





TOWN OF QUALICUM BEACH

BC Hydro Streetlight Information Clarification

October 11, 2023

Question from the Town of Qualicum Beach	BC Hydro's Response
<p>1. Is 39w the lowest wattage available for BC Hydro LED Streetlights?</p>	<p>Yes, 39W is the lowest available wattage of streetlight that is offered by BC Hydro.</p> <p>BC Hydro selected the 4 wattages of streetlights that it is offering based on an extensive procurement process. As part of this process, BC Hydro provided roadway scenarios and requirements and vendors completed analyses to determine the type of lights (e.g. wattage) that would meet those requirements. There is no option from BC Hydro to install any other wattages, including a lower wattage than 39W.</p>
<p>2. Is 3000k the lowest color temperature available for BC Hydro LED Streetlights?</p>	<p>Yes, 3000K is the lowest (warmest) streetlight that is offered by BC Hydro.</p> <p>The old high pressure sodium streetlights were approximately 2700K. Based on BC Hydro's engagement with streetlight vendors, other utilities, municipalities and its research it concluded that 4000K and 3000K were the best colour temperatures to offer its customers. These two colour temperatures enable BC Hydro's customers to select the appropriate colour temperature for their community based on their lighting desires and objectives. There is no option from BC Hydro to install a lower colour temperature (2700K, etc)</p>

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<p>3. The information submitted by BC Hydro on which BC Utilities Commission based its approval for the roll out of the LED streetlights, stated that shields could be made available (see page 2 of attachment). If shielding is available, it could be a much more cost-effective solution. Are shields available for the new BC Hydro LED Streetlights?</p>	<p>To clarify, the manufacturer of the streetlights offered by BC Hydro only has shields for one of the models of streetlights offered by BC Hydro (this model includes the 39W & 75W streetlights). These shields are plastic accessories that attach to the optics on the bottom of the streetlights that block some of the light that is projected backwards – towards the pole (or 'house side'). The shields does not block light that is projected forward or sideways from the streetlight.</p> <p>Shields were considered but ultimately not offered as BC Hydro determined the other options (e.g. lowering wattage, lowering the colour temperature, re-aiming the luminaries or moving the streetlight to another pole) were effective in resolving most complaints.</p> <p>Furthermore, additional costs (e.g. those associated with procuring, storing, managing, and deploying) could be avoided by not offering a product that wouldn't be of use in most applications. Note the streetlights rates are based on costs and therefore higher costs would translate to higher rates.</p> <p>To clarify, there are two models of streetlights available, Lite-M (114W and 162W) and Lite-S (39W and 75W), and all streetlights are Type II Max Throw distribution.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Lite S Model</p> </div> <div style="text-align: center;">  <p>Lite M Model</p> </div> </div> <p>The shields offered by the manufacturer are only available for the 39W and 75W 'Lite-S' model. The 114W and 162W 'Lite-M' model do not have a shielding option. Also note as mentioned above that the shields only limit some backlight.</p>

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<p>4. Is there more than one light distribution type offered throughout the province? If yes, can an alternative light distribution type be considered for Qualicum Beach replacement lights?</p>	<p>BC Hydro is only offering one type of streetlight distribution pattern – Type II max throw.</p> <p>As you are aware, BC Hydro's LED street light replacement program offered 4 LED wattages (39W, 75W, 114W, and 162W) and two-colour temperatures (3000K and 4000K).</p> <p>All four options were 'Type II Max Throw' distribution pattern luminaires. While there are 5 different distribution types available (Type I to Type V), BC Hydro selected one distribution type for all 90,000 LED street lights throughout the province. This was done to maximize utilization and minimizing costs and inventory complexities.</p> <p>Hydro selected Type II as this distribution pattern works the best in most applications throughout the province; it offers the widest throw with the least amount of backlight forward or behind the luminaire.</p>

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<p>5. Do additional requests for solutions to light trespass (beyond reduced wattage and colour temperature) have to follow a process of: resident submits complaint to the Town who then submits request to BC Hydro's design team (SLIM system)?</p>	<p>Yes. Since the Town of Qualicum Beach is BC Hydro's streetlight customer all requests and decisions to add, remove or modify streetlights must come from the customer - a resident cannot approve a light alteration.</p> <p>The correct process is for the Town to submit a request through the SLIM system.</p> <p>BC Hydro's streetlight customers are responsible for the lighting design – ensuring adequate lighting levels – in their communities.</p> <p>Note: Should Council wish to consider individual light 'solutions', beyond changing the wattage and colour temperature, the Town will have to retain a third party expert (technical lighting engineer or other), to assess the light(s) and make recommendations to BC Hydro through the SLIM system. The cost of the third party expert will be borne by the Town.</p>
<p>6. Are BC Hydro crews able to make discretionary adjustments to lights when installing the new luminaires in order to mitigate light trespass onto private property? E.g., orientation, davit arm length, other?</p>	<p>No. That is out of scope for the crews. BC Hydro is not responsible for lighting design.</p> <p>BC Hydro's streetlight customers are responsible for the lighting design – ensuring adequate lighting levels – in their communities.</p> <p>Any modifications to the streetlight – e.g. changing or orienting the arm must be processed through BC Hydro's distribution design team so that they can review the configuration of the assets on the pole.</p> <p>Note: See comment from question 5</p>

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<p>7. Would members of BC Hydro's design team be able to come to Qualicum Beach to inspect the lights generating complaints during the hours when the streetlights are on?</p>	<p>BC Hydro does not employ any street lighting design teams as lighting design is the responsibility of the municipality. The BC Hydro owned lights are served under Rate Schedule 1701. Item 6 on page 132 of the Electric Tariff Responsibility for Fixture Selection, Design and Installation states that "[t]he Customer is responsible for the lighting design and the selection of the overhead street lighting fixture offered by BC Hydro. BC Hydro is responsible for its installation".</p> <p>While BC Hydro does not have a lighting design team, it committed to having a representative travel to Qualicum Beach to look at a number of streetlights (at night).</p> <p>NOTE: The attending BC Hydro employee is not a technical lighting engineer.</p>
<p>8. Are there other "means" available (not mentioned above) that could be implemented to mitigate light trespass onto private property?</p>	<p>Aside from the Town requesting to remove BC Hydro lights (at a cost) and proceed with their own municipal streetlighting solution, resolving complaints with the methods indicated previously (wattage, temperature, angle) are the only available options.</p> <p>Note: Third party would be required to submit to SLIM</p> <p>The Town may wish to submit arm relocation requests through SLIM however the feasibility of the requested adjustments would need to be reviewed by BC Hydro's design team. There are limitations relating to the direction of the arm, the current pole configuration and consideration of overhead wires.</p> <p>While in some cases it may resolve a complaint, any direction change to the arm may reduce the effective lighting on a roadway and/or transfer more light to a nearby resident thus creating a new complaint.</p>

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<p>9. Why is there a lag time of 4 months to get the luminaires in stock, to be ready for installation? Will this lag time exist for the second intake that closes at the end of August or will BC Hydro ensure they have available stock for additional change out?</p>	<p>At the time of publication light change complaints (wattage & colour temperature) have been completed.</p> <p>With the LED deployment being substantially complete, BC Hydro currently has adequate stock on hand to support repairs of streetlights and growth. However, the request for 102 39W 3000K LEDs is a significant volume. Due to supply chain challenges, there are still long lead times to obtain product from our streetlight supplier. Hence the 4-month timeline.</p>
<p>10. Can the cost for additional solutions to light trespass (beyond wattage and colour temperature) be borne by BC Hydro?</p>	<p>As part of the Streetlight Replacement Program, BC Hydro is supporting its customers with resolving complaints from both customers and residents. For example, by BC Hydro enabling the Town to have a large number, 102, lights replaced at a lower cost (compared to the sustainment costs).</p> <p>124 lights have been replaced as a result of light complaint intakes (phases 1 & 2) at a lower cost than the BC Hydro standardized rate. Costs will be borne by the Town.</p>
<p>11. Can the savings from reduced consumption of power for BC Hydro Lights (changeout from HPS to 75/39w LED lights) be applied to additional modifications for light trespass in Qualicum Beach?</p>	<p>The change to a lower wattage streetlight will result in lower costs for the Town of Qualicum. The rates that the Town pays for streetlights is based on the wattage of the light.</p> <p>Changing the streetlights from 75W to 39W will decrease the Town's streetlighting bill. The Town may use this savings at their discretion.</p>

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<p>12. Rationale for limited solutions. I.e., BC Hydro has expressed concern that remedying problems for Qualicum Beach might lead to other municipalities requesting the same actions. Why is this BC Hydro concern an obstacle for the Town of Qualicum Beach having their streetlighting problems remedied? I.e., is it a business case based on volume of lights that have been changed out throughout the Province or...? Some additional explanation for this would be useful</p> <p>Question rephased for PowerPoint <i>“BC Hydro has expressed concern that remedying problems for Qualicum Beach might lead to other municipalities requesting the same actions. Why is this an obstacle for the Town having their streetlighting problems remedied?”</i></p>	<p>BC Hydro has successfully installed over 87,000 LED streetlights across the province – with very few issues or complaints. There are only a few hundred HPS streetlights remaining – that will be removed or converted to LEDs.</p> <p>BC Hydro has implemented province wide policies and processes for resolving issues and concerns with the LED streetlights. It is important to BC Hydro that it treats all its customers fairly, this includes offering the same solution(s) to resolve issues to all customers. Furthermore, offering additional solutions (e.g. shields) were not included within the rate design that was submitted as part of the Streetlight Rate Application; that was filed with and approved by the BC Utilities Commission.</p>