



Reference: Application, pg. 4, 7 & 14

Explanation: EWW has undertaken substantial upgrades and improvements to the utility water supply and infrastructure over the past 3 years at a cost of \$4.7 million (p. 7) and proposes considerable additional improvements during this test period resulting in proposed rate increases of approximately 12%/yr. for all rate classes (p. 4). Figure 1.4.1-2 at p. 14 shows that by 2017, water rates to EWW customers will be higher than the average for nearby communities.

Request:

- 1.1 Please discuss the actions that EWW could undertake to lessen the rate increases in this test period and the potential consequences of delaying or cancelling certain capital projects or operational programs.

Response:

- 1.1 EWW recognizes the impact that large rate increases have on its customers and has carefully considered the costs and benefits of delaying or cancelling capital projects or operational programs. Because of the small customer base, even small changes in costs can have significant impacts. Either of a \$10 thousand reduction in operating and maintenance costs, or a \$100 thousand reduction in capital costs, will reduce rates by approximately one third of one percent annually over the forecast test period.

In developing its capital plan for 2015-2017, EWW conducted careful reviews of the Master Plan and relied on the extensive experience within EWSI to advise on each proposed project. For example, in Appendix D, the French Creek 2014 Master Plan Update had originally recommended that Project ID 6, New Wembley Road Area Pressure Zone be completed in the 2015 to 2017 test period at a cost of \$2.7 million (in 2014 dollars). EWW, in consultation with KWL, determined that this project could be deferred without impacting the safety and security of its water system and, accordingly, this project was removed from the capital expenditure forecast. EWW followed a similar



process for each of the recommended projects. As such, the proposed capital plan has already been considerably pared down.

The following table sets out each of the projects identified for the 2015-2017 test period, the consequences of not completing each project and an assessment of the risk associated with the deferral of each project. EWW has categorized the projects into operating and capital projects. Of the fifteen projects identified below, there is only one that can be deferred without introducing moderate or considerable risk. As a result, it is EWW's position that all projects, except for the Taste and Odor Study should be undertaken during the 2015-2017 test period.

Table CWR-EWW-1.1-1
(\$ thousands)

A	B	C	D
Project/Activity	Total Cost	Consequences of not Completing	Risk Level from Deferral in this test period
Operations and Maintenance Programs			
1	Leak Detection Program	\$35	Continued water loss resulting in reduced revenues and increase in supply capacity requirements.
2	Model Validation and Rezoning Study	\$30	Scope of projects to improve fire flow and peak hour pressure may be unsuitable. Additional projects may be required that have not been identified.
3	Geotechnical Study on Drew Road reservoirs	\$20	Without this project, the Drew Road reservoirs will continue to leak and the extent of repairs required will be unknown. Reservoirs need assessment to avoid potential catastrophic failure during current or future test periods.
4	Taste and Odor Study	\$25	Continued customer complaints due to taste and odour. Project was included on basis of recent Customer Advisory Panel input
5	Master Plan Update	\$45	Potential for operational impacts due to inadequate system modelling and updates from actual development.

Moderate level of risk – primarily financial to the customers in future test periods and because this program was recommended in the Master Plan as one that could identify additional savings.

Unacceptable level of risk from improper fire flow modelling - public safety and insurance risk from inability to provide adequate fireflows throughout the system.

Unacceptable asset risk, with failure of assets leading to regulatory action.

Potential for deferral

Moderate level of risk in deferral with caveat that lack of planning can result in impacts to distribution system flows and pressures from



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				deficiencies in updating the water model and confirming actual development demand from forecast.
Capital Programs				
6	Well Tie-Ins (Projects #18, 19, 20)	\$301	Insufficient capacity to reliably meet current and future demands.	Unacceptable public safety and insurance risk from inability to provide adequate fireflows throughout the system
7	Drew Road Pump Station Upgrades (Project #3)	\$268	Hydraulic restrictions in the pump station will limit water supply capacity and aging infrastructure will be vulnerable to failure/downtime.	Unacceptable asset risk, with failure of assets leading to regulatory action.
8	Residential Service Upgrades (Dalmatian Drive – Project #4)	\$52	Service connections will continue to disintegrate resulting in leakage and an increase in non-revenue water.	Moderate level of risk – increased costs during current test period passed on to future customers from leakage and increase in non-revenue water production.
9	Well Decommissioning (Project #29)	\$91	Non-compliance with BC Groundwater Regulations. Potential to contaminate groundwater aquifer.	Unacceptable regulatory risk from non-compliance with groundwater regulation.
10	Well Rehabilitation (Project #21)	\$81	Well capacity will degrade; lack of regular redevelopment schedule may result in permanent losses in capacity and the need for drilling new wells to compensate for lost capacity. Down-hole components not maintained on a regular basis increases potential for failure requiring emergency repair and reduces the reliability of the water supply.	Unacceptable asset risk, with failure of assets leading to further well-drilling to supply source water for the utility – poor asset management to let the wells deteriorate after spending so much to develop them.
11	System Balancing and Storage Control (Project #27)	\$27	Additional upgrades may be required to address system redundancy and pressure and available fireflow if this valve remains closed.	Unacceptable public safety and insurance risk from inability to provide adequate fireflows throughout the system.
12	Church Road Complex Upgrades (Project #31)	\$84	Without this project, improved system operation, efficiency and well capacity monitoring will not be achieved.	Unacceptable system risk if not able to monitor well capacity to ensure sufficient system supply capacity.
13	Church Road Reservoir Upgrades (Project #32)	\$160	Potential contamination of stored potable water. Water loss from reservoirs.	Unacceptable asset risk with failure leading to regulatory action or public health issue if water supply is contaminated.
14	Meter Replacements	\$210	Without accurate water meters, water usage cannot be accurately determined and billing is not equitable. Loss of revenue due to under reading meters may occur Increased operating costs due to manual access, reading, recording and transcribing will occur. Reduced level of service due to infrequent readings, and errors introduced by manual reading, recording and transcribing	High level of risk from inability to properly meter revenue water – costs of non-revenue water get passed on to all utility customers.



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			will affect customer service expectations.	
15	Hydrants	\$119	Available fire protection may be compromised.	Unacceptable public safety and insurance risk from inability to provide adequate fireflows throughout the system.



Reference: Application, pg. 8 para. 11, pg. 27 para 62 & pg. 30 para. 67

Explanation: “Due in part to the high degree of uncertainty associated with developing groundwater wells, the forecast costs in the 2012-2014 RRA were underestimated. Since filing the 2012-2014 RRA, additional, unanticipated costs were identified. These additional costs relate to additional work in the areas of environmental risk mitigation and site access. They are also attributable to the significant additional work required to meet VIHA requirements for source water approval. These costs related to unique complications experienced with certain well projects including difficulties with neighboring wells, well screening and water quality testing.” And “As EWW noted in its 2012-2014 RRA, development of these groundwater wells has proven to be challenging. EWW’s 2012-2014 RRA included a contingency of 10% on well project cost forecasts for the 2012 to 2014 test period. Due to the high degree of uncertainty associated with developing groundwater wells, unanticipated costs have proven to be beyond this 10% contingency level. These unanticipated costs relate to additional work in the areas of compliance with environmental regulations associated with draining into fish-bearing streams under BC Water Act Regulations and the Canadian Fisheries Act, site access issues, and the significant additional work required to meet VIHA requirements for source water approval. These costs to meet VIHA requirements involved unique complications experienced with certain well projects including difficulties with neighboring wells, well screening and water quality testing. For every potential well site, access became a very expensive issue due to access road preparation and forest clearing near highways and/or near established neighborhoods. Environmental regulations required that the water that was produced and used during drilling had to be discharged via nearby creeks. In order to comply with the relevant regulations, EWW had to contract a registered biologist to complete an assessment and to prepare an action report to be used during the drilling and pumping testing. As a result, EWW had to install, for each of the phases, kilometers of pipe to avoid flooding certain areas along the



highway and to control the discharged water flow. In addition, EWW had to provide full time monitoring of this water discharge during drilling and pumping tests to ensure compliance. The water was sampled three times a day and turbidity and/or chlorination levels were measured and recorded. All this data was then submitted to an environmental company as proof of EWW's compliance. None of these costs were anticipated at the time of preparing the 2012-2014 RRA, and therefore these unanticipated costs caused each of the well projects to exceed the approved amounts. Some of the unique challenges for each of individual well projects are also captured below in section 3.1.1.3." And "Costs associated with the well program encompass the following four main phases of work: (i) site selection; (ii) field program work including site preparation, screening and testing, pump tests; (iii) environmental regulatory approvals; and (iv) commissioning into the existing infrastructure. Over the course of the well drilling process, EWW found that the scope of work at each of these stages was greater than expected due to the nature of site conditions surrounding the well, the aquifer conditions and test results as work progressed through the various phases."

Request:

- 2.1 Recognizing the very large overrun of forecast costs, please provide further information, including cost implications, on the "unique complications" experienced by EWW and why EWW was not able to anticipate them.
- 2.2 Why is it that "None of these costs were anticipated at the time of preparing the 2012-2014 RRA", given the amount that is paid to EWSI and external consultants for their technical expertise, support and quality assurance monitoring?

Response:

- 2.1 EWW maintains that the additional expenditures were prudent, reasonable and necessary



to properly develop and tie in wells of sufficient capacity; to meet American Water Works Association guidelines for screening/testing; to comply with VIHA requirements for new ground water wells; to comply with environmental regulations associated with draining into fish-bearing streams under BC Water Act Regulations and the Canadian Fisheries Act; and to address concerns of nearby landowners. EWW acknowledges the considerable cost overruns compared to the forecast costs in its 2012-2014 revenue requirement application.

These additional costs were caused by the following unique complications which, due to their nature and the inherent risk associated with the development of underground wells, particularly with well adjacent to the ocean, were not anticipated:

- one of the wells (TWs1) hit 3 aquifers necessitating the purchase of a custom built water screen to correctly seal off between each aquifer;
- costs associated with site access including installation of culverts, leveling, construction of vehicle access and tree removal;
- need to repair existing non-conforming wells;
- requirement to drill additional monitoring wells along with additional monitoring costs;
- requirement to move power lines;
- requirement to divert or remove pumping water during well drilling and pump testing;
- two of the seven wells drilled were unsuccessful; and
- need to drill wells larger than anticipated in order to ensure sufficient capacity and operational efficiency.

EWW has provided the cost implications in Table 3.1.1.3-1 of the Application.

2.2 EWW was not able to anticipate the additional costs late in 2011 at the time of preparing its 2012-2014 RRA because of the following factors:

- The previous rate application for 2012-2014 was prepared before the full extent of the issues and associated cost implications were known. At the time of preparing the 2012-2014 Application, wells were just recently drilled. Significant additional work followed shortly after filing the 2012-2014 Application including casing and pump-



testing in 2012, civil work in 2012-2013 and tie-ins 2013-2014 to present.

- Insufficient contingencies were included in the previous application:
 - No contingencies had been identified for the potential outcome of wells that would not yield sufficient production.
 - Insufficient contingencies were provided to address two major issues with the well drilling program:
 - Increased size of the wells to yield sufficient capacity to replace French Creek source water; and
 - Environmental issues associated with pump-tests and well-drilling.
- EWW had limited experience in developing budgets for this type of work.



Reference: Application, pg. 12, para. 25

Explanation: EWW understands that its customers no longer pay an annual parcel tax for future water supply from the Arrowsmith Water Service, as well as Drinking Water Protection.

Request:

3.1 Please confirm that the above statement is accurate.

Response:

3.1 Not confirmed. EWW contacted the Regional District of Nanaimo (“RDN”) to obtain clarification on parcel taxes paid by EWW customers to the RDN and learned that there were two parcel taxes applicable to EWW customers: (i) Englishman River Water Service and (ii) Arrowsmith Water Service. The former has been eliminated and the latter has been reduced to a negligible amount. Based on the information received from RDN, the paragraph should read as follows:

EWW understands that its customers no longer pay annual parcel taxes to the RDN for the Englishman River Water Service joint venture agreement. However, EWW customers continue to pay a parcel tax for the Arrowsmith Water Service joint venture of \$2.00/year.

EWW has not updated its rate comparisons, as this parcel tax is very minimal (\$0.17/month) and does not affect the comparison with other communities.



Reference: Application, pg. 18, para. 36

Explanation: EWW explains that its operational programs in the last test period included “optimization of uni-directional flushing (“UDF”) processes to achieve ongoing improvements in water quality. EWW conducted a UDF audit in 2013 to investigate and further refine the program to determine the best use of resources (time and water) and to document the effect that the program is having on water quality throughout the system.”

Request:

4.1 Please provide an update on the results of the audit including the extent to which the UDF has improved the water quality in the system.

Response:

4.1 The Application incorrectly stated that the UDF Audit was completed in 2013. The UDF audit was not performed during 2013 as originally planned, as flushing results have been better than expected. Consequently, EWW decided to re-prioritize this previously scheduled work. EWW is planning to complete the audit in the 2015-2017 period. EWW will provide the results of the audit to the Comptroller’s office upon completion. EWW has not included the costs for support from EWSI for the UDF audit in its operating cost forecast for 2015-2017.

The UDF program was initiated many years ago to remove sediment and iron and manganese from the water system. The program has continued to improve water quality in dead end and close loop areas by removing sediment build up from periods of low flow.



Reference: Application, pg. 18, para. 37

Explanation: “In 2013, EWW implemented new billing software. EWW’s previous billing system had far exceeded its useful life, relied on outdated customized software that had limited upgrade capabilities and was not compatible with EUI’s future operating system upgrades. The new billing system is compatible with EPCOR’s Oracle financial system and has reduced the level of manual administrative work. It also enables EWW to provide additional information that customers have asked to see on their bills which, previously, was not possible under the old billing system. The additional information includes consumption analysis, consumption trending and a more detailed explanation of bill calculations.”

Request:

- 5.1 Please provide a sample bill showing the customer enhancements identified above.
- 5.2 Please identify the operational cost savings that have resulted from the new billing system and where those cost savings show themselves in the test period O&M costs.

Response:

- 5.1 Please refer to CWR-EWW-5.1-Attachment1.
- 5.2 The new billing system was a life cycle replacement project; the previous system had far exceeded its useful life and was no longer supported by the developer. Implementation of the new system was not expected to generate operational cost savings but it has generated numerous operating efficiencies. These operating efficiencies are detailed



below and result in EWW staff having to spend less time on billing and customer support issues. The further result has been to enable EWW staff to spend more time on operational activities such as helping with capital charters, which was not previously possible, as well as working on invoice payments, purchase order requisitions, bank runs and water service applications in a timelier manner.

Operating efficiencies attributable to the new billing software:

- Less time is spent entering meter reads. At least one to two full days every quarter are saved in this specific area.
- Customer support is enhanced by the ability to drill down for customer information.
- Time spent in customer support is reduced as the ability to move from one program to another is considerably faster.
- It is much quicker to enter payments.



FRESH NEW LOOK. SAME BILL.

WE'RE INTRODUCING A NEW BILL FORMAT

Starting this fall, your EPCOR water bill is going to have a fresh new look. The new bill will contain all the same information that is on your current bill and more. It will be easier for you to read and understand your basic charge and actual water consumption charge. In addition, you'll be able to see information to help you understand your household's water consumption, your minimum monthly charge, current balance and payment due date.

What's different on the new bill?

You'll see we've added information to help you better understand your water usage and the breakdown of service charges.

Will this affect my account?

Yes. Every customer will be assigned a new account number. You'll need to reference this new number in the future if you contact us to inquire about your EPCOR account. However, your online and telephone banking account information will remain the same. We'll work directly with your bank to provide a seamless transition behind the scenes.

Will this affect how I pay my bill?

Your billing options will not be affected. You'll still have access to all the bill payment options you currently have; pre-authorized debit, online banking, by mail and in person. If you are currently using pre-authorized payments, we'll ensure that your new account number is updated with the bank.

Is there anything I have to do?

No. You don't have to do anything in response to this change. The transition to your new account number will be seamless.

Will I be able to receive my bill electronically?

With this new billing system, e-billing may be possible as an option in the future. It is not available at this time.

We're here to help!

Your satisfaction is very important to us. We've redesigned the EPCOR water bill with the help of customer feedback. We're committed to answering any questions you may have about your bill.

Our contact information:

email: frenchcreek@epcor.com

phone: 250-951-2460

Address: #10-D Pine Tree Centre
1343 Alberni Highway
Parksville, BC V9P 2B9

**Want a sneak peek at the new bill?
See reverse.**

HIGHLIGHTED CHANGES IN YOUR NEW BILL

The following sections are some of the key changes you will notice in your new improved bill format.

- 1** Your account number
- 2** Payments we received
- 3** New email address
- 4** Same customer care number
- 5** Your consumption

This is a sample of Your Water Bill



Customer: Jane Smith
Service At: 1111 Pacific Ave

Bill Date: Sep 18 2013

Account #: 9999.000 **1**

#10-D Pine Tree Centre
1343 Alberni Highway
Parksville, BC V9P 2B9

Amount of last bill - Jul 07 2013 \$194.25
Payments we received - Sep 01 2013 **2** (\$194.25)

Previous Balance \$0.00

Service Period - Jul 07 2013 to Oct 05 2013 - 91 days

Minimum charge \$105.96
Water usage above minimum* \$66.15
Rate Rider* \$6.84

*See reverse for details

Questions?

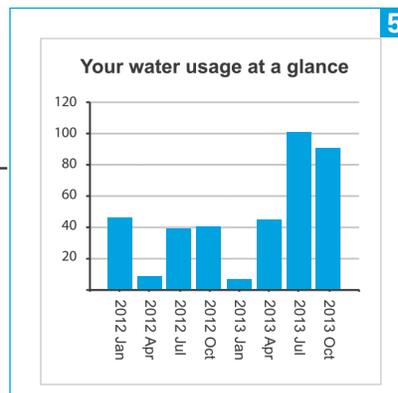
- www.epcor.com
- frenchcreek@epcor.com **3**
- Phone:** 250-951-2460 **4**
- Fax:** 250-954-0361

Office hours:
Monday - Friday 8am - 4:30pm
Closed statutory holidays
24 hours emergency call: 250-954-5337

Payment due immediately (Previous Balance) \$0.00
Payment due by Monday, October 28, 2013 \$178.95
Total payment now due \$178.95

Water Reading

Meter 22218985 reading on Oct 05 2013 6,999
Meter 22218985 reading on Jul 15 2013 6,909
Amount of water you used in cubic meters (M³) 90



Payment return slip

RE: 1111 Pacific Ave



Please complete and return this slip with your payment. Make your check or money order payable to EPCOR Water West Inc. For other payment options, see reverse for details.

Your account number **Total Payment Due** **Due Date**
1299.000 **\$178.95** **Oct 28 2013**

Payment Enclosed

\$ Automatic Payment Withdrawal. Payment will be withdrawn from your account.

Jane Smith
Jane's Way Pacific Cres



Reference: Application, pg. 18, para. 37

Explanation: “In 2014, EWW retained a hydro-geologist to conduct a wellhead protection analysis study to consider the capture zone that supplies EWW’s wells and to identify any items within the capture zone that may impact the water supply. This analysis, which will be completed in early 2015, will help to ensure the sustainability of the aquifers and EWW’s source of supply.”

Request:

- 6.1 Please explain the results of the capture zone study and any analysis undertaken by EWW.
- 6.2 If that analysis is not yet complete, please commit to providing the results to the Comptroller’s office when it is complete.

Response:

- 6.1 The results of the capture zone study are still preliminary but roughly delineate the overall draw down cone and capture zone for both the North and South areas. EWW and BC Groundwater will update the BC Comptroller in spring of 2015 about the program and results of drawdown cone and capture zone delineation.

The rough delineation of the overall drawdown cone and capture zone of the South Region was provided in our Source Water Application report to VIHA a copy of which was provided to Comptroller under separate cover. The capture zone will be further refined when:



- The water quality information supplied to VIHA for RWs1, ACs1 and TWs1 are approved by VIHA; and
- Forestry, Lands, and Natural Resources, BC accepts the pumping rates recommended by BC Groundwater.

The drawdown cone of the North Region wells has been roughly delineated and is being updated with information provided by the RDN (water levels in their French Creek well field). RWn2 controls water level drawdown in all French Creek wells (EWW, RDN and private users). BC Groundwater has recently completed download of the dataloggers in the EWW wells and will be refining this information in support of RWn2 long-term pumping rate approvals.

- 6.2 The wellhead protection analysis is not yet complete and is expected to be completed by the end of 2015. EWW will provide the Comptroller with the results upon completion.

The costs for this project were included in the last test period. Consequently, the costs are not included in this Application and this project was not included in the operating and capital projects in CWR-EWW-01.



Reference: Application, pg. 20, para. 41 & Appendix D pp. 29-31 & Project ID 24

Explanation: “EWW plans to conduct a Leak Detection Program in 2015 to address water losses in the system as recommended in the 2014 Master Plan. In 2006, 60% of the water system was leak tested. The other 40% was not amenable to testing because of insufficient access to the infrastructure. This project will install the required access points and conduct a complete leak detection assessment.” The Master Plan seems to indicate that water losses are in the normal range of other utilities. At page 31 of the Master plan it states that system leakage is acceptable and not economically viable to reduce much further.”

Request:

7.1 Since page 31 of the Master plan states that it is not economically viable to reduce leakage much further, why is leak testing being further considered? At the most, could this project be deferred to a later test period when rate increases are expected to be more modest? Please explain your rationale.

Response:

7.1 Leak testing is being further considered because it is recommended in the French Creek 2014 Master Plan Update which stated:

Due to the costs associated with reducing the ILI [infrastructure leakage index] rate, it is not recommended that EFC [EWW] start any new projects to reduce water loss, but it is recommended that EFC [EWW] complete the projects previously identified. ...It is recommended that this project [Leak Detection Program] be completed, so that EFC [EWW] has a good



understanding of its existing system losses, and to determine if additional savings can be achieved.¹

In some years, leaks are in excess of the 15% maximum recommended by AWWA. It is possible that closer monitoring could be done during this rate period and the project deferred, however, reducing water losses reduces operating costs and adds to system capacities, which reduces the need for capital upgrades. Deferring this project would result in a moderate level of risk – primarily financial to the customers in future test periods.

¹ Application, Appendix D (French Creek Master Plan Update) at p. 31



Reference: Application, pg. 21, para. 46

Explanation: “In 2017, EWW plans to retain the services of an engineering firm to update its system Master Plan prior to the next RRA.”

Request:

8.1 Since EWW is experiencing minimal growth and now is completing wells to meet future capacity, why would there be need to update the Master plan so frequently or to hire external resources to do so? Would it be more appropriate to update the Master Plan when significant growth is expected or perhaps on a 5 or 7 year cycle?

Response:

8.1 An update to the Master Plan in 2017, before the start of the next test period, will ensure that EWW’s capital plan for the next test period is prudent and that safe and reliable water service will continue. Further, given that the 2014 Water System Master Plan was the first Master Plan for the French Creek Utility, an update in three years is recommended. As outlined in CWR-EWW-01, deferring the Master Plan out of the current test period would result in a moderate level of risk; a lack of planning can result in increased capital and operating costs in future test periods.



Reference: Application, pg. 23, para. 53

Explanation: “The following capital projects were deferred to 2015-2017 or cancelled. Those which are planned for the 2015-2017 period are described in section 3.2 below and further detailed in the 2014 Master Plan.

- **Well Replacement Project** – At the time of preparing the 2012-2014 RRA, it was expected that an eighth well would need to be drilled to replace the unsuccessful wells. However, due to the anticipated high production rate from well RWn2, this project has been cancelled.
- **Well Rehabilitation** – project to extend useful life of aging well infrastructure was deferred to 2015-2017.
- **Closure of the Imperial Well** – deferred to 2015-2017.
- **Residential Service Replacement Program (Dalmatian Drive Upgrades)** – deferred to 2015-2017.
- **Church Road Complex Upgrades** - deferred to 2015-2017.
- **Exploratory Borehole Project** – cancelled due to lower than expected customer growth and higher than expected capacity from new wells.
- **Drew Road Water Treatment Plant Upgrades** – deferred to 2015-2017 and adjusted scope of this project, now identified as Drew Road Pump Station Upgrades.”

Request:

- 9.1 For each of the projects not cancelled, please explain if they are required to be completed in the test period.
- 9.2 For the Dalmatian drive upgrades, would it be cost effective to continue to address water main breaks on an as needed basis as has occurred during the last test period?



9.3 For the well rehabilitation project that is further explained at Application page 37, para. 91, how many years has it been since each subject well was rehabilitated and what increase in capacity was experienced after that rehabilitation?

Response:

9.1 For the reasons stated in CWR-EWW-01, each of the following projects from the above list require completion in the 2015-2017 period:

Well Rehabilitation

Closure of the Imperial Well

Residential Service Replacement Program (Dalmatian Drive Upgrades)

Church Road Complex Upgrades

Drew Road Water Treatment Plant Upgrades

9.2 No, repairing the Dalmatian Drive leaks on an as needed basis would not be a cost-effective solution to the problem. If more than one break per year occurs, it is more cost effective to complete the capital project. As noted in CWR-EWW-01, deferring this project would result in a moderate level of risk – increased costs during the current test period would be passed on to future customers from leakage and increase in non-revenue water losses.

9.3 The well rehabilitation project allows for rehabilitation of three wells. EWW has not yet identified the specific wells that will be most suitable for rehabilitation. Before beginning this project, EWW will work with the BC Groundwater Consultant to determine the most appropriate wells.



Past well rehabilitations have not resulted in improvements in pump capacity but rather, have resulted in maintaining current well capacities. Failure to rehabilitate a well may result in more rapid deterioration of well capacity.



Reference: Application, pg. 25, para. 54 & Appendix D pg. 86 Project 2

Explanation: EWW identifies “a \$35 thousand increase due to additional meter replacement work which had not been forecast in the 2012-2014 RRA, but was required.”

Request:

- 10.1 Was this additional meter replacement work required as a result of meters failing government testing standards and does it indicate that the type of meters installed at this utility are likely to fail prematurely?
- 10.2 Based on industry experience, what is the average life of these water meters?
- 10.3 The \$35,000 additional cost seems significant. What was the total cost of meter replacement in the past test period and how many meters were replaced?
- 10.4 Please break down the cost of meter replacement between the cost of the new meter and the cost of replacement.
- 10.5 Appendix D indicates that 100 meters /yr. could be replaced for \$65,000. How does this compare with EWR costs?

Response:

- 10.1 The additional meter replacement work is not required due to meters failing government testing standards. Meters are replaced regularly because once water meters reach a certain age their accuracy starts to diminish. Many of the original subdivisions in the water system have old direct read meters that are often hard to read or, at certain times of



the year, are underwater. The new meters installed are touch readers that can be read by a transducer attached to the meter and the meter reading probe carried by the Operator. As stated in the French Creek 2014 Master Plan Update (page 44 and 86 of Appendix D to the Application), it is prudent to follow the industry standard, which is to replace meters on a 20-year cycle. EWW's meter replacement program goal is to replace meters on a 20 year cycle.

- 10.2 The maximum recommend age of water meters is 25 years.
- 10.3 The total cost of meter replacement in the last test period was \$123 thousand. There were 271 meters replaced.
- 10.4 The cost breakdown is not the same for each installation or for each size of meter. The cost estimate of \$650 per meter was provided by KWL and is based on their knowledge of equipment and labour costs for this industry. We believe their estimate is a reasonable approximation of expected costs. There are numerous variables and the following analysis shows the potential variability. Cost per meter could range between \$200 and \$3,420:

Table CWR-EWW-10.3-1
Meter Costs

	A Low	B Mid	C High
1 New Meter	\$125	\$125	\$2,000
2 Other Supplies	5	250	1,000
3 Labour	70	420	420
4 Total	\$200	\$795	\$3,420

- 10.5 In EWR's 2014-2017 rate filing application, the cost of meter replacement was estimated at \$650 per meter which is consistent with this application.



Reference: Application, pg. 33, para. 82

Explanation: With respect to the Oceanside well (RWn2) “EWW chose to repair the golf course’s non-conforming wells. It should also be noted that EWW was facing a very serious time constraint on this well project in order eliminate reliance on water supplies from French Creek to meet the VIHA 4-3-2-1 policy.”

Request:

- 11.1 What was the cost of repairing the golf course’s non-conforming wells and was that cost expensed or added to the capital cost of RWn2? Why?
- 11.2 Why did the VIHA 4-3-2-1 policy mandate the action taken by EWW and what was the expected cost saving from drilling a new well to replace the French Creek source compared to building a water treatment plant to meet VIHA’s 4-3-2-1 requirements?

Response:

- 11.1 The cost to repair the two non-conforming wells on the golf course was \$53 thousand. This amount was capitalized equally between RWn2 (rate base funded) and TWn1 (developer funded) because the work was required to complete both wells. This amount is reflected in Financial Schedule 2.4, lines 4 and 6.

The repair cost was capitalized as it is a directly attributable cost required to bring the well into a condition necessary for it to be capable of operating in the manner intended.

- 11.2 VIHA’s Surface Water Treatment (4-3-2-1) policy was issued in 2007. It set minimum treatment specifications for drinking water systems that use surface water. On July 17,



2007, VIHA advised EWW of changes to EWW's permit conditions and the requirement to meet the new VIHA 4-3-2-1 policy by December 31, 2012, see Attachment CWR-EWW-11.2-1. French Creek's water supply is unpredictable: it is variable in both quality and quantity. Variable-quality source water makes designing treatment processes difficult and expensive and variable flow in surface water threatens the overall system supply capacity. Consequently, EWW determined that a more prudent strategy to comply with the new VIHA policy would be to replace the French Creek water supply with a more reliable groundwater supply rather than to invest in additional treatment of an unreliable surface water supply from French Creek. Based on this conclusion, EWW proposed to drill two groundwater wells to replace the French Creek water supply in its 2009-2011 RRA. These projects were approved by the Comptroller in Order No. 2222, dated March 1, 2010. Due to the reliability issues associated with French Creek supply, EWW determined that building a water treatment plant was not a potential solution to comply with the VIHA policy and therefore EWW did not evaluate the costs of implementing treatment.



HAND DELIVERED

July 17, 2009

EPCOR Water Services – French Creek, BC
 Greg Hogge, - Service Manager
 Brian Thorburn, AscT - Senior Operator
 French Creek, BC

Dear Mr. Hogge and Mr. Thorburn:

Re: Notice of Proposed Change to Terms and Conditions of Operating Permit

In November 2007, the Vancouver Island Health Authority adopted the attached policy, which sets minimum treatment specifications for drinking water systems that use surface water. Since then, we have been meeting with the existing systems that serve more than 500 persons per day in preparation for making these specifications a condition of their operating permits.

Last year we sent you an information package detailing the new policy and on November 6th, 2008 we met with you to discuss this new policy. During that meeting we discussed the reasons why VIHA is implementing this policy.

I am now writing pursuant to a delegation from the Medical Health Officer, which authorizes me to act under Section 8(4) of the Drinking Water Protection Act (the “Act”).

Operating permits and requirements for water supply systems

- 8 (4) The drinking water officer or an issuing official may change the terms and conditions of an operating permit if the officer or issuing official considers this advisable, but must first consult with the water supplier respecting the proposed changes and must consider any comments of the water supplier in response.

Health Protection and Environmental Services

Parksville	(250) 248-2044	Fax: (250) 248-8624	Port Alberni	(250) 724-1281	Fax: (250) 724-4376
Nanaimo	(250) 755-6215	Fax: (250) 755-3372	Courtenay	(250) 334-5450	Fax: (250) 334-5466

Our Vision: Healthy People, Healthy Island Communities, Seamless Service

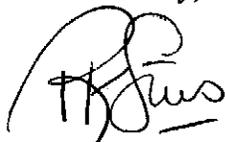
Be advised that, in the interests of ensuring adequate removal or inactivation of pathogenic organisms from surface water, I propose to attach the following condition to your operating permit:

“By December 31, 2012, the EPCOR – French Creek Water System must meet the VIHA Drinking Water Treatment for surface water supplies, Policy #3.3 by providing two treatment processes acceptable to the Vancouver Island Health Authority, achieve a 4-log removal/inactivation of viruses and 3-log removal/inactivation of Giardia cysts and Cryptosporidium oocysts, and produce a finished water with less than 1 NTU turbidity.”

Please respond in writing within 30 days of receiving this notice if you wish to comment on the proposed change to your permit. Your comments will be considered before a final decision is made.

Be advised that, short of judicial review, this is your only opportunity to influence the outcome of this process. A decision to change the terms and conditions of an operating permit is not subject to reconsideration or review under Section 39.1 of the Act.

Yours truly,



Rita Steeves,
Environmental Health Officer
Vancouver Island Health Authority

cc: Doug Glenn, Senior Environmental Health Officer, Vancouver Island Health Authority
Gary Anderson, Land Use/Water Consultant, Vancouver Island Health Authority

Hand Delivered

Date: July 17, 2009

Signature Required: [Handwritten Signature]

Health Protection and Environmental Services

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Policy: Drinking Water Treatment for Surface Water Supplies	Policy #: 3.3	Page 1 of 4 Section: Drinking Water
Authorization: Ann Thomas Regional Manager HPES	Date Approved: November 13, 2007	Date Revised:

PURPOSE:

The *Drinking Water Protection Act* requires that all water supply systems provide potable water. The *Drinking Water Protection Regulation* further states that drinking water originating from surface water must be disinfected.

This policy characterizes the level of treatment for surface water expected by VIHA and should provide for adequate removal or inactivation of pathogenic organisms that may be present in raw water. Turbidity and situations when filtration may not be required are also addressed.

POLICY:

1. All water supply systems in VIHA that use surface water sources will be required to maintain the following treatment specifications:
 - 4-log removal/inactivation of viruses
 - 3-log removal/inactivation of Giardia cysts and Cryptosporidium oocysts
 - 2 treatment processes, usually filtration and disinfection
 - 1NTU turbidity (maximum) in finished water
2. Under the following conditions, a water supply system may be permitted to operate without filtration:
 - a. Daily average source water turbidity – 1 NTU or less (95% of days) and not above 5 NTU on more than 2 days in a 12 month period.
 - b. Escherichia coli 20/100ml or less in 90% of source water samples.
 - c. Two primary disinfectants are provided, which together achieve a 4-log removal/inactivation of viruses and 3-log reduction in Giardia and Cryptosporidium.

Policy # 3.3 Drinking Water Treatment for Surface Water Supplies

3. The Drinking Water Officer may require additional/alternative treatment to address any of the following:
 - a. High bacterial counts or risk of fecal contamination of source water.
 - b. High organic matter that may result in unacceptable levels of disinfection by-products.
 - c. Chemical or other contaminants than may affect potability.

PROCEDURE:**New Water Supply Systems**

Applications from new water supply systems, which include a surface water source and are received after the effective date of this policy, will need to be in compliance with the policy before a construction permit or operating permit is issued.

Existing Water Supply Systems

Staff responsible for drinking water systems will implement this policy for existing systems as follows:

1. Identify all water supply systems that use surface water and serve more than 500 persons per day.
2. Send a standard letter to each water supplier stating that the Vancouver Island Health Authority is consulting with them under Section 8(4) of the Act with regard to the proposed attachment of the following condition to their operating permit, "By (date to be determined), this system will provide 2 treatment processes acceptable to VIHA, achieve a 4-log removal/inactivation of viruses and 3-log removal/inactivation of parasites, and produce a finished water with less than 1 NTU turbidity."
Enclose other information as appropriate and request written comments within 30 days.
3. Consider the comments received, and complete any other consultations necessary to determine the final wording of the condition to be placed on the operating permit, including the date by which the condition is to be met.
4. Amend the operating permit.
5. Obtain an implementation strategy from the water supplier, and monitor progress leading to compliance with the conditions on the operating permit.

DEFINITIONS:**Disinfection:**

A water treatment process using chemical oxidants or equivalent agents designed to destroy pathogenic organisms. Primary disinfection processes include such methods as ultraviolet irradiation, chlorination and ozonation.

Log Removal/Inactivation:

The percentage reduction in the density of viable target organisms

- 1-log removal/inactivation equates to a 90% reduction
- 2-log removal/inactivation equates to a 99% reduction
- 3-log removal/inactivation equates to a 99.9% reduction
- 4-log removal/inactivation equates to a 99.99% reduction

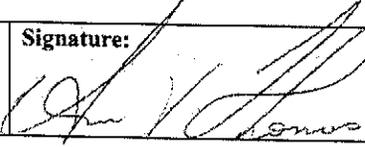
Treatment Processes:

In VIHA, two treatment processes means -

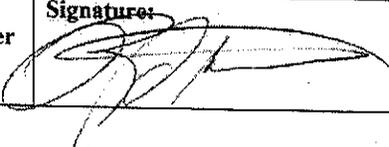
1. Two methods of primary disinfection for systems with consistently low levels of both turbidity and E. coli. The two methods will generally be ultraviolet irradiation and chlorination, or
2. Filtration and disinfection, for all other systems.

LEGISLATION:***Drinking Water Protection Act*****Operating permits and requirements for water supply systems**

- 8 (4) The drinking water officer or an issuing official may change the terms and conditions of an operating permit if the officer or issuing official consider this advisable, but must first consult with the water supplier respecting the proposed changes and must consider any comments of the water supplier in response.
- (5) Terms and conditions included in an operating permit under this section may set requirements and standards that are more stringent than those established by this Act or the regulation.

Regional Manager Approval:	Signature: 	Print Name: Ann V. Thomas
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Dated: MAR 7, 2008

Office of the Chief Medical Health Officer Senior Management Approval:	Signature: 	Print Name: Richard S. Stanwick MD, MSc, FRCPC, FAAP
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Dated: MAR 7, 2008



Health Protection

Drinking Water Program

4-3-2-1 - Drinking Water Treatment for Surface Water Policy

Water suppliers are required to provide potable water to all users of their system. The 4-3-2-1 surface water treatment policy is a performance target for water suppliers to ensure the provision of microbiological safe drinking water. Vancouver Island Health Authority (VIHA) supports water suppliers to meet this objective. All existing water suppliers serving populations greater than 500 people/day should have an implementation plan to meet this policy.

This policy will also be applied as a performance target for all new surface water systems, regardless of size. Many existing water systems already meet most of this standard. Risk to human health is substantially reduced when water suppliers meet this goal.

Water suppliers will be required to provide long term plans to reach the goals of:

- 4 log inactivation of viruses
- 3 log removal or inactivation of Giardia cysts and Cryptosporidium oocysts
- 2 refers to two treatment processes for all surface drinking water systems
- 1 for less than 1 NTU of turbidity in finished water

Definitions:

4 log inactivation of viruses:

Viruses are easily inactivated by the use of chlorine. Achieving a 0.5 mg/L residual of free chlorine for 30 minutes is adequate in most cases.

3 log removal or inactivation of Giardia cysts and Cryptosporidium oocysts:

Giardia cysts may be inactivated by large doses of free chlorine, ultraviolet light, ozone and chlorine dioxide, or removed by filtration. Health Canada has developed design guidelines to determine that the proposed treatment will provide the inactivation desired. For example, chemically assisted rapid sand filtration with sedimentation is given a credit of 3.0 log inactivation. Log inactivation credits of 3.0 for slow sand filtration and 2.5 for direct filtration are given. The remaining credit must be accomplished by another means such as ultraviolet disinfection or free chlorine with a long contact time. Health Canada has also developed guidelines for **Cryptosporidium oocyst** removal that outline treatment methods, which will provide the inactivation, desired. Systems with optimized conventional rapid sand filtration are given a credit of 3.0 logs. Membrane filtration may be required to demonstrate removal efficiency through challenge testing and verified by direct integrity testing. Ultraviolet disinfection is given a credit of 3.0 logs if the dose is a minimum of 42mJ/cm².

2 treatment processes are a minimum for all surface water sources. A dual disinfection approach to water treatment is associated with providing potable water:

The main risk to water quality is from microbiological agents. Some of these microbial risks are more resistant to some forms of treatment than others. It is recognized that effective treatment for all microbial risks by a single treatment process is not effective. Dual treatment processes are required for all surface water to reduce the risk of microbial or health threats to drinking water. Water filtration and disinfection will become the norm for many surface water supplies in order to meet the 4-3-2-1 policy objectives. For other sources where the filtration waiver can be met, dual treatment may mean 2 forms of disinfection, usually chlorination and UV light disinfection. It may also include watershed protection measures to ensure good raw water quality.

<1 NTU of turbidity

Raw surface water will need to be filtered if turbidity readings indicate poor results. A filtration waiver may be granted, if all of the requirements of Section 2 of the policy can be met.

The Guidelines for Canadian Drinking Water Quality currently specify that turbidity in filtered treated water should be less than 0.1 NTU. However, specific filtration technologies may have target turbidity ranges from 0.1 to 1.0 NTU.



Drinking Water Quality Improvement Program

A TURBIDITY MONITORING PROGRAM (Including continuous on-line turbidity monitoring)

The purpose of providing turbidity monitoring is to demonstrate and document the water quality within a water supply system. Turbidity monitoring shows the effectiveness of treatment and the integrity of the water supply system. Turbidity is a real time indicator of water quality and increasing turbidity is linked to increasing health risk. Turbidity monitoring of raw water is used to determine the type and level of treatment required. Turbidity monitoring of finished water is used to determine the effectiveness of the treatment and integrity of the distribution.

Implementation

The water supplier should:

1. Review historical turbidity levels and monitoring
2. Determine the status of current monitoring
3. In collaboration with the Environmental Health Officer, develop a turbidity monitoring program
4. Submit a construction or waiver application to the Public Health Engineer/ Environmental Health Officer for installation of equipment

Timelines

- The Environmental Health Officer should establish a timeline for implementation giving consideration to the water supplier's budget cycles
- Six to twelve months between discussion and implementation is considered reasonable

Monitoring

1. The Environmental Health Officer may conduct audit sampling
2. The water supplier must submit a summary of results in the monthly report
3. Monthly reports should include and identify the following underlying 4 question principle:
 - a) Was a monthly report submitted?
 - b) Were there anomalies reported?
 - c) Were actions taken to address anomalies?
 - d) Can trends in data be tracked?

References

- Guidelines for Canadian Drinking Water Quality Turbidity Supporting Document
- 4321 Surface Water Treatment Policy



Reference: Application, pg. 38, para. 91 & Appendix D Project 31

Explanation: Church Road Upgrades: “This project consists of various necessary upgrades to the Church Road Complex site. The upgrades include a magnetic flow meter located on the well supply outlet to measure ground water supply production and additional booster pump station controls. Installation of the magnetic flow meter on the well supply line will provide information required for ongoing well capacity analysis.” The Master Plan estimates the cost at \$67,000 in 2014 construction year.

Request:

12.1 What is the current cost estimate for the magnetic flow meter and its installation?

Response:

12.1 Current cost estimate and breakdown for this project is as follows:

Magnetic flow meter and installation	\$ 9,800
Booster station pump controls	46,000
Engineering	<u>11,200</u>
Total	<u>\$67,000</u>



Reference: Application, pg. 38, para. 91 & Appendix D Project 32

Explanation: Church Road Reservoir Upgrades “This project consists of the installation of flexible liners for Church Road Reservoir #3 and #4. The existing concrete reservoirs at Church Road have been cracking over the years such that water pooling on the top of the reservoirs can leak inside. In the past, Xypex grout products have been used every few years to mitigate leaks. Installing the liners will provide a more durable, long term solution.” The Master Plan estimates the cost at \$110,000 in 2014 construction year.

Request:

13.1 What is the current cost estimate?

13.2 What are the consequences of deferring this project to the next test period?

Response:

13.1 The current cost estimate for the Church Road Reservoir upgrades is \$110 thousand.

13.2 The consequence of deferring this project is the possible intrusion of contaminants into the reservoir. This represents an unacceptable asset risk with failure leading to regulatory action or public health issues if the water supply is contaminated. For comparative risks of project deferrals, including this project, please see CWR-EWW-01. Continuing with the interim solution of using the Xypex grout is not a viable option. The membrane requires replacement. Replacing it now is much less costly than replacing it following its failure. Failure also could result in additional structural integrity problems if the system



is not completely sealed. Consequently, deferring this project carries a high level of risk as outlined in CWR-EWW-01.



Reference: Application, pg. 40, para. 97 & Appendix D section 8.5

Explanation: “The forecast growth in the number of fire hydrants of six new hydrants per year is based on a current deficiency of fire hydrants identified in Section 8.5 of the 2014 Master Plan.” The Master Plan states that this program should be coordinated and funded through the local fire authority.

Request:

14.1 Are the costs being contributed by the local fire authority or are they allocated via the rates? Please explain.

Response:

14.1 Costs for fire hydrants are recovered through a rate charged to the local fire authority. Based on the approach set out in EWW’s 2011 Cost of Service Study (approved under Order No. 2263), the costs related to fire hydrants are included with other costs for providing fire protection services and then charged to the local fire authority based on a per hydrant charge as set out in Schedule E of Schedule B-2 to the Application. In accordance with the 2011 Cost of Service Study, 100% of the annual costs for hydrants (including depreciation and return) are allocated to fire protection services and then used to establish the per hydrant charges. Therefore, the costs related to fire hydrants are not recovered through the rates charged to residential, multi-residential or commercial customers.



Reference: Application, pg. 42, para. 103

Explanation: “In this Application, EWW is applying for Allowance for Funds Used During Construction (“AFUDC”). AFUDC is the amount that a rate-regulated enterprise may be allowed to earn, if approved by its regulator, to recover its cost of financing assets under construction. This regulatory treatment, used by most regulated utilities in Canada, is equal to the average cost of Construction Work in Progress (“CWIP”), times a financing rate, being the weighted average cost of capital. In the past, due to its small size, EWW applied for Interest During Construction (“IDC”), as this was consistent with IFRS treatment and because few, if any, capital projects had any significant CWIP that carried over a year. However, commencing in 2015, EWW is proposing to apply AFUDC to be consistent with both common regulatory practice and with EUI’s other rate-regulated subsidiaries. The primary difference between the AFUDC and IDC is IDC only considers the cost of debt, while AFUDC considers the weighted cost of both debt and equity. Like IDC, AFUDC is included in the cost of related assets and recovered in future periods through the depreciation charge.”

Request:

15.1 Please confirm that a change in accounting treatment from IDC to AFUDC to recover its cost of financing assets under construction was reviewed in detail for EWR and approved by the Deputy Comptroller.

Response:

15.1 Confirmed.



Reference: Application, pg. 42, para. 104 & Appendix E

Explanation: Dr. Ryan's evidence was prepared prior to September 2013 for EWR.

Request:

- 16.1 Is this evidence still relevant today with the collapse of oil prices affecting inflation forecasts and the recent drop in the Bank of Canada lending rate? Why?
- 16.2 Is there a more recent BC Ministry of Finance Budget and Fiscal Plan to inform forecasts of CPI and capital/construction escalators?

Response:

- 16.1 EWW submits that the evidence provided by Dr. Ryan for salary escalators and construction cost escalators for 2016 and 2017 is still relevant.

In a report released on February 17, 2015, following the Bank of Canada's reduction in the prime lending rate and the recent drop in oil prices, the BC Ministry of Finance published its forecast salary escalators. Despite the economic changes, the Ministry's forecast salary escalators were 2.7% for 2016 and 2.8% for 2017. The conclusions drawn in this recent report are very close to those drawn by Dr. Ryan in his report entitled "Forecast Values of Escalators for 2014 – 2017" (Appendix E). Dr. Ryan's report was prepared in 2013 based on medium term forecasts of the Conference Board of Canada and BC Ministry of Finance.

In Table 16.2-1 below, EWW provides a comparison of the proposed salary escalators for EWW for 2016 and 2017 based on Dr. Ryan's report and the forecast salary escalators



from the recent report from the BC Ministry of Finance¹. As indicated in row 5 of Table 16.1-1, the BC Ministry of Finance provides a salary forecast escalator of 2.7% for 2016 and 2.8% for 2017. This compares to EWW's proposed salary escalator, based on Dr. Ryan's report, of 2.7% for 2016 and 2.7% 2017 as shown in row 8 of Table 16.1-1. EWW submits that because these medium term escalator forecasts are very close, Dr. Ryan's evidence is still relevant and the proposed escalators are still reasonable for escalating costs in EWW's Application.

Table CWR-EWW-16.1-1
Salary Escalators Comparison
2015-2017
(\$ thousands)

	A	B	C
	Dated	2016F	2017F
1	BC Ministry of Finance Budget and Fiscal Plan 2015/16-2017/18	Feb/15	
2	Labour Income (\$million)	128,080	133,284
3	Employment (\$000)	2,329	2,357
4	Labour Income Per Employee (\$000)	55	57
5	Growth in Labour Income Per Employee (%)	2.7%	2.8%
6	BC Ministry of Finance Budget and Fiscal Plan 2013/14-2015/16	Jun/13	2.8%
7	Conference Board of Canada Medium Term Forecast	Jul/13	2.6%
8	Forecast Value of Escalators for 2014-2017 Report (=Average row 6 and row 7)	Sept/13	2.7%

16.2 On February 17, 2015, the BC Ministry of Finance released **Budget and Fiscal Plan 2015/16 to 2017/18**² which provides an update of the CPI escalator forecast. On page 70, the following is stated:

Consumer price inflation in BC is forecast to be 1.6 per cent in 2015, 1.9 per cent in 2016 and 2.0 per cent per year in the medium-term. The Canadian rate of inflation is

¹ http://bcbudget.gov.bc.ca/2015/bfp/2015_Budget_and_Fiscal_Plan.pdf

² *ibid*



assumed to match BC's rate in 2015, then increase to 2.0 per cent annually from 2016 to 2019 (in line with the Bank of Canada's inflation target).

This compares to EWW's proposed CPI escalator of 2.0% for 2016 and 2.0% for 2017 based on the BC Ministry of Finance Budget and Fiscal Plan 2014/15-2015/16 (dated June 2013).

EWW is not aware of any construction cost escalator provided by the BC Ministry of Finance in its Budget and Fiscal Plan 2015/16 to 2017/18.



Reference: Application, pg. 48, Table 5.0-1 & Financial Schedule 2.2

Explanation: Operating Costs.

Request:

17.1 Please update Table 5.0-1 & Financial Schedule 2.2 to show Actual costs for 2014 and Decision costs for 2012 and 2013.

17.2 Why was the Operations and Maintenance cost of \$27 thousand so low in 2012?

Response:

17.1 Please see below.

**Table 5.0-1
Operating Costs
2012-2017
(\$ thousands)**

Cost Category	A 2012D	B 2012A	C 2013D	D 2013A	E 2014D	F 2014A	G 2015F	H 2016F	I 2017F
1 Salaries and Benefits	367	377	371	434	405	423	485	498	517
2 Power and Other Utilities	60	57	66	56	69	60	66	68	71
3 Chemicals	41	21	48	25	52	29	33	33	34
4 Operations and Maintenance	149	27	209	163	179	185	278	185	228
5 Property Taxes	34	35	35	35	36	34	36	37	38
6 Subtotal	651	517	729	713	741	731	898	821	888
7 Inter-Corporate Service Charges	167	167	172	172	179	179	195	199	203
8 Total Operating Costs	818	684	901	885	920	910	1,093	1,020	1,091



Operating Costs
Financial Schedule 2.2

Operating Costs	A	B	C	D	E	F	G	H	I
	2012 Decision \$	2012 Actual \$	2013 Decision \$	2013 Actual \$	2014 Decision \$	2014 Actual \$	2015 Forecast \$	2016 Forecast \$	2017 Forecast \$
Salaries & Benefits	367,075	376,673	370,722	433,825	405,443	423,070	484,613	497,699	517,433
Salaries	354,493	358,008	361,777	370,899	369,212	351,442	423,858	435,303	447,056
Benefits	75,707	62,490	77,221	73,870	78,766	85,814	94,466	97,017	99,636
Salary transfers	(63,125)	43,825)	(68,276)	(10,944)	(42,535)	(14,186)	(33,711)	(34,621)	(29,259)
Power & Other Utilities	60,185	56,564	66,732	55,911	69,154	60,132	66,300	68,201	70,380
Chemicals	40,934	21,460	47,769	24,743	52,176	29,241	32,500	33,150	33,813
Operations and Contractors consultants	149,255	27,374	208,557	162,674	178,904	185,177	278,125	184,562	228,172
Travel	39,650	30,305	109,376	62,692	64,492	41,521	135,000	66,300	72,828
Rent	12,550	7,244	13,639	31,555	13,925	19,111	19,344	19,731	22,987
Telecommunications	19,032	17,630	20,944	24,427	22,310	27,807	28,800	29,376	29,964
Insurance	24,000	20,533	24,504	21,845	25,019	21,982	26,500	27,030	27,571
Vehicle costs	20,937	17,865	23,514	21,471	26,409	23,333	23,868	24,345	24,832
Materials and supplies	9,710	11,825	10,179	14,928	10,393	9,052	13,600	13,872	14,149
Advertising	27,000	19,438	29,354	11,695	29,970	17,603	26,500	22,950	23,409
Office	1,204	6,259	1,315	7,552	1,343	3,489	10,500	4,080	4,422
Other	16,704	13,244	18,106	4,674	18,486	21,862	16,000	16,320	17,687
Capital overhead	29,372	(12,005)	8,380	38,115	8,570	12,213	9,225	9,413	9,605
	(50,904)	(104,964)	(50,754)	(76,280)	(42,013)	(12,796)	(31,212)	(48,855)	(19,282)
Property Taxes	34,128	34,809	34,845	35,077	35,577	33,869	36,500	37,230	37,975
Subtotal	651,577	516,880	728,625	712,230	741,254	731,489	898,038	820,842	887,773
Inter-Corporate Service Charges	166,992	166,992	171,985	171,985	178,629	178,629	195,384	199,293	203,279
Total Operating Costs	818,569	683,872	900,610	884,215	919,883	910,118	1,093,422	1,020,135	1,091,052



17.2 The low level of Operations & Maintenance expenses in 2012 in comparison to the 2012 forecast is primarily attributable to three significant cost recoveries. First, higher than forecast capital expenditures (see Financial Schedule 2.4) resulted in Capitalized Overhead Costs increasing from the \$50,904 forecast amount to \$104,964. Second, the implementation of HST had significant impacts on Other Expenses, including the receipt of an HST refund in 2012 that had been included in the 2011 Decision amount, as well as lower than forecast non-recoverable HST in 2012. Finally, EWW received a refund from the Construction Trust Fund for costs previously incurred for monitoring the R-8 Well (as per Order No. 1981).



Reference: Application, pg. 50-51, Table 5.1-1

Explanation: Salaries and Wages.

Request:

- 18.1 Please update Table 5.1-1 to show Actual costs for 2014 and Decision costs for 2012 and 2013.

- 18.2 Paragraph 139 identifies “a \$60 thousand increase in labour and salaries primarily due to management and oversight services provided to EWW by EWSI senior management that were inadvertently omitted from the 2012-2014 Decision amounts”. Please explain the work to be provided by EWSI in this test period and what would happen to these forecast costs if some capital work was deferred or cancelled?

- 18.3 Please provide a table showing gross salaries and benefits of EWW employees only along with the number of employees for each of the years from 2011 through 2014. Please then justify any salary or benefits increases above inflation based on comparable salary or benefit equivalents or other data available to EWW.



Response:

18.1 Please see below.

Table 5.1-1
Salaries and Benefits
2012-2017
(\$ thousands)

Cost Category	New 2012D	A 2012A	New 2013D	B 2013A	C 2014D	D 2014F	New 2014A	E 2015F	F 2016F	G 2017F
1 Labour and Salary	354	358	362	371	369	429	351	424	435	447
2 Benefits	76	62	77	74	79	96	86	94	97	100
3 Salary Transfers to Capital	(63)	(44)	(68)	(11)	(43)	(33)	(14)	(34)	(35)	(29)
4 Total Salaries and Benefits	367	377	371	434	405	492	423	485	498	517

Three factors contribute to the difference between 2014 forecast and 2014 actual Salaries and Benefits, as follows:

1. In late 2014 EPCOR completed a management reorganization in its British Columbia (BC) Operations, which resulted in the EWW site manager taking responsibility for another site for several months in 2014. Therefore, a portion of the EWW site manager's salary and benefits was transferred to the other site, during the period for which the manager had responsibility for both sites. This salary transfer was not reflected in the 2014F amount. As well, the EWW Site Manager's annual incentive for 2014 was also transferred to the new site, even though the majority of the incentive should have been remained in EWW's 2014 Salaries and Benefits. In 2015, with the completion of the transition following the BC restructuring, EWW Labour and Salary will return to the fully staffed levels shown in the 2015 forecast;
2. Following an annual review of management oversight activities, the management oversight charges to EWW were reduced to reflect lower than forecast levels of oversight during 2014 relative to forecast. This reduction is associated with increased management oversight required at other EPCOR sites in 2014.



3. The 2014 actual amounts reflect a one-time adjustment related to employee vacation entitlement, creating a further difference between 2014 forecast and actual costs.

In 2015, the factors above that impacted 2014 actuals reflect one-time events during the transition period which followed the 2014 restructuring. The 2015-2017 labour and salaries forecast reflects EWW's forecast for senior management oversight, direct site management, benefits and salary transfers following the end of this transition period.

- 18.2 The Director, Municipal Operations provides oversight and leadership for EWW staff to ensure the operations meet EPCOR's work and product quality standards and conform to company policies and procedures. Many programs (safety, environmental management, risk reduction, asset management) are provided by EWSI to EWW and it is senior management's responsibility to ensure that these programs are adapted to the various sites and implemented throughout the BC region of the company. The costs for senior management oversight would remain materially the same whether some of the capital works were deferred or cancelled.
- 18.3 The gross salaries and benefits for EWW employees and the number of employees for each of the years from 2011 through 2014 are shown in the table below. Based on the information below, gross salaries and benefits have increased by an average rate of 1.8% which was below the allowed wage and salary escalator of 2.0% per the 2012-2014 RRA. The large volatility during this time period is primarily due to changes in management staff and the amount of overtime incurred by EWW staff. The fact that the employee group in EWW is very small makes such changes more volatile.



**Gross Salaries and Benefits / EWW Employees
2011-2014
(\$ thousands)**

	A 2011D	B 2012A	C 2013A	D 2014A
1 Labour ,Salary & Benefits (per Table 5.1-1)	442	420	445	437
2 Less: Overtime, Incentive & Other Wages	(47)	(65)	(65)	(39)
3 Gross Salaries and Benefits	395	355	380	398
4 Full-time Equivalent Employees (FTE's)	3.95	3.84	3.57	3.82
5 Gross Salaries and Benefits / FTE's	100	92	107	104
6 Percentage increase / (decrease)		(7.7%)	15.4%	(2.3%)

*Note: Gross salaries and benefits include labour and salary, benefits and incentive. Full-time Equivalent Employees is a measure of the time spent by individual employees in a specific business unit, then aggregated. For example, an employee who performs 90% of their work at EWW would be referred to as 0.90 FTE.



Reference: Application, pg. 52-53& Financial Schedule 2.2

Explanation: Operations and Maintenance.

Request:

- 19.1 Why is there a large increase in telecommunications costs in 2015?
- 19.2 Why is there a large increase in materials and supplies costs in 2015?
- 19.3 For the forecast period, please break out the contractors and consultants forecasts by program or project (e.g., Leak detection program).

Response:

- 19.1 Based on the 2012-2014 actual costs, EWW proposes to reduce the telecommunications costs to \$23 thousand in 2015, escalated in 2016 and 2017 in Financial Schedule 2.2 in its refiling.
- 19.2 The \$10 thousand increase in materials and supplies costs in 2015 is for repair and roofing costs for sheds.
- 19.3 See below.



Table CRW-EWW-19.2-1
Contractors and Consultants
2012-2017
(\$ thousands)

Program / Project	E 2015F	F 2016F	G 2017F
1 Leak Detection Program	30		
2 Model Validation and Rezoning Study	35		
3 Aesthetics Study	25		
4 Geotechnical Study		20	
5 Master Plan			26
6 Annual Maintenance Program	45	46	47
7 Total Contractor and Consultants	135	66	73



Reference: Application, pg. 46 & 63

Explanation: Depreciation rates. “EWW conducted a review of its depreciation rates, and compared the Comptroller recommended depreciation rates with those previously used by EWW and is proposing to adopt the depreciation rates recommended by the Comptroller commencing on January 1, 2015 with the exceptions of reservoirs and equipment.” And “Based on these reviews, EWW is proposing to adopt the depreciation rates approved by the Comptroller for EPCOR White Rock Water Inc. in Order 2394 commencing on January 1, 2015.”

Request:

- 20.1 Please further explain why depreciation rates for reservoirs and equipment are to be different from the Comptroller recommended rates.

- 20.2 Please state the Comptroller recommended and EWW recommended depreciation rates for reservoirs and equipment.

Response:

20.1 Utility assets are depreciated over the shorter of the assets’ physical, technological, commercial or legal lives. In connection with the EWR 2014-2017 RRA, a review of depreciation rates was completed. In this review, EWR consulted with KWL asking them to assess if the recommended depreciation rates are reasonable. EWR also compared the Comptroller-recommended depreciation rates with the rates previously used for EWR and with those of other EPCOR-owned utilities. Given the similarities between White Rock and French Creek, it was considered the same recommendation be applied to EWW as EWR. As a result, the Comptroller’s recommendations were accepted for all but two asset classes. The actual lives for concrete reservoirs and office and stores equipment are shorter than the lives recommended by the Comptroller.



20.2 The Comptroller recommends 75 years for concrete reservoirs and 20 years for office and stores equipment. EWW's recommends 60 years for concrete reservoirs and 15 years for office and stores equipment. As EWW's reservoir was developer funded, there is no impact to EWW's rate base as a result of these changes.



Reference: Application, pg. 54-55 & Financial Schedule 2.3

Explanation: Inter-corporate service charges were recently reviewed by the Alberta Utilities Commission and the Comptroller for EWR.

Request:

- 21.1 Please confirm that the methodologies and allocators used for the development of EWW inter-corporate service charges are the same as approved for EWR. If there are any changes, please explain them.
- 21.2 Please confirm that EWR and all other EPCOR utilities are allocated corporate asset usage fees.
- 21.3 Please explain the % Allocated to EWW column on Financial Schedule 2.3.
- 21.4 The total inter-corporate service charges are approximately \$200,000/yr. Please demonstrate how these charges are less than EWW might face on a stand-alone basis.

Response:

21.1 As explained in Appendices F-2 and F-3 of the Application, inter-corporate service charges are allocated to EWW and EWR in a two-stage process, first from EUI to EWSI, then from EWSI to its subsidiaries, including EWW and EWR. EUI uses the same methodology and allocators to allocate costs to its subsidiaries, including EWSI. EWSI, in turn, uses consistent methodologies and allocators to allocate EUI costs to EWSI's subsidiaries.

EWSI reviews its inter-corporate cost allocation process annually, ensuring that the impacts of organization refinements, regulatory decisions and other pertinent factors are



incorporated into the intercorporate cost allocation models. Accordingly, there are some minor differences between the allocators used for EWR, which reflect the allocation model in effect for the 2013 fiscal year, and those of EWW, which are based on the 2014 cost allocation model. The differences in allocators are summarized in Table CWR-EWW-21-1 below.

Table CWR-EWW-21-1
Intercorporate Service Costs
Differences between 2013 and 2014 Allocators

Service	2013 Allocator (used for EWR)	2014 Allocator (used for EWW)
Services provided by EUI		
Corporate Finance - Accounts Payable function	Composite plus Capex	Invoice Lines
Supply Chain Management - Corporate Procurement function	Composite plus Capex	Composite
Services provided by EWSI		
Controller	Composite plus Capex	Composite for all functions, except Capital Accounting which is based on Capital Expenditures.
Information Services	EWSI Headcount	EWSI Total Assets
Supply Chain Management	Composite plus Capex	Composite
Shared Services Incentive	Composite plus Capex	Average based on allocated costs above
Asset Usage Fees		
Furniture & Fixtures	Proportion of EUI corporate service charges	Composite
Information Systems	Proportional of IS costs	EWSI Headcount
Leasehold Improvement EPCOR Tower	Composite	EWSI Headcount
Oracle General Ledger System	Proportion of Finance and & Purchasing Costs	Composite



The differences in allocators have only minimal impacts on intercorporate service cost allocations. For example, the removal of capital expenditures from the composite allocator changes the composite allocator for EWW from 0.52% to 0.51%, resulting in a negligible impact on EWW's inter-corporate service costs.

21.2 Confirmed.

21.3 The percentage allocated to EWW column on Financial Schedule 2.3 is EWW's share of the Inter-corporate service allocated to it by EWW. This table shows that, on average, EWW is allocated 0.52% of EWSI's inter-corporate service costs, which is very close to the composite ratio of 0.51%.

21.4 The ability of EUI and EWSI to provide centralized services enables EWW to achieve a level of administrative support and service expertise that would not ordinarily be available to a small stand-alone entity. These inter-corporate services are provided in detail in Appendices F-2 and F-3 to the application. Inter-corporate services replace many functions that would otherwise be required to be performed either in-house or outsourced. For many inter-corporate services, EWW benefits from EUI's and EWSI's economies of scale; EWW is able to obtain these services at a cost lower than the cost of providing them internally or acquiring them externally. EWW notes that, in aggregate, EWW's inter-corporate service costs amount to the costs of less than one and one-half staff, which EWW considers to be significantly less than the number of staff EWW would require to provide these same inter-corporate services on a stand-alone basis.

Some key examples of the inter-corporate services provided by EUI to EWW and the associated costs are discussed below.



Corporate Finance – Annual costs allocated to EWW for corporate finance services provided by EUI are approximately \$16 thousand. Corporate finance services provided to EWW includes payroll processing, financial statement audits, corporate accounting advice and direction to each subsidiary’s finance group, developing and maintaining corporate finance policies and procedures, budget and forecasting compilation, financial reporting and analysis, accounts payable, preparation of tax returns and income tax provisions for financial statement reporting, etc. EWW considers that the annual costs of \$16 thousand for these services are much lower the costs EWW might face on a stand-alone basis.

Information Technology Direct Corporate Charges - Annual costs allocated to EWW for IT Services provided by EUI are approximately \$18 thousand. IT services provided to EWW includes application support, relationship management and license fees, desktop support and server support. EWW considers that the annual costs of \$18 thousand for these services are much lower the costs EWW might face on a stand-alone basis.

Information Systems Infrastructure - Annual costs allocated to EWW for Asset Usage Fees for equipment owned by EUI are approximately \$14 thousand. IS assets include servers, electronic storage devices, information system networks, desktops and IS applications. EWW considers that the annual costs of \$14 thousand for these services are much lower the costs EWW might face on a stand-alone basis.

Supply Chain Management - Annual costs allocated to EWW for supply chain management services provided by EUI are approximately \$13 thousand. The supply chain management services provided to EWW includes procurement (strategically sourcing goods and services in support of operating and capital activities, support of purchasing processes and procurement card management, etc.), contract management, disaster recovery planning facilities (operation and maintenance of the offsite data centre for IT infrastructure), security (threat and risk analysis of all security related threats and vulnerabilities), etc. EWW considers that the annual costs of \$13 thousand for these services are much lower the costs EWW might face on a stand-alone basis.

Human Resources – Annual costs allocated to EWW for corporate human resources services provided by EUI are approximately \$13 thousand. The Human Resources services provided to EWW includes Total Rewards, Human Resources Consulting and Talent Management. EWW considers that the annual costs of \$13 thousand for these services are much lower the costs EWW might face on a stand-alone basis.

Public and Government Affairs – Annual costs allocated to EWW for public and government affairs services provided by EUI are approximately \$8 thousand. The public



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and government affairs services provided to EWR include Community Relations, Corporate Communications, and Government Relations. EWW considers that the annual costs of \$8 thousand for these services are much lower the costs EWW might face on a stand-alone basis.



Reference: Application, pg. 64 Table 7.4-1

Explanation: Rate base has doubled.

Request:

22.1 Recognizing that rate base is proposed to double over the 5 years from 2012 to 2017, please explain the actions that EWW can take to minimize costs to ratepayers while continuing to provide safe and reliable service.

Response:

22.1 Refer to EWW's response to CWR-EWW-1.0.



Reference: Application, pg. 65

Explanation: Rate of Return on Equity (ROE).

Request:

- 23.1 Please compare the proposed EWW ROE premium of 130 bp with that approved for EWR and identify any reasons why EWW should be awarded a different ROE premium.
- 23.2 The EWR evidence included expert evidence from Ms. McShane. In the absence of expert evidence from EWW would it not be appropriate to award EWW the same ROE premium as EWR? Please discuss.

Response:

- 23.1 For purposes of its 2014-2017 revenue requirement and rates application, EPCOR White Rock Water Inc. (EWR) filed evidence prepared by cost of capital expert, Foster and Associates Inc., for EWR which proposed an equity risk premium of 1.5% above the BCUC benchmark return on equity (ROE) and common equity ratio of 45% based on the evidence which determined EWR's business risks were higher than when it was last assessed. The expert evidence took into account the impact on business risks associated with EWR's Total Water Quality Management Project planned for the 2014-2017 period. Under Order 2394, the Comptroller approved a 1.0% equity risk premium for EWR and 40% common equity ratio.

EWW proposes that maintaining the 1.3% equity risk premium BCUC benchmark ROE, approved by the Comptroller under Order No. 2310 for the 2012-2014 test period, is reasonable and appropriate because there have not been any notable changes in the business risks of the Utility since the 2012-2014 period. EWW elected not to update the cost of capital evidence because, in EWW's opinion, there have been no notable changes



in business risks of the Utility and because EWW considered that the costs required to update the cost of capital evidence are not warranted given the small size of the Utility.

The equity risk premium of 1.3% proposed for EWW is 30 basis points (0.3%) higher than the equity risk premium of 1.0% approved for EWR for the 2014-2017 period. This is a reasonable reflection of the higher business risks for EWW compared to EWR. A higher equity risk premium for French Creek is reasonable and appropriate given that it is a smaller utility in terms of customer base and less diversified in terms of customer load than EWR. Table CWR-EWW-23.1 provides the number of customers, employees, revenues and rate base for EWW compared to EWR and compared to the Benchmark BC Utility.

Table CWR-EWW-23.1
Comparison of EWW to EWR and the Benchmark BC Utility¹

	A EWW	B EWR	C Benchmark BC Utility ²
1 Customer Count	2,166	9,992	841,491
2 Employees	4	7	1,550
3 Revenues	\$1,270,947	\$2,419,069	\$1,266,000,000
4 Rate Base	\$4,178,223	\$4,836,451	\$2,725,000,000

While EWW faces similar business risks to EWR generally, EWW faces additional risk related to its smaller size as compared EWR as the very small size of EWW magnifies the risks of its operations. EWW's customer base is less than one quarter of EWR's customer base. Negative events have a much greater impact on the entire system for small utilities and small utilities are more dependent on individual customers for cost recovery. With the lack of economic diversity in the service area, limited growth prospects and concentration of assets, a small utility has less ability to diversify its risks;

¹ EWR 2014-2017 Revenue Requirement and Rates Application, page 67, Table 7.2.1-1.

² Pacific Northern Gas Ltd., Generic Cost of Capital Proceeding – Stage 2, Evidence of PNG, page 27, Table 2.
http://www.bcuc.com/Documents/Proceedings/2013/DOC_35092_B3-14_PNG_Evidence.pdf



negative events are likely to have greater impact on the earnings or viability of a smaller company. The impact of small size has frequently been exhibited in lower debt ratings for companies whose financial parameters are stronger than their larger peers.

In addition to the size difference, compared to EWR, EWW faces the additional business risk associated with the requirement to pre-fund capital projects costs associated with new capacity additions and then recover these costs through the Deferred Capacity Trust Fund (DCTF). In anticipation of additional development in its service territory, EWW has spent approximately \$2.3M over the 2012-2014 period on developing new supply sources and building distribution system capacity to accommodate new customers. Through the DCTF, these costs should be paid for by developer contributions based on the additional customer connections. However, expected customer growth has not occurred due to a downturn in the economic conditions since 2008 and the net DCTF balance of \$0.9M at December 31, 2014 remains unfunded. While EWW earns interest on the unfunded balance in the DCTF, EWW is not allowed a return on these costs. There is also a significant risk to EWW of not recovering these costs through developer contributions in a reasonable timeframe if customer growth does not develop in the EPCOR's service territory. This situation compounds the business risks for EWW relative those of EWR which does not face the same supply issues as EWR and does not have a DCTF.

- 23.2 No, it would not be appropriate to award EWW the same ROE premium as EWR because EWW faces different and higher business risks compared to EWR. Refer to EWW's response to 23.1 for an explanation.



Reference: Application, pg. 66 para. 193

Explanation: Cost of Debt.

Request:

- 24.1 Please confirm that the cost of debt mechanism in paragraph 193 is the same as previously approved for EWW
- 24.2 Please provide a table showing EUI's 20 year debt issue spread over GOC bond yields over the past 3 years. If the average spread over that period is materially different from 1.55%, please explain why the proposed spread should be used.
- 24.3 Please provide a table showing EUI's 20 year debt issue spread compared to a BBB rated company over the past 3 years. If the average spread over that period is materially different from 0.48%, please explain why the proposed spread should be used.
- 24.4 Please confirm that the actual GOC 20 year bond yield at the time of debt funding from EUI will be used to set each debt rate. Would it not be better to also use the actual spread at the time of debt issuance for the EUI and BBB rated company premiums?
- 24.5 Please provide a calculation of the debt rate if it was being funded at Feb. 1, 2015.

Response:

- 24.1 Confirmed.
- 24.2 Please see below.



Table CWR-EWW-24.2-1
20 Year Debt Issue Spreads
2012-2014
(basis points)

Debt Issue Spreads		A	B	C	D
		2012	2013	2014	2012-2014 Average
1	EUI spread over GOC bond yields	181	159	133	158

As indicated in Table CWR-EWW-24.2-1, the average spread between EUI and GOC bond yields is not materially different from 1.55%.

- 24.3 EUI does not maintain the average spread between EUI and a BBB rated company over a three year period. The spread is pulled for a specific date. The most recent spread is 52 basis points obtained in December 2014, and is not materially different from 0.48%.
- 24.4 Not confirmed.

EWW is proposing to use the same approach for determining the cost of new long-term inter-company debt that has previously been approved by the Comptroller. The proposed cost of new long-term debt reflects EUI's cost of a new 20-year debt issue, plus the spread between EUI's cost and the cost of a new 20-year BBB rated debt issue, plus a transaction cost. The use of the forecast interest rates based on quotes obtained at the time of preparing the Application rather than an interest rate based on the GOC 20 year bond yield and spreads at the time of debt funding from EUI is considered appropriate because EWW's debt is based on inter-company issuances and not EUI issuances. Furthermore, any differences between the forecast rate and a rate based on GOC yields and spreads at the time of EUI debt issuance would be fully offset by the interest deferral account mechanism.



24.5 EWW's debt rate for 20 year debt issued on February 1, 2015, is 4.01%, as presented in Table 24.5-1:

Table 24.5-1
Debt Issuance as of February 1, 2015

		A
		20-Year Term
		(%)
1	GOC Bond Rate ¹	1.74
2	EPCOR Utilities Inc. spread over GOC	1.58
3	Liquidity premium for 20 year tenor	0.12
4	BU Rating Spread: BBB	0.52
5	Issuance Cost	0.05
6	EWW 20 Year Rate	4.01%

¹GOC Bond rates are an interpolation derived from yields on 10 year and 30 year GOC Benchmark bond yields (Bank of Canada data series V39055 and V39056 at February 2, 2015).



Reference: Application, pg. 68 & Schedule B-1 Schedule G

Explanation: Water Tariff terms & conditions.

Request:

25.1 Please explain the derivation of the Rent Charge Rate per annum for each of the 3 test period years.

25.2 Please explain the rationale for the rate of interest of 18% on Rent Charges arrears.

Response:

25.1 Rent Charge per annum is calculated on the basis of 70% of the minimum annual charge (15 cubic meters) for residential unit customers. In response to this inquiry, EWW reviewed its calculations for rent charges and noted an error. EWW proposes to adjust these charges in its re-filing to reflect the calculation method indicated in Table CWR-EWW-25.1-1 below.

Table CWR-EWW-25.1-1
Availability of Service Charge Calculation
2015-2017

	A	B	C
	2015	2016	2017
Base Rates			
1 Residential Monthly Charge (first 15 cubic meters)	\$40.45	\$45.29	\$50.70
2 multiplied by 70%	70%	70%	70%
3 multiplied by 12 months	12	12	12
4 Annual Availability of Service Charge	\$339.76	\$380.40	\$425.90

25.2 The rate of interest of 18% on Rent Charge arrears is based on the CPCN Application Guide Water Tariff Sample (Schedule G, Appendix 2 to the Application Guide).



Reference: Application, pg. 68 & Schedule B-1 Schedule G

Explanation: The Leger survey results indicate that four-in-five customers are satisfied with each aspect of their tap water quality and the proportion of residents who drink only tap water has significantly increased.

Request:

26.1 How did EWW take these survey results into account when considering whether to undertake a further survey related to possible odour and taste of the water? Is the cost of the additional survey to be paid by all customers warranted when other costs are increasing so much and a large majority of customers seem satisfied with the water quality.

Response:

26.1 EWW interpreted the Leger survey to mean that most of the French Creek customers are satisfied with the quality of their tap water, including taste and odour. However, at the meeting on December 10, 2014 with the Community Advisory Panel, some members reported complaints about the water quality – particularly the taste and odour. Two members reported that they and many other members of the community had complaints about the taste and odour. EWW responded to this feedback by proposing to conduct an additional water quality study during the 2015-2017 timeframe. Often in operating distribution systems, there are pockets of customers who complain of taste and odour issues. The first step in addressing these complaints is to conduct a study before making changes to operating protocols or implementing capital treatment upgrades. Since all customers expect the same quality, including taste and odour, the study cost would be borne by all customers not just those affected by the taste and odour.



If the water has taste or odour issues, customers will not be satisfied. As a result, and given the complaints by members of the Community Advisory Panel, EWW does believe that the study is warranted. However, given that odour and taste issues, if they exist, have no effect on the safe and efficient operation of the utility, EWW is not opposed to deferring this study.



Reference: Appendix D pg. 77 Project 20

Explanation: The Church Road South Test Well (TWs1) is estimated to cost \$313,000 to complete but will only add 1.6 L/s peak capacity.

Request:

- 27.1 With the added capacity of the other wells to be tied in during this test period it is not clear why this well should proceed at this time. Please expand the justification of this project.
- 27.2 The Master Plan indicates that the purpose of TWs1 was to investigate if it was possible to access a deeper regional aquifer. What was the result of this investigation, and what benefit has been or can be achieved by access to this deeper aquifer?

Response:

- 27.1 This developer-funded well was part of the Source Water application to VIHA. Because of the potential limited capacity, it would be the last well put into production during the current filing period. This well has the advantage of being separate from other aquifers because of its depth and will be less susceptible to draw-down from other wells in the area.
- 27.2 TWs1 successfully intercepted a deeper regional aquifer. TWs1 was completed with nested screens to maximize productivity. The majority of recharge to this well is provided by the deeper aquifer. The benefit of this well is that it does not interact with, and reduce the yield of existing wells or the many other non-EWW public supply wells in the area.



Reference: Appendix D pg. 42

Explanation: The existing system rated supply capacity from the groundwater wells with the largest well out of service is 35.5 L/s (3.07 MLD). The existing max day demand (46.3 L/s) and 2031 future max day demand (61.3 L/s) exceed the current rated supply capacity by 10.8 L/s and 25.8 L/s respectively.

Request:

- 28.1 Please describe what constitutes a well out of service.
- 28.2 If it is purely mechanical/electrical failure, would it not be less expensive, while achieving a higher rated capacity than the current program, to twin well RWn2 (the largest well) and only complete the tie in of RWs1?
- 28.3 Please confirm if well RWn2 (Oceanside #2) is 10 L/s as listed in Table 8-1 (page 41) or 13 L/s.

Response:

- 28.1 For the purposes of developing rated supply capacity, a well is said to be out of service when it can no longer provide water to the system. A well out of service is typically either temporary or catastrophic. When a well is out of service temporarily, the causes are usually power outages or failure of mechanical components, electrical components, control system components, piping failures or ruptures in the connections to the supply system. These usually require a week or two to correct, depending upon replacement order times, etc. Catastrophic failures typically occur in older wells where the casing or screen is breached, resulting in a well which is no longer serviceable. A new well, therefore, must be drilled. Replacement time is typically in the order of months.



- 28.2 It is premature to speculate that twinning RWn2 will result in a net increase in capacity from the Oceanside area, which can then be used to supplement other parts of the system. The prudent approach is to complete tie-in of RWs1, ACs1 and TWs1 given the closer location of these wells to the areas of demand. RWs1, ACs1 and TWs1 also have minimal impact on neighbouring wells and are better recharged than RWn2.
- 28.3 Not confirmed. Well RWn2 (Oceanside #2) is 13 L/s, not 10.0 L/s as listed in Table 8-1 (page 41 of Appendix G). The updated capacity is the installed capacity of the RWn2 well, as outlined in the Source Water Application filed separately with VIHA and the Comptroller's office. The 10 L/s value came from the original pump tests in 2010 and was used by KWL in the Master Plan quoted in Table 8-1. It is important to note that, even with the change to this well capacity (largest well in system), the total supply capacity of the system with the largest well out of service (as calculated on Table 8-1 of the Master Plan) would still be 35.5 L/s. Therefore, there is still a need for 10.8 L/s of new capacity to serve existing demands (as indicated on p. 42 of the Master Plan).



Reference: Table 4.3-1 pg. 43

Explanation: Escalation factors for BC Hydro presented in table.

Request:

29.1 Please review and confirm the % escalation rates for BC Hydro. The planned escalation rates for 2015 are 9%, 2016 are 6%, and 2017 are 4% per page 23 of the document cited <http://www.newsroom.gov.bc.ca/downloads/presentations.pdf>.

Response:

29.1 The power cost escalation rates for 2016 and 2017 in Table 4.3-1 of the Application should be corrected as follows based on the BC Hydro proposed rate increases of 9% for Fiscal 2016 (April 1, 2015 to March 30, 2016); 6% for Fiscal 2017 (April 1, 2016 to March 30, 2017) and 3.5% for Fiscal 2018 (April 1, 2017 to March 30, 2018):

$$2016: 6\% * .25 + 4\% * .75 = 4.5\%$$

$$2017: 4\% * .25 + 3.5\% * .75 = 3.6\%$$

A revised version of Table 4.3-1 is provided below. EWW proposes to make this correction to the power cost escalators in Financial Schedule 2.1 in its refiling.



Table 4.3-1
Escalation Factors

	Source	A 2015	B 2016	C 2017
1 Wages and Salaries	2014-2017 Escalators Report		2.7%	2.7%
2 Power	10 Year Plan for BC Hydro		4.5%	3.6%
3 Other Operating Costs	BC Ministry of Finance Feb 2014 Budget Update – 2014/15 – 2016/17		2.0%	2.0%
4 Capital/Construction	2014-2017 Escalators Report	3.9%	3.9%	3.6%
5 Consumer Price Index	BC Ministry of Finance Budget and Fiscal Plan 2014/15 – 2016/17, page 73		2.0%	2.0%



Reference: Page 35 para. 87 - Vehicle Replacement

Explanation: This was a life cycle replacement project. The former vehicle exceeded its original useful life and a replacement of this service vehicle is more cost effective than maintaining this aging asset. The approved cost of this project was \$52 thousand. The actual cost was \$59 thousand.

Request:

30.1 It is understood that a replacement truck for the operator was purchased from the EPCOR Port Hardy operation. Please provide information on the type of truck purchased (sufficient to prove the high value of a standard pickup), the age and price of truck replaced, and reasons as to why EPCOR paid more for a used truck from a sister operation than it was approved for to purchase a new vehicle.

Response:

30.1 This project relates to two vehicles replaced between 2012 and 2014. The original capital project was to purchase a new van for \$52 thousand. A Nissan NV2500 van was purchased for \$43 thousand in 2012. The remaining, \$16 thousand relates to the lease buyout of a vehicle that was previously used by EPCOR's Port Hardy operations. The vehicle purchased was a well-maintained 2011 GMC Silverado Pick-up truck, with only 65 thousand km. The vehicle replaced was a Chevrolet Silverado truck originally purchased in 2006 for \$23 thousand. This vehicle would have had to be replaced in the 2015-2017 test period. EWW is currently trying to sell it for \$1,000- 1,500.

EWW determined that it was prudent to purchase this vehicle for \$16 thousand, as the 2006 vehicle was nearing the end of its useful life, required significant maintenance, and the purchase price of a new replacement vehicle would far exceed \$16 thousand. The



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vehicle purchased had a fair market value of \$18 thousand, and EWW was aware of the history and maintenance of the vehicle.



Reference: Page 36 - Drew Road Pump Station Upgrades

Explanation: This project consists of various necessary upgrades to the water treatment plant and pump station. This project is required to improve safety and efficiency and to accommodate the additional water supply wells that have been constructed. This project includes additional ventilation, additional SCADA work, installation of variable frequency drives and isolation valves, increasing plant discharge header to 150mm diameter, elimination of pressure reducing piping, security and fencing, repairs and replacement of piping. This project was deferred from the 2012-2014 test period and involved some changes in scope, reducing project costs from \$499 thousand (developer funded) to \$268 thousand (rate base funded). The 2014 Master Plan reflects KWL's assessment of the condition and nature of the assets being replaced, showing the majority of the work on this project is required to provide service to existing customers, rather than support customer growth, as had been assumed in the 2012-2014 RRA.

Request:

- 31.1 The Master Plan (pg. 72) gives an estimate of \$215 thousand. Please provide the rationale for the additional \$53 thousand forecasted.
- 31.2 How many pumps in the forecasted cost are included to have variable frequency drives (VFDs) installed on them? Does this include for the fire pump VFD recommended in the 2011 Stantec Report referenced by KWL?
- 31.3 Are VFDs required for all three pumps, or can the utility improve safety/efficiency through the addition of just a single VFD? Could soft starts provide the same efficiency/safety on the supply pumps or fire pump at a lesser cost?



31.4 The Master Plan (pg. 72) indicates that this project should still allow for 9% of the cost to be developer funded. Please explain why this has gone to 100% rate base funded.

Response:

31.1 See below:

Table CWR-EWW-31.1-1
Drew Road Pump Station Upgrades

	A
	Costs
1 Per Master Plan	215,000
2 Internal Labour	14,700
3 Fringe burden on labour	6,422
4 5% Capital Overhead	11,806
5 Project Cost in 2014\$	247,928
6 Inflation at 3.9% for 2 years	19,716
7 Project cost in 2016\$	267,644

31.2 Included in the forecasted cost are three pumps on which VFDs are installed: two distribution and the fire pump as recommended in the Stantec report.

31.3 EWW has included the cost of VFDs on three pumps in its forecast. This allows for maximum system flexibility. It may be possible to use only two VFDs but this cannot be determined until the design phase. If, during the design phase, it appears that a soft start motor can be substituted for a VFD without sacrificing overall system performance EWW will do so.

31.4 This project should be 9% developer funded, for increasing the discharge header piping to add capacity, and 91% rate base funded. EWW proposes to update this in its refiling.



Reference: New Building Canada Fund – Small Community Fund (NBCF-SCF)

Explanation: **Comment:** The NBCF-SCF allows for private utilities (including for-profit) to apply for funding of new infrastructure for drinking water infrastructure. This includes for up to 25% funding (combined from provincial and Federal grants) on for-profit systems. Please comment if EPCOR is planning to seek the support of a resolution from the Regional District and apply for funding through this program for any of the 2015-2017 capital projects.

The application guide is available at:

<http://www2.gov.bc.ca/gov/DownloadAsset?assetId=7EECBAF12B6D4D37B62B3AF9B7E15209&filename=programguide.pdf>

Request:

Response:

32.1 EWW appreciates the information forwarded on the New Building Canada Fund program and will investigate this program as a potential source of funding for EWW's capital projects.