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November 20, 2017

British Columbia Utilities Commission
Suite 410, 900 Howe Street
Vancouver, BC
V6Z 2N3

Attention: Mr. Patrick Wruck, Commission Secretary and Manager, Regulatory Support

Dear Mr. Wruck:

Re: FortisBC Inc. (FBC)

Application for Amendment to Electric Tariff Rate Schedule 50 Lighting – All Areas

FBC files pursuant to sections 59-61 of the *Utilities Commission Act*, for British Columbia Utilities Commission (BCUC or the Commission) approval to amend Rate Schedule 50 Lighting – All Areas, to accommodate the billing of Light Emitting Diode Type III lights.

If further information is required, please contact Corey Sinclair at (250) 469-8038.

Sincerely,

FORTISBC INC.

Original signed:

Diane Roy

Attachments



FORTISBC INC.

**Application for Amendment to Electric
Tariff Rate Schedule 50
Lighting – All Areas**

November 20, 2017

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1. INTRODUCTION

1.1 BACKGROUND

In 1998 FortisBC Inc. (FBC, then West Kootenay Power Ltd.) applied to amend its Rate Schedule (RS) 50 Lighting – All Areas (RS 50) after discussions with its largest lighting customer at the time, the City of Kelowna. FBC's proposal was to significantly restructure the cost recovery for lighting supply and broaden options for all customers.

FBC proposed to supply three types of lighting service, which are defined in the RS 50 tariff as:

- **Type 1** – For a Customer-owned street lighting fixture or lighting system where the Customer owns and maintains at its own expense the light standards if any, lighting fixtures and all auxiliary equipment.
- **Type II** – Customer-owned street lighting fixtures installed on existing Company poles at the Customer's expense with all maintenance performed by the Company at costs recovered on an actual basis in accordance with the Company's Code of Conduct and Transfer Pricing Guidelines.
- **Type III** – For Company-owned street lighting fixtures on existing Company-owned poles where the Company performs all maintenance according to a fixed average monthly fee included in the monthly rate.

In essence, for Type I lighting, FBC is only providing electricity, whereas for Type II and Type III FBC is providing electricity and maintenance. For Type II the maintenance is billed based on actual maintenance costs incurred whereas for Type III the maintenance is included in the monthly rate.

For Type I and Type II Lighting all costs of supply, including a component for capital recovery and maintenance of FBC's system, electricity costs and an allocation of general and administrative costs were to be recovered by a fixed per kWh energy rate. The monthly per light flat rate for different light types was calculated by multiplying the constant energy per kWh charge by the monthly energy usage of the different lighting types.

Type III rates were determined using the same constant energy per kWh charge as for Type I and Type II Lighting, multiplied by the monthly energy usage but with additional charges to recover the added costs for the Company to maintain the Type III Company-owned lights.

A written hearing process resulted in British Columbia Utilities Commission (BCUC or the Commission) Order G-42-99 and the accompanying Decision in which the Commission approved the application with the restructuring to become effective on June 1, 1999. Since that time the Lighting rates have been subject to annual rate increases with no changes to the structure of the rates. As a result of the Company's 2009 Cost of Service Analysis and Rate Design Application (2009 COSA and RDA), the lighting rates have been subject to rebalancing, however this has not had any effect on the Lighting rate structure – the charges for each different size of Type I or Type II light are still determined by the monthly energy use times a constant per kWh charge.

1 Lighting technology has advanced rapidly over the last few years. One of the more promising
2 innovations to become commercialized is Light Emitting Diode (LED) lighting, across a wide
3 spectrum of end-uses, including for street lighting purposes. LED streetlights use about half the
4 energy per unit of light output as compared to high pressure sodium (HPS) fixtures.

5 The “white” light spectrum emitted by LED lighting, compared to the yellowish light provided by
6 HPS, is considered preferable to the human eye. The LED lighting reportedly aids in detecting
7 movement and distinguishing vehicular colour. These attributes contribute to traffic safety for
8 both motorists and pedestrians.

9 The evolution of LED street lighting led FBC to file an application with the Commission for approval
10 of modifications to RS 50 to accommodate Type I and Type II LED street lights (LED Type I and
11 II Application) on September 25, 2015. The LED Type I and II Application did not request approval
12 of any modifications to accommodate Type III (Company-owned, Company-maintained) LED
13 street lights. In the LED Type I and II Application, FBC stated that it intended to assess the
14 demand, and if necessary, develop a standard for Type III LED service and address this option
15 during its next COSA and RDA. The Type I and II Application requested a LED street light constant
16 rate of 19.36 cents per kWh effective January 1, 2016, which was approved by the Commission
17 pursuant to Order G-179-15.

18 Since the Type I and II Application, many of FBC’s municipal customers have requested the
19 installation of LED lights on Company-owned street lights in their service territories and an
20 associated Type III tariff rate. One of the primary objectives stated by customers interested in
21 implementing LED lighting is energy efficiency and the associated cost savings from reduced
22 consumption.

23 **1.2 APPROVALS SOUGHT**

24 As detailed in this application, FBC will be replacing existing Type III Company-owned lights with
25 new LED lights and requires a new RS 50 Type III (Company-owned, Company-maintained) tariff
26 rate for use in billing customers taking Type III lighting service.

27 FBC hereby applies to the BCUC, pursuant to sections 59-61 of the *Utilities Commission Act*
28 (UCA), for approval of the following:

- 29 a) Approval to include Type III LED lights under the existing Type I and II LED light per kWh
30 charge plus a per light maintenance charge for Type III LED lights (described in section
31 2); and
- 32 b) Approval of a correction to the existing RS 50 Terms and Conditions to clarify billing for
33 LED and Dimmable Lighting (described in section 3).

34 A draft of the order requested is attached as Appendix A to this Application. Blacklined and clean
35 versions of the proposed changes to RS 50 are attached as Appendix B and C, respectively.

1 **2. RS 50 TYPE III LED RATE**

2 In the Type I and II Application, FBC stated its intention to assess the demand, and if necessary,
3 develop a standard for Type III (Company owned) LED service and address this option during its
4 next COSA and RDA. Due to the demand for a Type III LED street lighting rate, FBC is proposing
5 a rate for billing Type III LED lights in advance of filing its COSA and RDA. Due to customer
6 support for Type III LED lighting, FBC is seeking approval of a Type III LED rate for 2018 and the
7 expected COSA and RDA regulatory process would not be able to accommodate approval of a
8 Type III rate to take effect in 2018.

9 The following sections detail the requested energy and maintenance charge for Type III LED
10 lights.

11 **2.1 ENERGY CHARGE**

12 FBC currently offers lighting service for fluorescent, mercury vapour and sodium vapour fixtures;
13 however, only three sizes of sodium vapour are now available for new or replacement fixtures.
14 The existing fixtures are provided as an unmetered service at fixed monthly rates. FBC also offers
15 Type I and Type II service for LED or dimmable lighting on a cost per kWh basis.

16 FBC is proposing to bill Type III (Company-owned and Company-maintained) lighting service
17 compatible with LED lamps on a cost per kWh basis, using the existing unit rate for Type I and
18 Type II LED lighting, plus a basic monthly fixed maintenance charge per fixture as set out in
19 Section 2.2 below. The current tariff already relies upon kWh based billing charges for Type I and
20 II LED street light billing. FBC proposes to use the same per kWh charge for Type III fixtures
21 since the consumption data for Type III lights is the same as for Types I and II.

22 The following section provides detail on the assumptions used to determine the updated
23 maintenance charge per fixture for LED lights.

24 **2.2 MAINTENANCE CHARGE**

25 Existing Type III rates for Mercury Vapour and Sodium Vapour lights (Legacy Lights) were
26 determined on the same basis as Type I and II rates but also include additional charges to recover
27 the added costs for the Company to maintain the lights.

28 The additional charge for existing Type III rates is approximately \$13.40 per light per month based
29 on RS 50 rates effective January 1, 2017¹. A derivation of the RS 50 Type III maintenance charge
30 for Legacy Lights is included in Appendix D.

31 Overall maintenance of the streetlight network involves scheduled lamp replacements, fault
32 repairs, emergency response for damage, and night surveys for outage identification. Due to their
33 longer lifespan and higher resistance to shock and vibration from wind and traffic, LED luminaires

¹ \$13.40 per month is the average monthly maintenance charge embedded in the current Type III monthly rate.

- 1 have a lower failure rate than Legacy Lights. Based on these characteristics, FBC is forecasting
- 2 a 60 percent reduction in Operating and Maintenance (O&M) costs due to reduced site visits to
- 3 maintain LED lights.

- 4 To reflect FBC's forecast of reduced O&M site visit costs by 60 percent, the Company proposes
- 5 to reduce the existing Type III maintenance charge by 60 percent for LED lights. Using January
- 6 1, 2017 rates of \$13.40 per light per month for non-LED lights as the basis, the new maintenance
- 7 charge for LED lights would be \$5.36 per light per month.

1 **3. RS 50 TERMS & CONDITIONS CLARIFICATION**

2 The LED Type I and II Application included the option of dimmable lighting to customers under
3 FBC's RS 50 Terms and Conditions. Dimming technology allows street lighting fixtures to operate
4 at full brightness during the hours when traffic is highest and then at lower lumen output in off-
5 peak hours. The LED Type I and II Application requested approval of changes to RS 50 to allow
6 for billing of LED lighting and dimmable lighting on the same cost per kWh basis with the customer
7 to be billed one-twelfth of their annual consumption each month. The requested changes to RS
8 50 Terms and Conditions as part of the LED Type I and II Application inadvertently excluded LED
9 lighting from the explanation of how these lighting accounts are to be billed.

10 FBC has included for Commission approval a correction to its RS 50 Terms and Conditions for
11 LED lighting billing that clarifies that all LED lighting accounts are also to be billed one-twelfth of
12 their annual consumption each month. The correction reflects how FBC currently bills customers
13 for both LED lighting and Dimmable lighting in its Customer Information System (CIS).

14 The addition to RS 50 Terms and Conditions is provided in blackline in Appendix B and a clean
15 version is provided in Appendix C.

1 **4. PUBLIC CONSULTATION**

2 A number of municipal customers with Type III lighting have contacted FBC to ask that RS 50 be
3 updated for LED lighting. FBC has followed up with in-person and telephone meetings to gather
4 information and feedback on potential options. In 2016, meetings were held with:

- 5 • The Village of Keremeos
- 6 • The Village of Warfield
- 7 • The Village of Slocan
- 8 • Regional District of Okanagan Similkameen
- 9 • Regional District of Kootenay Boundary
- 10 • The City of Trail
- 11 • The Town of Creston
- 12 • The Penticton Indian Band

13
14 FBC received positive feedback and support regarding the proposed changes and has included
15 letters from customers providing support for updating RS 50 to accommodate LED lighting
16 (Appendix E). Member of the Legislative Assembly, Linda Larson, has also provided a letter of
17 support. FBC also notes that the Village of Kaslo provided comments in support of LED lighting
18 in its Letter of Comment to the Commission dated October 10, 2017 submitted with respect to
19 FBC's upcoming COSA and RDA to be filed in 2017.

1 **5. PROCESS**

2 As described in Section 5, FBC has received multiple customer requests for a Type III LED lighting
3 option under RS 50.

4 The Commission previously approved the updates to RS 50 in the Company's Type I and II
5 Application by way of a written regulatory process with no information requests. The updates in
6 the Type III Application are similar to those already approved in the Type I and II Application, and
7 therefore FBC respectfully submits that no further process to review the Application is necessary.
8 FBC's proposed updates to RS 50 provide customers with an option to pursue energy efficiency
9 as envisioned in the Clean Energy Act and the updates to RS 50 do not result in cost shifting to
10 other rate classes.

11 Given all of the above, FBC respectfully requests an order from the Commission approving the
12 Application. In the event that the Commission requires further process to review the Application,
13 the Company proposes that a written process is sufficient.

Appendix A
DRAFT ORDER



ORDER NUMBER

G-xx-xx

IN THE MATTER OF
the *Utilities Commission Act*, RSBC 1996, Chapter 473

and

FortisBC Inc.
An Application for Amendment
to Electric Tariff Rate Schedule 50
Lighting – All Areas – Type III

BEFORE:

[Panel Chair]
Commissioner
Commissioner

on **Date**

ORDER

WHEREAS:

- A. On November 20, 2017, FortisBC Inc. (FBC or the Company) filed an application for approval to amend Electric Tariff Rate Schedule 50 Lighting – All Areas (RS 50) (the Application) to accommodate the billing of Light Emitting Diode (LED) Type III (Company-owned and Company-maintained) lights;
- B. The amendments to RS 50 include offering Type III lighting service on a per kWh basis plus a monthly per light maintenance charge;
- C. The Application also requests approval of an addition to RS 50 Terms and Conditions to clarify LED billing practises;
- D. The Commission has reviewed and considered the Application and determines that approval is warranted.

NOW THEREFORE pursuant to sections 59-61 of the *Utilities Commission Act*, the British Columbia Utilities Commission orders as follows:

- 1. The rate for Type III LED lights plus the monthly per light maintenance charge is approved.
- 2. Modifications to the RS 50 Terms and Conditions as described in the Application are approved.

DATED at the City of Vancouver, in the Province of British Columbia, this (XX) day of (Month Year).

BY ORDER

(X. X. last name)
Commissioner

Appendix B

RS 50 - BLACKLINED

Deleted: Third

SCHEDULE 50 - LIGHTING - ALL AREAS (Cont'd)

TERMS AND
CONDITIONS:

Dimmable Lighting (Cont'd)

For each dimmable fixture, the Customer will provide the Company with a schedule showing the rated wattage of the lamp and auxiliary devices together with a schedule showing the wattage consumed each hour and the resultant annual kW.h consumption. The Company will bill one-twelfth of the annual consumption each month. The Customer will provide timely notification of any changes of operation, number and/or wattage of fixtures on June 1 of each year. The Customer will provide access to the dimmable fixtures upon reasonable notice by the Company to the Customer.

LED Lighting

The Customer and the Company will agree on the annual consumption to be billed for each LED lighting account and the Company will bill one-twelfth of the annual consumption each month.

Maintenance of Type III Lights

Maintenance of Type III lighting fixtures shall be performed by the Company, the cost of which is provided for in the "Monthly Rate" of this Schedule. Such work will be undertaken by the Company during regular working hours and the Company will be allowed ten working days subsequent to notification by the Customer for performance of such maintenance. Cleaning of the glassware will be carried out only when the lamp is replaced.

The Customer shall be responsible for any wilful damage to the Company's equipment.

Maintenance of Type II Lights

The Customer will pay maintenance and capital costs, including the cost of installation, maintenance of underground supply, and relocation, on an as spent basis. Customers will inform the Company in writing of the location of any lighting fixture requiring maintenance and the time in which the maintenance must be performed. The Company will bill the customer for all costs incurred including the following overheads:

Cost Recovery

Labour Loading

On labour costs excluding overtime 72.5% of labour rate

Material Loading

Inventory – Material Handling 7% of cost

Loading rates may be adjusted from time to time as required to ensure appropriate recovery of costs.

Issued _____
FORTISBC INC.

Accepted for filing _____
BRITISH COLUMBIA UTILITIES COMMISSION

Deleted: December 19, 2016

By: Diane Roy _____
Vice President, Regulatory Affairs

By: _____
Commission Secretary

Deleted: Original signed by Laurel Ross

EFFECTIVE (applicable to consumption on and after) _____

Deleted: November 19, 2015

Deleted: G-179-15

RATE SCHEDULES

Electric Tariff
B.C.U.C. No. 2

Thirteenth Revision of Sheet 21

Deleted: Twelfth

SCHEDULE 50 - LIGHTING - ALL AREAS (Cont'd)

MONTHLY RATE PER LIGHT FOR EACH
TYPE OF SERVICE:

Type of Light	Watts	Monthly Use (kW.h)	Nominal Lumens	Rate (\$ per month)		
				Customer-Owned Type I	Customer-Owned Type II	Company-Owned Type III
Fluorescent	* 383	140	21,800	27.43		
Mercury Vapour	* 125	55	5,000	11.00	11.00	24.30
	* 175	78	7,000	15.52	15.52	28.91
	* 250	107	10,000	21.31	21.31	34.69
	* 400	166	21,000	33.05	33.05	46.43
Sodium Vapour	70	33	6,000	6.67	6.67	19.96
	*100	47	9,000	9.35	9.35	22.72
	*150	70	14,000	13.90	13.90	27.30
	200	91	20,000	18.13	18.13	31.50
	250	111	23,000	22.14	22.14	35.45
	*400	173	45,000	34.46	34.46	47.86

Light Emitting Diode (LED) lighting service will be supplied at a monthly rate of 0.1989 per kWh as determined according to the Terms and Conditions. Type III LED lighting service will include an additional monthly rate of \$5.36 per light for maintenance as set out in the Terms and Conditions.

Deleted: For Type I and Type II.

* No longer available at new locations or as replacement fixtures where existing fixtures are being replaced except at the sole discretion of the Company.

OVERDUE

ACCOUNTS: A late payment charge of 1 1/2% (compounded monthly 19.56% per annum) will be assessed each month on all outstanding balances not paid by the due date.

PERMANENT RATE

ESTABLISHMENT: Pursuant to the British Columbia Utilities Commission (Commission) Order G-11-17, rates under this schedule, which were made interim by Commission Order G-180-16, are now made permanent, effective January 1, 2017.

C

Issued _____ Accepted for filing _____
FORTISBC INC. BRITISH COLUMBIA UTILITIES COMMISSION

Deleted: February 8, 2017

By: Diane Roy _____ By: _____
Vice President, Regulatory Affairs Commission Secretary

Deleted: Original signed by Laurel Ross

EFFECTIVE (applicable to consumption on and after) _____

Deleted: January 1, 2017

Deleted: G-11-17

Appendix C
RS 50 – CLEAN

SCHEDULE 50 - LIGHTING - ALL AREAS (Cont'd)

TERMS AND
 CONDITIONS:

Dimmable Lighting (Cont'd)

For each dimmable fixture, the Customer will provide the Company with a schedule showing the rated wattage of the lamp and auxiliary devices together with a schedule showing the wattage consumed each hour and the resultant annual kW.h consumption. The Company will bill one-twelfth of the annual consumption each month. The Customer will provide timely notification of any changes of operation, number and/or wattage of fixtures on June 1 of each year. The Customer will provide access to the dimmable fixtures upon reasonable notice by the Company to the Customer.

LED Lighting

The Customer and the Company will agree on the annual consumption to be billed for each LED lighting account and the Company will bill one-twelfth of the annual consumption each month.

Maintenance of Type III Lights

Maintenance of Type III lighting fixtures shall be performed by the Company, the cost of which is provided for in the "Monthly Rate" of this Schedule. Such work will be undertaken by the Company during regular working hours and the Company will be allowed ten working days subsequent to notification by the Customer for performance of such maintenance. Cleaning of the glassware will be carried out only when the lamp is replaced.

The Customer shall be responsible for any wilful damage to the Company's equipment.

Maintenance of Type II Lights

The Customer will pay maintenance and capital costs, including the cost of installation, maintenance of underground supply, and relocation, on an as spent basis. Customers will inform the Company in writing of the location of any lighting fixture requiring maintenance and the time in which the maintenance must be performed. The Company will bill the customer for all costs incurred including the following overheads:

Cost Recovery

Labour Loading

On labour costs excluding overtime 72.5% of labour rate

Material Loading

Inventory – Material Handling 7% of cost

Loading rates may be adjusted from time to time as required to ensure appropriate recovery of costs.

Issued _____
 FORTISBC INC.

Accepted for filing _____
 BRITISH COLUMBIA UTILITIES COMMISSION

By: Diane Roy _____
 Vice President, Regulatory Affairs

By: _____
 Commission Secretary

EFFECTIVE (applicable to consumption on and after) _____

SCHEDULE 50 - LIGHTING - ALL AREAS (Cont'd)

MONTHLY RATE PER LIGHT FOR EACH
TYPE OF SERVICE:

<u>Type of Light</u>	<u>Watts</u>	<u>Monthly Use (kW.h)</u>	<u>Nominal Lumens</u>	<u>Rate (\$ per month)</u>		
				<u>Customer-Owned Type I</u>	<u>Type II</u>	<u>Company-Owned Type III</u>
Fluorescent	* 383	140	21,800	27.43		
Mercury Vapour	* 125	55	5,000	11.00	11.00	24.30
	* 175	78	7,000	15.52	15.52	28.91
	* 250	107	10,000	21.31	21.31	34.69
	* 400	166	21,000	33.05	33.05	46.43
Sodium Vapour	70	33	6,000	6.67	6.67	19.96
	*100	47	9,000	9.35	9.35	22.72
	*150	70	14,000	13.90	13.90	27.30
	200	91	20,000	18.13	18.13	31.50
	250	111	23,000	22.14	22.14	35.45
	*400	173	45,000	34.46	34.46	47.86

Light Emitting Diode (LED) lighting service will be supplied at a monthly rate of 0.1989 per kWh as determined according to the Terms and Conditions. Type III LED lighting service will include an additional monthly rate of \$5.36 per light for maintenance as set out in the Terms and Conditions.

* No longer available at new locations or as replacement fixtures where existing fixtures are being replaced except at the sole discretion of the Company.

OVERDUE

ACCOUNTS: A late payment charge of 1 1/2% (compounded monthly 19.56% per annum) will be assessed each month on all outstanding balances not paid by the due date.

PERMANENT RATE

ESTABLISHMENT: Pursuant to the British Columbia Utilities Commission (Commission) Order G-11-17, rates under this schedule, which were made interim by Commission Order G-180-16, are now made permanent, effective January 1, 2017.

C

Issued _____
FORTISBC INC.

Accepted for filing _____
BRITISH COLUMBIA UTILITIES COMMISSION

By: Diane Roy
Vice President, Regulatory Affairs

By: _____
Commission Secretary

EFFECTIVE (applicable to consumption on and after) _____

Appendix D

TYPE III LIGHTING COST PER KWH DERIVATION

1

TYPE III LIGHTING COST PER KWH DERIVATION

			Rate for Customer-owned	Rate for Customer-owned	Maintenance Charge
		Monthly Use	Types I and II	Type III	Type III
Type of Light	Watts	(kW.h)	(\$ per Month)	(\$ per Month)	(\$ per Month/Fixture)
Mercury Vapour	125	55	11.00	24.30	13.30
	175	78	15.52	28.91	13.39
	250	107	21.31	34.69	13.38
	400	166	33.05	46.43	13.38
Sodium Vapour	70	33	6.67	19.96	13.29
	100	47	9.35	22.72	13.37
	150	70	13.90	27.3	13.40
	200	91	18.13	31.5	13.37
	250	111	22.14	35.45	13.31
	400	173	34.46	47.86	13.40
Average					13.40

2

Appendix E

CUSTOMER CONSULTATION



City of Trail
Office of the Mayor

May 26, 2015

BC Utilities Commission
Box 250
900 Howe Street, Sixth floor
Vancouver, BC V6Z 2N3

Dear Sirs:

RE: ADAPTIVE LED STREET LIGHTING

Representatives of the City of Trail met recently with Blair Weston, FortisBC's Community and Aboriginal Relations Manager, and were very encouraged to learn of Fortis' pending application to the BC Utilities Commission for a tariff change related to adaptive LED street lighting.

In an effort to reduce energy consumption, the City of Trail commenced a multi-year capital project in 2014 that involves retrofitting the City's street lights to adaptive LED fixtures. The project, totaling \$800,000, will see 900 sodium vapour fixtures in our community converted to LED fixtures. As part of the project, we have chosen to install fixtures that can be programmed and dimmed in the early morning hours, resulting in even greater energy reductions.

However, before the City can fully realize the financial savings made possible by this significant capital investment, we understand that the tariff structure outlined in Schedule 50 requires change. The City had opportunity to review the amendments proposed by FortisBC that will incorporate a billable rate for LED lighting services and further recognize dimmable lighting.

The City is fully supportive of the tariff change being suggested by Fortis and we do hope that the Commission will look favourably upon the application.

Sincerely,

A. Sandy Santori
Acting Mayor





Healthy Living, Naturally

Office of the Mayor

September 30, 2015

Neal Pobran, Senior Manager
Community & Aboriginal Relations
FortisBC
1975 Springfield Road
Kelowna, BC V1Y 7V7

Dear Neal:

Re: Village of Keremeos Street Lights

It was a great pleasure to meet you and your team at this year's UBCM in Vancouver. On behalf of the Village and Council I would like to thank you and FortisBC again for choosing the Similkameen Trails project to be the very fortunate recipient of the FortisBC community award.

Community investment is a very important part of any partnership and I would like to take this opportunity to follow up on the conversation we started regarding the street lights in the Village of Keremeos.

There are 135 street lights within the Village that are owned by Fortis, the bulbs currently being used in the street lights range from 100 watt hps to 400 watt hps and cost the Village of Keremeos rate payers \$44,000 per year. This is an example as to why it is very difficult for local governments to defend Fortis' culture of energy conservation and the two tier conservation rate system. I believe Fortis has a real opportunity here to showcase the very policy it believes in, by replacing these energy wasting light fixtures with LED lighting.

Sharing a vision for the future of our communities means to lead by example.

I appreciate your consideration of this initiative and look forward to your favourable response.

Sincerely

Manfred Bauer
Mayor

cc: The Honourable Bill Bennett, Minister of Energy and Mines
Linda Larson, MLA Boundary-Similkameen
Council Reading File

Linda Larson, MLA

Boundary - Similkameen



October 15, 2015

Neal Pobran, Senior Manager
Community & Aboriginal Relations
FortisBC
1975 Springfield Road
Kelowna BC V1Y 7V7

Dear Neal,

Re: Request for Replacement of Keremeos Street Lights

Prior to this year's UBCM conference, I was approached by Mayor Manfred Bauer to discuss the issue, and possible resolution, of the cost of street lighting in the Village of Keremeos. Currently, the 135 FortisBC owned street lights that are located there are equipped with 100 to 400 watt bulbs and cost the taxpayers about \$44,000 per year.

I understand that the Village of Keremeos Mayor and council are formally requesting that these light fixtures be replaced with energy efficient, cost-saving LED bulbs.

This joint initiative between local government and FortisBC will not only significantly reduce costs to the residents of Keremeos, it will also help to improve community relations with FortisBC, which have not always been positive since the 2-tiered conservation rate has been in place.

This is a request that showcases the sound fiscal responsibility that the Mayor and Council of Keremeos have undertaken this term that will allow them to utilize funds otherwise spent on electricity to something else that needs attention. I firmly stand behind the Town of Keremeos in requesting that this be done as soon as possible and look forward to hearing something positive in the near future.

Sincerely,

A handwritten signature in cursive script that reads 'Linda Larson'.

Linda Larson, MLA
Boundary-Similkameen

cc: The Honourable Bill Bennett, Minister of Energy and Mines
Mayor Manfred Bauer, Village of Keremeos
Cathy Cowan, CAO, Village of Keremeos

Legislative Office

East Annex, Parliament Buildings
Victoria, B.C. V8V 1X4
Tel: 250 952-6784
Fax: 250 356-0596
Linda.Larson.MLA@leg.bc.ca

Constituency Office

6369 Main Street
P.O. Box 998 Oliver, B.C. V0H 1T0
Tel: 250 498-5122 Toll-Free: 1 855 498-5122
Fax: 250 498-5427

Submit by email

Print form



bcuc
British Columbia
Utilities Commission

Suite 410, 900 Howe Street
Vancouver, BC Canada V6Z 2N3
bcuc.com

P: 604.660.4700
TF: 1.800.663.1385
F: 604.660.1102

Letter of Comment

In accordance with the Commission's Rules of Practice and Procedure, to submit a letter of comment concerning an application currently before the Commission, please provide a completed form to commission.secretary@bcuc.com

Proceeding name

FortisBC electricity rate design

Are you currently registered as an intervener or interested party?

No

Name (first and last)

Village of Kaslo

City

Kaslo

Province

BC

Email

cao@kaslo.ca

Phone number

2503532311

Letter of Comment

Name (first and last)

Village of Kaslo

Date:

2017-10-10

Comment: Please specify the reasons for your interest in the proceeding, your views concerning the proceeding, any relevant information that supports or explains your views, the conclusion you support and any recommendations. The Commission may disallow comments that do not comply with the Rules of Practice and Procedure.

191/2017 Streetlighting (Fortis Poles)

Knoll/Holland

That a further written submission is made to the BC Utilities Commission, requesting that a standard for LED lighting is adopted by Fortis BC and that the model of program offered to municipalities interested in faster conversion guarantees both Fortis ownership and maintenance of these fixtures as well as a clear, incentivised billing structure for communities that go "all LED" on Fortis poles.

CARRIED

A brief from UBCM related to this issue is also attached.



Village of
Kaslo

UBCM 2017

MEETING ID: 497

Minister: Energy and Mines

FROM:

Village of Kaslo

TOPIC: Why is LED streetlighting conversion on Fortis poles a municipal” buy-back” program?

ATTENDEES:

Kellie Knoll, Councillor; Neil Smith, CAO; Robert Lang, Councillor; Suzan Hewat, Mayor

BACKGROUND:

The Village of Kaslo's streetlights (on Fortis poles) are a significant expense in terms of repair and maintenance, costs increasing by an average of 6% every year since 2013. Fortis encourages LED replacement programs at the municipality's own expense (with some rebates) and the municipality thereafter becomes responsible for maintenance/replacement for LED fixtures that replace their high-pressure sodium (HPS) fixtures on Fortis poles. In some other jurisdictions outside of British Columbia, Fortis would appear to do this work themselves at their own cost without additional asset management and operational download to municipalities (that are ready to reduce costs and energy use). Kaslo's Fortis HPS streetlights are typically bright (and unpopular) 150W fixtures, which are 50% more powerful and considerably more numerous than those typical in surrounding BC Hydro towns. Slow, incremental replacement is not encouraged as an option by Fortis, placing strain on the Community Works (Gas Tax) reserve if Council were to consider it.

Community	Utility	No.of Village-owned lights	No. of Utility-owned lights	Typical HPS on majority of Utility-owned poles	2016 Approximate annual cost per light (power, pole rental, maintenance)
Salmo	FORTIS	98	26	150W	\$182
Kaslo	FORTIS	55	102	150W	\$127
Nakusp	BC HYDRO	0	146	100W	\$202
New Denver	BC HYDRO	0	86	100W	\$195

Data is approximate based on anecdotal research with other CAOs.

Municipally Owned Streetlights	Utility Owned Streetlights
<i>Usually metered by the Utility</i>	<i>Unmetered</i>
<i>Municipality pays for the electricity</i>	<i>Governed by special utility rate tariffs</i>
<i>Municipality is responsible for all maintenance and repairs</i>	<i>Similar to renting or leasing from a municipal view</i>
<i>Municipality is free to install LED or any other technology – but cost barriers typically prevent energy efficient adoption</i>	<i>Municipality pays flat monthly fee that includes all costs associated with installation, operation and maintenance</i>
<i>Municipal asset on a Utility pole still carries rental and leasing-type costs, as well as repair and maintenance conditions for crews working on the poles that cannot be met internally.</i>	<i>Rate tariffs typically do not include LED and often include large numbers of outdated streetlights that the public would like to see replaced.</i>
<i>If streetlight assets are retired early, this will be reflected in a municipality’s financial statements depending on the asset’s useful life.</i>	<i>Some utilities have penalties for early retirement of streetlights to recoup un-depreciated costs</i>

Key points:

- 1) It is arguably unrealistic that any small municipality can bring the maintenance and repair of these streetlights “in house” given the extensive certification and experience required, therefore operation and maintenance of any LED streetlights on Fortis poles would almost certainly have to be outsourced to qualified professional contractors or larger municipalities. While it is understandable that Fortis wouldn’t want to maintain a vast range of different LED fixtures selected by municipalities within its service area, this could be overcome by their adopting their own standards to LED cobra head and more niche fixtures as they do with existing HPS fixtures.
- 2) While Kaslo’s “per light” costs would seem to be much better than some, the annual increase in costs have, in some years, come startlingly close to the equivalent of a 1% increase in municipal taxation. That this is a common experience for all local governments in BC is acknowledged. However, in towns as small as Kaslo, this impacts the tax room available for other services and infrastructure.
- 3) Council has opted to replace its own municipally-owned HPS lights first, starting with the 26 aging poles in its downtown core over 2017-18, at a cost of a little over \$100,000. Other Village-owned cobra heads will be replaced with LED as they fail over time. The downtown core LED project is being paid for by the Village’s Community Works Fund (Gas Tax). It is anticipated that LED cobra head replacement (on Fortis poles) would likely cost less than this, particularly with rebates and provincial bulk pricing, but the Village remains likely 2 years’ away from being able to make that financial decision.

- 4) Fortis have not indicated to being open to the phasing in of LED conversion on their posts to reduce the costs and shock to reserves in a single financial year.
- 5) Like other communities, the Village is leading by example by phasing out HPS streetlight fixtures, but it is arguably unfair that, to realize significant savings, it must essentially enter an asset “buy-back” program for 102 new assets at its own expense, pay for the installation and subsequently budget for qualified professional operation and maintenance that satisfies the power utility.
- 6) Will Fortis introduce standardised LED streetlighting to improve customer service and consumer experience as existing HPS fixtures are fully depreciated? This is not clear, although it appears to have been done in Alberta.

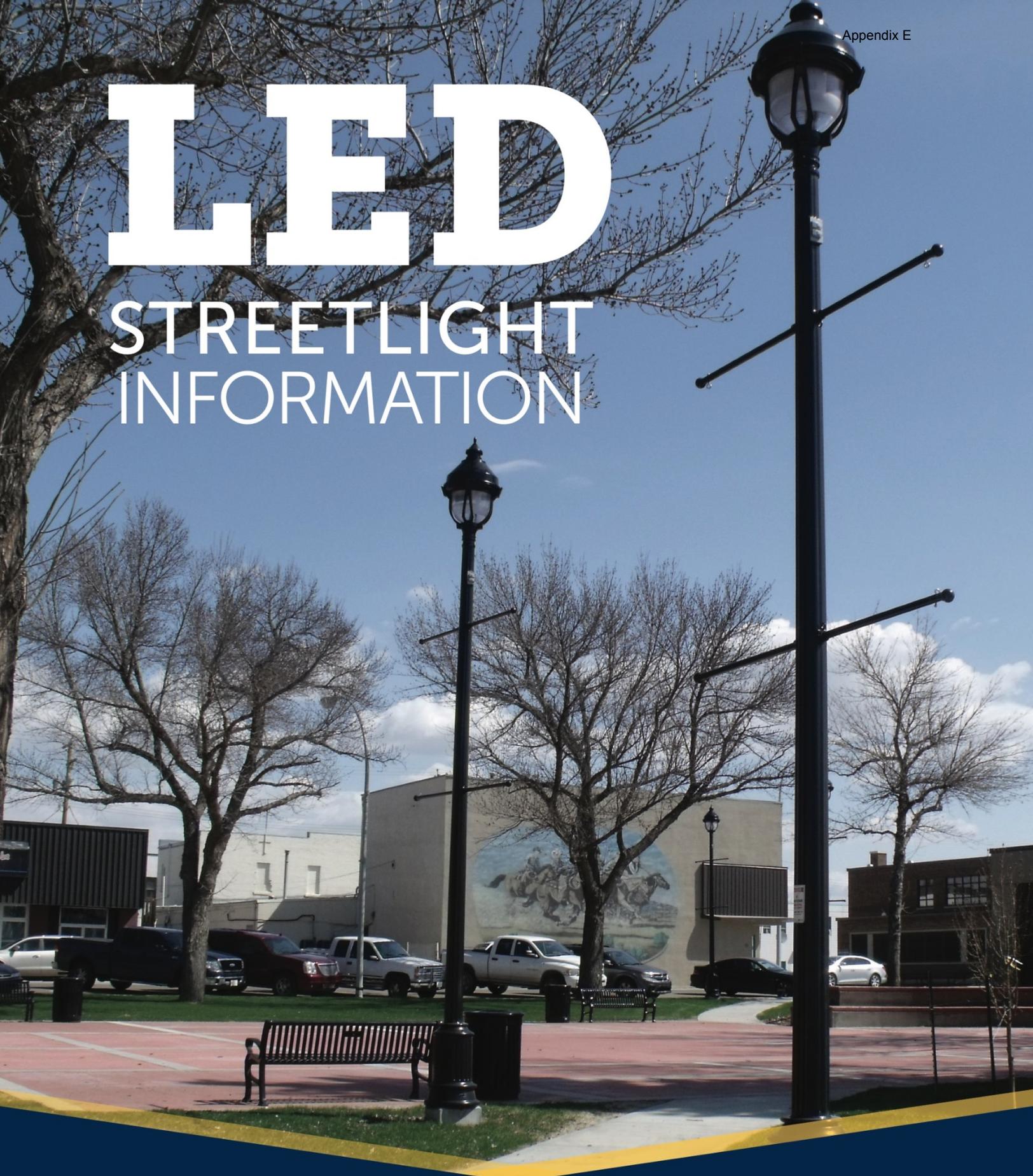
REQUEST:

A) The Village asks that the Minister consider exploring this issue with Fortis so that municipalities like Kaslo can realize the benefits of LED streetlighting conversion faster without taking on a sizeable asset group with an unclear operation and maintenance cost centre that was formerly the exclusive realm of the power utility.

B) The Village asks the Minister to explore what obstacles and rationales there are behind BC’s power utilities not opting, in 2017, to phase out aging HPS streetlight fixtures with well established LED technology on their own initiative given their enthusiasm for Smart Meters, energy diet programs, rebates and community energy conservation strategies.

C) The Village asks for a new Infrastructure Planning program to fund engineered design-builds for municipal power generation projects that will generate savings that offset or exceed ongoing price increases in the power market and the consequences of HPS streetlight fixtures on utility-owned poles.

LED STREETLIGHT INFORMATION



LED STREETLIGHT INFORMATION – FREQUENTLY ASKED QUESTIONS

How many streetlights does FortisAlberta own and operate?

FortisAlberta owns and operates more than 100,000 streetlights in Alberta.

Why did FortisAlberta introduce an LED Conversion Streetlight Option?

FortisAlberta strives to meet the needs of its customers and in response to customer requests, the conversion option was introduced. The company is committed to improving the energy efficiency of its infrastructure, while controlling costs for our customers. We aim to be forward thinking to anticipate trends to better serve our customers.

Why did FortisAlberta change its lighting standards?

In response to customer requests and to improve the energy efficiency of our infrastructure, effective Jan. 1, 2016, FortisAlberta changed its standard for streetlights to Light Emitting Diode (LED) technology for all new construction and developed a conversion option for customers who wish to convert their existing streetlights from HPS (High Pressure Sodium) to LED fixtures.

What does LED mean?

In its simplest terms, a Light-Emitting Diode (LED) is an electronic component that emits light when an electric current is passed through it. The colour of the LED is obtained by adding a phosphorous material over the LED chip. LED streetlights are extremely energy efficient, do not produce any UV rays or infrared radiation, can be easily controlled, and have long life spans of more than 20 years. LED lighting provides an exceptional colour rendering index (CRI) of 70 or better.

What does HPS mean?

HPS (High Pressure Sodium) is a high intensity discharge lamp with an arc tube containing Sodium and Mercury, which when vaporized produces light. The Sodium radiation dominates the colour appearance of the light, which is characteristically a golden or yellow colour temperature of 2,100K. HPS streetlights have a poor colour rendering index between 20-21 when compared to LED and other types of lighting.

What does CRI mean?

Color Rendering Index (CRI), is a scale from 0 to 100 per cent indicating how accurate a given light source is able to reveal colours when compared to a reference or natural light sources. Generally speaking, the higher the numeric value or CRI is, the better the light source is at accurately rendering or displaying the color of an object.

Why did FortisAlberta change the colour temperature of their LED lights?

In Dec. 2016, new LED colour temperature products were made available by the approved streetlight manufactures and FortisAlberta's assessment of the new products determined that the efficacy, environmental efficiency and price were comparable to the existing 4,000K standard. As a result, FortisAlberta has updated its standard from 4,000K to 3,000K. FortisAlberta is acting prudently to ensure it stays in-line with industry trends and consumer preferences while operating in the best interests of its customers.

LED STREETLIGHT INFORMATION – FREQUENTLY ASKED QUESTIONS

Why does the colour temperature of streetlights matter?

Colour temperature or Correlated Colour Temperature (CCT), expressed in degrees of Kelvin, is commonly used as a measure of lighted appearance. The higher the colour temperature, for example 5,000K, the whiter to whitish blue the light appears. The lower the colour temperature, such as 2,100K, the warmer or yellower the light appears. While the light output can be the same, the higher the colour temperature, the brighter the light appears, while warmer colour temperatures seem less bright. As well, LED lights provide better visibility and clarity of objects under the light.

Will the 3,000K LED lights make everything look orange like the old HPS lights?

No they will not. A colour temperature of 3,000K is slightly whiter than a typical incandescent bulb used in your home. The 3,000K LED lights also have much higher colour rendering (70) than HPS lights (20-21).

Will HPS streetlights still be available to FortisAlberta customers?

Beginning March 1, 2017, any new requests for HPS lighting will only be available under a non-standard lighting agreement. Municipalities accepting new installations of non-standard lamps, luminaires, and/or poles will be responsible for the purchase and stocking of replacement materials for non-standard lamps, luminaires and/or poles.

What are the benefits of converting to LED technology?

LED technology provides:

- more even and efficient distribution of light and better quality of light resulting in increased safety and security;
- reduced energy consumption resulting in energy savings and reduced greenhouse gas emissions; and
- reduced outages and longer light life spans resulting in reduced maintenance costs.

How many streetlights does FortisAlberta plan to convert under the LED Streetlight Conversion Option?

Approximately 80,000 fixtures are currently eligible to be converted under the LED Streetlight Conversion Option.

Are all types of streetlight fixtures being converted to LEDs?

The LED Streetlight Conversion Option covers all Rate 31 cobra head style fixtures. Non-cobra head style fixtures or decorative fixtures and yard lights will not be converted at this time.

Why are municipalities switching to LEDs?

Municipalities around the world are switching to LED lights as a way to save both money and energy. LED lights have approximately 50 per cent lower energy consumption compared to their HPS luminaire predecessors. HPS lights, most installed in the mid-1980s, are at the end of their useful lives and need replacement. LEDs will provide better service reliability and lower maintenance costs. The new LEDs have a longer lifespan - about four times that of the bulbs we currently use. This translates into ongoing

LED STREETLIGHT INFORMATION – FREQUENTLY ASKED QUESTIONS

savings in maintenance costs as result of the extended maintenance cycle for bulb replacement. Less maintenance also means fewer service vehicle trips for repairs and as a result, reduced carbon emissions.

We are a smaller community with only a few lights. Can we really have any impact on the night sky or the environment?

Yes, you can have a positive impact on the night sky and the environment. The environmental impact will be primarily be localized to the surrounding area of a community, yet the effects on the night sky are the sum of all contributions from a variety of light sources in many locations. By making the switch to LED technology, communities will be recognized as a thoughtful member of the wider Albertan community.

How much energy will communities save by using LED technology?

LED technology offers reduced monthly costs to our customers due to the lower wattage and reduced energy consumption. Approximately 50 per cent will be saved on the energy portion of municipal customers' bills.

Will our community look different when our streetlights are converted to LEDs?

Yes, it will look different once the conversion is complete. The current high-pressure sodium bulbs produce a light that appears orange. The new LED lights will produce a whiter light. The result is a higher light quality that improves safety because of depth of field and peripheral vision enhancements without distorting colour.

By converting to LED fixtures, does that mean more light pollution?

Two factors have an impact to sky glow or light pollution, which are up-light and the lumen output (light level) of the fixture.

To address the up light, the majority of the new LEDs are "cobra-head" fixtures and they have received the best ranking – a "zero" – when it comes to the amount of up-light they produce. FortisAlberta's fixtures are "Dark Sky" friendly with zero up-light, which means less light pollution and/or sky glow as the light is directed downward.

To address the lumen output, LEDs typically require approximately 47-58 per cent of the lumen output of the HPS light to achieve the same light levels on the pavement. This is due to the efficiency of the light source being able to direct the light where it needs to be versus the HPS light having a lot of wasted light and lack of control.

By eliminating the up light and reducing the lumen output of the light source, the LED significantly reduces light pollution.

LED STREETLIGHT INFORMATION – FREQUENTLY ASKED QUESTIONS

Why do LEDs appear brighter? Are they?

No, these new lights are not brighter. However, the white light they produce does appear cleaner and brighter to the eye, which allows colours to seem more natural at night.

What is a BUG rating?

The term BUG relates to the following: **B**acklight, **U**plight, and **G**lare ratings, which are used to evaluate the luminaires optical performance related to light trespass, sky glow, and high angle brightness control.

The rating for the zone is assigned a numeric value between zero and five. The lower the number, for example U0, the better the luminaire performs in these criteria. In this example, a value of zero for uplight means that zero light is emitted into the atmosphere.

Have the health impacts of the blue/white light associated with LEDs been considered?

Yes, the potential impacts were evaluated. The LED technology FortisAlberta is installing will use a warmer light, which means that exposure to blue light will be minimal. Additionally, the U.S. Department of Energy released a publication in 2013 and concluded that LED products are no more hazardous than other lighting technologies.

https://www1.eere.energy.gov/buildings/publications/pdfs/ssl/opticalsafety_fact-sheet.pdf

I've heard the new LEDs disrupt sleep patterns. Is that accurate?

There is no evidence that LED streetlights impact human sleep cycles any differently than HPS streetlights that have been used for the past 30 years. When considering the effects of light at night, indoor lighting is more of a concern. The quantity of light emitted by streetlights is many times lower than that emitted by typical indoor lighting, TVs, tablets or PC screens. The U.S. Department of Energy has published a number of documents to address the statements made by the American Medical Association (AMA) with regards to the stated health issues.

- The SSL Posting comments on the AMA statements of health issues.
https://energy.gov/sites/prod/files/2016/06/f32/postings_06-21-16.pdf
- True colours, which explains the LEDs and the relationship between colour temperatures, colour rendering, optical safety, material degradation, and light-induced stimulation of human circadian functions (photobiological safety)
<https://www1.eere.energy.gov/buildings/ssl/pdfs/true-colours.pdf>



THE CORPORATION OF THE VILLAGE OF SLOCAN

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Office of the Mayor

June 15, 2015

BC Utilities Commission
Box 250 900 Howe Street, Sixth floor
Vancouver BC V6Z 2N3

Dear Commission:

Re: Adaptive LED Street Lighting

Representatives of the Village of Slokan met recently with Mr. Blair Weston, FortisBC's Community and Aboriginal Relations Manager. The Village is encouraged to learn of Fortis' pending application to the BC Utilities Commission for a tariff change related to adaptive LED street lighting and further hopes that this encourages FortisBC to eliminate high energy consuming street light fixtures in the Village.

The Village of Slokan is pleased to provide this letter in support of Fortis BC's proposed revision to the LED lighting tariff Schedule 50.

Further, as a signatory to the BC Climate Action Charter, the Village actively seeks ways to reduce its corporate energy and emissions. Within the Village there are still 23 250W Fortis owned Mercury Vapour Street Lights. These are known to have high energy consumption rates. The remaining street lights are sodium vapour varieties, also high energy consumers. In light of the new tariff schedule for LED lighting, we ask that FortisBC plan to replace the existing Fortis owned street lights in the Village of Slokan with more energy efficient LED models.

FortisBC has an active PowerSense program that supports and encourages customers to be more energy efficient. The Village of Slokan supports a LED streetlight replacement program to be incorporated into the Power Sense program. The energy savings for municipalities would be beneficial to all.

The Village is fully supportive of the tariff change being suggested by FortisBC and we do hope that the Commission will look favourably upon the application. We also ask that the Commission support a program that will enable FortisBC to modernize street lights and remove high energy consuming models.

Sincerely,

Jessica Lunn
Mayor

cc: FortisBC, 3100 West Kootenay Road South Slokan BC V0G 2G1