first one. I think there were six people there. I was out of town for the second one. I believe that there were either two or three people there. Basically industry has just given up because the utility has made it very clear to the stakeholders that there's no interest in actually getting to the bottom of these questions.

…

The Chair: Okay, Mr. Polley. I will ask -- based on your submissions, … You indicated that the board was not involved in the stakeholder sessions. Normally, with Halifax Water, the board would not be involved, but we'll -- you know, obviously we'll take that under advisement and see -- we can, yeah, perhaps reconsider that.

Mr. Polley: Okay.

The Chair: But I have to put some of the blame on you, unfortunately, because I do have the decision from 2014 here, and the Urban Development Institute was a party. And I'll agree with you that the stakeholder consultation was a major issue in that matter and it is a matter of frustration for the development community and frankly for the board. But, at the very end, on page 70 of the decision, the board said -- it directed Halifax Water to keep all stakeholders aware of any information that could impact the RDC, whether during the five-year update or between updates, and this involved the full and timely disclosure of any pertinent information, as well as answering inquiries about the application of that information. But this is the important process, Mr. Polley. It said -- at the very end of that direction, it said:

> "If there is any disagreement as to the process, the board can be asked to provide direction on the matter."

So, I would suggest that, you know, if the Urban Development Institute, which was a party to that proceeding -- if they had an issue with the stakeholder process -- obviously I thank you for your comments in this proceeding, but I would suggest that the door was open for you to come to the board before then -- before now to, you know, to give us those -- to raise your concerns about the stakeholder process.

Mr. Polley: And with a bit of hindsight, I should have.

[Transcript, June 11, 2020, pp. 168-173]

[239] Further, in their submissions, both the CA and the NADC requested continued stakeholder engagement by Halifax Water, as well as regular reporting on various issues. In her Submissions, counsel for NADC stated:

> To the extent that the Board directs greater involvement by Board consultants in the updates to the Integrated Resource Plan and Integrated Master Plan, North American respectfully submits that the process would equally benefit from participation by interested parties – similar to the consultative process being undertaken by Nova Scotia Power. The input assumptions are key in any modeling exercise and a number of variables have been identified which can materially affect the Plans (and resultant rates). Apart from the evidence of consultants who filed evidence, Mr. Peter Polley, an experienced developer, laid out his concerns regarding Halifax Water assumptions regarding, among other things, population projections, persons per unit, water consumption, and data gaps. He also

> complained about the absence of a meaningful stakeholder engagement process. In this case, not only did the engagement come late in the process, North American – the developer of Dartmouth Crossing – was not even invited to participate.
>
> [Exhibit H-46, p. 3]

[240] The Board is mindful that NADC chose not to participate in the proceeding before the Board which led to the initial RDC and that Halifax Water stated it was not aware of NADC's interest at that time. The Board notes that NADC is the developer of Dartmouth Crossing, which it states is the largest mixed-use construction project on the East coast.

[241] Halifax Water agreed to stakeholder engagement on a few of the matters raised by the intervenors and Board Counsel consultants, but, in its Rebuttal Submission, stated that the involvement of stakeholders was not required on the updates to the IMP and IRP:

> ...The Board Counsel's consultants also provide oversight during the process of the development of the IRP and IMP.
>
> Given the highly technical and detailed nature of these documents, which are intended to provide internal guidance to Halifax Water, it is the position of Halifax Water that stakeholder engagement beyond that noted above is neither required nor would it be beneficial. Further stakeholder involvement in the development of the IRP and IMP risks increasing the complexity of an already complex process which, in turn, will cause Halifax Water to incur additional costs while providing no benefit to its customers.
>
> [Exhibit H-51, pp. 3-4]

[242] In its application, Halifax Water described its stakeholder consultation process in advance of the current application:

> ...The initial consultation in regard to the development of a revised RDC occurred in 2017 (Halifax Water Post Hearing Submission, (Exhibit H-47, at page 3). The formal stakeholder consultation sessions continued for a four month period from June, [2019] to September, [2019] [i.e., four sessions held June 20, 2019, August 22, 2019, September 12, 2019 and September 27, 2019]. The RDC Application was not filed until November 21, 2019 and Halifax Water continued to respond to questions from stakeholders until the hearing (Halifax Water post Hearing Submission, Exhibit H-47, page 3).
>
> As noted in Halifax Water's Post Hearing Submission (Exhibit H-47, page 3) those stakeholders who chose to participate in the process provided insights and contributed to

> substantial modifications of the RDC ultimately requested by Halifax Water which reduced growth related costs by approximately $100 million dollars.
>
> The planned application for a revised RDC was well known within the development community of Halifax since 2017 when the first stakeholder session was held. A list of stakeholders was generated from the initial RDC consultation and supplemented with others as they became known to Halifax Water.
>
> ...
>
> A number of associations were provided with notification of the process including the Urban Development Institute ("UDI"), Consulting Engineers of Nova Scotia ("CENS"), Construction Association of Nova Scotia ("CANS") and Nova Scotia Home Builders Association ("NSHBA"). Updates were provided at the Development Liaison Group meetings hosted by HRM and attended by representatives from CENS, UDI, NSHBA and CANS.
>
> The RDC was also presented at the Halifax Water Board meeting of October 31, 2019 which was open to the public, live streamed on the internet and is available on the Halifax Water YouTube site.
>
> Numerous members of the development community participated in the stakeholder process as well as Board staff and Board Counsel consultants.
>
> [Exhibit H-51, p. 3]

Findings

[243] While the Board is mindful that Halifax Water conducted four stakeholder sessions regarding the RDC, these sessions all occurred within a few months of the Utility filing its application with the Board. In the Board's view, this engagement was conducted too late, and in too compressed a timeline, to result in meaningful engagement with stakeholders. Frankly, the Board considers that more effective stakeholder consultation would have led to a more efficient hearing, with fewer unresolved issues to be canvassed.

[244] A number of subjects were identified during the process for reporting by Halifax Water and stakeholder consultation. Halifax Water agreed to initiate engagement with its stakeholders on issues related to the IMP and IRP, while engagement was directed by the Board on some other issues:

- As noted earlier in this Decision, the Board directed Halifax Water to engage with its stakeholders respecting "information gaps" identified by Board counsel consultants in Undertaking U-14 [Exhibit H-41] concerning Halifax Water's Wet Weather Management Program, Asset Management Program and Stormwater Management efforts, as well as the WWTFs study;
- As requested by the CA, Halifax Water committed to work with stakeholders to refine its BTE methodology and calculations prior to the next RDC application. The Board notes this should also apply to I/I reduction projects and WWTF projects. The CA submitted that this would help improve the accuracy and transparency of the BTE calculation;
- Halifax Water also agreed with the CA at the hearing that it would review the RDC on an annual basis to determine whether the RDC would change by ±15%, and where that threshold is triggered, to pursue an update of the RDC, and to file an annual reporting with the Board for comment by stakeholders;
- As noted earlier in this Decision, the Board directed Halifax Water to engage with its stakeholders on the development of a new REU methodology for the ICI RDC in time for its incorporation into the next RDC five-year update; and
- Finally, Halifax Water agreed with the CA to work with stakeholders to identify potential DSM initiatives and to evaluate those initiatives so the cost-effective measures can be included in the next RDC application.

[245] The Board directs that Halifax Water carry out stakeholder engagement on the above matters and provide the Board with an annual reporting on its progress with

that engagement, starting September 30, 2021. Consistent with prior practice, Board Counsel consultants will monitor the stakeholder engagement on these issues.

[246] The Board is mindful that this Decision imposes a number of annual reporting requirements on Halifax Water which all fall on September 30th. The Board will consider a request from Halifax Water to stagger the dates of this reporting, if the Utility considers it necessary to relieve the administrative burden.

4.16 Should Halifax Water continue to review and update the RDC every five years?

[247] As part of the Board's approval of the RDC in the *2014 RDC* Decision, the Rules and Regulations provide that Halifax Water must review the calculation of the RDCs every five years, using updated growth projections and master plans for its infrastructure. These updates will be on a rolling basis, such that at each five-year interval the RDCs will be recalculated for the next ensuing 20-year planning horizon. Halifax Water must also review the calculation of the RDCs before any scheduled five-year update in the event there are changes in circumstances which would result in a variance in the RDCs by an amount greater than ±15%. Such a change might be caused by a change in growth projections or infrastructure requirements, including the timing of such infrastructure requirements, or a material change in some of the other inputs into the calculation of the RDC. Further, any change to the RDCs must be approved by the Board before they become effective.

[248] The above reviews are outlined in s. 29(14)-(16) and s. 30(14)-(16) of the *RDC Rules and Regulations* for wastewater and water, respectively. Moreover, the Board

directed that the results of Halifax Water's mid-term and five-year reviews be filed with the Board.

[249] In the initial five-year RDC period, Halifax Water conducted a mid-term review of the wastewater RDC, but it did not conduct a mid-term review of the water RDC:

> 15% Variance Check
>
> With the completion of the WRWIP, an input to the Infrastructure Master Plan, Halifax Water reviewed the RDC in January 2018, and determined that a mid-period update was not necessary at that time as the inputs would not trigger a 15% adjustment (see Appendix E). Halifax Water acknowledges the increase in the water RDC is greater than 15% but notes that the analysis of the water system had not been completed in 2018 when the mid-period analysis was completed.
>
> [Exhibit H-1, lines 347-354]

[250] The CA expressed concerns about the lack of a mid-term review for the water RDC and the fact that, in the present application, Halifax Water was now seeking an increase exceeding 800% in that RDC:

> Halifax Water's current Application requested an increase in the water RDC in excess of 800%, significantly passing the 15% variance threshold set by the Board in M05811. The Consumer Advocate is concerned by this sudden increase and the fact that Halifax Water:
>
> i) did not make its stakeholders aware of information that could impact the water RDC prior to this Application; and
>
> ii) did not seek to change the water RDC earlier.
>
> The Consumer Advocate is concerned that the above-noted omissions are not in full compliance with the Board's Decision in M05811.
>
> ...
>
> It is noted that a 15% variance threshold is of little value in protecting ratepayers unless Halifax Water is diligent in determining whether the threshold has been exceeded. A failure to undertake the necessary analysis (to determine whether the threshold has been exceeded) does not justify maintaining a grossly inaccurate RDC.
>
> [Exhibit H-45, pp. 3-4]

[251] As outlined in his Submissions, the CA pursued this concern with the Halifax Water witness panel at the hearing:

> In our questioning of the Halifax Water panel, the Consumer Advocate asked Halifax Water to commit to reviewing the RDC on an annual basis to determine whether the 15% threshold has been exceeded:

Q. Thank you. Next I'd like to ask you about the 15 percent variance threshold. Ms. MacKenzie, in accordance with the provisions of the rules and regulations governing the RDC, is Halifax Water prepared to commit to review the RDC on an annual basis to determine whether new data impacts the RDC by plus or minus percent, and where that threshold is triggered, to pursue an update of the RDC?

A. (MacKenzie) Yes, Halifax Water is prepared to do that.

[Transcript, June 11, 2020, p. 40]

The Consumer Advocate anticipates that this annual review will help ensure the RDC is updated on a timely basis where the 15% variance threshold is triggered. The Consumer Advocate submits that these annual reviews should be filed with the Board, with the opportunity for stakeholders to comment on the same.

[Exhibit H-45, p. 5]

Findings

[252] The requirement of the above noted five-year review and interim reviews of the RDC remain unchanged in the Halifax Water Rules and Regulations. The Board reiterates the importance of such reviews, and the need to seek an immediate change to the RDC rate if the review results in a change in excess of ±15%. This is important not only to avoid the potential for rate shock, but also to ensure such extra costs (or reduced costs) are allocated fairly between different generations of developers.

[253] As noted above, Halifax Water committed at the hearing, and its Rebuttal Submission, that it would review the RDCs on an annual basis and file an annual report with the Board for comment by stakeholders. The Board so directs.

5.0 CONCLUSION AND COMPLIANCE FILING

[254] The Board approves the revised water and wastewater RDCs, subject to the findings and directives outlined in this Decision. The related amendments to the Schedule of Rates, Rules and Regulations are also approved.

[255] The Board directs Halifax Water to file a Compliance Filing which reflects the following findings:

a) To include a portion of the estimated costs for the Harbour Solutions WWTFs secondary treatment upgrades in the RDC calculation, with an allocation to growth as calculated by the methodology suggested by Brown and Goldstein in their response to Halifax Water's IR-3. Halifax Water shall provide the calculations used to determine the allocation to growth with its Compliance Filing. If Halifax Water believes that there is insufficient data available to use the methodology suggested by Brown and Goldstein, the Utility's Compliance Filing shall:

- identify what data is unavailable and why it cannot be readily obtained;
- propose and describe an alternate methodology for allocating the Harbour Solutions WWTFs secondary treatment upgrade costs to growth; and
- use the alternate methodology to allocate the Harbour Solutions WWTFs secondary treatment upgrade costs to growth, and use these costs in the RDC calculation;

b) To include the estimated costs for the Port Wallace Water Transmission Main in the RDC calculation, with a percentage allocation to growth as determined by Halifax Water. Halifax Water shall provide the rationale used to determine the allocation to growth within its Compliance Filing;

c) To use the ratio of 26% single-unit dwellings (SUDs) to 74% multi-unit dwellings (MUDs) in its RDC calculation;

d) To calculate revised water and wastewater ICI RDC rates (on a $/sq.ft. basis) based on the blended FSW of 781 sq.ft./employee;

e) to allocate the RDC costs between residential and ICI development on the basis of Scenario #4 in Undertaking U-16; and

f) To revise the Schedules of Rates, Rules and Regulations to incorporate the above changes to the RDC rates and the other amendments to the Rules and Regulations for Water, Wastewater and Stormwater Services.

[256] Halifax Water is directed to file its Compliance Filing no later than November 30, 2020. The intervenors are to provide comments, if any, within two weeks of the Compliance Filing, with a rebuttal by Halifax Water within one week.

[257] An Order will issue following the Compliance Filing and submissions.

DATED at Halifax, Nova Scotia, this 29th day of October, 2020.

Roland A. Deveau

Steven M. Murphy

Jennifer L. Nicholson