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June 28, 2019

E-FILED

British Columbia Utilities Commission
Sixth Floor – 900 Howe Street
Vancouver, B.C. V6Z 2N3

Attention: Patrick Wruck, Commission Secretary

Dear Mr. Wruck:

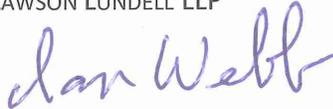
**Creative Energy Vancouver Platforms Inc.
Application to the British Columbia Utilities Commission (“BCUC”) for
Application for Certificate of Public Convenience and Necessity for Beatty-Expo Plants and
Approval of Corporate Reorganization
Project No. 1598962**

On behalf of Creative Energy, we enclose Creative Energy’s Response to BCUC IR No. 1 on the Specified Scope for filing in accordance with the regulatory timetable established by BCUC Order No. G-107-19.

Please note that in the enclosed Response, the designations “BCUC CPCN IR ##” and “CEC CPCN IR ##” are used to refer to IR responses that were filed by Creative Energy in the main part of the proceeding last year, and the designations “BCUC SS IR ##” and “CEC SS IR ##” are used to refer to IR responses filed in this current part of the proceeding on the Specified Scope.

Yours very truly,

LAWSON LUNDELL LLP



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Encl.

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Creative Energy Vancouver Platforms Inc.
Application for a Certificate of Public Convenience and Necessity for
the Expo and Beatty Plant Project and Approvals Related to Reorganization

CREATIVE ENERGY RESPONSE TO BCUC INFORMATION REQUEST NO. 1 ON THE SPECIFIED SCOPE

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A. ADDITIONAL FINANCIAL SECURITY

**1.0 Reference: ADDITIONAL FINANCIAL SECURITY
Exhibit B-23, Appendix 3, p. 4
Amount of Additional Financial Security**

On page 4 of Appendix 3 in Exhibit B-23, Creative Energy Vancouver Platforms Inc. (Creative Energy) states:

1) Time Period

The parties have agreed to additional financial security during the period commencing from the earlier of Beatty Plant shutdown or the commencement of demolition of the exterior walls, foundation or roof of the existing building at 720 Beatty Street and lasting until the earlier of the transfer of legal title for the lands or the Stabilization Date outlined in Article 7 of the agreement.

.....

- Following the Stabilization Date, full legal title to the Lands (excluding the Airspace Parcels for the Beatty Plant and potentially Office Space that will be retained by Creative Energy) will have been transferred out of the utility.⁴ When that occurs, no further indemnities are required for risks arising from Creative Energy holding legal title to the Lands. Further, following the Stabilization Date, the value of the Lands and accumulating assets associated with the remainder of the development provide adequate security for the indemnities regarding any damage to Creative Energy’s utility equipment or property arising during the remainder of construction, which are also lowered following the completion of the upgraded Beatty Plant. [Emphasis Added]

⁴ Exhibit B-1, Appendix A (Trust and Development Agreement), s. 1.1(fff), p 7.

- 1.1 Please explain why the Stabilization Date, and not the Beatty Plant service commencement date, is the appropriate end period for the Performance Bond duration.

RESPONSE:

The Stabilization Date is defined in Section 1.1 (ddd) of the Trust and Development Agreement (TDA) as the date upon which the latest of four events occurs. These events are associated with the creation and return to Creative Energy of the air space parcel for the new Beatty Plant and air space parcel (or equivalent) for the New Office space. The Stabilization Date occurs upon separation of legal interests in the Utility Assets and the Trust Property. Once these interests are separated there is both a reduction in risk and additional security provided by the now separated legal interest of the Developer in the Trust Property.

The Stabilization Date is expected to occur well after the Beatty Plant service commencement date. As explained in BCUC CPCN IR 1.40.2 (Exhibit B-5):

“As a general rule, the City of Vancouver does not allow subdivision of an air space without some development to define the boundaries of that airspace.... once an airspace parcel is created, it would be practically impossible for Creative Energy to alter that airspace as the *Land Title Act* does not allow for modification to an airspace parcel within an airspace plan. Creative Energy would want to do upgrades to the plant (and existing office space if that is retained by Creative Energy) prior to such subdivision, and thereafter Creative Energy would have to work within the boundaries of the plant (and office space) as configured.”

Further, when development is sufficiently advanced for the Developer to be in a position to apply for approval of subdivision of the air space, there will be a lag of possibly a year or more between the application for subdivision and approval by the City of Vancouver.

In Schedule E (Major Milestones) to the Amended and Restated TDA, the final commissioning of the Beatty Plant is planned to occur in October 2022 under the current project schedule. As noted in Appendix 3 of Exhibit B-23, the Stabilization Date is currently expected to be in January 2023. These are indicative dates. The actual Stabilization Date will depend on the final project schedule and also on the time taken for the City of Vancouver to approve the air space parcel(s) subdivision application.

- 1.2 Please explain what the estimated duration and dollar value of the remainder of the construction period is after the Stabilization date, which is not covered by the proposed additional financial security.

RESPONSE:

The Expo Plant and Beatty Plant projects are expected to be completed before the Stabilization Date and so there is no construction of the Proposed Project planned after the Stabilization Date.

The reference to “remainder of construction” in Exhibit B-23, Appendix 3, as quoted in the preamble above is to remainder of construction of the Developer’s office tower project after the Stabilization Date, if any.

- 1.2.1 Please list all the Proposed Project milestones during remainder of construction period after the Stabilization Date.

RESPONSE:

None. Please see the responses to BCUC SS IRs 1.1 and 1.2.

- 1.3 Please explain how the value of the lands, following the Stabilization Date, would provide adequate security to Creative Energy in case of any damage to the utility's equipment or property during the remainder of construction. In your answer, please explain in detail how this would work in practice.

RESPONSE:

From the Stabilization Date forward, the Lands have been subdivided and the Developer holds full legal and beneficial title to the Trust Property. Creative Energy no longer bears any risk associated with holding legal title to the Trust Property because title has been transferred to the Developer. The value of the lands and improvements within the Developer's property are part of the Developer's assets.

At any point, Creative Energy may have recourse to the Developer for any loss under the indemnity provisions of the TDA or for breach of the TDA. From the Stabilization Date forward, any judgment in favour of Creative Energy can be registered against the Developer's title to the Trust Property. This would put the Developer in breach of its covenants for financing, and would put serious constraints on the Developer. If not rectified, Creative Energy can compel a sale of the Trust Property to realize on the Developer's equity in the Developer's project in satisfaction of a judgment rendered in Creative Energy's favour. This is possible even prior to completion of the Developer's project since a buyer should be willing to pay the market value of the development less any remaining cost to complete the project. These are powerful remedies and the Developer would be motivated to resolve issues to avoid Creative Energy taking such actions.

In addition, the Developer will have insurance for any damages to Creative Energy's equipment during the course of the development, which Creative Energy could claim against as an additional insured.

- 1.3.1 As part of your answer, please provide specific details of how the value of the lands would provide adequate security. What would Creative Energy be required to do to gain access to that security?"

RESPONSE:

Please see the response to BCUC SS IR 1.3.

- 1.4 Does Creative Energy consider that the value of the lands, following the Stabilization Date, provide adequate security to Creative Energy for completion of the remainder of construction?

RESPONSE:

The Expo Plant and Beatty Plant projects will be completed before the Stabilization Date and so there will be no construction of the Proposed Project after the Stabilization Date. Please see the responses to BCUC SS IRs 1.1 and 1.2.

- 1.4.1 If so, please explain in detail how the land value, in practice, would enable Creative Energy to ensure that the remainder of construction of the Proposed Project is completed.

RESPONSE:

Please see the response to BCUC SS IR 1.4.

- 1.4.1.1 As part of your answer, please provide specific details of how the value of the lands would provide adequate security. What would Creative Energy be required to do to gain access to that security?"

RESPONSE:

Please see the responses to BCUC SS IRs 1.3 and 1.4.

**2.0 Reference: ADDITIONAL FINANCIAL SECURITY
Exhibit B-23, Appendix 3, p. 5
Amount of Additional Financial Security**

On page 5 of Appendix 3 in Exhibit B-23, Creative Energy states:

The total value of the work on the Beatty Plant including contingency and overhead but excluding demolition, civil work and building modifications is \$18.3 million⁶... In light of the total value of work anticipated prior to the Stabilization Date, the duration of the construction activities prior to the Stabilization Date (which will limit the magnitude of accounts payable that may be accumulated prior to a stoppage or legal action), the restrictions on financing by the Developer, and the replacement value of assets to be retained, the parties have agreed to an additional financial security of \$10 million for the duration of the period of security, which represents more than 50% of the expected value of work at Beatty Street prior to the Stabilization Date. [Emphasis Added]

⁶ Exhibit B-1, Appendix B (Proposed Project Costs Schedule), Beatty Energy Centre – Total, p 2.

Exhibit B-1 (Application), Appendix B shows that the total cost of the Proposed Project (before financing costs during construction) is \$48.9 million, including the \$18.3 million related to the Beatty Energy Centre. Including financing costs during construction, the total cost is \$53.1 million as shown on page 5 of the Application.

Creative Energy also stated in response to BCUC IR 31.5.1.1 that there are a number of cost elements (as listed in BCUC IR 31.5.1) which fall under the costs of the Developer's project and do not form part of the \$53.1 million costs of the Proposed Project.

Finally, on pages 3 to 4 of the Cover Letter in Exhibit B-23, Creative Energy provides a number of major updates to the overall project and Appendices 2 through 9 explain what Creative Energy and the applicable counterparties have done to address each of the Panel's eight requirements, respectively, per Order G-38-19.

- 2.1 Please explain why the value of the Beatty Plant, and not the estimated total capital cost of the Proposed Project is an appropriate amount of additional financial security.

RESPONSE:

The total capital cost of the Proposed Project includes the cost of both the Expo Plant and the Beatty Plant. The latter includes all of the costs associated with work at 720 Beatty Street in respect of Utility Assets. The rationale for not requiring additional financial security based on the costs of the Expo Plant is articulated in Appendix 3 of Exhibit B-23 as follows:

The construction of the Expo Plant poses no risk to existing utility assets or operations at Beatty Street, and accordingly there is no need for additional financial security in relation to the construction of the Expo Plant. The Developer is responsible for all costs associated with the construction of the Expo Plant until the project is completed (Service Commencement in the Amended and Restated TDA), and Creative Energy does not make its first installment payment toward the project unless and until Service Commencement is achieved.

Creative Energy also notes that the Developer cannot commence significant work at 720 Beatty until the Expo Plant is completed and in service.

- 2.2 Please explain why \$10 million is the appropriate amount of additional financial security given that the \$18.3 million of Beatty Plant projects costs excludes: i) financing costs during construction, ii) cost elements that fall under the costs of the Developer (some which relate to the Beatty Plant, such as, the construction of the Beatty Plant structure), iii) major updates to the overall project , and iv) costs (if any) to address each of the Panel's eight requirements per Order G-38-19.

RESPONSE:

Creative Energy notes that performance bonds are typically in the amount of 50% of the contract amount.¹ In this case, the 50% performance bond is additional security on top of the exceptional rights Creative Energy already has against the Developer under the TDA as described in Appendix 3 of Exhibit B-23 and below.

Creative Energy also notes that unlike a normal construction contract, there are no interim payments by Creative Energy to the Developer for the Beatty Plant portion of the Proposed Project prior to completion of the Beatty Plant. Creative Energy's second installment payment to the Developer is \$6 million or roughly one third of the direct costs of the Beatty Plant and is not payable until the Beatty Plant is in service. This payment structure is effectively a hold back until completion, which provides additional financial security to Creative Energy. In addition to the assets of Westbank Holdings (the parent to the Developer), Creative Energy will have access to the assets of the Developer (value of work completed, together with land and development rights on the Trust Property) as additional security.

In its Order G-38-19 Decision, the Commission Panel indicated a requirement for additional financial security. The TDA already includes strong and exceptional concessions in favour of Creative Energy securing the indemnities in the TDA, including having the parent (Westbank Holdings) of the Developer jointly and severally indemnify the utility, provide a comfort letter on the minimum assets

¹ https://www.surety-canada.com/en/surety_resources/contract-surety/performance-bonds.html

of the parent, and also significant constraints on the Developer's financing. It is in this context of adding additional financial security on top of existing exceptional rights in favour of Creative Energy that the parties agreed to the 50% performance bond at additional cost to the Developer.

With respect to the specific exclusions identified in this IR, Creative Energy responds as follows:

i) Financing costs during construction

A performance bond does not normally cover financing during construction. Under the terms of the TDA, the Developer is responsible for financing costs during construction and under the financing restrictions in Section 6.2 of the TDA, Creative Energy is protected from claims by any construction lenders of the Developer. Construction lenders will have to accept these restrictions. These restrictions are exceptional and would not be part of a normal development project.

ii) Cost elements that fall under the costs of the Developer (some which relate to the Beatty Plant, such as, the construction of the Beatty Plant structure)

It is not reasonable or appropriate for Creative Energy to demand financial security from the Developer in relation to costs of the Developer's project. The financing restrictions in the TDA will already require substantially higher equity from the Developer compared to a normal development project, at least until the Stabilization Date. It is important to note that all work undertaken by the Developer will contribute to the ultimate value of the Trust Property. In the event the Developer defaults prior to completion of the Beatty Plant, Creative Energy will have the security provided by the \$10 million performance bond, the \$6 million Creative Energy has not yet paid for the Beatty Plant (which is not payable until the plant is in service), recourse to the Developer's insurance and the value of the Developer's equity in the Trust Property, and finally the requirements under Section 6.2 (Financing Restrictions) of the TDA for any of the Developer's lenders or creditors to complete all of the obligations of the Developer under the TDA in the event of a default by the Developer. It is also important to note that the value of the Trust Property cannot be realized by the Developer or its creditors without first completing the Expo and Beatty Plants.

iii) Major updates to the overall project

Creative Energy notes that the \$18.3 million budget already includes contingency. The 50% performance bond is capped at \$10 million, allowing for an additional 10% contingency over and above existing contingency. Creative Energy reiterates the 50% performance bond is additional financial security in addition to the existing exceptional security and remedies available to Creative Energy. The 50% performance bond is far from the only form of security.

iv) Costs (if any) to address each of the Panel's eight requirements per Order G-38-19

Creative Energy reiterates that the proposed financial security is in addition to existing remedies and security provided under the TDA. The table below examines the costs to address each of the Panel's eight recommendations and their relevance to the 50% performance bond.

BCUC Requirements	Cost Impact	Relevance to Financial Security
<p>1. Elimination of clauses regarding the potential secondary capital expenditure related to increases in capacity</p>	<p>Removing this term does not alter the budgeted cost of the Beatty Plant, only the ability of the Developer to recover its costs in the event of future increases in steam generating capacity at the Beatty Plant.</p>	<p>Does not affect the project budget for the Beatty Plant.</p>
<p>2. Provision of additional financial security such as performance or construction bond for an appropriate amount and duration</p>	<p>This change adds to the Developer's overall costs.</p>	<p>The cost of the additional financial security is the responsibility of the Developer and does not affect the capital cost of the Beatty Plant. This cost is similar to the Developer's cost of insurance, which is not included in the capital cost of the Proposed Project.</p>
<p>3. Explanation of 80.4 percent baseline efficiency as claimed by Creative Energy is accurate in light of the fact that 25 percent of the fuel savings from the Clear Sky economizer accrue to the Company. In the event this cannot be adequately explained, Creative Energy is required to outline what it is prepared to do to ensure the predicted fuel savings are achieved.</p>	<p>Does not affect costs.</p>	<p>Does not affect the project budget for the Beatty Plant.</p>
<p>4. Development of a comprehensive Contingency Plan, which addresses identified issues</p>	<p>The cost of developing the contingency plan is already included in the project budget and contingency.</p>	<p>Does not affect the project budget for the Beatty Plant.</p>
<p>5. Confirmation that Ellis Don and WSP have been or will be engaged to take on the Proposed Project. In the event an agreement with either of them cannot be reached, the Panel will make any CPCN subject to Creative Energy confirming the selection of a General Contractor and Design Engineering Company with the requisite experience that is acceptable to the BCUC</p>	<p>The budget already includes the costs of a General Contractor and Design Engineer.</p>	<p>Does not affect the project budget for the Beatty Plant.</p>

6. Completion and submission of a Preliminary Project Schedule and within 60 days of engaging the General Contractor, a detailed Project Schedule outlining the construction and operation schedule, including critical dates of key events, a chart of major activities showing the critical path (e.g. GANTT chart), and the timing of approvals required from other agencies	The budget already includes these costs.	Does not affect the project budget for the Beatty Plant.
7. Removal of Land from the Deferral Account proposal	Does not affect costs.	N/A
8. Filing of an executed PavCo SRW Agreement with a 5-year notice provision."	Does not affect costs.	N/A

2.2.1 Should the amount of additional financial security be some higher amount to maintain the value of the financial security at 50 percent of the value of work at Beatty Street? Please explain why or why not.

RESPONSE:

No. Please see the response to BCUC SS IR 2.2.

**3.0 Reference: ADDITIONAL FINANCIAL SECURITY
Exhibit B-23, Appendix 3, p. 6
Amount of Additional Financial Security**

On page 6 of Appendix 3 in Exhibit B-23, Creative Energy states:

3) Form of Financial Security

The form of financial security will be a 50% Performance Bond with a face value of \$10 million that must be obtained from a licensed surety company.⁷ This means the performance bond will cover up to 50% of the project value to a maximum of \$10 million. The cost of this form of financial security is approximately \$400,000 for the first year, and \$50,000 per additional year of extension. The total estimated cost to the Developer is about \$500,000, which represents about 2.5% of the total direct budget for the Beatty Plant. [*Emphasis Added*]

3.1 Please confirm, or explain otherwise, that all costs associated with the additional financial security, as laid out in Appendix 3 “fall under the costs of the Developer’s project.”

RESPONSE:

Confirmed. All costs associated with the performance bond additional financial security are the Developer’s costs.

- 3.2 Please explain how the cost stated for the suggested \$10 million Performance Bond was estimated to be \$400,000 in the first year, and \$50,000 per year thereafter.

RESPONSE:

The Developer received a preliminary quote for the cost of the performance bond identifying these amounts.

- 3.3 Please explain whether the Creative Energy would be amenable to request from the Developer a Performance Bond with the term of the bond valid until the Beatty Plant service commencement date?

RESPONSE:

For the reasons set out in the response to BCUC SS IR 1.1, the performance bond should be in place until separation of legal interests in the utility assets and the trust property. The proposed performance bond will be in place until the Stabilization Date, which is after the Beatty Plant service commencement date.

- 3.3.1 If so, please provide the estimated cost of a Performance Bond with a face value of \$10 million with the term of the bond valid until the Beatty Plant service commencement date.

RESPONSE:

Please see the response to BCUC SS IR 3.3.

- 3.3.2 With reference to your response in IR 20.2, please provide the estimated cost of a Performance Bond with a face value of the revised estimated total capital cost of the Proposed Project with the term of the Bond valid until the Beatty Plant service commencement date.

RESPONSE:

For the reasons set out in the response to BCUC SS IR 2.2, there is no change in the capital cost estimate of the Proposed Project. The total capital cost estimate remains \$53.1 million as stated in the Application.

The cost of a 100% performance bond with a face value of \$53.1 million and two year duration is estimated to be \$1.2 million, based on a preliminary quote. Creative Energy is of the opinion that requiring a performance bond for 100% of the total cost of the Proposed Project would be wasteful given the risk mitigation and other security already provided pursuant to the TDA.

- 3.4 Does Creative Energy intend to provide the British Columbia Utilities Commission (BCUC) with a standard "Consent of Surety" (Agreement to Bond) to confirm that Surety will issue the required bond.

RESPONSE:

Evidence and acceptability of the performance bond are requirements of the Amended and Restated TDA. If the BCUC wishes to receive a copy of this information, Creative Energy is amenable to providing it for reporting purposes.

- 3.4.1 If so, please explain at what point such information will be provided.

RESPONSE:

Creative Energy anticipates that the BCUC will specify reporting requirements in its Order granting the CPCN. Creative Energy would be pleased to submit the information in accordance with such reporting requirements.

- 4.0 Reference: ADDITIONAL FINANCIAL SECURITY
 Exhibit B-23, Appendix 3, p. 6
 Amount of Additional Financial Security**

On page 6 of Appendix 3 in Exhibit B-23, Creative Energy states:

Marsh Canada Limited (Marsh) has been retained as Surety Broker. Marsh has provided a list of prequalified licensed surety companies, their respective A.M. Best Ratings⁸, and a standard form of Performance Bond for this type of exposure.

- 4.1 Please confirm, or explain otherwise, that Creative Energy will require the Developer to obtain an agreement from the Surety, via Riders, that will allow for material changes in the value or duration during the period under which the bond is active in order to ensure that such material changes do not negate the Performance Bond.

RESPONSE:

The Developer is responsible for obtaining and maintaining the performance bond in the required amount throughout the period required pursuant to the Amended and Restated TDA.

With respect to the required duration of the performance bond, this is tied to project milestones and not specific dates. If the Stabilization Date is delayed, the performance bond will remain in place until such milestone is reached.

With respect to value, the performance bond will guarantee up to 50% of the budgeted cost of the Beatty Plant project up to a maximum of \$10 million. If Creative Energy was to change the scope of the Beatty Plant project by change order, the incremental costs of such change would be the responsibility of Creative Energy and not the Developer. If Creative Energy wanted to have such change order work covered by a performance bond, this would be at Creative Energy's cost.

- 4.1.1 Please specify how should such “material changes” in that agreement will be defined (e.g. change in the timeline, percent change in value of the agreement, etc.)

RESPONSE:

Please see the response to BCUC SS IR 4.1.

- 4.2 Please explain under which circumstances would Creative Energy declare default under the bond and take an appropriate action with the Surety.

RESPONSE:

Default would occur if the Developer becomes insolvent, fails to pay costs in relation to the Beatty Plant that are the Developer’s responsibility under the TDA, or otherwise fails to complete the Beatty Plant in accordance with the TDA. Creative Energy would take appropriate action in such circumstances.

B. EXPECTED EFFICIENCY IMPROVEMENTS

- 5.0 Reference: EXPECTED EFFICIENCY IMPROVEMENTS
Exhibit B-5, Attachment 3.1; p. 9; Exhibit B-5-2, Attachment 15.3, p. 3;
Exhibit B-23, p. 4; Appendix 2-1, p. 55; Appendix 4, pp. 2-5;
Expected Efficiency Improvement as a result of the Proposed Project**

On page 4 of Exhibit B-23, Creative Energy provides a summary of the Proposed Project’s updated Milestone Schedule:

Milestone Schedule

2019	
June 3	CPCN Approval
July 4	Purchase Boilers - Expo Plant
September 30	Rezoning Approval – 720 Beatty
October 24	Issue for Construction Drawings – Expo Plant
December 6	Tender award – Expo Plant Construction

2020	
April 2	Start of Construction – Expo Plant
April 15	Development Permit Issuance – 720 Beatty
August 3	Building Permit Issuance – 720 Beatty
September 1	New Gas Service installed – 701 Expo and Expo Plant
September 30	Issue for Construction Drawings – 720 Beatty
October 5	Building Permit Issuance – 701 Expo
October 6	Start of Construction – 701 Expo
November 24	P2 Slab in place – 701 Expo (new fuel tanks can be placed)
December 14	Substantial Completion – Expo Plant and Interconnection lines

2021	
January 11	Expo Plant running
April 15	Beatty Plant Shutdown #1
	Beatty Demo/Abatement/Deconstruction
September 15	Beatty Plant Restart

The Energy Services Agreement between Creative Energy (formerly Central Heat Distribution Limited) and Clear Sky Energy Ltd. (Clear Sky), provided on page 9 of Attachment 3.1 to Exhibit B-5, states:

5.0 Contract Term

- 5.1 This contract shall commence on the date of execution hereof and continue until:
- (a) December 31, 2019. An additional contract term extension may be made if mutually agreed by the Client and the ESCO.
 - (b) The parties agree to provide each other six months' written notice of their desire to extend the agreement.
 - (c) At the end of the contract term the equipment will be removed from the Client's premises unless otherwise agreed by the Client and the ESCO.

- 5.1 The Beatty Plant is scheduled to be shut down on April 15, 2021 and the Energy Services Agreement with Clear Sky is scheduled to expire on December 31, 2019. Please explain whether Creative Energy intends to continue to operate the economizer at the Beatty Plant until the scheduled shut down of the Beatty Plant.

RESPONSE:

Whether the Clear Sky economizer continues to operate after the expiration of the current agreement on December 31, 2019, and under what terms, is subject to negotiation between Clear Sky Energy Ltd. (Clear Sky) and Creative Energy. Continued use of this equipment after 2019 does not necessarily require an extension of the current agreement with Clear Sky; other types of arrangements could be agreed. Creative Energy has yet to enter into negotiations with Clear Sky because the Proposed Project is not yet approved making such negotiations premature. Prior to the BCUC's final decision on this Application, there is uncertainty as to the value of retaining the economizer, which could require Creative Energy to assume the burden of removal costs for example.

If the Proposed Project is approved, and if the equipment is still on the roof of the Beatty Street building when the Developer begins demolition of the building, removal of the Clear Sky equipment will be at the Developer's cost. The Developer is responsible for demolition costs. Given the age of the equipment, Creative Energy believes that the equipment would have minimal salvage value, if any.

Creative Energy should not comment further than the above because further comments could harm Creative Energy's negotiating position in connection with the expiration of the current ESCO agreement.

- 5.1.1 If not confirmed, please explain why not.

RESPONSE:

Please see the response to BCUC SS IR 5.1.

5.1.2 If not confirmed, please explain the impact this will have on customer rates.

RESPONSE:

Please see the response to BCUC SS IR 5.1.

5.2 Please explain whether Creative Energy has provided Clear Sky with written notice of a desire to extend the agreement beyond December 31, 2019.

RESPONSE:

Please see the response to BCUC SS IR 5.1.

5.2.1 If confirmed, please provide details of Creative Energy’s discussions with Clear Sky, including whether or not Clear Sky is willing to extend the agreement and the maximum duration for which the agreement could be extended.

RESPONSE:

Please see the response to BCUC SS IR 5.1.

5.2.2 If not confirmed, please explain why not.

RESPONSE:

Please see the response to BCUC SS IR 5.1.

On pages 2 to 3 of Appendix 4 of Exhibit B-23, Creative Energy states that the estimated efficiencies for the Baseline, Proposed Project and the Alternative assume the removal of the Clear Sky economizer:

This baseline assumed that the Clear Sky economizer has been removed by 2023 at no cost to Creative Energy (in accordance with the agreement with Clear Sky) and has not been replaced....

- The Proposed Project includes removal and replacement of the existing building structure housing the Beatty plant, and the economizer must be removed before this work can begin. The baseline for evaluating the costs and benefits of the Proposed Project assumes that Creative Energy takes advantage of Clear Sky’s obligation to remove the economizer at its cost such that the unit is removed by 2023....

The Alternative includes in-situ replacement of boilers and seismic upgrades to the building structure at Beatty⁸ which would also require removal of the economizer to enable that work. [Emphasis added]

⁸ Exhibit B-1, S 14, p 76-77.

Further on page 3 Creative Energy states, “A new economizer is included in the costs and benefits estimated for both the Proposed Project and the Alternative.”

The Amended and Restated Trust and Development Agreement is provided in Appendix 2-1 of Exhibit B-23.

Page 55 of Appendix 2-1 states:

9. During the course of the construction of the New Plant Premises, the New Office, BC Place Plant and Project Utility Infrastructure, any variance to the Plans and Specifications proposed by Creative Vancouver will be subject to prior approval by the Developer pursuant to a change order request submitted in the standard change order form (a “**Change Order**”) by Creative Vancouver.

- 5.3 Creative Energy states on pages 2 and 3 that the estimated efficiencies for the Baseline, Proposed Project and Alternative scenarios assume that the Clear Sky economizer is removed from the Beatty Plant. Please clarify the statement “[a] new economizer is included in the costs and benefits estimated for the Proposed Project and the Alternative.”

RESPONSE:

The Proposed Project includes new primary and secondary economizers². These economizers will be installed at the Expo Plant, which Creative Energy will use as the baseload plant, meeting the majority of Creative Energy’s annual energy production needs³.

The Beatty Plant will be used to meet steam generation needs during high load periods. There is an existing primary economizer installed on Boiler #6 in the existing plant, which will remain in place following the Proposed Project. The Proposed Project does not include installing a new secondary economizer at the renovated Beatty Plant. The plant gate efficiency for the Proposed Project reflects those assumptions.

Creative Energy’s assumption is that the Alternative (as defined in the Application) would include primary and secondary economizers on some boilers as described in the response to BCUC CPCN IR 115.7. The plant gate efficiency for the Alternative reflects those assumptions.

The Clear Sky unit is a secondary economizer.

For more information please see the response to BCUC SS IR 5.5.

- 5.3.1 Please clarify whether the Plant Gate Efficiency for the Proposed Project and the Alternative assume the use of an economizer at the Beatty Plant.

RESPONSE:

Please see the response to BCUC SS IR 5.3.

On page 2 of Appendix 4, Creative Energy states:

The Proposed Project includes removal and replacement of the existing building structure housing the Beatty plant, and the economizer must be removed before this work³ can begin.

² Exhibit B-1, p. 41.

³ Exhibit B-1, p. 33.

On page 5 of Appendix 4, Creative Energy states:

Creative Energy confirms that new economizers at the renovated Beatty Plant are not included in the scope of the Proposed Project at Creative Energy's cost of \$15 million. Creative Energy confirms that it has the option to add scope to the Proposed Project and that under the Trust and Development Agreement Creative Energy will bear the incremental cost of such discretionary scope changes¹². Creative Energy has previously considered adding economizers at the renovated Beatty plant, and if the Proposed Project is approved, during the detailed design process Creative Energy will consider the costs and benefits of adding one or more economizers to the renovated Beatty Plant.

¹² Exhibit B-1, s. 2, p 7.

- 5.4 Please explain whether as a result of the Proposed Project there would be sufficient on-site space for an economizer at the Beatty Plant.

RESPONSE:

The existing primary economizer installed on Boiler #6 in the Beatty Plant will remain in place after the Proposed Project. Primary economizers are typically installed as an integral part of a boiler. The other two boilers in the renovated Beatty Plant (Boiler #3 and Boiler #5) do not have primary economizers and given the age of those boilers and their low usage it would be unusual to retrofit them with primary economizers (and may not even be feasible). There will not be any space constraint within the renovated Beatty Plant on including primary economizers on new boilers in the future when Boilers #3 and #5 need to be replaced.

A secondary economizer (similar to the Clear Sky unit) could potentially be installed at the Beatty Plant to capture flue gases from one or more boilers. As a result of the Proposed Project there would be sufficient space to install a secondary economizer within the renovated Beatty Plant.

- 5.5 With reference to the statement "Creative Energy has previously considered adding economizers at the renovated Beatty Plant", please discuss why Creative Energy has decided not to include economizers at the renovated Beatty Plant.

RESPONSE:

The existing primary economizer on Boiler #6 will remain in place after the Proposed Project. Creative Energy interprets the question to refer to a new secondary economizer similar to the Clear Sky unit. The question could be intended to address two different issues:

- 1) Why the scope of the Proposed Project to be paid for by the Developer does not include a secondary economizer at the Beatty Plant, or**
- 2) Why Creative Energy has not chosen to add a secondary economizer at the Beatty Plant as a change order to the Proposed Project at Creative Energy's cost.**

Each of those issues is addressed below.

Regarding the scope of the Proposed Project, for which Creative Energy will pay \$15 million, the agreed-upon approach throughout the negotiations between the Developer and Creative Energy was that Creative Energy would generally receive "like for like": a new plant with new equipment meeting largely the same specifications as Creative Energy's existing plant.

Creative Energy’s existing plant has primary economizers on Boilers #4 and #6, and a secondary economizer (the Clear Sky unit) on Boilers #3 and #4. The below table shows the proportion of annual load met by each boiler, and whether each boiler has a primary or secondary economizer.

Current Plant Operations as of June 2019			
Boiler #	Annual Contribution to Steam Generation ⁴	Primary Economizer?	Secondary Economizer?
1	6%	No	No
2	4%	No	No
3	20%	No	Yes
4	39%	Yes	Yes
5	3%	No	No
6	28%	Yes	No

In the Proposed Project, Creative Energy will have two new boilers at the Expo Plant each of which will have primary and secondary economizers. The boilers themselves will also be higher efficiency than Creative Energy’s existing boilers due to using current designs and technology. Creative Energy will also retain three boilers at the Beatty Plant, one of which (Boiler #6) will continue to have a primary economizer. The below table shows the proportion of annual load met by each boiler after the completion of the Proposed Project.

Creative Energy Boilers After Proposed Project			
Boiler #	Annual Contribution to Steam Generation ⁵	Primary Economizer?	Secondary Economizer?
Beatty 3	10%	No	No
Beatty 5	3%	No	No
Beatty 6	27%	Yes	No
Expo 1	30%	Yes	Yes
Expo 2	30%	Yes	Yes

After the completion of the Proposed Project, Creative Energy will have two plants that, in combination, meet substantially the same specifications as the current Beatty Plant (but with newer, higher-efficiency equipment). Overall Creative Energy will have more annual steam generation via boilers that take advantage of primary and/or secondary economizers.

⁴ Exhibit B-1, Table 2, p. 20.

⁵ Exhibit B-1, Appendix G – Condition Assessment Report, Appendix D to Condition Assessment Report, Dispatch Analysis, Table labeled “Option 5 – Combination New and Existing Plant”, data in column labeled “% Load” for “Year 2019”.

Regarding whether Creative Energy will pursue a scope change to add a secondary economizer to the Beatty Plant; Creative Energy has considered it as an option. As the Proposed Project has not been approved, Creative Energy has not invested significant resources in investigating the potential benefits of a new secondary economizer at the renovated Beatty Plant either as a scope change to the Proposed Project or as a future addition after the completion of the Proposed Project. The high-level analysis shown in the response to BCUC SS IR 5.10 shows that it may be marginally beneficial to install a secondary economizer in the Beatty Plant. However, further analysis is required and as noted in the response to BCUC CPCN IR 85.1.2, it may be more cost-effective to consider adding this equipment as part of a future boiler replacement project rather than as part of the Proposed Project.

5.6 Please discuss the circumstances under which Creative Energy would consider adding an economizer to the renovated Beatty Plant.

RESPONSE:

Please see the responses to BCUC SS IR 5.5 and BCUC CPCN IR 85.1.2.

5.7 Please provide the total cost for the addition of an economizer at the Beatty Plant.

RESPONSE:

Creative Energy interprets the question as referring to a secondary economizer. Creative Energy has not conducted detailed analysis of the capital cost to install a secondary economizer at the renovated Beatty Plant. The assumption used in the Application and in the response to BCUC SS IR 5.10 is that a secondary economizer currently costs \$1.4 million⁶.

5.8 If an economizer were to be installed at the Beatty Plant as part of the Proposed Project, please explain, with rationale, whether Creative Energy would install the economizer at its own cost or seek to enter into a similar agreement to that of the existing agreement with Clear Sky.

RESPONSE:

Creative Energy has not considered whether it would pursue a secondary economizer at the Beatty Plant as a Creative Energy-owned project or through an alternative model such as an ESCO.

Creative Energy understands that the existing Clear Sky secondary economizer was implemented via an ESCO model in part due to funding constraints faced by the prior shareholders. The current shareholders do not have such constraints.

On page 3 of Attachment 15.3 to Exhibit B-5-2, Creative Energy states:

The effect of the secondary economizer on the plant gate efficiency was determined based on energy metering provided with this equipment versus plant fuel usage for 2017 on a month by month basis. With this equipment a 2.73 percent fuel savings was realized in 2017

⁶ Exhibit B-1, p. 23.

5.9 Please provide the percentage annual load that Creative Energy anticipates that the renovated Beatty Plant will deliver.

RESPONSE:

The renovated Beatty Plant is projected to provide 40% of Creative Energy’s annual energy. Please see Exhibit B-5-2, Attachment 15.3, p 4 which provides a table with the projected breakdown of annual energy production between the Beatty Plant and the Expo Plant.

5.10 With reference to your response to IR 4.9, please provide the estimated natural gas consumption savings, the 2023 Fuel Cost Adjustment Charge (FCAC) Impact and Net 2023 Bill Impact resulting from the addition of an economizer to the renovated Beatty Plant. Please detail all assumptions.

RESPONSE:

As explained in the response to BCUC SS IR 5.5, Creative Energy has not conducted a detailed assessment of the capital cost, maintenance costs, or performance impact of adding a secondary economizer to the renovated Beatty Plant. Creative Energy provides the below high-level analysis. Key assumptions used are:

Assumption	Value	Source
Cost of Secondary Economizer for Beatty Plant	\$1.4 million	Exhibit B-1, p. 23. This cost is assumed to be incurred in 2022, at the same time as the payment tied to the completion of the Beatty Plant.
Annual Maintenance Costs for Secondary Economizer	1% of capital + inflation	Low-end placeholder based on typical maintenance levels for plant equipment.
Beatty Plant Gate Efficiency with Secondary Economizer	83.5%	Based on comparison with Expo Plant efficiency⁷.
Overall Plant Gate Efficiency with Secondary Economizer at Beatty Plant	85.2%	Based on 60% Expo, 40% Beatty dispatch mix⁸.

The results of the analysis using the above assumptions are shown in the below table.

⁷ Exhibit B-5-2, Attachment 15.3, p. 4 has a table with the projected plant gate efficiency of the Beatty Plant (80.5%) and the Expo Plant (86.4%) after the completion of the Proposed Project. A footnote to the table attributes the higher efficiency of the Expo Plant to improved burner efficiency (3%) and to the combination of primary and secondary economizers (3%). For the analysis included in the response to BCUC SS IR 5.10, Creative Energy has used the simplified assumption that the Beatty Plant could achieve a 3% increase in efficiency from the addition of a secondary economizer.

⁸ Exhibit B-5-2, Attachment 15.3, p. 4.

	Proposed Project (Includes Primary and Secondary Economizers at Expo Plant)	Proposed Project + Secondary Economizer at Beatty Plant
2023 Steam Rates Impact	+15.6%	+17.3%
2023 FCAC Impact	-4.2%	-5.6%
Net 2023 Bill Impact	+3.7%	+3.6%

Creative Energy reiterates that this analysis is high-level. In Creative Energy’s view the analysis is not sufficient for decision making.

On page 4, Creative Energy provides Table 1:

Table 1: Alternate 2023 Rate Impact Analysis

Scenario Description	Baseline efficiency used in Application – assumes the Clear Sky equipment has been removed by 2023	Alternate baseline efficiency – uses effective efficiency as at 2019
Plant Gate Efficiency in the absence of the Proposed Project	80.4%	81.0%
2023 Steam Tariff Impact	+15.6%	+15.6%
2023 FCAC Impact	-4.2%	-3.6%
Net 2023 Bill Impact	+3.7%	+4.1%

5.11 Starting at a Proposed Project Plant Gate Efficiency of 81 percent and increasing incrementally by 0.5 percent, up to 84 percent, please provide a sensitivity analysis of the 2023 FCAC Impact and Net 2023 Bill Impact for the Proposed Project against the alternate baseline efficiency.

RESPONSE:

Please see the below table for the requested information. As requested, this table only shows the impact of varying the efficiency of the Proposed Project. The bill impact assumes no change in Creative Energy’s total payment for the Proposed Project or in any other costs. Please note that this analysis of 2023 FCAC and bill impacts is based on the timing assumptions used in the original Application, and does not reflect subsequent changes to the schedule. These schedule changes would affect the timing of the FCAC and bill impacts but not the degree of FCAC and bill impact.

Proposed Project Plant Gate Efficiency	2023 FCAC Impact vs Alternate Baseline Efficiency of 81%	2023 Net Bill Impact vs Alternate Baseline Efficiency of 81%
81%	0%	6.3%
81.5%	-0.7%	5.9%
82%	-1.2%	5.5%
82.5%	-1.9%	5.1%
83%	-2.4%	4.8%
83.5%	-3.1%	4.4%
84%	-3.6%	4.1%

**6.0 Reference: EXPECTED EFFICIENCY IMPROVEMENTS
Exhibit B-23, Appendix 4, p. 5
Potential Economizers**

On page 5 of Appendix 4 in Exhibit B-23, Creative Energy states:

Creative Energy confirms that it has the option to add scope to the Proposed Project and that under the Trust and Development Agreement Creative Energy will bear the incremental cost of such discretionary scope change... if the Proposed Project is approved, during the detailed design process Creative Energy will consider the costs and benefits of adding one or more economizers to the renovated Beatty Plant. [*Emphasis Added*]

- 6.1 Notwithstanding that a decision has not yet been made on whether one or more economizers will be added to the renovated Beatty Plant, please provide a sensitivity analysis or “rule of thumb,” with calculations, for the impact on rates in 2023 of each potential dollar spent on economizers. Please round to the nearest thousands or millions of dollars for the appropriate cost of an economizer, as needed.

RESPONSE:

A reasonable “rule of thumb” is that a change order which adds \$1 million to Creative Energy’s capital cost for the Proposed Project would add 1.2% to the 2023 Steam Rates impact of the Proposed Project. The Proposed Project has a capital cost of \$15 million to Creative Energy and results in a 15.6% increase to the 2023 Steam Rates. If the capital cost to Creative Energy were increased to \$16 million (with all of the increase occurring in the second payment, which corresponds to the completion of the Beatty Plant), the project would result in a 16.8% increase to the 2023 Steam Rates, and an overall 2023 bill impact of +4.2% (compared with the +3.7% 2023 bill impact of the Proposed Project alone). These results are summarized below.

This analysis assumes that the additional \$1 million is depreciated over a 40 year term, which is the term Creative Energy has used for the analysis in the Application. However, 40 years may not be the correct term to use for a change order tied to a specific asset. Using a shorter depreciation term would increase the 2023 Steam Rates impact.

Item	Amount	Note
Increase to 2023 Depreciation Charge	+\$25,000	\$1 million / 40 years
Increase to 2023 Earned Return	+\$63,000	Based on deemed capital structure
Increase to 2023 Income Tax	+\$14,000	Gross up of 2023 ROE
Increase to 2023 Maintenance Costs	+\$10,000	Assumes O&M at 1% of capital on \$1 million cost increase
Increase to 2023 MAA Fees	+\$3,000	Higher capital cost increases MAA Fees
Total Impact	+\$116,000	Variance due to rounding
Baseline 2023 Rev Req	\$9,225,400	Exhibit B-1, Table 8, p. 69.
Proposed Project 2023 Rev Req	\$10,662,300	Exhibit B-1, Table 8, p. 69.
Proposed Project + \$1 M 2023 Rev Req	\$10,778,300	\$10,662,300 + \$106,000
Increase to 2023 Steam Rates from Proposed Project + \$1 M Additional Capital Cost	+16.8%	Compare with impact of +15.6% from Proposed Project alone
Change to 2023 Bill Impact from Additional \$1 M Capital Cost	+4.2%	Compare with impact of +3.7% from Proposed Project alone

Please note that this analysis of 2023 rate impacts is based on the timing assumptions used in the original Application, and does not reflect changes to the schedule. These schedule changes would affect the timing of the rate impact but not the level of rate impact.

6.2 For clarity, please discuss whether Creative Energy will seek to recover from ratepayers the cost of adding one or more economizers at the renovated Beatty Plant if Creative Energy decides during the detailed design process to add new economizers to the scope of the Proposed Project.

RESPONSE:

If Creative Energy decides to add one or more new economizers to the Beatty Plant by way of change order during the Proposed Project or subsequent to the Proposed Project, Creative Energy confirms that it would seek to recover its costs in rates.

6.2.1 If yes, please explain the expected timing and regulatory process contemplated by Creative Energy with respect to seeking approval from the BCUC to recover the cost of new economizers at the renovated Beatty Plant.

RESPONSE:

At this time Creative Energy is not planning to add new economizers to the renovated Beatty Plant, and so does not have any details on timing and regulatory process for seeking BCUC approval. If Creative Energy decides during the detailed design process to add one or more new economizers to the Beatty Plant, BCUC approval would likely be sought in 2021.

C. CONTINGENCY PLAN

- 7.0 Reference: **CONTINGENCY PLAN**
Exhibit B-23, Appendix 5, pp. 1-2; Appendix 5-1.
Contingency Plan Responsibilities and Overview

On page 1 of Appendix 5, Creative Energy states:

Creative Energy has engaged the TES Group of Edmonton, Alberta as subject matter experts in the area of developing and implementing plans to provide temporary steam production measures for industrial applications. The TES Group has significant experience with this type of undertaking.

The TES Group has assisted Creative Energy with developing the contingency plan.

In Appendix 5-1, Creative Energy provides a Contingency Plan Report, preliminary risk assessment and the experience of the TES Group.

Page 38 of Appendix 5-1 states:

A final report will be prepared and submitted with detailed back up presenting recommendations and estimates associated with the final Contingency Plan Scope of Work and installation of temporary rental boilers.

If this proposal is in line with Creative Energy's needs and requirements, TES will produce a detailed cost estimate summary to perform this work. [Emphasis added].

- 7.1 Please confirm, or otherwise explain, whether the TES Group's report, as provided in Appendix 5-1, is a proposal for developing a Contingency Plan.

RESPONSE:

Creative Energy would not describe the TES Group report as a proposal. Contingency planning evolves over the life of the project. In advance of obtaining necessary approvals of the Proposed Project, designs are developed to a Class 3 level. Likewise, the Contingency Plan has been developed to a similar level. The Contingency Plan submitted does not address all the granular details of bringing in temporary boilers, as there are significant costs associated with developing the fine details. Incurring such costs prior to project approval is not justified.

The Contingency Plan submitted in Exhibit B-23 does prove the overall feasibility of the approach, and outlines the work and timelines to develop an actionable plan. Creative Energy believes this is an appropriate level of refinement at this stage of the project and aligns with our needs and requirements at this time.

- 7.1.1 If confirmed, please provide a detailed explanation of the next steps in developing the Contingency Plan.

RESPONSE:

Please refer to the response to BCUC SS IR 7.1.

- 7.2 Please confirm, or otherwise explain, whether the TES Group’s proposal is “in line with Creative Energy’s needs and requirements.” Please discuss why or why not.

RESPONSE:

Please refer to the response to BCUC SS IR 7.1.

- 7.3 Please explain the objectives of the Contingency Plan. In your response please detail all the risks that the plan is aiming to mitigate.

RESPONSE:

The objective of the Contingency Plan is to reduce the risk of loss of generating capacity from the Beatty or Expo Plants during construction, by identifying the risks and plan to address such loss. That is, laying out the preparations required to quickly bring to site, commission and start up temporary steam boilers.

- 7.4 Please confirm, or otherwise explain, whether Creative Energy is the party responsible for implementing the Contingency Plan.

RESPONSE:

Confirmed. Creative Energy is the party responsible for implementing the Contingency Plan. However, the TES Group will develop, coordinate and implement (if needed) the Contingency Plan on behalf of Creative Energy, and the Developer is responsible for the costs of developing and implementing (if needed) the Contingency Plan.

- 7.4.1 If not confirmed, please provide the name of the party responsible, for example, General Contractor, Developer, TES Group etc.

RESPONSE:

Please refer to the response to BCUC SS IR 7.4.

- 7.5 Please confirm, or otherwise explain, whether Creative Energy (or the responsible party identified above) will engage the TES Group, or another qualified and experienced party, as the subject matter expert to develop and/or implement the Contingency Plan.

RESPONSE:

Creative Energy plans to engage TES Group to further develop the details of an actionable Contingency Plan.

- 7.5.1 If confirmed, please discuss the subject matter expert’s responsibilities with respect to the Contingency Plan (either development or implementation).

RESPONSE:

The scope of work for the TES Group is to develop, coordinate and implement (if needed) the Temporary Boiler Subproject on behalf of Creative Energy:

- **Provide engineering leadership & overall sub-project management support**
- **Provide integrity and risk assessment support to determine state of existing plant equipment/assets**
- **Provide equipment application support for the sourcing & selection of the rental boiler equipment**
- **Provide constructability guidance and recommendations for the installation of the rental boilers**
- **Provide schedule support & cost estimating and cost tracking for project needs**

For further clarity, the activities to be carried out by TES Group include:

- **Communication and visits to site for data gathering, interviews, discussions and presentations**
- **Review all documents and operating parameters provided by plant personnel**
- **Perform a review of safety/reliability critical equipment and assess any risks that may require mitigation**
- **Prepare a detailed scope of work which will include all activities associated with the installation of the rental boilers**
- **Develop conceptual layout of rental boiler location and necessary support structures.**
- **Prepare a schedule showing all activities, milestones, and lists of long lead items**
- **Prepare a man hour and cost estimate for the complete scope of work required to implement the Contingency Plan**
- **Submit a report to the Creative Energy that will address all requirements of the Contingency Plan, including a risk mitigation matrix**
- **Advise project/plant personnel on progress and any problems with the study and report**

- 7.6 In the event that a Certificate of Public Convenience and Necessity (CPCN) is granted for the Proposed Project, does Creative Energy commit to delivering all aspects of the Contingency Plan and adopting the recommendations made by the subject matter experts?

RESPONSE:

Creative Energy is pleased to make that commitment.

On page 2, Creative Energy states:

The contingency plan does not include, for example, detailed piping design of the boiler tie-ins, or a full risk assessment of the connection and operation of the temporary boilers. That work is at a level of detail that it must be done in concert with the detailed design of the entire project, which will follow CPCN approval.

Directive 3.II.i of the Decision with accompanying Order G-38-19 (Decision) requires Creative Energy to develop a “comprehensive Contingency Plan” which addresses the identified issues in the Decision.

7.7 Please discuss whether Creative Energy considers the TES Group's report, provided in Appendix 5-1, to be a comprehensive Contingency Plan that addresses all the identified issues in the Decision.

RESPONSE:

The Contingency Plan submitted in Exhibit B-23 is appropriate at this stage of the Proposed Project, prior to obtaining all necessary approvals for the project. As the design of the development is at a schematic design level and the Proposed Project is at a Class 3 AACE level of refinement, it is not reasonable to investigate and address every risk in the Temporary Boiler subproject to a greater level of refinement than the rest of the project. The detailed refinement work will be done following project approval.

The updates to the project schedule greatly reduce the level of risk to Creative Energy customers and staff, and the Contingency Plan submitted with Exhibit B-23 proves the high-level technical and logistical feasibility of safely delivering and firing temporary boilers at 701 Expo during this project.

7.7.1 If so, please discuss how the presented Contingency Plan addresses the identified issues.

RESPONSE:

Please refer to the response to BCUC SS IR 7.7.

7.8 Please explain whether Creative Energy contemplates filing the final Contingency Plan with the BCUC.

RESPONSE:

Yes. Creative Energy anticipates that the BCUC will specify reporting requirements in its Order granting the CPCN. Creative Energy would propose to submit the final Contingency Plan in accordance with such reporting requirements.

7.8.1 If confirmed, please explain when Creative Energy would file the final Contingency Plan.

RESPONSE:

Depending on when the BCUC grants final approval of the Application, the final Contingency Plan could be developed and filed with the BCUC in late 2019.

8.0 Reference: CONTINGENCY PLAN
Exhibit B-1, pp. 56-57; Exhibit B-23, p. 4; Appendix 5, pp. 4-5;
Appendix 5-1, p. 14; Appendix 7-1, p. 1
Beatty Plant Shutdowns

On pages 56 to 57 of the Application, Creative Energy provides Table 7, which summarizes the scope of work required for each of the three plant shutdowns:

Table 7 - Construction Milestones

1	BCUC Approval	Dec. 31, 2018
2	Order Expo boilers	Dec 2018
3	Start of Expo Plant construction	Jan 2019
4	Early works (new fuel tanks & interconnection)	May 2019
5	Completion of Expo Plant and early works	Oct 2019
6	Phase 1 commissioning	Nov-Dec 2019
7	Relocation of office staff	Jan 2020
8	Shutdown #1 of Beatty Plant <ul style="list-style-type: none"> • Abatement and demolition of Boilers #1, #2 and #4 • Relocation of gas service • Relocation of feedwater pumps 	April 2020
9	Restart #1 of Beatty Plant	Oct 2020
10	Demolition and excavation of east area	Oct 2020 – April 2021
11	Shutdown #2 of Beatty Plant <ul style="list-style-type: none"> • Relocation of BC Hydro service • Temporary water service • Install temporary flue for Boiler #3 	April 2021
12	Restart #2 of Beatty Plant	Oct 2021
13	Below grade to L4 slab (below flues)	Oct 2021-April 2022
14	Shutdown #3 of Beatty Plant	April 2022
	<ul style="list-style-type: none"> • Extend breeching to L18 • Connect boilers to breeching • Remove temporary flues • Reinstate permanent water service 	
15	Restart #3 of Beatty Plant (final)	Oct 2022
16	Complete office tower development	2023

On pages 4 to 5 of Exhibit B-23, Creative Energy provides a summary of the Proposed Project’s updated Milestone Schedule:

Milestone Schedule

2019	
June 3	CPCN Approval
July 4	Purchase Boilers - Expo Plant
September 30	Rezoning Approval – 720 Beatty
October 24	Issue for Construction Drawings – Expo Plant
December 6	Tender award – Expo Plant Construction

2020	
April 2	Start of Construction – Expo Plant
April 15	Development Permit Issuance – 720 Beatty
August 3	Building Permit Issuance – 720 Beatty
September 1	New Gas Service installed – 701 Expo and Expo Plant
September 30	Issue for Construction Drawings – 720 Beatty
October 5	Building Permit Issuance – 701 Expo
October 6	Start of Construction – 701 Expo
November 24	P2 Slab in place – 701 Expo (new fuel tanks can be placed)
December 14	Substantial Completion – Expo Plant and Interconnection lines

2021	
January 11	Expo Plant running
April 15	Beatty Plant Shutdown #1
	Beatty Demo/Abatement/Deconstruction
September 15	Beatty Plant Restart

2022	
March 25	Beatty Plant Shutdown #2
	Advance elevator core and boiler flues P3 to Roof
	Connect Boilers #3, #5 and #6 to new flues
September 21	Beatty Plant Restart

2023	
November 10	Beatty Redevelopment Substantial Completion

In its Application, Creative Energy anticipated three shutdowns of the Beatty Plant, however as indicated on page 4 of Exhibit B-23, the number of shutdowns has since been reduced to two.

Page 1 of Appendix 7-1 to Exhibit B-23 shows the Relocation of Gas Line, Hydro and Water as one day milestones.

8.1 Please explain why it is no longer necessary to shut down the Beatty Plant in order to relocate British Columbia Hydro and Power Authority’s (BC Hydro) service.

RESPONSE:

The current construction planning with the Developer accommodates power for the Beatty Plant being provided as part of the temporary service which will be arranged for the 720 Beatty construction project. The plant will be connected to the power supply during the first shutdown, and connected to its own permanent power near substantial completion of the project.

- 8.1.1 Please clarify Creative Energy's plans with respect to relocating the service and the schedule for completing the work.

RESPONSE:

Please see the response to BCUC SS IR 8.1.

- 8.2 Please explain why it is no longer necessary to shut down the Beatty Plant in order to relocate the water service.

RESPONSE:

The current and future water services come from Expo Boulevard, across the 701 Expo site. As the lower levels of 701 Expo will be constructed in advance of the first Beatty shutdown, a temporary water connection will be constructed prior to that shutdown, and tied in during the first shutdown.

- 8.2.1 Please clarify Creative Energy's plans with respect to relocating the service and the schedule for completing the work.

RESPONSE:

Please see the response to BCUC SS IR 8.2.

- 8.3 Please explain why it is no longer necessary to shut down the Beatty Plant in order to relocate the gas service.

RESPONSE:

At the time of the Application (June 2018), FortisBC had indicated that the gas service would be supplied from Georgia St to Beatty, and extended on the new Georgia St following demolition of the viaducts. As the City of Vancouver's plans for viaduct removal have now been delayed until after this project, FortisBC has revised their servicing plan. Creative Energy has actively worked with FortisBC during recent months to refine the servicing plan for the Expo and Beatty Plants, and the current plan is to service both plants from a gas main on Expo Boulevard.

The gas service to the Expo and Beatty Plants will be constructed in 2020 and the Expo gas service commissioned in time for the start-up of the Expo Plant in September 2020. FortisBC will bring gas service into 701 Expo to a new gas regulator station located adjacent to Expo Boulevard. Creative Energy's contractor will bring gas from that station to the Beatty Plant during the first shutdown.

- 8.3.1 Please clarify Creative Energy's plans with respect to relocating the service and the schedule for completing the work.

RESPONSE:

Please refer to the response to BCUC SS IR 8.3.

- 8.4 Please discuss any risks to the safe and reliable supply of service that could arise as a result of relocating the electrical, gas and water services whilst the Beatty Plant is still in operation. In your response, please provide details of Creative Energy's proposed mitigation strategies.

RESPONSE:

As outlined in the responses to BCUC SS IRs 8.1-8.3, the plan does not include relocation of services during plant operations. The plan is to continue to use the existing services while new services are being constructed, in advance of the first Beatty Plant shutdown. The final tie-in of new services will be completed during the first shutdown.

Page 14 of Appendix 5-1 states that the TES Group's Take-Aways from the site walkdown included:

- Confirmation that the need for temporary or back up steam production should be no longer than six months (one winter).

- 8.5 Please confirm, or explain otherwise, that on September 15, 2021 and September 21, 2022, when the Beatty Plant restarts are scheduled, temporary boilers will not be on-site, commissioned and ready for operation, with trained operators.

RESPONSE:

Not confirmed. The intention is to make a decision by July 1 of each year, which is 2.5 months in advance of each respective Beatty Plant restart date, as to whether there is any real chance that temporary boiler capacity is going to be needed and what the duration of the need will be. This informs how many temporary boilers might be needed and the length of the rental.

For illustrative purposes, if in June 2021, Creative Energy determines that there is a real chance that the gas service will not be fully commissioned in time for restart in September but will be completed within 4 weeks of restart, the decision would be made to bring in a single temporary boiler to supplement the Expo Plant generating capacity for the 4 week period. Creative Energy notes that the Expo Plant will be in service prior to commencement of work on the Beatty Plant.

- 8.5.1 If confirmed, please discuss the risks and how Creative Energy intends to mitigate these risks.

RESPONSE:

Please refer to the response to BCUC SS IR 8.5.

- 8.6 Please explain why the Contingency Plan provided in Appendix 5-1 states that the need for temporary or back up steam production "should be no longer than six months (one winter)" given that the Milestone Schedule identifies two Beatty Plant shutdowns.

RESPONSE:

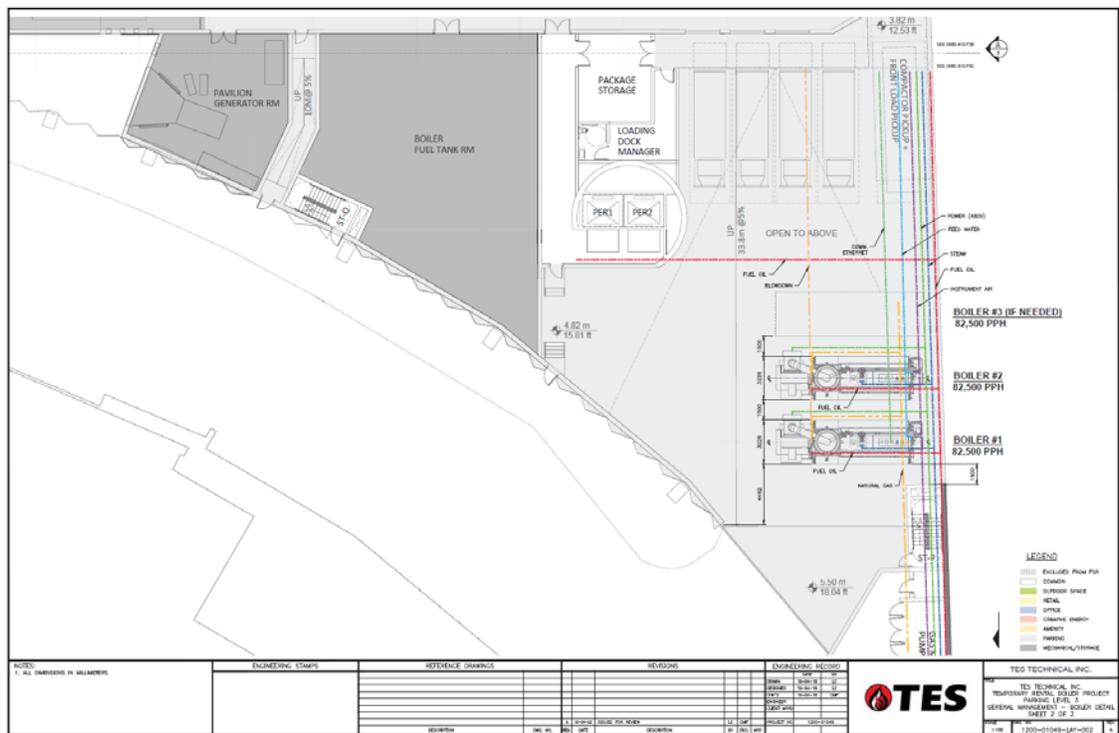
The reasoning is that the work to be completed during the second Beatty Plant shutdown poses very little risk to steam service. During the second shutdown, the elevator cores and boiler flues will be extended to level 17, and the boiler breeching connected to the flues. If there is a delay in that work, the boilers can be restarted using the temporary flues as needed to deal with peak demand periods during cold weather.

**9.0 Reference: CONTINGENCY PLAN
Exhibit B-23, Appendix 5-1, p. 26; Appendix 5-1, Appendix D.1, p. 1
Rental Boilers Size**

Page 26 of Appendix 5-1 states:

- **Boiler Capacity** – Based upon the availability and what the rental industry has for a common design range in their portable rental boiler fleet, we recommend a rental boiler in the range of 75,000 to 85,000 pph, providing saturated steam at 350 psig or less. A total of three (3) rental boilers will be required to meet the full load steam requirements of the winter period

Drawing 1200-01049-LAY-002 on page 1 of Appendix D.1 to Appendix 5-1 indicates the proposed location for the rental boilers:



9.1 Please explain how Creative Energy will determine the temporary boiler capacity that would be required if the Beatty Plant failed to restart. For example, historical load data, weather forecasts, forecasted duration of Beatty Plant outage etc.

RESPONSE:

Creative Energy has used historical load data to determine the expected future peak loads during winter design conditions. The peaks are most likely to occur between mid November and late February. If the construction project needed temporary boilers for any of that period, all three boilers would be required. If temporary boilers were needed outside that period, the historical load data of the last 3 shoulder seasons would be used to determine how much boiler capacity should be brought in to supplement the generation at the Expo Plant.

Weather forecasts would not be used to make these decisions as the decisions would be made months in advance. Weather forecasts would only be used to decide when to fire a temporary boiler that is already on site.

9.2 In the event that the Beatty Plant failed to restart, or experienced issues with operation, such that temporary boilers are required, please confirm the temporary boiler capacity in pounds per hour (pph) that would be required to meet the load. In your response, please explain whether the capacity was determined based on the need to supply 100 percent of the peak winter load and provide any assumptions made.

RESPONSE:

As shown in Exhibit B-5, Attachment 8.1, peak load is expected to decline from 593,500 pph in 2020 to 571,000 pph by 2022. There would be 400,000 pph of capacity in the Expo Plant, so if the Beatty Plant was expected to not be operating during peak load periods between mid-November and late February, the temporary boiler capacity that would be required to be installed at 701 Expo to meet 100% of the winter peak load is 171,000 - 193,500 pph depending on the year.

Creative Energy's current target sizing for the Temporary Boiler subproject, which allows for some redundancy, is up to 225,000 – 255,000 pph. This capacity was determined based on serving 100 percent of the peak winter load as well as the fact that there is some uncertainty over the timing of changes in Creative Energy's load.

9.3 On page 25 of Appendix 5-1, the boiler capacity is stated to be three (3) 75,000 to 85,000 pph, which equates to 255,000 pph. Please explain why drawing 1200-01049-LAY-002 states "Boiler #3 (if needed)." Please reference your responses to IRs 8.1 and 8.2 as necessary.

RESPONSE:

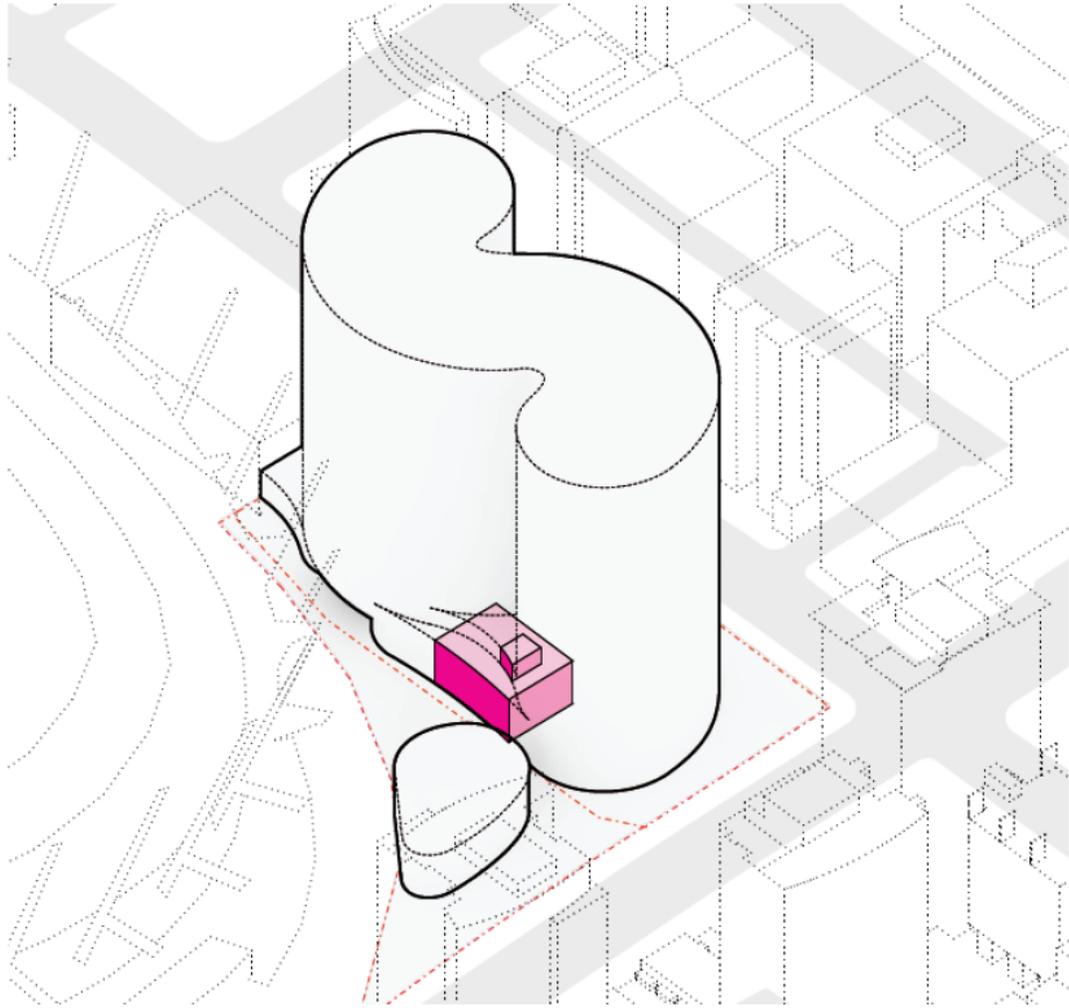
All three temporary boilers would only be needed to supplement the Expo Plant if the Beatty Plant was not operating during peak load periods between mid November and late February. Please refer to the responses to BCUC SS IRs 8.5 and 9.1.

9.3.1 Please explain the circumstances under which Boiler #3 would not be required. In your response, please discuss at what point in the Project Schedule, Creative Energy would be able to determine whether or not Boiler #3 would be required.

RESPONSE:

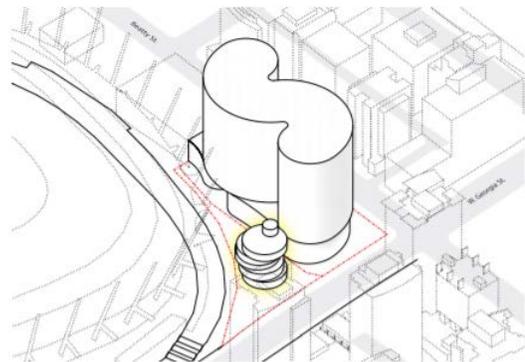
Please refer to the response to BCUC SS IRs 9.1 and 9.3. The decision to bring in temporary boilers would be made 2.5 months, which is the full temporary boiler lead time, in advance of the restart dates.

Figure 9 - Rendering of Beatty Plant within the New Office Tower



Page 35 of the Design Rationale document filed as part of the Rezoning Application for 720 Beatty Street⁹ (Rezoning Application) provides the following drawing, which identifies the location of the Entertainment Pavilion:

ENTERTAINMENT PAVILION
A retail and entertainment pavilion is added to the plaza to further activate the public realm between our building and BC Place.



⁹ <https://rezoning.vancouver.ca/applications/720beatty2/documents/720Beatty-DesignRationale.pdf>

In response to BCUC IR 28.1 (Exhibit B-5), Creative Energy states:

The boiler plant would be sited on the 701 Expo lot where the land is available throughout the first shutdown of the Beatty Plant.

- 10.1 Please confirm, or otherwise explain, whether the location for the temporary boilers identified in drawing 1200-01049-LAY-001 is the same as the proposed location of the Entertainment Pavilion provided in the Rezoning Application.

RESPONSE:

The temporary boilers (if needed) will be located on the same piece of property, 701 Expo, as the future Entertainment Pavilion. The Entertainment Pavilion is not included in the current Rezoning Application. 701 Expo is being developed under the current zoning and requires only a Development Permit.

For clarity, the intention is to build the 3 level parkade structure on 701 Expo at roughly the same time as the Expo Plant, and use that to house the fuel storage tanks and temporary boilers (if needed). The Entertainment Pavilion will rest above the parkade structure and is planned to be constructed following the final Beatty Plant shutdown. The top of the parkade structure will be connected to the BC Place Concourse, with openings left for the temporary boiler flues.

- 10.1.1 If confirmed, please provide details of the proposed construction schedule for the Entertainment Pavilion, explaining how the construction schedule accommodates Creative Energy's need to have temporary boilers on-site and operational for both Beatty Plant restarts.

RESPONSE:

Please refer to the response to BCUC SS IR 10.1.

- 10.1.2 If not confirmed, please provide a site plan, showing the location of the temporary boilers in relation to the Entertainment Pavilion.

RESPONSE:

Please refer to the response to BCUC SS IR 10.1. Further, the plans on page 47 of the Contingency Plan submitted in Exhibit B-23 show the location of the temporary boilers. The precise location of the Entertainment Pavilion is not relevant as it will be constructed only after the Beatty Plant is fully re-commissioned and in service.

- 10.2 Please confirm, or otherwise explain, whether the location identified in drawing 1200-01049-LAY-001 was selected based on discussions with the Developer, and any other stakeholders.

RESPONSE:

Confirmed, the Developer was heavily involved in discussions around the location of the temporary boilers (if needed).

- 10.3 Please confirm, or otherwise explain, whether this location will be available to Creative Energy for the entire duration of the Proposed Project, and not only the “first shutdown”, as stated in response to BCUC IR 28.1.

RESPONSE:

Confirmed. The location for the temporary boilers (if needed) is double-height parkade space that will not be needed for other uses until occupancy of the Developer's project.

- 10.3.1 If not confirmed, please explain where the temporary boilers will be located when the Beatty Plant will be restarted in September 21, 2022.

RESPONSE:

Please refer to the responses to BCUC SS IRs 10.1 to 10.3.

- 10.3.2 If not confirmed, please provide information on Creative Energy’s rights to access this location and any periods where the area will be used by the Developer or others.

RESPONSE:

Please refer to the responses to BCUC SS IRs 10.1 to 10.3.

Page 31 of Appendix 5-1 states:

The rental boilers are most often fitted with a weather proof enclosure intended to protect the main instrumentation and controls located at the front of the boiler. In some cases, due to the environment, physical location and nature/sensitivity of the setting, these rental boilers are completely enclosed into a temporary fabric or other structure.

- 10.4 Please explain whether there is sufficient space at the location shown in drawing 1200-01049-LAY-001 or the location provided in response to IR 10.3.1 to accommodate the weather proof enclosure.

RESPONSE:

The location for the temporary boilers (if needed) is double-height parkade space within the parkade structure and so no weatherproof structure will be required except for some small weatherproofing around the boiler flues at the plaza level.

- 10.5 Please confirm, or otherwise explain, whether Creative Energy intends to install a weather proof enclosure to protect the temporary boilers.

RESPONSE:

Please refer to the response to BCUC SS IR 10.4.

10.5.1 If confirmed, please explain whether the costs for a weather proof enclosure are included in the total costs provided in response to IR 17.3.

RESPONSE:

Please refer to the response to BCUC SS IR 10.4.

10.5.2 If not confirmed, please explain how Creative Energy intends to protect the temporary boilers.

RESPONSE:

Please refer to the response to BCUC SS IR 10.4.

**11.0 Reference: CONTINGENCY PLAN
Exhibit B-23, Appendix 5-1, pp. 7, 8, 10-11, 24, 39
Rental Boilers Trigger Window**

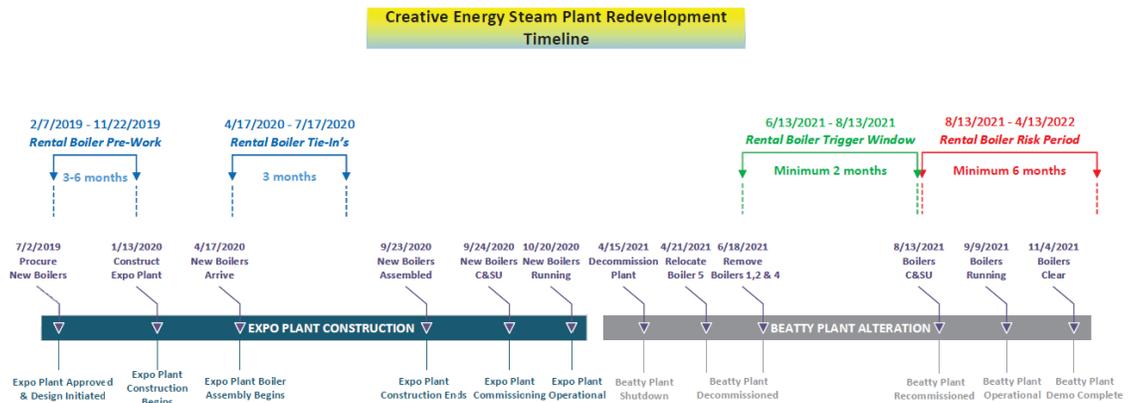
Page 24 of Appendix 5-1 states:

It will not make economic sense to have the temporary boilers on site for the duration of the construction period and so the Contingency Plan will have to position CREATIVE ENERGY to be able to quickly bring them in and make them operational.

Pages 10 and 11 of Appendix 5-1 states:

The Temporary Boiler Subproject is expected to take 8-11 months, from initiation to commissioning. The major steps include:

<u>Task</u>	<u>Duration</u>
Rental Boiler Pre-Work	3-6 months
Rental Boiler Tie-In's and Services	3 months
Rental Boiler Sourcing & Shipping	1 month
Assembly and Construction	1 month
C & SU and Operator Training	1-2 weeks
Dis-Assembly and Return	1-2 weeks



11.1 Please explain how Creative Energy will determine that temporary rental boilers are required, for example, Beatty Plant fails to start, project schedule is delayed etc. Please explain all scenarios and timelines considered.

RESPONSE:

The Contingency Plan submitted with Exhibit B-23 validates that the time required for temporary boilers to be ordered, delivered to the 701 Expo site, tied-in, commissioned and fired is 10 weeks. The restart date for each of the two Beatty Plant shutdowns is September 16th. The Trigger Date for temporary boilers in either year is by July 1st. On or before that date, the project status will be reviewed and if any risk to customer service is identified, the Temporary Boiler Subproject will be initiated, including the immediate order of up to three temporary boilers.

11.1.1 Please explain who is responsible for deciding that temporary rental boilers are required, for example, Chief Engineer, Director of Operations, Project Committee etc.

RESPONSE:

The project status will be reviewed through a collaborative process involving input and recommendations from the Director of Operations, the Vice President of Projects & Engineering, and the Project Committee. In consideration of that input, Creative Energy’s CEO will be responsible for deciding whether temporary boilers are required.

Creative Energy proposes to report to the BCUC each summer the decision on whether to implement the temporary boilers subproject along with the decision rationale.

11.1.2 Please confirm, or explain otherwise, whether the decision to use temporary rental boilers is at the sole discretion of Creative Energy.

RESPONSE:

Confirmed.

- 11.1.2.1 If not confirmed, please provide details of any other parties that must approve the decision to use temporary rental boilers and provide details of the process for gaining approval.

RESPONSE:

Please refer to the response to BCUC SS IR 11.1.2.

- 11.2 Other than the failed start-up of the Beatty Plant, please explain by what other means would Creative Energy know that temporary rental boilers are needed.

RESPONSE:

Creative Energy has been operating the steam plant for 52 years. Creative Energy considers that there is not a realistic scenario where following either of the Beatty Plant shutdowns the plant unexpectedly fails to restart or experiences unexpected problems with operation without Creative Energy's Engineering and Operations staff having knowledge of the problem and the ability to address it in advance, for example by implementing the Temporary Boiler Subproject. Please refer to the responses to BCUC SS IRs 8.5 and 11.1.

- 11.3 In the event that the Beatty Plant fails to start or experiences problems with operation following re-start, please explain how long Creative Energy would work at resolving the issue before making the decision to call in temporary rental boilers.

RESPONSE:

Please refer to the response to BCUC SS IR 11.2.

- 11.4 Assuming that all “pre-work” and “tie-ins and services” are completed, Creative Energy states that it will take 2.5 months from the time that it determines that temporary rental boilers are required to the time that the boilers have commissioned and ready to be operated by trained personnel. Please confirm, or otherwise explain, whether there could be any periods of interrupted service or load shedding if the Beatty Plant experienced any of the issues discussed in 11.2 and 11.3.

RESPONSE:

Please refer to the response to BCUC SS IR 11.2.

- 11.4.1 If confirmed, for how long could service interruption or load shedding last? Please provide the minimum and maximum periods and the load impacts, both in lb/hour and percentage of total demand.

RESPONSE:

Please refer to the response to BCUC SS IR 11.2.

Pages 7 and 8 of Appendix 5-1 state:

It would be cost-prohibitive to have the temporary boilers on site for the entire construction period and so one of the key objectives of the **Temporary Boiler Subproject** is to identify all of the preparations that are required to support temporary boilers or other backup steam plant equipment being quickly incorporated and operational in the event they are needed. [Emphasis added]

- 11.5 Please discuss whether Creative Energy could reduce the 2.5 month period required to source, ship, assemble construct, commission, start-up and train operators so that it can quickly incorporate and operate the temporary boilers. Please discuss the options available to Creative Energy.

RESPONSE:

Creative Energy expects that it may be possible to reduce this lead time further along in the project in direct negotiations with vendors, but at this stage in the project it is appropriate to use the conservative assumption of a 2.5 month lead-time for scheduling purposes.

- 12.0 Reference: CONTINGENCY PLAN
Exhibit B-23, Appendix 5-1, pp. 10, 26, 43
Rental Boilers Availability**

Page 10 of Appendix 5-1 states:

Each of the recommended 82,500 pph trailer mounted rental boilers will have a shipping weight of approximately 86,720 lbs., with the boiler alone weighing 63,545 lbs. These temporary rental boilers are readily available from multiple suppliers and are only sourced in the US.

- 12.1 Please provide a list of all suppliers that can provide the temporary rental boilers and their location.

RESPONSE:

There are five companies that can offer boilers in the size range recommended by TES Group:

- 1. Nationwide Boiler Rental – multiple locations across the United States**
- 2. Wabash Power – located in Wheeling, Illinois**
- 3. Indeck Boiler Rentals – located in Wheeling, Illinois**
- 4. Victory Energy – located in Collinsville, Oklahoma**
- 5. WARE Inc. – multiple locations across the United States**

Page 26 states:

- **Boiler Design** – Any rental boiler selected must comply with the required BC regulatory requirements, and thus the boiler must be designed/fabricated to include [Canadian Registration Number] registration for [Technical Safety BC] acceptance, and the burners must comply with CSA B-149.3 standards

12.2 Please explain which of the suppliers listed in IR response 11.1 are able to provide rental boilers that meet all design and code / authority requirements for British Columbia, including being designed to include Canadian Registration Number (CRA) for Technical Safety BC acceptance and comply with CSA standards.

RESPONSE:

Temporary boilers are commonly used in Canada. TES Group advises that the five companies listed in the response to BCUC SS IR 12.1 are all able to provide boilers to the Canadian market, as Canadian industry, particularly oil and gas and pulp and paper facilities routinely use temporary steam boilers to support facilities maintenance and upgrade projects.

Page 43 states that the likelihood of the risk of the temporary boilers being unavailable is 'Moderate' resulting in a high risk level:

7.6 Execution Risks

Potential Risk	Likelihood	Consequence	Risk	Mitigation
Schedule trigger delayed	Moderate	Moderate	High	Consider load shed alternative
Boilers Unavailable	Moderate	High	High	Have alternate sources for rental boilers
	Moderate	Moderate	Moderate	

12.3 Please explain why the risk of the boilers being unavailable is moderate if the “temporary rental boilers are readily available from multiple suppliers.”

RESPONSE:

A 'moderate' risk probability is defined as between 25% and 50% likely to occur. Given that Creative Energy has no contract or retainer in place with any supplier at this time, there was reason to judge this as a 'moderate' probability at this stage of the project.

12.4 Please explain Creative Energy’s plan to mitigate the high risk of the boilers being unavailable.

RESPONSE:

At the appropriate stage of the project (well before the first shutdown of the Beatty Plant), Creative Energy will enter into a contract with a temporary boiler supplier to have boilers available if needed. The precise timing for entering into such contract will be determined during more detailed design after project approvals have been obtained. Reserving boilers under contract will largely mitigate if not eliminate this identified risk.

12.5 Please explain when Creative Energy plans to enter into a contract with the selected boiler supplier, for example, during the 'Rental Boiler Trigger Window', at the commencement of the Proposed Project, at the shutdown of the Beatty Plant.

RESPONSE:

Please see the response to BCUC SS IR 12.4.

12.5.1 Please explain how this mitigates the risk of the boilers being unavailable.

RESPONSE:

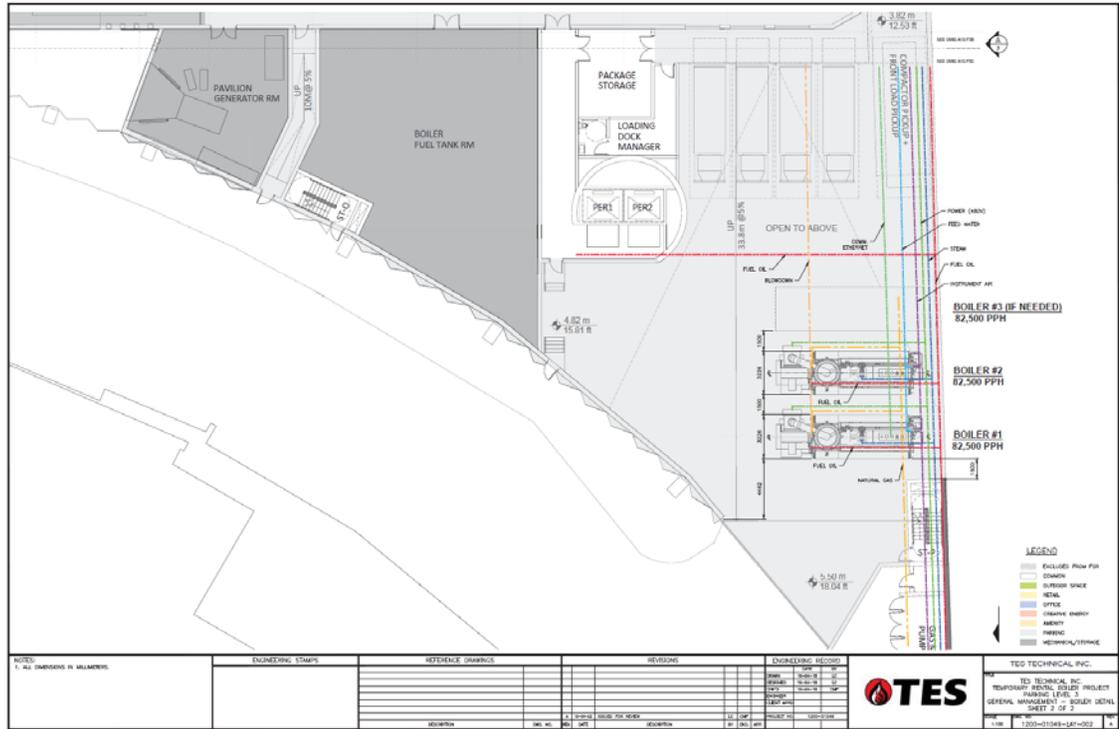
Please see the response to BCUC SS IR 12.4.

**13.0 Reference: CONTINGENCY PLAN
Exhibit B-1, p. 35; Exhibit B-23, Appendix 5-1, pp. 9, 11, 24, 32-33;
Appendix D.1, p. 1
Rental Boilers Services**

Page 9 of Appendix 5-1 states:

- **Fuel System** – The rental boiler will require a supply of both natural gas and fuel oil so that it can operate on dual fuels.
- **Boiler Feedwater** – The rental boiler will require treated and heated BFW at pressure and tested to ensure that it meets ASME boiler feedwater quality requirements of the boiler.
- **Boiler Chemicals** – The rental boiler will require the required boiler chemicals used for additional steam and condensate treatment.
- **Plant Utilities** – The rental boilers will require the following plant utilities:
 - **Plant Power** – The rental boiler will require 480V power to meet its electrical needs.
 - **Plant Instrument Air** – The rental boiler will require instrument air for its operation
 - **Plant Controls** – The rental boilers and plant operating personnel will require a communication connection to the plant's DCS (Delta V system)
 - **Vents/Drains** – The rental boilers will require lines to deal with both operating boiler blowdown streams as well as periodic boiler drain streams by cooling and containing these sources. The plant also has the ability to deal with venting streams from the boiler during normal operation (fill and start-up vents) and upset conditions (PSV's)

Drawing 1200-01049-LAY-002 on page 1 of Appendix D.1 to Appendix 5-1 indicates the proposed location for the rental boilers and illustrates the various utility service supplies to the temporary rental boilers including, power, feedwater, instrument air, natural gas, fuel oil, communications, etc.



Page 33 of Appendix 5-1 states:

- The will be risk associated with the type and amount of redevelopment activity planned for the existing Beatty Steam Plant. It would be wise to locate any “back up” or redundant steam production well away from the existing plant to avoid possible risks/impacts encountered during the scheduled site construction

On page 35 of Exhibit B-1, Creative Energy states that the Proposed Project includes:

- Interconnection of steam, condensate and fuel oil services between the Expo and Beatty Plants

13.1 The Proposed Project is stated to include the interconnection of steam, condensate and fuel oil services between the Beatty Plant and the Expo Plant. Please explain whether any other services, such as power or instrument air will be interconnected between the two plants. Please provide details of any proposed interconnections.

RESPONSE:

Aside from steam, condensate and fuel oil, the only direct interconnection will be a data conduit to connect the control rooms in both plants. The details and drawings of the interconnections were submitted in the main part of this proceeding.

- 13.1.1 If confirmed, please explain whether the service(s) will be reliable. In your response please discuss any risks that construction work at the Beatty Plant may pose to the reliability of the service for the Contingency Plan and Creative Energy's plans to mitigate the risk.

RESPONSE:

The interconnections will be reliable. The interconnections will be installed in the already-completed concrete parkade structure on 701 Expo, which will provide ample physical protection from construction activities.

- 13.2 Please explain from which Plant (Beatty or Expo) the Fuel System, Boiler Feedwater and each plant utility identified on page 9 of Appendix 5-1 and drawing 1200-01049-LAY-002 will be provided.

RESPONSE:

The connections to the temporary boilers are as follows:

Natural Gas – from Beatty gas regulator, which is within 701 Expo

Electricity – from the Beatty temporary construction power

Fuel Oil (if needed) – from the Beatty fuel oil tanks, located within 701 Expo

Feedwater – from the Beatty water softeners, using a pump on the temporary boiler package

Control Air – supplied as part of the temporary boiler package

Steam – tied into the lines interconnecting Beatty and Expo using pre-installed tees

Condensate - tied into the lines interconnecting Beatty and Expo using pre-installed tees

- 13.2.1 If any are to be taken from the Beatty Plant, please explain whether the service will be reliable. In your response, please discuss any risks that construction work at the Beatty Plant may pose to the reliability of the service and Creative Energy's plans to mitigate the risk.

RESPONSE:

Please refer to the response to BCUC SS IR 13.2.

- 13.3 If any are to be taken from the Expo Plant, please confirm, or otherwise explain, whether the service supply capacity is sufficient to meet the supply requirements of the additional temporary rental boilers.

RESPONSE:

No services will be taken from the Expo Plant. Condensate may be pumped from the Expo Plant condensate receiver to the temporary boilers, but that is not required to operate the temporary boilers. Condensate is captured to improve the efficiency of the steam plant.

- 13.4 Please confirm, or otherwise explain, whether the operation of the temporary rental boilers will require any aspect of the Beatty Plant to be operational. Please provide details of any such equipment or services.

RESPONSE:

The only component of the Beatty Plant that will need to be operational is the main steam header. Steam generated at the Expo Plant, Beatty Plant and/or temporary boilers will be distributed to customers via the main steam header.

- 13.4.1 If confirmed, please discuss any alternative options available.

RESPONSE:

Creative Energy discussed in the main part of this proceeding that there is no feasible option to relocate the main steam header.

- 13.5 If the temporary rental boilers require new plant utilities to be installed, please provide details of any such plant utilities, including the timelines for installation.

RESPONSE:

The temporary boilers will use the utilities already incorporated into the design of the project, particularly natural gas from the new FortisBC service, power from the temporary construction power and water from the City of Vancouver water service on Expo Boulevard.

Page 9 of Appendix 5-1 further states:

- **Boiler Fuel** – To ensure redundancy similar to what the existing heating plant has in place for fuel supply, we recommend that the rental boiler have the ability to operate with dual fuels – natural gas and #2 fuel oil

Page 24 states:

- **Fuel System** – The rental boiler may require a supply of both natural gas and fuel oil so that it can be operated on dual fuels. Storage of fuels may be problematic and/or require permits.

- 13.6 Please confirm, or otherwise explain, whether the temporary rental boilers will have the ability to operate with dual fuels.

RESPONSE:

Confirmed.

13.6.1 If confirmed, please explain whether the fuel oil will be provided from the new fuel oil storage tanks to be installed as part of the Proposed Project.

RESPONSE:

Confirmed. The new fuel oil storage tanks will be installed in the 701 Expo site prior to the first shutdown of the Beatty Plant, so that the Expo Plant and any temporary boilers will have backup fuel throughout the entire project without interruption.

Page 11 of Appendix 5-1 states:

Much of the front-end tie-in design and installation work is expected to be timed (piggybacked) with the construction of the Expo Plant; the assumption is that mechanical engineering, field construction of tie-ins can be completed by shared resources.

13.7 Please confirm, or otherwise explain, whether the TES Group's assumption that the "mechanical engineering, field construction of tie-ins can be completed by shared resources" is correct.

RESPONSE:

The detailed design of the tie-ins to the temporary boilers will be done as part of the detailed design of the rest of the project. The tees for connecting the temporary boilers will be installed as part of the construction of the interconnection piping, which is done in parallel with the construction of the Expo Plant.

13.7.1 If not confirmed, please discuss Creative Energy's plans.

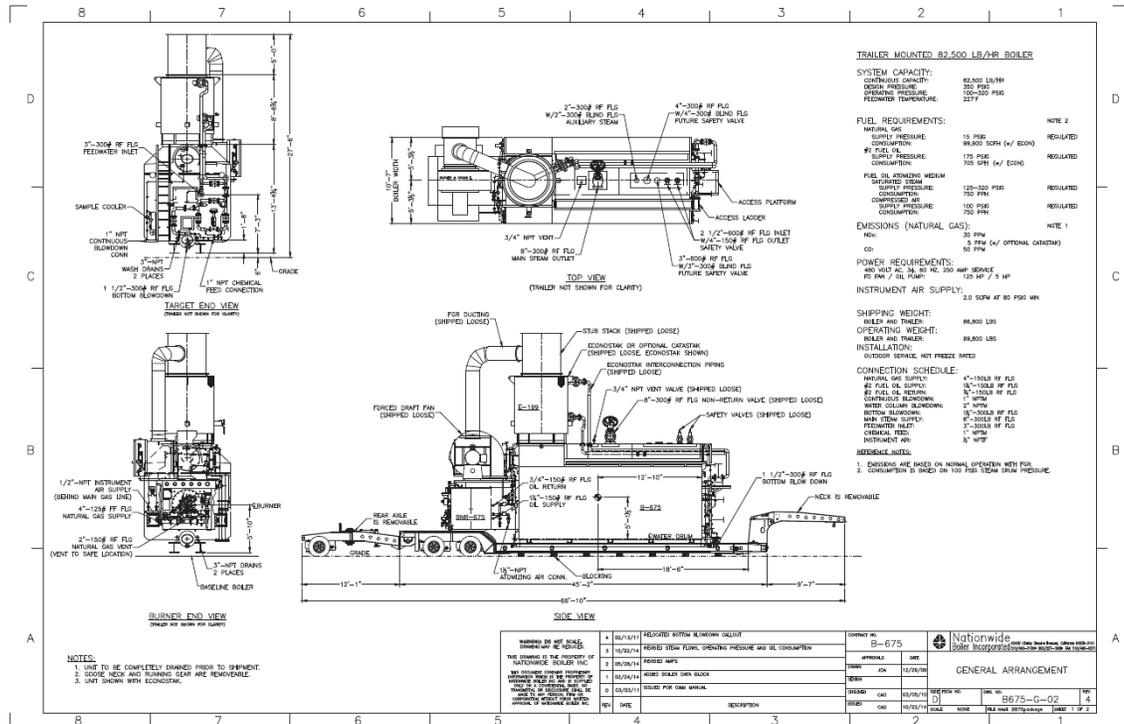
RESPONSE:

Please see the response to BCUC SS IR 13.7.

13.7.2 If not confirmed, please update the Project Schedule accordingly.

RESPONSE:

Please see the response to BCUC SS IR 13.7.



13.8 Please confirm, or otherwise explain, whether it would be necessary to extend the rental boilers' flue stacks beyond the Georgia Viaduct.

RESPONSE:

The flues as illustrated are adequate based on information available at this stage of the project. If constraints change, the flue heights will be adjusted accordingly.

13.8.1 If confirmed, please provide the cost to extend the flues and explain whether the costs are included in the total cost provided in response to IR 17.3.

RESPONSE:

Please refer to the response to BCUC SS IR 13.8. If realized, costs to extend the flues would be minor and would fall to the Developer.

**14.0 Reference: CONTINGENCY PLAN
Exhibit B-23, Appendix 5-1, p. 9
Rental Boilers Operators**

Page 9 of Appendix 5-1 states:

- **Boiler Operations and Maintenance** – The rental boilers will require qualified and competent operators trained in all standard and emergency operating procedures of these rentals. Likewise, it is expected that maintenance personnel will also perform the required boiler maintenance and parts replacement expected of boilers of this size.

14.1 Please provide the number of trained operators needed to operate the temporary rental boilers, in accordance with Technical Safety BC's requirements.

RESPONSE:

Creative Energy has 24/7 staffing on site, which is the highest level of staffing required by Technical Safety BC. This staffing is adequate to operate the temporary boilers.

14.2 Please confirm, or otherwise explain, whether Creative Energy intends to train its existing staff to operate and maintain the temporary rental boilers.

RESPONSE:

Confirmed.

14.2.1 If confirmed, please explain whether Creative Energy will have a sufficient number of staff to operate the Expo Plant and the temporary rental boilers and assist in resolving any issues at the Beatty Plant.

RESPONSE:

Operations staff would be responsible for operating the temporary boilers and the Expo Plant in this scenario. Operations staff would not be needed to resolve construction issues at Beatty.

14.2.2 If not confirmed, please explain who will be trained to operate the temporary rental boilers.

RESPONSE:

Please refer to the response to BCUC SS IR 14.2.1.

**15.0 Reference: CONTINGENCY PLAN
Exhibit B-23, Appendix 5-1, pp. 36, 37
Role and Responsibilities**

Page 36 of Appendix 5-1 states:

There will be the need for supervision and coordination of the scope of work for the Temporary Boiler Subproject.

Due to the number of stakeholders and interrelated parties and concurrent activities, the Temporary Boiler Subproject requires a single point of contact.

There is a range of risks to be monitored and mitigated including performance, EH&S, plant reliability, schedule, execution, quality, communications, financial and regulatory issues.

The nomination of a Temporary Boiler Subproject project manager will be required to oversee and report on Temporary Boiler Subproject scope, schedule, quality, safety and costs.

- 15.1 Please explain who will be responsible for the following (company and job title of person responsible):
- i. Supervision and coordination of the scope of work for the Temporary Boiler Subproject;
 - ii. Single point of contact for the Temporary Boiler Subproject; and
 - iii. Temporary Boiler Subproject Project Manager.

Pages 36 and 37 outline the tasks required for each stage of the Contingency Plan which includes:

- i. Front End Engineering and Design
- ii. Detailed Engineering and Procurement
- iii. Boiler pre-op cleaning, hydrotest & conditioning costs Assembly and Construction
- iv. Commissioning and Training

RESPONSE:

The TES Group will be responsible for i. Supervision and coordination of the scope of work for the Temporary Boiler Subproject; ii. Single point of contact for the Temporary Boiler Subproject; and iii. Temporary Boiler Subproject Project Manager.

- 15.2 Please explain who will be responsible for items i) to iv).

RESPONSE:

The TES Group will also be responsible for i. Front End Engineering and Design; ii. Detailed Engineering and Procurement; iii. Boiler pre-op cleaning, hydrotest & conditioning costs Assembly and Construction; and iv. Commissioning and Training.

**16.0 Reference: CONTINGENCY PLAN
Exhibit B-23, Appendix 5-1, pp. 23, 42
Risk Mitigation**

Page 42 of Appendix 5-1 states:

The objectives of any risk mitigation recommendations included in this report, were weighed against the following to ensure:

- a) **No loss of Revenue** - That reliability of the plant was maintained at its historical levels ~ 99.9% and no unnecessary risks be introduced beyond what the plant has typically accepted
- b) **No additional Costs** – That no unnecessary or additional operating/maintenance costs be imposed on CE or its rate payers, except where required
- c) **No lowering of Standards** – That no undue risk be accepted that would harm the environment, the health or the safety of plant personnel or plant neighbors

16.1 Please confirm, or otherwise explain, that the objective of the risk mitigation is to ensure that Creative Energy's customers do not experience a loss of service or an interruption to service.

RESPONSE:

Confirmed.

Page 23 of Appendix 5-1 states:

Prerequisite to commencing construction, it will be necessary to conduct a comprehensive risk assessment on all safety and reliability critical equipment, operating systems and operating procedures (standard & emergency) needed to support the plant during a transient period anticipated over the demolition and construction phases of the Master Project.

16.2 Please explain when the comprehensive risk assessment on all safety and reliability critical equipment, operating systems and operating procedures (standard & emergency) will be conducted.

RESPONSE:

This will be done as part of the detailed design of the rest of the project. As discussed in various IR responses above, it would be premature to undertake this work prior to final BCUC approval of the Application.

16.3 Please provide the date by which the comprehensive risk assessment must be completed.

RESPONSE:

This work is a pre-requisite for completion of detailed design of the interconnection. The present project schedule has this work being completed before October 24, 2019.

16.4 Please explain who will be responsible for conducting the comprehensive risk assessment.

RESPONSE:

The TES Group will be responsible for conducting this risk assessment.

**17.0 Reference: CONTINGENCY PLAN
Exhibit B-23, Appendix 4, p. 5; Appendix B-1, p. 12;
Appendix 5-1, pp. 7-8
Contingency Plan Costs**

17.1 Please confirm, or explain otherwise, that all costs associated with the contingency plan, as laid out in Appendices 5 and 5-1 “fall under the costs of the Developer’s project.”

RESPONSE:

Confirmed.

Page 12 of Appendix 5-1 states:

- Rental Boiler Engineering ~ \$50,000
- Rental Boiler Tie-In’s ~ \$250,000 for all tie-ins
- Rental Boiler Shipping ~ \$75,000 delivery per boiler
- Rental Boiler Unloading & Assembly ~ \$50,000 for all boilers
- Rental Boiler C&SU ~ \$25,000
- Rental Boiler Monthly Charges ~ \$250,000 per month
- Rental Boiler Disassembly & Loading ~ \$50,000 for all boilers
- Rental Boiler Shipping and Return ~ \$75,000 return per boiler

17.2 Please provide breakdown of all works included in the Rental Boiler Tie In’s item.

RESPONSE:

The item includes the following work: tie-in of natural gas, feedwater, backup fuel and electrical power to the temporary boilers.

17.2.1 Please confirm, or otherwise explain, whether the Rental Boiler Tie In’s item includes extensions to the flue gas stacks and the weather proof enclosure.

RESPONSE:

The flue gas stacks are included in the Unloading & Assembly line item.

- 17.3 Please provide a breakdown of the total cost of the Contingency Plan for the entire duration of the Proposed Project, including the accuracy of the estimate. Please include the following:
- i. Rental boiler design and construction:
 - a. Pre-work;
 - b. Engineering;
 - c. Construction;
 - d. Training; and
 - e. Risk Assessment.
 - ii. Rental boiler operation:
 - a. Shipping;
 - b. Installation;
 - c. Commissioning and Start-up; and
 - d. Rental charges (including rental duration considered).

RESPONSE:

At this time, Creative Energy has the cost estimate provided by the TES Group as included in Appendix 5-1. Further details will be developed as part of the detailed design of the rest of the project, which will be undertaken after project approval is obtained. Creative Energy confirms that all costs associated with the Contingency Plan fall to the Developer.

- 17.4 Please discuss whether any aspect of the Contingency Plan could be considered to be a change order requested by Creative Energy or a project delay caused by Creative Energy, as defined in the Amended and Restated Trust and Development Agreement provided in Appendix 2-1. Please provide examples of any such instances and the estimated costs.

RESPONSE:

The Contingency Plan as contemplated by Creative Energy in Exhibit B-23 and these IR responses is not a change order under the Amended and Restated TDA. Please also see the response to BCUC SS IR 17.5.

In theory, Creative Energy could cause a delay to the Developer's project by, for example, being unresponsive in the review and approval of temporary boiler tie-ins or other plans. If such delay caused by Creative Energy resulted in delay to the restart of the Beatty Plant, the cost of implemented the Temporary Boiler subproject in such circumstances could be considered as caused by Creative Energy, in theory. This is a very manageable risk in line with the other risks in the project.

Pages 7 and 8 of Appendix 5-1 state:

It would be cost-prohibitive to have the temporary boilers on site for the entire construction period and so one of the key objectives of the **Temporary Boiler Subproject** is to identify all of the preparations that are required to support temporary boilers or other backup steam plant equipment being quickly incorporated and operational in the event they are needed. [Emphasis added]

- 17.5 Please explain what is meant by the statement “[i]t would be cost-prohibitive to have temporary boilers on site for the entire construction period.” In your response, please provide the following:
- i. Definition of “cost-prohibitive” and how this is determined;
 - ii. Total cost at which temporary boilers are deemed to become “cost prohibitive”; and
 - iii. Current estimated total cost for temporary boilers on site for the entire construction period.

RESPONSE:

In the negotiations of the original TDA, Creative Energy and the Developer sought to minimize the overall cost and risk of the project. This was achieved through a variety of mechanisms, including the sequencing of the Expo and Beatty Plants (the Expo Plant must be fully operational before any material work begins at 720 Beatty). Temporary boilers were not part of the base project specification or cost, and were always considered part of contingency. The Developer is responsible for these costs, should they be required, and so has the incentive to ensure timely restart of the Beatty Plant to avoid the cost of temporary boilers and other liabilities under the TDA. It was in the context of the base project scope, sequencing of the Expo and Beatty Plant subprojects and timing of Beatty Plant shutdowns, and risk transfer that Creative Energy and the Developer negotiated the amount of Creative Energy’s payment (\$15 million) toward the capital cost of the Proposed Project, which is less than a third of the total costs of the Proposed Project.

Creative Energy meant by the reference to "cost prohibitive" that it would be unnecessary and wasteful to have temporary boilers on site for the entire construction period, regardless of which party is responsible for the cost. It is not necessary to have temporary boilers on site for the entire construction period particularly given the mechanisms in the TDA that minimise risks as outlined above and in the response to BCUC SS IR 2.2 for example. An estimate of the cost of having temporary boilers on site for the entire construction period is provided in the response to CEC SS IR 12.3. The estimated cost of having temporary boilers on site for the entire 53 month construction period is \$13.5 million. Creative Energy reiterates that it is neither necessary nor cost effective to incur such cost.

Requiring temporary boilers on site for the entire construction period would be a fundamental change to the TDA, warranting reconsideration by the parties of the existing mechanisms in the TDA that minimise and allocate risks (e.g., financing restrictions, insurance, indemnities, performance bond, project sequencing, etc.). Moreover, having temporary boilers on site for the entire construction period would reduce risks that exist now and are presently borne by customers, and therefore it would be appropriate to consider whether a portion or all of the costs of such temporary boiler project should be recovered from customers in rates.

As discussed in the responses above, Creative Energy's plan is to have in place a process for review and assessment of the project status and if any risk to customer service is identified, initiate by July 1 the Temporary Boiler subproject, including the immediate order of up to three temporary boilers. Contracts, tie-ins, training, etc. will all be in place in advance providing for delivery, installation and operation of up to three temporary boilers (if needed) before the system experiences cold weather loads.

D. DESIGN ENGINEERING AND GENERAL CONTRACTOR

**18.0 Reference: DESIGN ENGINEERING AND GENERAL CONTRACTOR
Exhibit B-23, p. 3; Appendix 6, pp. 1-2;
Design Engineering and General Contractor**

On page 3 of Exhibit B-23, Creative Energy states:

Creative Energy will act in the general capacity as Construction Manager of the Expo Plant and the assets of the Beatty Plant, whereby Creative Energy has oversight of those aspects of the project. The Developer is still responsible for the costs. Creative Energy will hire a qualified and experienced Design Engineering Company as the Engineer(s) of Record, and hire a qualified and experienced General Contractor to conduct the construction activities within Creative Energy's scope as outlined in Appendix 6.

On pages 1-2 of Appendix 6 to Exhibit B-23, Creative Energy states:

Following CPCN approval, Creative Energy plans to employ the following competitive processes to engage these services and submit the required information to the BCUC for oversight and acceptance:

1. Request for Proposals (RFP) for Design Engineering Services
 - The Design Engineering RFP will require bidders to present their relevant experience and only qualified bidders will be evaluated.
 - Creative Energy will submit the qualifications of the selected Engineering firm to the BCUC for acceptance before commencing work.
2. Two-stage Request for Qualifications - Invitation to Tender (RFQ-ITT) for General Contractor
 - once the design documents have been refined to allow for accurate tendering, a public RFQ package will be issued requesting interested contractors to submit records of experience successfully constructing similar projects. From the bidders, Creative Energy will create a shortlist of qualified General Contractors to advance to the final round.
 - Creative Energy will submit this shortlist to the BCUC for acceptance.
 - following BCUC acceptance of parties on the submitted shortlist, an ITT will be issued to those parties accepted by the BCUC. The ITT process will be structured to award the project to whichever firm submits the lowest pricing with a fully compliant tender package.
 - Creative Energy proposes to report the name of the selected General Contractor to the BCUC as part of regular reporting on the progress of the project.

18.1 Please provide the name of the party responsible for managing the RFP process for Design Engineering Services.

RESPONSE:

Creative Energy will be responsible for managing the RFP process for Design Engineering Services.

18.2 Please provide the name of the party responsible for managing the RFQ process for the Invitation to Tender.

RESPONSE:

Creative Energy will be responsible for managing the RFQ-ITT process.

18.3 Please provide the name of the party responsible for the selection of the General Contractor.

RESPONSE:

Creative Energy will select the General Contractor, subject to BCUC acceptance.

18.4 Please provide the name of the party with which the General Contractor will sign the contract.

RESPONSE:

Creative Energy will select the General Contractor, subject to BCUC acceptance. The Developer, Westbank Projects Corp., will be the party to the contract with the General Contractor. The contract will specify that Creative Energy is Construction Manager.

18.5 Please provide the name of the party responsible for managing the General Contractor.

RESPONSE:

Creative Energy as Construction Manager will be responsible for managing the General Contractor. Please see the response to BCUC SS IR 3.1.

18.6 Please explain Creative Energy's responsibilities as the Construction Manager of the Expo Plant.

RESPONSE:

Please see the response to BCUC SS IR 3.1.

18.7 Please explain Creative Energy's responsibilities as the Construction Manager of the assets of the Beatty Plant.

RESPONSE:

Please see the response to BCUC SS IR 3.1.

E. PROJECT SCHEDULE

**19.0 Reference: PROJECT SCHEDULE
Exhibit B-23, Appendix 5-1, pp. 39-40; Appendix 7-1, pp. 1-3
Project Schedule**

On pages 1 to 3 of Appendix 7-1, Creative Energy provides a detailed preliminary project schedule titled '720 Beatty/701 Expo Schedule – Standard w/ Advance 701 Expo' (Project Schedule).

Line IDs 15 to 25 of the Project Schedule indicate the tasks for "Drawings and Documents (720 Beatty & 701 Expo).

19.1 Please confirm, or explain otherwise, that the tasks relate to the drawings and documents for the real-estate development and not for the Beatty and Expo Plants.

RESPONSE:

Confirmed.

Line IDs 29 and 30 are for the 'Design of the Expo Plant' and 'Tender Expo Construction' however the Project Schedule does not include similar tasks for the Beatty Plant.

19.2 Please explain why the Project Schedule does not include tasks for the design and tendering of the Beatty Plant.

RESPONSE:

The project schedule submitted could have been clearer on this point. For clarity, Creative Energy's intent is to award the design scope of both Beatty and Expo Plants to a single Design Engineering firm, and to award the construction scope of work at both Beatty and Expo Plants to a single General Contractor. The Project Schedule will be revised to provide clarity on these items.

Line 41 and 83 to 84 of the Project Schedule indicate the tasks required for Plant Shutdown #1 and Plant Shutdown #2 respectively.

19.3 Please provide a detailed description of the work required during each shutdown.

RESPONSE:

The detailed descriptions of the work during each shutdown of the Beatty Plant are as follows.

Shutdown #1

1. Decommission Plant

This task involves the safe shutdown of the Beatty Plant such that all energized equipment is de-pressurized, drained, and locked out from electrical, water, steam, fuel oil and feedwater tie-ins. The only vessel to remain energized is the main steam header on the East wall.

2. New West Plant Wall

As the office space is demolished, the west wall of the plant is re-built.

3. Abatement Plant

This task will require a specialized abatement subcontractor to sequentially remove the hazardous material from the plant, which is largely the insulation of steam pipes and boilers containing asbestos. Due to the configuration of the plant, Phoenix Enterprises has advised that this can efficiently be done by abating Boiler #4 first, then Boiler #2 and finally Boiler #1.

4. Demolition Plant

A demolition crew will strip and remove the various piping, electrical and structural elements in the areas of the plant to be removed, which generally surround Boilers #4, #2, and #1.

5. Relocate Boiler #5 & Other Equipment

Prior to the shutdown, a new structure will be constructed to house Boiler #5 (also referred to as future Boiler #7, adjacent and south of Boiler #6). During his shutdown, Boiler #5, which is a small packaged boiler, needs to be moved over to its new location and tied in to new connections, which will be teed from the connections to the Boiler #6. A temporary flue will be erected on top of the boiler to be used during the coming winter. The feedwater pumps will also be relocated to their new location in the new plant underneath Boilers #5 and #6.

6. Decommission & Remove Boilers #1, #2 and #4

A demolition crew will disassemble, cut up and remove Boiler #4, Boiler #2 and finally Boiler #1.

7. Beatty Boilers #3, #5 and #6 running

With Boiler #5 and the feedwater pumps relocated and reconnected to existing piping, Boilers #3, #5 and #6 will be restarted.

Shutdown #2

1. FRP Main Elevator Core P4 to Roof

Over the course of the second shutdown, the Developer will build the entire elevator core of the Beatty development from P4 to the roof above L17. The elevator core includes new flues for the remaining boilers of the Beatty Plant. The shafts for the boiler flues require an insulated stainless steel liner, which will be installed in segments as the core is constructed. Once the core is above the level of the plant roof (roughly L2), the breeching will be installed by the steam plant contractor to connect the 3 remaining boilers to the flues. Once the flues reach L17, the boilers can be restarted safely.

2. FRP L1 - L6

Once the core is advanced, the construction of the slabs for the rest of the office tower will commence. This should be progressed to Level 6 by the end of Shutdown #2, which ensures the entire steam plant is enclosed and protected prior to restarting the plant for the last time.

Line IDs 27 to 33 of the Project Schedule show that a total of 410 days is allocated for the ‘Stage 1 – Expo Plant & Interconnection’. This includes 40 weeks for the ‘Procure Boiler & Feedwater Package’ task.

Line IDs 35 to 45 of the Project Schedule show that a total of 305 days is allocated for ‘Stage 2 – Existing Plant Alteration’. This includes the Plant & Office Buildings Alteration tasks, the Beatty Plant shutdown and the relocation of the gas, water and electrical services.

19.4 Please discuss the time contingency that Creative Energy has allowed for in the Project Schedule for Stage 1 and Stage 2 tasks.

RESPONSE:

The schedule does not have explicit lines for time contingency; rather ICON has used their extensive construction experience to establish best estimates of the duration of each construction task. This is intended to be a realistic schedule. The contingency plan is being developed to deal with slippage in the construction schedule.

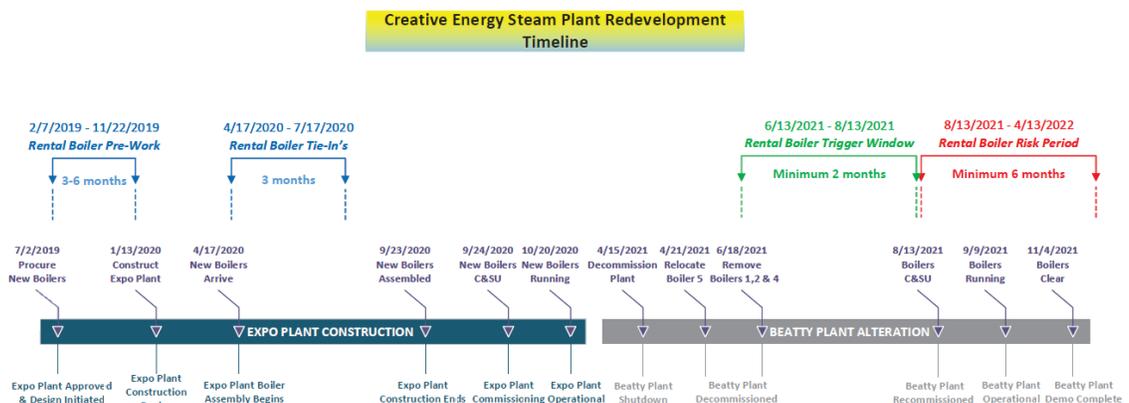
19.5 Please discuss the impact on the overall schedule, project costs and service to customers if the schedule is significantly delayed, such that it exceeds any contingency time allowed for any task.

RESPONSE:

Generally speaking, any schedule delay causes an increase in the master project costs, but in this case, such costs will flow to the Developer subject only to costs due to delays caused by Creative Energy.

There should be no impact on service to customers as Creative Energy has developed an approach whereby service is maintained throughout the course of construction, with generation provided by the existing boilers at Beatty, the new boilers at the Expo Plant, and if needed, temporary boilers located on 701 Expo.

Page 39 of Appendix 5-1 provides the Subproject Schedule:



Page 40 of Appendix 5-1 provides the major tasks and their expected duration:

Task	Duration
Rental Boiler Pre-Work	3-6 months
Engineering	
Data Gathering	
Risk Assessment	
Scope of Work	
Boiler Sourcing	
Regulatory Approvals	
Rental Boiler Tie-In's and Services	3 months
Identify Tie-Ins	
Engineer Tin in Points	
Order Materials	
Schedule Tie Ins	
Oversee Installation	
Test & Commission Tie Points	
Rental Boiler Sourcing & Shipping	1 month
Identify Rental Boilers	
Conduct Compliance Inspection	
Negotiate & Sign Contract	
Plan Routing and Transportation	
Arrange Permits, Escorts, Insurance	
Track Transportation of Boilers	
Assembly and Construction	1 month
Select Installation Contractor(s)	
Prepare Site for Delivery	
Arrange for Weather Enclosures	
Set Boilers & Unload	
Assembly Boilers	
Complete Tie-In's	
Install Winterization Package	
Test & Pre-Commission Boilers	
C & SU and Operator Training	1-2 weeks
Commission Boilers	
Test for Compliance & Permits	
Train Operators & Maint. Staff	
Conduct Performance Test	
Dis-Assembly and Return	1-2 weeks
Disassemble Weather Enclosures	
Disassemble Boilers	
Disconnect Tie-Ins	
Prepare for Shipping	
Load & Ship Boilers	

- 19.6 Please provide an update to the Project Schedule to include the following:
- i. Temporary Boiler Subproject schedule including major tasks and duration;
 - ii. Design, tendering and any other necessary tasks for the Beatty Plant;
 - iii. Detailed tasks required during each Plant Shutdown;
 - iv. Schedule for relocating services (electrical, gas and water); and
 - v. Schedule for providing utility services to the temporary rental boilers.

RESPONSE:

Creative Energy has prepared a revised project schedule with the additional detail requested. The revised schedule is included with this IR response submission.

Creative Energy's intent is to award the design scope of both Beatty and Expo Plants to a single Design Engineering firm, and to award the construction scope of work at both Beatty and Expo Plants to a single General Contractor.

The major tasks of the Plant Shutdowns are outlined in the project schedule, including abatement, demolition, relocation of Boiler #5 and so on. The schedule will be refined when the General Contractor has been retained to plan the sequencing.

The utility services for the temporary boilers will be provided in two parts. As part of the construction of the interconnection piping on 701 Expo, the tie-ins for natural gas, fuel oil and feedwater will be installed. A temporary water service must be utilized through the 120 day construction of 701 Expo as the current water service crosses that property. When the parkade of 701 Expo is constructed, new permanent water service will be installed to tie-in to Beatty. As part of the Beatty work prior to Shutdown #1, temporary power will be installed, including providing power to the temporary boilers.

F. OTHER

- 20.0 Reference: OTHER
Exhibit B-23, Appendix 1-1, p. 1
Revised Summary of Approvals Sought**

On page 1 of Appendix 1-1 to Exhibit B-23, Creative Energy provides a revised "Summary of Approvals Sought" blacklined to page 7 of the Application and includes the following revision:

Creative Energy proposes that the Commission include a condition on its CPCN approval that Creative Energy's rate base shall increase by \$15 million as a result of the Proposed Project, subject to adjustments approved by the Commission for inclusion in rate base in connection with (i) any change orders requested by Creative Energy, or (ii) project delays caused by Creative Energy, ~~and to any secondary payment as noted below~~ subject to prudence review.

20.1 Please discuss the expected timing and regulatory process contemplated by Creative Energy with respect to requesting additional costs for inclusion in rate base “subject to prudence review.”

RESPONSE:

Creative Energy notes that it does not anticipate making a request for approval to include additional costs in rate base. However, if it was to make such a request, it would be in Creative Energy’s revenue requirement application following completion of the Proposed Project.

Creative Energy notes that the words “subject to prudence review” were added to the Summary of Approvals Sought and draft Order provided in Exhibit B-23, Appendices 1-1 and 1-2 in recognition of the BCUC Panel determination on page 29 of the Order G-38-19 Decision.

20.1.1 When would the prudence review take place (e.g. before or after the cost has been incurred)?

RESPONSE:

A prudence review is to determine whether additional costs that have been incurred shall be recovered in rates. A prudence review necessarily happens after the costs have been incurred.

20.1.2 Would Creative Energy prepare a separate filing for each adjustment, or would the request for approval be included as part of the Creative Energy’s revenue requirements applications or some other filing?

RESPONSE:

Please see the response to BCUC SS IR 20.1.

20.1.3 Should the request for additional costs for inclusion in rate base be subject to a public proceeding? Please explain why or why not.

RESPONSE:

Yes. With few exceptions (none of which are applicable to this matter), the BCUC must hold a public hearing before setting the rates of a public utility.

Page 1 of Appendix 1-1 to Exhibit B-23 maintains that the estimated total capital cost of the Proposed Project is \$53.1 million. However, on pages 3 to 4 of the Cover Letter to Exhibit B-23, Creative Energy provides a number of major updates to the overall project and Appendices 2 through 9 explain what Creative Energy and the applicable counterparties have done to address each of the Panel’s eight requirements, respectively, per Order G-38-19.

20.2 Please provide a revised estimated total capital cost of the Proposed Project which takes into consideration the major updates to the overall project and any costs associated with what Creative Energy and the applicable counterparties have done to address each of the Panel's eight requirements, per Order G-38-19.

RESPONSE:

The estimated capital cost of the Proposed Project remains unchanged. There is no change to the project scope that warrants an update to the Class 3 estimate. The Temporary Boiler Subproject is part of project contingencies. The next major budget update will be done after detailed design is complete following BCUC approval of the Application. Please see the response to BCUC SS IR 2.2.

**21.0 Reference: OTHER
Exhibit B-23, Appendix 3
Developer's Indemnities**

The Amended and Restated Trust and Development Agreement (TDA) is provided in Appendix 2-1 of Exhibit B-23.

Creative Energy states on page 1 of Appendix 3:

Creative Energy would first like to clarify that pursuant to Section 9.1 of the TDA considered by the BCUC Panel... both the Developer and Westbank Holdings Ltd. (Westbank Holdings) jointly and severally indemnify the utility from and against any and all claims and losses at any time suffered or incurred by the utility in connection with the construction and development of the project. Westbank Holdings is the parent company of the Developer. [*Emphasis Added*]

A copy of Section 9.1 of the TDA (referenced as the "Developer's Indemnities") is further provided on page 2 of Appendix 3.

21.1 Please explain in detail the extent, if at all, to which the Developer and Westbank Holdings' "joint and several" indemnities of the utility eliminate the following risks to the project previously identified by Creative Energy:

- (i). Risk #17 ("Funding issues – lack of funding or delay in payments"); and
- (ii). Risk #25 ("Counterparty risk – i.e. WB insolvent")¹⁰

RESPONSE:

Prior to the Stabilization Date (unless there is a prior transfer of title to a "Nominee" in accordance with the provisions of the TDA), Creative Energy has recourse against both the Developer and Westbank Holdings, jointly and severally, for any breach of the indemnities provided by either of them in the TDA. In the event of any breach, including a delay in payments by the Developer or insolvency of either the Developer or Westbank Holdings, Creative Energy has a claim against the assets of both of them.

¹⁰ Exhibit B-5, BCUC IR 29.1; Attachment 29.1

The assets of Westbank Holdings extend well beyond the Developer and the Developer's project. The comfort letter provided from time to time will evidence the strength of the indemnity provided by Westbank Holdings (at least \$50 million in net assets).

In the event of any insolvency of Westbank Holdings or insufficient strength of its indemnities, Creative Energy still has a claim against the equity of the Developer in the Trust Property. The value of the Trust Property includes the value of land, improvements and development rights in the Trust Property, whatever the stage of development. Further, given the financing restrictions imposed on the Developer in Section 6.2 of the TDA, the Developer's equity is expected to exceed a normal development project prior to the Stabilization Date because there are additional constraints placed on the Developer's construction lender under the TDA.

After the Stabilization Date, Creative Energy has continued recourse against the Developer, which at that point has full legal title to the Trust Property. Creative Energy can pursue claims that may be registered on title and even compel sale of the Trust Property (during or after the remainder of the development) to access to the Developer's equity in the event of any breach (see the response to BCUC SS IR 1.3).

21.1.1 Please explain how, in practice, the indemnities would protect Creative Energy from the two risks noted above (e.g. what are the steps?).

RESPONSE:

Creative Energy can sue the Developer and Westbank Holdings and can register any judgment against the assets of the Developer and Westbank Holdings. The former includes the value of the Trust Property and the latter includes other assets belonging to Westbank Holdings, which must exceed the value specified in the comfort letter (at least \$50 million in net assets) at any given time. Please see the response to BCUC SS IR 1.3 for more details on the realization process.

21.2 Please provide evidence of the financing (or other readily available security) that the Developer and Westbank Holdings have in place to support their respective indemnities to Creative Energy in connection with the construction and development of the project.

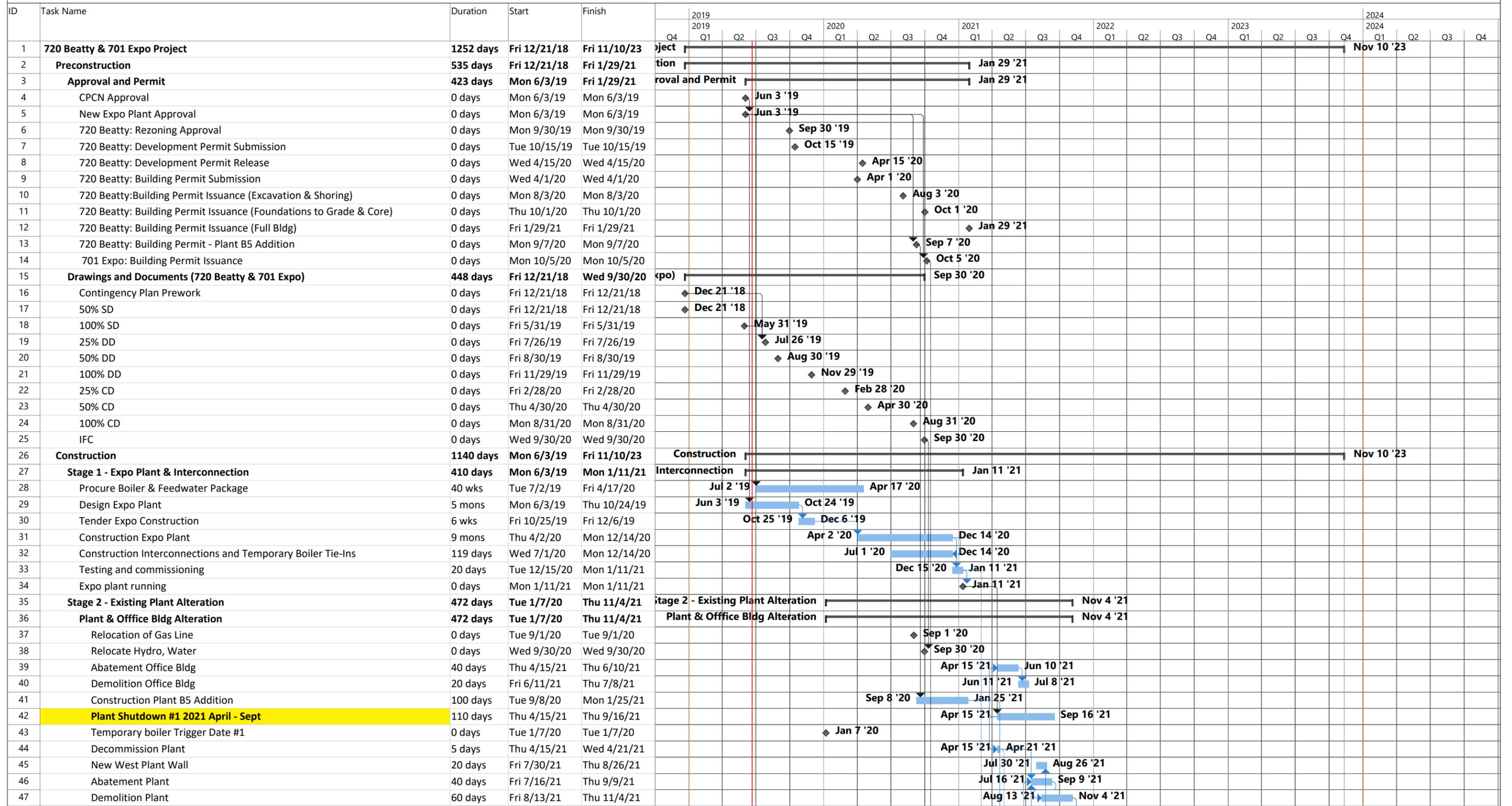
RESPONSE:

Financing would not be secured to support an indemnity before a claim is made or at least anticipated. Claims of indemnity when made can be paid through cash on hand, credit line, proceeds of insurance and/or by the value of the assets of the parties providing the indemnities. The Westbank Holdings Comfort Letter (a form of which was provided in Exhibit B-23, Appendix 3-1) is intended to confirm that at any point in time Westbank Holdings has net assets in excess of \$50 million. This is viewed as adequate for the satisfaction of a claim under the indemnities in the TDA if enforcement proceeds were to be commenced against the assets of Westbank Holdings.

The indemnities of the Developer can be satisfied by the commencement of enforcement proceedings in respect of the Developer's interests in the Trust Property. This includes the net equity of the Developer in the value of the land and improvements within the Trust Property, after deducting the amount of the construction financing. In a normal development project, the developer's equity is at least 20% of the value of the project. Under the TDA, Creative Energy has imposed additional financing restrictions on the Developer that require additional covenants from any construction lender to the Developer in favour of Creative Energy. In addition to providing additional security prior to the Stabilization Date through the 50% performance bond, these

restrictions are expected to increase the Developer's equity in the project that will be required by a construction lender (compared to a normal development project without these restrictions).

ICON West Construction
720 Beatty/701 Expo Schedule - Standard w/ Advance 701 Expo



Project: 720 Beatty St
Date: Mar 21/19

Task		Summary		Inactive Milestone		Duration-only		Start-only		External Milestone		Manual Progress	
Split		Project Summary		Inactive Summary		Manual Summary Rollup		Finish-only		Deadline			
Milestone		Inactive Task		Manual Task		Manual Summary		External Tasks		Progress			

