

1 December 2022

Ms. Sara Hardgrave
Acting Commission Secretary
BC Utilities Commission
Suite 410, 900 Howe Street
Vancouver, BC V6Z 2N3

Dear Ms. Hardgrave

**Re: British Columbia Utilities Commission (BCUC, Commission)
Creative Energy Vancouver Platforms Inc. (Creative Energy)
2023 Revenue Requirements Application for the Core Thermal Energy System**

Creative Energy writes to file the enclosed 2023 Revenue Requirements Application (**RRA**) for the Core Thermal Energy System (**Core TES**)(**Application**) and requests the approvals set out in section 1.3 of the Application.

Creative Energy is requesting interim approval of 2023 rates effective January 1, 2023, as set out in the draft order attached at Appendix A and in the corresponding tariff page attached at Appendix B.

As we review in section 1, at the time of the preparation and near-filing of this Application a BCUC decision was pending into the requested approvals set forth in Creative Energy's 2022 Application for Rates for the Core Steam System and Northeast False Creek Service (**2022 Application**). The basis of this 2023 RRA was to therefore assume that all requested approvals set out in the 2022 Application would be granted, which has supported the filing of this 2023 RRA on a timely basis pursuant to the request for interim approval of rates effective January 1, 2023. We contemplated that an evidentiary update would follow subject to the determinations and directives of a Commission decision into the 2022 Application.

We are now in receipt of Commission Order G-345-22 and accompanying Decision into the 2022 Application, dated November 29, 2022, which grants the requested approvals of the 2022 Application subject to certain determinations and directives. As directed by Order G-345-22, Creative will file an evidentiary update within 60 days of the date of Order G-345-22 addressing all relevant directives and determinations in this decision applicable to the Application.

For further information, please contact the undersigned.

Sincerely,



Rob Gorter
Director, Regulatory Affairs and Customer Relations

Creative Energy Vancouver Platforms Inc.

Core Thermal Energy System

2023 Revenue Requirements Application

December 1, 2022

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1 Application Summary

1.1 Overview

Creative Energy Vancouver Platforms Inc. (**Creative Energy, CEVP**) owns and operates the steam production plant at 720 Beatty Street and associated steam distribution network, which began operating in 1968 and now serves over 200 buildings in downtown Vancouver and which also serves customers connected to the hot water distribution network in Northeast False Creek (**NEFC**). These two systems together comprise the Creative Energy **Core Thermal Energy System** (or **Core TES**).

This 2023 Revenue Requirements Application (**2023 RRA, Application**) presents the consolidated cost of service of the Core TES together with corresponding proposed rates for service in 2023.

At the time of the preparation and near-filing of this Application, a British Columbia Utilities Commission (**BCUC, Commission**) decision was pending into the requested approvals set forth in Creative Energy's 2022 Application for Rates for the Core Steam System and Northeast False Creek Service (**2022 Application**), as comprising:

1. Rate design proposals filed on November 1, 2021 in the 2022 Application Part 1 – Rate Structure (**2022 Application Part 1**); and
2. Revenue requirements and rates proposals filed on December 1, 2022 in the 2022 Application Part 2 – Consolidated 2022 Revenue Requirements for Unified Rates (**2022 Application Part 2**).

The basis of this 2023 RRA was to therefore assume that all requested approvals set out in the 2022 Application Parts 1 and 2 would be granted by the Commission, which altogether supports the filing of this 2023 RRA on a timely basis pursuant to a request for interim approval of rates effective January 1, 2023; that is, 30 days in advance of the requested effective date. As part of this approach we contemplated that an evidentiary update would then be filed in 2023 to update the underlying basis of the requested approvals for 2023 as need may arise subject to the determinations and directives of a Commission decision into the 2022 Application.

We are now in receipt of Commission Order G-345-22 and accompanying Decision into the 2022 Application, dated November 29, 2022, which grants the requested approvals of the 2022 Application subject to certain determinations and directives. As directed by Order G-345-22, Creative will file an evidentiary update to this 2023 RRA within 60 days of the date of Order G-345-22 addressing all relevant directives and determinations in this decision, as applicable to 2023 rates. Unless otherwise noted in this 2023 RRA, the items concerning compliance and evidentiary updates arising from Order G-345-22, will be addressed in subsequent filings as required.

Through this Application, Creative Energy seeks approval of an overall increase in thermal energy rates (as expressed on an equivalent \$/thousand pound of steam (**M#**) basis) of 15.2% above the

amounts applied for in the 2022 Application, as shown in Tables 1, 2 and 3 that directly follow below¹:

- Table 1 below presents a summary of the consolidated revenue requirements of the Core TES for the 2023 Test Year;
- Table 2 highlights the key cost-drivers, which factors and cost variances are elaborated upon and explained in section 4 of this Application and;
- Table 3 presents a summary of the overall average rate impacts and underlying cost drivers in the full context of the cost of service including fuel costs.

As reviewed in Tables 2 and 3 and in section 4 of this Application, the key drivers of the requested 2023 rate increase are driven in large part by significant inflationary impacts that have arisen in the current economic frame and that have directly impacted Creative Energy's internal operating and maintenance budgets and the external pass-through of inflationary impacts on municipal fees, taxes and interest expense. Our fuel costs are also increasing in step with current market and economic impacts.

As reviewed in section 4, Creative Energy has assumed a 5 percent inflation rate in the preparation of the 2023 RRA which we have determined based on the most recent actual inflation rate and various analyst projections for 2023. Creative Energy considers the 5 percent forecast level to be a reasonable estimate in consideration of the risk and uncertainty of projections in the current economic frame, and with particular reference to recent higher actual levels. We also assume an increase in debt interest expense from 4.5% to 7% for 2023 rate-setting, which we forecast is the effective interest rate for Creative Energy in relation to the prime rate in Canada presently.

Outside of these key cost pressures, Creative Energy business context continues to reflect a priority objective to promote and ensure the attraction and retention of the complement of staff necessary to deliver the nature and quality of service that our customers, stakeholders and regulators demand.

Creative Energy's rates for thermal energy will remain competitive in the industry, which reflects our embedded advantage of a significant economy of scale in thermal energy production and delivery, the conviction of a small team of committed staff to provide safe and reliable delivery of thermal energy services, and the business processes and projects we are pursuing to secure a low-carbon energy transition and a resilient utility on behalf of all of our customers.²

¹ The Core TES RRA Schedules are attached electronically as well as a file that computes the declining block charges set out in Appendix B for interim approval.

² Refer also to the City of Vancouver annual comparison of its Neighbourhood Energy Utility rates to other energy providers, including Creative Energy: <https://council.vancouver.ca/20211201/documents/1e.pdf>

Table 1: Consolidated 2023 Revenue Requirements –Summary

Revenue Requirements Summary	2021*	2022	2022	2023
Cost or Rate Component	Actual	Application	Projected	Application
O&M - Total	5,652,678	6,273,518	6,450,314	7,265,423
Wages and Benefits (Steam, Distribution & Management)	3,167,515	3,757,484	3,704,320	4,238,207
Water-related and Electricity Expenses	1,038,408	1,111,606	1,089,450	1,149,398
Maintenance and related functional Operations	578,662	553,132	614,880	649,603
Special Services (Regulatory, Audit, Legal, Consultant)	439,954	357,840	474,304	509,714
Other General & Administration & Sales Expense	428,138	493,455	567,360	718,501
Municipal Access Fee	287,137	308,787	308,787	337,397
Property Taxes**	802,200	821,265	821,265	859,800
Income Taxes	185,000	280,600	280,600	254,400
Depreciation	967,070	1,182,859	1,270,440	1,254,740
Interest Expense (deemed)	431,928	827,000	763,241	1,369,000
Return on Equity	1,087,655	1,288,000	1,087,381	1,373,000
Total Return on Rate Base	1,519,584	2,115,000	1,850,622	2,742,000
Subtotal	9,413,668	10,982,029	10,982,029	12,713,760
Approved amortization of deferral accounts in steam rate	84,964	138,074	138,074	99,124
Revenue	9,498,632	11,120,103	11,120,103	12,812,884
Rate Summary				
Load M#	972,259	1,144,000	1,144,000	1,144,000
Average Rate \$/M#	9.78	9.72	9.72	11.20
Average Rate % increase	n/a	(0.6)%	n/a	15.2%
Rate of Return Summary				
Rate Base	25,547,302	31,908,059	32,048,961	34,010,209
Debt	14,894,077	18,347,134	16,665,460	19,555,870
Equity	10,653,225	13,560,925	15,383,501	14,454,339
Debt %	58.3%	57.5%	52.0%	57.5%
Equity %	41.7%	42.5%	48.0%	42.5%
Weighted Average Cost of Debt (estimated)	2.9%	4.5%	4.6%	7.0%
ROE	10.2%	9.5%	7.0%	9.5%
Total Return on Rate Base	5.95%	6.62%	5.77%	8.06%
* 2021 Actuals do not include NEFC				
** Projected 2022 property taxes are adjusted to the approved balance due to there being a deferral account.				

Table 2: Consolidated Revenue Requirements- Summary of Component Rate Increase and Variance from 2022 to 2023 Test Year

2023 Rate Increase Components		2023 Test Year to 2022 Application	
Core Cost Component	General Category of Cost Control	Explanatory Variance of Overall Steam Rate Increase: 2022 to 2023	
O&M		991,906	8.9%
Wages and Benefits (Steam, Distribution & Management)	Internal	463,042	4.2%
	External	17,680	0.2%
Water-related expenses (Fees, treatment, electric service)	Internal	-	0.0%
	External	37,791	0.3%
Maintenance (including parts, supplies, safety and vehicles)	Internal	96,471	0.9%
	External	-	0.0%
Special Services (Regulatory, Audit, third-party consultants)	Internal	35,166	0.3%
	External	116,709	1.0%
Other General & Administration (e.g. insurance, office expenses)	Internal	211,274	1.9%
	External	13,772	0.1%
Municipal Access Fee	External	28,610	0.3%
Property Taxes	External	38,535	0.3%
Income Taxes	External	(26,200)	-0.2%
Depreciation	External	71,881	0.6%
Interest Expense	External	542,000	4.9%
Return on Equity	External	85,000	0.8%
Summary			
Amortization of deferral accounts		(38,950)	-0.4%
RRA Internal control related		805,954	7.2%
RRA External control related		925,778	8.3%
Load M#		-	0.0%
Total Core-related Steam Rate Increase 2022			15.2%

1.2 Average Core TES Customer Rate Impacts

Total average rates for thermal energy service are comprised of Core TES tariff rates (i.e., that recover the cost of service through the approved revenue requirements) and natural gas fuel cost charges (i.e., that recover the cost of natural gas service on a flow-through basis), which we express in Table 3 below on an equivalent \$/M# basis (not including the System Contribution Charge to customers connected to the NEFC network as reviewed and approved in the 2022 Application).

Table 3 below thus places the requested 2023 average rate increase and resultant average tariff rate that is the subject of this 2023 RRA in the context of the total charges to Core TES customers for service inclusive of fuel cost charges. The current requested increase in the average tariff rate represents an overall projected customer rate impact of 5.3% over 2022 charges.

By way of further background, Creative Energy obtains its natural gas requirements from FortisBC Energy Inc. (FEI) for both commodity and delivery under FEI Rate 7. Creative Energy recovers its fuel costs from customers on a flow-through basis through a standard Fuel Cost Adjustment Charge (FCAC) based on annual forecast fuel costs divided by approved annual load. A FCAC Rate Rider

may be approved from time to time if and as required to recover the balance in the Fuel Cost Stabilization Account (**FCSA**) if it exceeds a threshold balance.

The FCAC is approved by the Commission on a forecast basis for the Gas Year commencing November each year; that is, outside of Creative Energy revenue requirements applications and proceedings. A record of recent FCAC-related approvals is as follows:

- 2020/2021 Gas Year FCAC = \$12.50/M#, effective November 1, 2020 – Order G-295-20;
- 2021/2022 Gas Year FCAC = \$15.40/M#, effective November 1, 2021 – Order G-329-21;
- 2021/2022 Gas Year FCAC = \$16.50/M#, effective February 1, 2022 – Order G-55-22;
- FCAC Rate Rider = \$2.00/M#, effective February 1, 2022 - January 31, 2023 – Order G-55-22;
- 2022/2023 Gas Year FCAC = \$19.90, effective November 1, 2022; Order G-334-22.

Significant recent external fuel cost pressures in the cost of FEI commodity and delivery service may also be indicative of the market and economic pressure on the Core TES cost of service in both recent timing and magnitude, as is the evidence presented in this Application.

Table 3: Summary of Average Rate Impacts

Average Rate Impacts		Increment \$/M#	%	Cumulative \$/M#	%
Steam Tariff	2022 (incl. 2021 DA amortization)	9.72		9.72	
Add	2023 COS - O&M inflation and business-related drivers	0.70	7.3%	10.42	7.3%
	2023 COS - Fees, taxes, interest expense and other external drivers	0.81	8.3%	11.23	15.6%
	2022 Deferral Account Amortization	-0.03	-0.4%	11.20	15.2%
	2023 Load Forecast Change (nil M#)	0.00	0.0%	11.20	15.2%
Total Steam Tariff	2023	1.48	15.2%	11.20	15.2%
Fuel Cost Charge	2021/22 Gas year <i>(average FCAC+Rate Rider over applicable mos.)</i>	18.06		18.06	
	2022/23 Gas year - Average <i>(average FCAC+Rate Rider over applicable mos.)</i>	2.34	13.0%	20.40	13.0%
Total Steam + Fuel	2022	27.78		27.78	
Add	Total 2023 COS	1.48	5.3%	29.26	5.3%
	Fuel Cost Charge	2.34	8.4%	31.60	13.8%
Total 2023	Steam + Fuel	3.82	13.8%	31.60	13.8%

1.3 Summary of Requested Approvals

In this Application, Creative Energy is seeking Orders of the Commission granting the approvals described below pursuant to the noted sections of the legislation. A draft Commission Order for interim approval of 2023 rates is provided in Appendix A to this Application while Appendix B provides the corresponding tariff page for interim approval.

Creative Energy requests the following approvals:

1. Interim approval, effective January 1, 2023 and pursuant to sections 58 to 60 and 90 of the *Utilities Commission Act (the Act)* and section 15 of the *Administrative Tribunals Act*, of the thermal energy rates and System Contribution Charge set forth in Appendix B;
2. Permanent approval, effective January 1, 2023 and pursuant to sections 58 to 60 of the Act of the thermal energy rates and System Contribution Charge that will result from our 2023 revenue requirement proposals as will be amended as part of a future evidentiary update in 2023 that will respond to applicable determinations set out in the Order G-345-22 Decision into the 2022 Application, as directed by the same Order, and subject to final balances in non-rate base deferral accounts to be confirmed as part of that future evidentiary update;
3. Approval of a 2023 thermal energy load forecast of an equivalent basis of 1,144,000M# for the purpose of determining the average rate increase in the 2023 RRA test period and for other rate-making purposes as required (for example, forecasting the fuel charge (\$/M#) for the Gas Year beginning November each year, and implementing the proposed load forecast variance account). Please refer to section 3;
4. Approval of a Load Forecast Variance Account on an ongoing basis. Please refer to section 3;
5. Approval to close the COVID-19 Deferral Accounts effective December 31, 2022. Please refer to section 3;
6. Approval to establish, effective the date of this Application, a Steam Distribution Network Study Deferral Account to record the expenses incurred in 2022 to commence study of the network and of the connected buildings in support of pre-feasibility screening of options to modernize the steam distribution network and to provide information in support of the development of Creative Energy's next Long-Term Resource Plan (**LTRP**) and associated Demand-Side Management (**DSM**) options and programs. Please refer to section 5; and
7. Approval of the Inter-Affiliate Conduct and Transfer Pricing Policy (**Policy**) filed concurrently with this Application. Please refer to section 2 and to Appendix C.

1.4 Recommended Regulatory Review

Creative Energy proposes that this Application is suitable for review through a written hearing process of the Commission beginning in January 2023.

2 Transfer Pricing

2.1 Introduction

Creative Energy submits for the Commission's approval at Appendix C a proposed Inter-Affiliate Conduct and Transfer Pricing Policy (**IAC/TPP**). As reviewed in the sections that follow, the proposed IAC/TPP is built upon the factual basis that the activities and expenditures of all affiliates in the Creative Energy group of companies concern only the provision of utility thermal energy services. The proposed IAC/TPP therefore incorporates the changes that arise from our consideration of the findings and directives of the Commission in its Order G-349-21 Decision as applicable within the factual basis as presented and subject therefore to the Commission's further consideration in this proceeding of the principles and objectives that apply to resource sharing among affiliated utilities and pricing upon that basis. The proposed IAC/TPP then supports certain of the cost allocations to the Core TES inherent in the requested approvals of the 2023 RRA.

The proposed IAC/TPP reflects the specific and precise nature of the activities and services provided by affiliates in the Creative Energy group of companies. All affiliates in the Creative Energy group of companies support the development of utility thermal district energy systems (**TES**) and ultimately, delivery of safe and reliable thermal energy services to the customers of the utility systems at just and reasonable rates. For clarity, the business and services provided by the Creative Energy group concerns only the pursuit, definition, construction and operation of utility TES projects.

The form of regulatory oversight applied to the provision of such utility service in any given jurisdiction varies and has varied over time. In BC, the delivery of utility thermal energy services is regulated pursuant to the *Utilities Commission Act* as modified and informed by the application of:

1. The Commission's Retail Markets Downstream of the Utility Meter Guidelines (**RMDM Guidelines**)(1997) for utilities with affiliated non-regulated businesses providing goods and services downstream of the utility meter (for example, end-use appliance sales and repair services, safety and security services, financing and insurance);
2. The Commission's Report into the matter of an Inquiry into the Offering of Products and Service in Alternative Energy Solutions and Other New Initiatives (**AES Inquiry Report**) (2012); and
3. Exemptions and guidelines pursuant to the Thermal Energy Systems Regulatory Framework Guidelines (**TES Guidelines**)(2015), as presently under review by the Commission and stakeholders.

There are no affiliates in the Creative Energy group of companies that provide goods and services downstream of the utility meter. Accordingly, there are no affiliates in the Creative Energy group of companies that engage in non-regulated business (**NRB**) as the term is defined and used in the RMDM Guidelines.

As we elaborate below, the reference to NRB in the RMDM Guidelines cannot be conflated with a different form of regulation. Stream A and Micro TES provide the same services as Stream B TES; however, these different categories of utilities are subject to different forms of regulation, with the form of regulation tailored to the extent of need for regulation in consideration of factors such as capital cost of the TES and long-term customer service agreements. TES providers are not NRB, whether the Commission categorizes and regulates the TES as Micro, Stream A or Stream B (or other categorization following the review of the TES Regulatory Framework Guidelines).

The RMDM Guidelines provide general principles and objectives applicable to transfer pricing in transactions between a utility and its affiliated NRB's generally, which the BCUC affirmed in the AES Inquiry Report. However, it is important to emphasize that the reference to a "non-regulated business" in this context is precisely to provision of non-utility goods and services in competitive markets downstream of the utility meter, as reviewed and depicted in section 2.0 of the RMDM Guidelines at pages 2-5, and as per the examples noted in bullet (1) above.

The distinction is important to ensure clarity and precision to the review of Creative Energy's proposed IAC/TPP and our implementation of the changes that arise from the applicable directives of the Commission in its Order G-349-21 Decision:

- First, the nature of a NRB in the RMDM Guidelines is not a reference to the form of regulation of a utility service provider in BC or elsewhere; and
- Second, affiliates in the Creative Energy group do not provide any goods and services downstream of the utility meter that would define any of them as an NRB (neither CE Holdings, CE Ventures, CEDLP nor individual TES Utility Affiliates (as we define and discuss in the next section)).

Affiliates in the Creative Energy group of companies share resources in recognition of the benefits that flow directly to the various utility TES projects and their respective customers. The economies of scale of a larger organization benefit the customers of all utilities within the group. For example, as a group, corporate services can be provided at a wider breadth and greater depth than what would be possible at a small utility by itself. The customers of the utilities within the group benefit by receiving safe and reliable services at service levels comparable to a much larger utility and at lower rates.

Acknowledging this factual basis, Creative Energy's proposed IAC/TPP articulates the structural and economic allocation of resources to:

- Protect the customers of operating TES projects from the relatively more speculative activities and expenditures of the affiliate that pursues new TES projects; and
- Deliver economy of scale benefits to the customers of all TES Utility Affiliates, including the customers of TES in BC with rates set by the Commission, such as the rates for the Core TES that are the subject of this Application.

The following section presents the business and organizational context of affiliates in the Creative Energy group and the manner in which this structure informs and supports an efficient and cost-effective approach to resource sharing across all activities devoted to the development of TES utilities and the delivery of safe and reliable thermal energy services to the customers of the TES utility systems at just and reasonable rates.

2.2 Business and Organizational Context

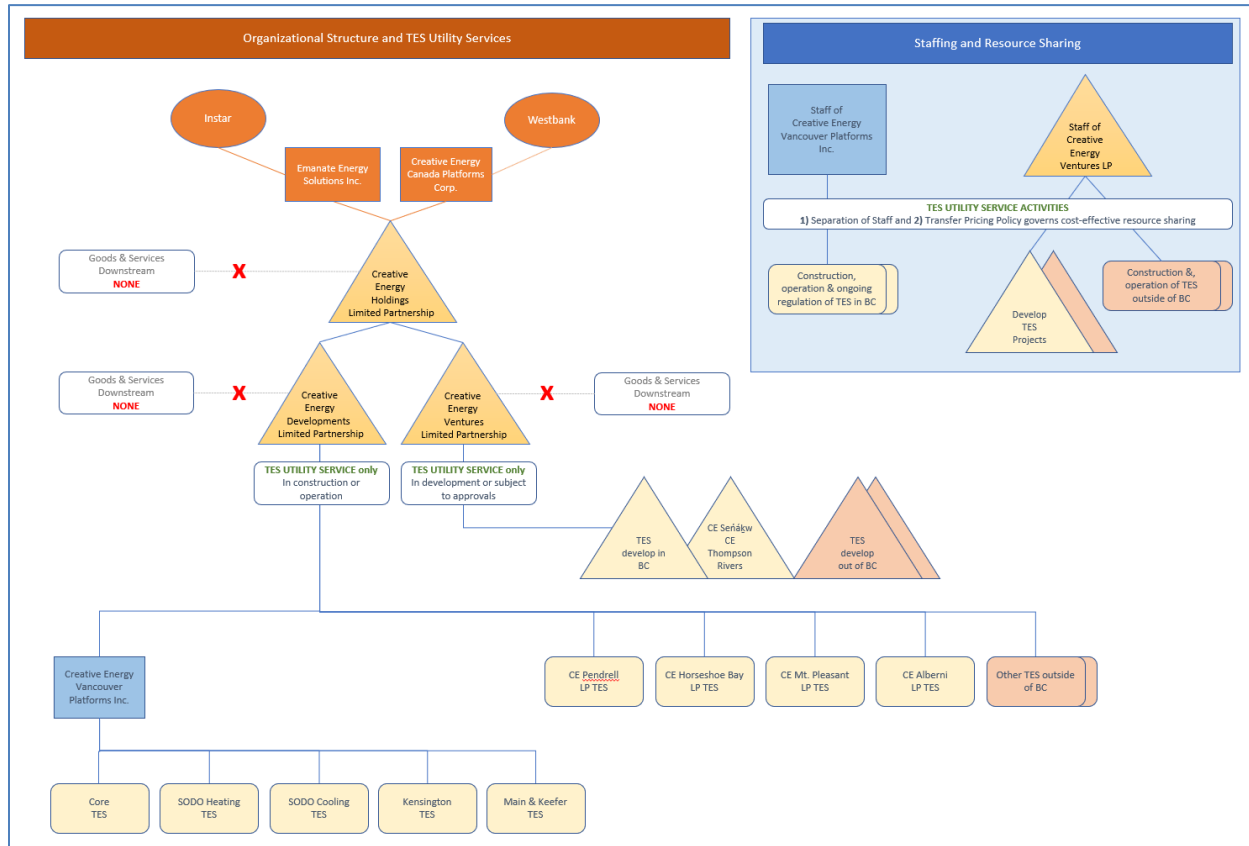
As introduced above, all business and services provided by affiliates in the Creative Energy group involve only the pursuit, definition, construction and operation of TES utility projects. The business and organizational structure of the companies in the Creative Energy group is purposeful in support of efficient project development and operations, including facilitating efficient financing and economies of scale in resourcing.

This overall business objective of the Creative Energy group is enabled by Creative Energy Holdings Limited Partnership (**CE Holdings**), which is a partnership of Creative Energy Canada Platforms Corp. (ultimately owned by Westbank Holdings) and Emanate Energy Solutions Inc. (ultimately owned by InstarAGF Essential Infrastructure Fund)(together, the **Shareholders**).

CE Holdings is established for the purpose of securing equity from the Shareholders to support pursuit and definition of new utility TES projects and which may also facilitate short-term inter-affiliate loans to reduce operating lines or to provide for the short-term financing needs of affiliates.

Figure 1 below illustrates the structure of the ownership and affiliates in the Creative Energy group devoted to the purpose of developing and providing utility thermal energy services. References are provided to specific utility TES projects that are subject to approval or in service as of the date of the filing of this Application. The figure also illustrates the structural allocation of resources between applicable affiliates in support of the discussion that then follows in the section setting out the key aspects of a proposed IAC/TPP. Please refer also to Appendix D for a higher resolution image of Figure 1.

Figure 1 – Ownership, Structure and Purpose of Affiliates in the Creative Energy Group



To place the business and organizational context of the affiliates in the Creative Energy group into greater relief for the purpose of the IAC/TPP, we present the overall purpose of each affiliate within a chronology of a Creative Energy utility TES project – from pursuit and definition through to construction and operation.

2.2.1 Pursuit and Definition of a Utility TES Project

Creative Energy Ventures Limited Partnership (**CE Ventures**) is an affiliate in the Creative Energy group established to pursue new utility TES projects. CE Ventures identifies, pursues and defines potential utility TES projects, from concept and project opportunity to negotiation and execution of definitive agreements. CE Holdings provides financing to CE Ventures supporting this purpose, as described above.

For feasible utility TES projects with definitive agreements in place to proceed to construction and/or applications for regulatory approvals as required, a separate wholly-owned subsidiary limited partnership of CE Ventures is established to execute the necessary agreements and to advance the individual utility TES project through its final development stages (**TES Utility Affiliate**). If required under the applicable regulatory framework, this TES Utility Affiliate will file the application to the BCUC for a CPCN.

Figure 1 above illustrates two example TES Utility Affiliates with TES projects in the final stage of development in BC, with definitive agreements in place to proceed to construction subject to BCUC approval of a CPCN for the project: CE Seńák LP and CE Thompson Rivers LP.

2.2.2 Construction and Operation of a TES Utility Project

Creative Energy Developments Limited Partnership (**CEDLP**) is an affiliate in the Creative Energy group established to provide debt financing to TES Utility Affiliates with projects under construction or in operation. That is, CEDLP is the holding company for those utility TES projects that may be financed partly by debt (with the exception of CEVP as noted further below).

For those utility TES projects that require a CPCN in BC, upon approval of a CPCN for the TES project (or if a CPCN is not required, when the necessary definitive agreements have been executed to proceed with the construction of the project), the TES Utility Affiliate is moved from under CE Ventures to under CEDLP, which will then support the project with debt financing.

At any point in time, CEDLP will support a number of projects in and outside of BC with construction debt financing. In addition, CEDLP has an operating line for in-service utility TES projects. CEDLP distributes the proceeds to its subsidiary TES Utility Affiliates as required to fund capital costs during construction and operations.

The TES Utility Affiliate will then construct, own and operate the utility TES project.

This structure enables efficient financing of TES utility projects from their pursuit and definition through to construction and operation and provides separation and transparency of costs between each TES project, TES Utility Affiliate and the parent affiliates.

2.2.3 Creative Energy Vancouver Platforms Inc.

As approved by Commission Order C-1-20, CEVP underwent a corporate reorganization such that it is now a wholly-owned subsidiary of CEDLP. As introduced in section 1 of this Application, CEVP owns and operates a number of existing TES, the largest of which is the steam production plant at 720 Beatty Street and associated steam distribution network that began operating in 1968 and that now serves over 200 buildings in downtown Vancouver and the hot water conversion plants of the NEFC hot water distribution network (together, the Core TES).

Creative Energy Vancouver Platforms Inc. also owns and operates several TES that are not connected to the Core TES: i.) the Kensington Gardens TES for Heating and Cooling and the Main & Keefer TES for Heating, which are Stream A TES in accordance with the Commission's TES Guidelines and ii.) the South Downtown Heating TES and Cooling DCS systems, which are Stream B TES.

CEVP has its own debt facilities and operating line and is not funded via debt from CEDLP.

2.3 Inter-Affiliate Conduct and Transfer Pricing Policy

2.3.1 Introduction

In recognition of the underlying benefits of resource sharing, Creative Energy filed an IAC/TPP for Commission approval as a component of its 2021 RRA. The IAC/TPP codified at that time Creative Energy's existing practices for conduct, transfer pricing and the allocation of the costs of shared services among the Creative Energy entities and TES projects.

The Commission reviewed the proposed IAC/TPP as part of the process established to review the 2021 RRA. By Order G-349-21, the Commission did not approve the IAC/TPP and made the following key findings (Order G-349-21 Decision pp. i-ii):

- “CEDLP is a “non-regulated business (NRB)” as the term is used in the RMDM Guidelines and AES Inquiry Report. Despite the statement by Creative Energy purporting to limit the Proposed IAC/TPP to BCUC-regulated entities within the Creative Energy Group, it is clear the Proposed IAC/TPP is intended to apply to transactions between CEDLP and its regulated affiliates.
- The resource sharing provision within the Proposed IAC/TPP that allows CEDLP and its affiliates, including Creative Energy, to freely share employees, equipment and services is not consistent with the principle from the AES Inquiry Report that there should be minimal sharing between regulated and non-regulated affiliates. While the Proposed IAC/TPP identifies the certain benefits of resource sharing, the Panel is not persuaded that these benefits to the regulated entities are appropriately balanced by the increased risks associated with unlimited resource sharing with the non-regulated businesses.
- As stated in the AES Inquiry Report, a code of conduct and transfer pricing must require the use of the full cost to provide the service or market pricing, whichever is higher, where non-arms-length transactions occur between regulated and non-regulated affiliates. The definition of Cost Recovery Basis as set out in the Proposed IAC/TPP does not reflect this principle.
- It is unclear whether the labour rates used by Creative Energy reflect the higher of market pricing or full cost recovery.”

By Order G-349-21, the Commission thus directed Creative Energy to:

1. Provide further evidence demonstrating how its labour rates are reflective of the higher of market pricing or full cost recovery where resources are shared with non-regulated affiliates in its next RRA for the Core Stream System (Directive 2);
2. Cease sharing, by no later than the time of filing of its 2023 RRA for the Core Steam System, its staff resources with Creative Energy's non-regulated affiliates, to the extent that those staff allocate more than a minimal amount of their time to activities of its non-regulated affiliates (Directive 3);
3. Request advance BCUC approval, unless otherwise ordered, for any material cost or resource sharing by Creative Energy with any non-regulated affiliate. When seeking such

approval, Creative Energy must provide the basis and any justification for the proposed amounts of the cost or resource sharing (Directive 4); and

4. File its total annual gross costs as part of its future RRAs for the Core Steam System (Directive 5).

We have attached a proposed modified IAC/TPP at Appendix C to implement changes that arise from our consideration of the findings and directives of the Commission in its Order G-349-21 Decision as applicable within the factual basis as presented and subject therefore to the Commission's further consideration in this proceeding of the principles and objectives that apply to resource sharing and pricing upon that basis.

Our considerations are as follows.

Firstly, we emphasize that the purpose of the IAC/TPP remains to document the policy and practice of the Creative Energy group in matters of:

1. The allocation of shared services staff time between TES Utility Affiliates in the Creative Energy group of companies and between the CEDLP and CE Ventures affiliates if and as applicable;
2. The direct assignment of the capitalization of staff time to CEVP and other TES Utility Affiliates and the net expenses allocated to CEVP overall; and
3. The Massachusetts Formula results for allocating the applicable residual expenses of shared services between the CEVP projects (including Core TES) and other TES Utility Affiliates in BC.

Secondly, we have addressed above the nature of the business (i.e., utility thermal energy services) that all affiliates in the Creative Energy group are engaged in, and that there are no goods or services provided downstream of the utility meter.

The departure in the rationale of the Commission in its prior finding that CEDLP is an NRB appears to have stemmed from a reference to the Creative Energy intent to adhere to the principles of the RMDM Guidelines to ensure that no subsidies will arise between affiliates that share resources. Creative Energy was addressing a distinction between the services provided by Creative Energy affiliates as to the stage of TES utility development versus the form of regulation within the regulatory framework in BC. In all respects however the references, then and still, are to thermal energy services at the utility meter. We reiterate that there are no affiliates in the Creative Energy group of companies that provide goods and services downstream of the utility meter.

Upon clarifying this factual basis we consider that any distinction between the form of regulation of utility TES service at the meter (in any given jurisdiction (and at any given time and over time)) is of no particular import to the IAC/TPP as proposed

Thirdly, we infer that the Commission's reference to 'minimal' resource sharing arises from its conclusion that CEDLP is an NRB and in direct reference to pages 20-22 of the AES Inquiry Report where the imperative of minimal resource sharing is set out specifically and exclusively in the context of resource sharing between a public utility and its affiliated NRBs as defined in the RMDM Guidelines. While we have clarified the factual basis that there are no affiliates in the Creative Energy group that are NRBs or that otherwise provide goods and services downstream of the utility meter, we set out in the next section a structural change to effect additional and transparent protection to all customers of TES Utility Affiliates benefiting from resource sharing. We submit that implementing this change through the proposed IAC/TPP is responsive to the overarching principles to ensure fair, efficient and economic cost allocation in the provision of utility thermal energy service.

Finally, Creative Energy considers therefore that a higher-of pricing principle will result in unnecessary and uneconomic cross-subsidy between TES Utility Affiliates, which does not exist presently as it would be contrary to the objective of resource sharing and the regulatory compact in BC. That is, acknowledging the factual basis that there are no goods and services provided downstream of the utility meter ought to render the matter of any potential benefit of higher-of pricing to be effectively moot.

All activities of affiliates in the Creative Energy group are devoted ultimately to the provision of safe and reliable thermal energy service at just and reasonable rates. Creative Energy charges employee time on a cost-of-service basis and between affiliates based on the actual cost of the employee without mark-up or margin. The cost is either charged as an hourly rate based on the hours that an employee records to different affiliates or projects or as a flat fee based on the budgeted allocations between entities.

The imposition of higher-of pricing to the delivery of utility thermal energy services would impose a market and regulatory failure to the ultimate provision of cost-effective thermal energy service to customers.

A matter for the proceeding established to review this Application may be for the Commission to review its intended determinations in this regard. Under the factual basis set out above, higher-of pricing would result, for example, in higher-of pricing applying to costs of CE Ventures early-stage TES development, leading only to higher cost service to TES customers than might otherwise be necessary, fair and reasonable.

The following sections address each of the proposed transfer pricing components that arise from our consideration of the key findings and directives of the Order G-349-21 Decision and that support the Core TES revenue requirements set out in this Application.

2.3.2 Structural Allocation of Resources

Effective January 1, 2023 Creative Energy will implement two separate payrolls as between:

1. Staff whose majority of time is devoted to constructing, operating, maintaining, managing and administering the TES Utility Affiliates in BC – to be employed by CEVP.
2. Staff whose majority of time is devoted to pursuing and defining new utility TES project opportunities and negotiated definitive agreements, or that otherwise support the construction, operation and ongoing administration of TES Utility Affiliates outside of BC – to be employed by CE Ventures.

Creative Energy considers that this approach will serve as an effective guardrail to mitigate any concerns of the Commission that the customers of TES Utility Affiliates in BC will subsidize or backstop the cost recovery risk of the relatively more speculative activities of CE Ventures in pursuing new utility TES projects, for example. Creative Energy considers that this change will effect additional and transparent protection to all customers of TES Utility Affiliates benefiting from resource sharing, aligned to an overarching objective to ensure fair, efficient and economic cost allocation in the provision of utility thermal energy service.

Creative Energy emphasizes that all customers will continue to be better off under the economy of scale benefits that will be maintained under this approach noting that none of these affiliates are involved in NRB. Thus, the structure of employee assignment between CEVP and CE Ventures will intentionally and continually support an economy of scale in the efforts required to support the provision of utility thermal energy service from development through operation to all TES Utility Affiliates.

2.3.3 Economic Allocation of Resources

Creative Energy Vancouver Platforms Inc. and CE Ventures will share employee time between TES Utility Affiliates where it would not be efficient nor cost-effective for each TES Utility Affiliate to have its own employees in the same role. This is specifically necessary for senior executive roles, but also for accounting, administration, operations and maintenance staff. For example some utility TES projects do not require a full-time on-site operator. If there is no resource sharing, each of those affiliates would have to have their own full time utility operator, unnecessarily increasing the cost of service.

In sum, all affiliate operations and activities are able to benefit from having employees in these roles with a more diverse range of experience and skillsets than what could be cost-effectively employed on a standalone basis.

Creative Energy therefore considers efficient and economic resource sharing to be defined within the practical extent of the skills required to serve individual functions in a cost-effective manner but within a constraint that staff are employed by the entity that defines the majority of their general responsibilities as between pursuit and definition of new utility TES projects (employed by

CE Ventures) and construction and operations (employed by CEVP in BC and by CE Ventures outside of BC). Refer also to Figure 1 and Appendix D.

Thus, and as highlighted in the tables that follow in the next section, a 50/50 allocated share of the time of the CEO and CFO, for example – as employed by CEVP – is efficient and economic.

Conversely, if shared resources do not serve the CEO and CFO roles and instead each entity has a 100% dedicated CEO and CFO, this would be unnecessary and result only in a higher cost of service to the respective customers of the TES Utility Affiliates.

2.3.4 Employee Assignment and Resources Sharing between CEVP and CE Ventures

The following two tables report the direct allocation of time of the employees of CEVP and CE Ventures, including:

1. Forecast allocation of staff time between CEVP and CE Ventures and the direct assignment of forecast time that will be capitalized. These allocations and assignments are developed by the Management team and reviewed with the Board of Directors. The amount of cost for supporting CE Ventures and TES Utilities outside of BC is subtracted from the gross cost in CEVP and allocated to CE Ventures; and
2. Forecast of expenses to then be assigned to CEVP on a percentage basis, which is an input to the allocation of expenses across all regulated projects using the Massachusetts Formula methodology as approved by the Commission under Order G-227-20.

Table 4: Forecast 2023 Cost Allocation of the Employees of CEVP

	2023 Test Year						
	Time Allocation		CEVP and TES Affiliate in BC				
	CEVP and TES Affiliates in BC	CE Ventures and TES Affiliates outside of BC	Assignment of Capital and Expense			Net Expense Assignment to Core TES RRA	
			Direct Assignment of Capital to CEVP & TES Affiliate in BC	Expensed to CEVP and TES Affiliate in BC	Net Expense to CEVP and TES Affiliate in BC	Direct Assignment	Mass. Form.
Chief Executive Officer	50%	50%	0%	100%	50%	n/a	Yes
Chief Financial Officer	50%	50%	0%	100%	50%	n/a	Yes
SVP, Engineering and Innovation	55%	45%	100%	0%	0%	n/a	n/a
Director, Regulatory Affairs	100%	0%	35%	65%	65%	n/a	Yes
Director, Operations	100%	0%	0%	100%	100%	n/a	Yes
Director, Development	50%	50%	0%	100%	50%	Yes	n/a
Controller	60%	40%	0%	100%	60%	n/a	Yes
Senior Accountant	50%	50%	0%	100%	50%	n/a	Yes
Senior Accountant	50%	50%	0%	100%	50%	n/a	Yes
Intermediate Accountant	60%	40%	34%	66%	40%	n/a	Yes
Junior Accountant	50%	50%	0%	100%	50%	n/a	Yes
AP and Office Coordinator	55%	45%	9%	91%	50%	n/a	Yes
Director of Construction	80%	20%	100%	0%	0%	n/a	n/a
Director of Projects	100%	0%	100%	0%	0%	n/a	n/a
Director of Engineering	60%	40%	100%	0%	0%	n/a	n/a
Senior Project Manager	100%	0%	100%	0%	0%	n/a	n/a
Senior Project Manager	90%	10%	100%	0%	0%	n/a	n/a
Project Manager	95%	5%	100%	0%	0%	n/a	n/a
Project Coordinator	70%	30%	71%	29%	20%	n/a	Yes
Project Engineer	60%	40%	100%	0%	0%	n/a	n/a
Systems Engineer	100%	0%	20%	80%	80%	n/a	Yes
Manager, Regulatory	100%	0%	35%	65%	65%	n/a	Yes
Development Engineer	90%	10%	0%	100%	90%	Yes	n/a
Senior Manager, IT	66%	34%	0%	100%	66%	n/a	Yes
Engineering Coop Student	100%	0%	100%	0%	0%	n/a	n/a

Table 5: Forecast 2023 Cost Allocation of the Employees of CE Ventures

	2023 Test Year						
	Time Allocation		CEVP and TES Affiliate in BC				
	CEVP and TES Affiliates in BC	CE Ventures and TES Affiliates outside of BC	Assignment of Capital and Expense			Net Expense Assignment to Core TES RRA	
			Direct Assignment of Capital to CEVP & TES Affiliate in BC	Expensed to CEVP and TES Affiliate in BC	Net Expense to CEVP and TES Affiliate in BC	Direct Assignment	Mass. Form.
VP, Development	15%	85%	100%	0%	0%	n/a	n/a
Project Manager	0%	100%	n/a	n/a	n/a	n/a	n/a
Project Accountant	39%	61%	100%	0%	0%	n/a	n/a
Development Engineer	0%	100%	n/a	n/a	n/a	n/a	n/a
Senior Manager, Corporate Development and FP&A	30%	70%	100%	0%	0%	n/a	n/a
Director, Development	0%	100%	n/a	n/a	n/a	n/a	n/a
Director, Talent (HR)	25%	75%	0%	100%	25%	Yes	n/a
Manager, Operations	0%	100%	n/a	n/a	n/a	n/a	n/a
Commercial Director	10%	90%	0%	100%	10%	Yes	n/a
Marketing Manager	25%	75%	0%	100%	25%	Yes	n/a
Director/VP, Legal	20%	80%	100%	0%	0%	n/a	n/a
Law Clerk	20%	80%	100%	0%	0%	n/a	n/a

The factors considered when developing the budgeted allocation for the Management team continue to be review of historical timesheets, analysis of budgets for specific capital projects, discussions with employees, and discussions with management. Further context is as follows:

- Direct assignment of Capital to CEVP and TES Affiliates in BC:
 - Employees of CEVP spend time supporting capital projects for the Core TES and other TES Utility Affiliates (e.g., maintenance capex and customer connections). They directly charge their time to these projects and their costs are capitalized to those projects. (Table 4)
 - Employees of CE Ventures may support certain of the project work for the Core TES and other TES Utility Affiliates in BC; resource sharing is budgeted for direct assignment to capital to economically leverage the skillsets of the roles in question. (Table 5)
- Expensed to CEVP and TES Utility Affiliates in BC:
 - These are the percentage of costs that employees of CEVP and CE Ventures budgeted to spend on the Core TES and other TES Utility Affiliates in BC that are not capitalized to projects.

- Table 5 highlights the resource sharing of the employees of CE Ventures as budgeted to economically leverage the skillsets of the roles in question in support of the services provided to the Core TES and other TES Utility Affiliates in BC.
- The total of these costs are allocated based on the Massachusetts formula.
- Net Expense to CEVP and TES Utility Affiliates in BC: The percentages in this column are equal to 'Time Allocation - CEVP and TES Affiliates in BC' multiplied by 'Assignment of Capital and Expense - Expensed to CEVP and TES Affiliate in BC'.
- Net Expense Assignment to Core TES RRA – Direct Assignment:
 - The shared plant and distribution team employed by CEVP fill out timesheets and directly charge their time to the regulated affiliate energy systems that they serve. They are therefore excluded from Table 4.
 - Resource sharing of certain employees of CE Ventures is budgeted to support regulated affiliate operations based on the unique skillsets required and as highlighted in Table 5.
- Net Expense Assignment to Core TES RRA – Mass. Form.:
 - Management and administration staff of CEVP do not work directly on energy systems once they are operating. Management and administration expenses are allocated using the Massachusetts Formula instead of timesheets.

2.4 Cost Allocation

The following summary and tables present the total gross cost allocations as inputs to the Core TES RR and the assignment of net expenses using the Massachusetts Formula.

2.4.1 Total 2023 Gross Costs

Please refer to the following summary of total annual gross cost and the allocation to affiliates.

Table 6: Gross CEVP Costs and Allocation

Account Number	Description	Gross Costs in CEVP	Allocated to CE Ventures and TES Affiliates outside of BC	Allocated to Capital for CEVP and TES Affiliates in BC	Allocated to Expense for CEVP and TES Affiliates in BC (Massachusetts formula or direct charges)
915	Directors Fees	160,000	(80,000)	-	80,000
920	Admin & General Salaries	4,434,094	(1,341,869)	(1,387,375)	1,704,851
921	Office Supplies (IT component only)	380,164	(132,764)	-	238,252
926	Employee Benefits	529,698	(152,483)	(168,881)	217,482
932	Maintenance of General Plant	35,256	(3,208)	-	32,048
n/a	Property Taxes	1,011,479	(145,000)	-	866,479

Table 7: Gross CE Ventures Costs Allocated to CEVP

Account Number	Description	Allocated to CEVP and TES Affiliates in BC	Allocated to Capital for CEVP and TES Affiliates in BC	Allocated to Expense for CEVP and TES Affiliates in BC (further allocated by the Massachusetts formula or direct charges)
920	Admin & General Salaries	234,024	(160,008)	74,016
926	Employee Benefits	28,924	(19,776)	9,148

2.4.2 Assignment of Net Expenses using the Massachusetts Formula

Net residual General and Administrative expenses are allocated to the Core based on the Massachusetts formula approved under Order G-227-20. The approved Massachusetts Formula derives the percentage ratio allocation of applicable costs to each TES Utility Affiliate in BC based on the simple average of each of the following three factors for each utility: 1) Gross undepreciated property, plant and equipment; 2) Direct labor expenses; and 3) Gross revenues.

All salaries and benefits that are not directly assigned as an expense or capitalized to projects, as reviewed above, are included in the category of General & Administrative costs for allocation. Further detail and explanation of the General and Administrative costs allocated through the Massachusetts formula is provided in section 4

Please refer to the table below for the applicable ratios used in support of the allocations to the Core TES for the 2023 Test Year.

Table 8: 2023 Massachusetts Formula Ratios

	Core	Main & Keefer	Kensington Garden	SODO Heating	SODO Cooling	Pendrell	Horse-shoe Bay	Mount Pleasant	Alberni	Total
Factor (\$)										
Capital	58,333,224	845,112	1,863,043	4,699,864	2,742,937	1,346,361	2,585,308	3,288,872	2,185,442	77,890,163
Revenues	12,812,884	92,000	235,658	612,948	300,173	143,904	318,600	565,000	184,152	15,265,319
Plant & Dist. Labour	2,573,599	25,624	101,497	38,436	64,060	25,624	64,060	256,242	51,248	3,201,390
Ratio										
Capital	75%	1%	2%	6%	4%	2%	3%	4%	3%	100%
Revenues	84%	1%	2%	4%	2%	1%	2%	4%	1%	100%
Plant & Distribution Labour	80%	1%	3%	1%	2%	1%	2%	8%	2%	100%
Combined Ratio	79.7%	0.8%	2.4%	3.8%	2.5%	1.2%	2.5%	5.3%	1.9%	100%

Please note that there is a change to the allocation in 2023 from previous years. It was determined that in previous years the gross revenue line for non-Core utilities included the billing for the passthrough of the main energy source (fuel and electricity). This created an inconsistency with what was included in gross revenues for Core which excluded the fuel cost passthrough as part of revenue. As a result, the Core system has historically been allocated less costs than it would have if the input for the revenue line was consistent across all entities. This inconsistency has been adjusted for the 2023 RRA. For all systems in the table above revenues do not include fuel or electricity costs that are a direct passthrough.

3 Load Forecast and Proposed Load Forecast Variance Account

All costs will be recovered through the volume of thermal energy sold to Core TES customers. The thermal energy load forecast for the Core TES and for rate-setting purposes thus comprises:

- 1) Steam loads in M#, which are the essential billing determinants for the thermal energy consumption of customers connected to the steam distribution network, and
- 2) Hot water loads in MWh, which are the essential billing determinants for the thermal energy consumption of customers connected to the hot water distribution network.

For the purpose of determining the overall Core TES average rates and projected rate changes the forecast thermal energy consumption in MWh is converted to M# at a standardized conversion factor of 0.347 MWh/M# as reviewed in the 2022 Application.

3.1 Load Forecast

As per the Evidentiary Updated filed at Exhibit B-12 in the proceeding to review the 2022 Application, Creative Energy observed that thermal energy load was appearing to return to pre-pandemic levels as based on a review of actual load, notably from October 2021 through March 2022. Thus we observed that the estimated 15 percent lower load impact of the pandemic during 2020-2021 was moderating.

Creative Energy applied to set rates for 2022 on the basis of a load forecast of 1,144,000M#, which forecast effectively removed the 15% impact of the pandemic in the load forecast that was approved for 2021 rate-setting. We noted also that while the impact of the pandemic on load may still be uncertain going forward, the full effect of any load variance between forecast and actual load would accrue to the Core COVID-19 Deferral Account, which functions as a load forecast variance account.

At this time Creative Energy proposes to carry-forward for rate-setting purposes the same load forecast as set out in Exhibit B-12 in the proceeding to review the 2022 Application. Please refer to the table below.

Table 9: 2023 Thermal Energy Load Forecast

M#	2022 Forecast	2022 Projected		2023 Forecast
	Weather Normal	Actual	Weather Normal	Weather Normal
Core	1,073,691	1,053,342	988,156	1,073,691
NEFC	70,309	66,995	62,535	70,309
Total	1,144,000	1,120,337	1,050,691	1,144,000

We consider this load forecast to be reasonable for rate-setting purposes because:

1. We observe, as the per differences between 2022 forecast and projected thermal energy load highlighted in the table, that a new normal level of load may not have yet fully stabilized in the range of a pre-pandemic level. At minimum the data on actual load is effectively limited to a single year now following the height of the pandemic and its impacts on load and thus it may be too early to gauge a new-normal level. That is, the evidentiary basis is limited to reasonably adjust the load forecast as proposed to set rates in 2022; and
2. We are requesting permanent approval of a load forecast variance account on an ongoing basis effective January 1, 2023. Please refer to the discussion that follows directly below.

3.2 Load Forecast Variance Account

3.2.1 Purpose

Creative Energy requests permanent approval of a Load Forecast Variance Account (**LFVA**) effective January 1, 2023 on an ongoing basis.

The proposed LFVA will effectively neutralize the financial impacts of load forecast uncertainty and variance going forward, whether related to weather, the pandemic, or any other external factor that cannot be judged with a reasonable degree of certainty in advance. The load forecast variance account will thus secure on an ongoing basis the benefit to our customers of mitigating the impact of load forecast risk, while also easing the administrative and regulatory burden to develop and defend a specific yet inherently uncertain forecast level of load for year-to-year test period rate-setting.

3.2.2 Mechanics

Creative Energy proposes the following mechanics to set the test-year load forecast and to administer the LVFA, and the resultant deferral of year-to-year revenue impacts determined on this basis, through Creative Energy revenue requirements filings for the Core TES in the normal course.

1. Test-Year Forecast Load – Express the Test-Year Forecast Load for rate-setting purposes on an equivalent M# of steam basis for all customers of the Core TES and set Test-Year Forecast Load at this time equal to the most-recent Commission-approved weather normal forecast (which is the amount of 1,144,000M# reported above for the 2023 test-year)

As annual data becomes available in future years, Creative Energy will evaluate whether a 3 to 5 year rolling average of weather normal actual load, for example, may be more suitable as a test-year forecast basis. At this time however, we consider that recent year to year load has been too variable to propose and implement a more comprehensive standardized rolling average basis for test-year forecast load setting.

2. Difference between Test-Year Actual Load and Test-year Forecast Load - The total difference annual Test-Year Actual Load and Test-Year Forecast Load will be the basis of the determination of the change in revenue for the purpose of deferred credit or recovery from customers in a subsequent rate-setting test period.
3. Revenue Deferral – The difference in revenue that arises from the difference in load will be calculated as the difference between Test-Year Actual Load and Test-year Forecast Load multiplied by the approved average rate for thermal energy service during the test-period in question.

Revenue deferrals, whether an increase or decrease overall, will be applied to the subsequent year revenue requirements in the normal course of administration of such deferral accounts in Creative Energy RRAs, subject to evaluating on a case-by-case basis the overall balance and the proposed timing for recovery in relation to whether any smoothing of the rate impact of the recovery of the deferral is warranted.

As per the Commission’s guidelines, Creative Energy intends to file its RRAs on a test-year basis 30 days in advance of the effective date of a requested rate approval. Thus, for the purpose of interim rate-setting (effective January 1), the revenue deferral (calculated and filed December 1) will be determined on a projected basis subject to a final determination and evidentiary update in due course to confirm the Test-Year Actual Load and final revenue deferral amount.

3.3 Proposal to Close the COVID-19 Deferral Accounts

As Creative Energy reviewed in the 2022 Application, the Core COVID-19 Deferral Account has functioned appropriately as a load variance deferral. We anticipated that at such time that it appears reasonable to close the COVID-19 Deferral Account, Creative Energy would intend to propose to maintain a load forecast variance account on a go-forward basis, which is now the proposal as reviewed in the prior section.

Creative Energy confirms that it is reasonable to close the two COVID-19 Deferral Accounts, effective December 31, 2022, as approved separately for both the Core and NEFC systems, and subject to approval of the LFVA as proposed above.

As per Creative Energy’s application, dated May 29, 2020, and Commission Order G-214-20, dated August 14, 2020:

1. The COVID-19 Deferral Account for the Core was approved to record the following variances:
 - Any incremental, unplanned expenses related to the COVID-19 pandemic that Creative Energy has incurred related to continuing safe and reliable operations;
 - Any unrecoverable revenues (bad debt) resulting from customers that do not pay their bills due to the impacts of COVID-19 on their financial circumstances; and

- Any direct revenue loss resulting from the loss of load from customers due to the impacts of COVID-19 on their operational and financial circumstances; and

2. The COVID-19 Deferral Account for NEFC was approved to record the following variance:

- Any unrecoverable revenues (bad debt) resulting from customers that do not pay their bills due to the impacts of COVID-19 on their financial circumstances.

Pursuant to Order G-214-20, Creative Energy has provided quarterly reports into these accounts, with the most recent report filed on October 31, 2022 for the period ending September 30, 2022.

As per the reporting into the Core and NEFC COVID-19 Deferral Accounts:

- There have been no outstanding accounts receivable balances that are currently known to be uncollectible due to the impact of the pandemic on the financial circumstances of our Core TES customers;
- There have been no incremental financing costs incurred in relation to the accounts of our customers and the impact of the pandemic on their financial circumstances;
- Unplanned, incremental expenses (for example, for sanitization and protective barriers; etc.) total approximately \$90,000. The incidence of these expenses has moderated considerably and Creative Energy is no longer exposed to any forecast risk in relation to the unplanned nature of these costs as initially arose during the onset of the pandemic; and
- Certain cost savings arose relating to avoided travel and conference related costs as budgeted in 2020 and 2021 (~\$23,000) and relating to the impact on rate base from the delay in some maintenance capital expenditure projects from 2020 to 2021 (~\$20,000).

There are no persistent impacts in relation to the above factors that would warrant an ongoing need for the COVID-19 Deferral Accounts as approved.

We note finally that as per the Evidentiary Update filed at Exhibit B-12 in the proceeding to review the 2022 Application, the balance in the Core COVID-19 Deferral Account was in a net liability (revenue surplus) position at the end of 2021 in relation to the rate impact of the significantly lower load forecast approved in 2021 compared to actual load. This amount, net of the expenses and savings summarized above) is currently reflected in Table 45 of section 5.4 for disbursement in 2023. Subject to consideration and compliance with the decision into the 2022 Application, Creative Energy will file an evidentiary update as applicable or required to amortize any amounts in 2023 rates that accrue to the Core COVID-19 DA due to the difference in forecast versus actual load in 2022.

4 Revenue Requirements

4.1 Operations and Maintenance Budgeting

Operations and Maintenance budgets (and Capital budgets) are prepared by the management team and then approved by the CEVP Board. In general, and consistent with past practice as reviewed in the 2019-2020, 2021 and 2022 RRAs, prior year actuals and year-end projected amounts are used as a benchmark to identify the activities that need to be budgeted-for given that the majority of O&M activities are recurring in nature and that these costs typically change with inflationary pressures.

Budgets are prepared to align with Creative Energy's business functions and the established BCUC accounts for each function where possible. Where informative and predictive, some maintenance expenses are pooled by equipment and analyzed on a combined and trended basis for budgeting purposes. Other cost categories such as water and electricity expenses are subject to rate increases set by a separate utility or governmental body and the amounts required vary by load and are estimated on those bases.

The 2023 budget is significantly impacted by present and projected inflation. Creative Energy has assumed a 5 percent inflation rate throughout its RRA unless specifically stated otherwise. Creative Energy has based the 5 percent level of inflation on actual inflation rates during recent months in 2022 and forecast inflation rates from various sources for 2023. The inflation rate in Canada in September and October 2022 was 6.9% and the projected inflation rate in 2023 range is in the range of 3.8% -5.4%³. Creative Energy considers the 5 percent forecast level to be a reasonable estimate in consideration of the risk and uncertainty in the projections in the current economic frame, and with particular reference to recent higher actual levels.

4.1.1 Summary of O&M by Business Function

Please refer to Table 10 below and to Schedule 15 for a summary of total O&M by business function in accordance with the established BCUC accounts.

³ Sources for Annual average CPI for 2023 are from TD (3.8 percent), BMO (4.7 percent) and HSBC (5.4 percent).

Table 10: Total Core & NEFC O&M by Business Function

\$		2020	2021	2022	2022	2023
Acct. #	Account Name	Actual	Actual	Application	Projected	Test Year
Steam Production-Operation						
500	Supervision and Labour	1,506,768	1,486,915	1,599,122	1,644,085	1,731,746
502	Steam Expenses	1,129,774	1,226,142	1,225,000	1,273,576	1,341,655
	Total	2,636,542	2,713,057	2,824,122	2,917,661	3,073,401
Steam Production-Maintenance						
506	Structures and Improvements	30,855	101,469	86,936	94,085	98,789
Distribution – Operation						
870	Supervision & Labour	715,177	749,889	805,343	750,418	871,223
874	Mains & Services	25,028	28,590	66,612	29,675	31,159
880	Other Distribution Operation	0	0	0	0	0
933	Transportation	18,246	17,447	21,632	20,652	19,227
	Total	758,451	795,926	893,587	800,635	921,608
Distribution Expenses - Maintenance						
887	Mains & Services	64,209	77,421	76,397	81,362	89,476
889	Meters & House Regulators	207,781	137,166	157,877	182,011	186,647
	Total	271,990	214,587	234,274	263,373	276,123
Sales Promotion Expenses-Operation						
910	Sales Expense	51,838	48,993	36,880	54,962	173,934
Administrative & General - Operation						
915	Directors Fees	0	24,961	48,813	74,102	63,791
920	Admin & General Salaries	643,851	864,155	1,177,931	1,175,708	1,458,782
921	Office Supplies & Expenses	106,037	168,563	212,881	235,021	264,315
922	Admin & General Expenses	1,212	13,554	4,067	7,546	14,381
923	Special Services	328,222	439,954	357,840	474,304	509,714
924	Insurance	149,468	167,746	184,790	189,851	194,786
925	Injuries & Damages-WCB	3,245	4,321	6,024	5,879	7,294
926	Employee Benefits	103,326	66,556	175,088	134,110	176,457
	Total	1,335,362	1,749,810	2,167,434	2,296,520	2,689,520
Administrative & General - Maintenance						
932	Maintenance of General Plant	32,670	28,835	30,285	23,078	32,048
	Gross O&M Expense	5,117,708	5,652,677	6,273,518	6,450,315	7,265,424
	O&M Expenses Allocated to Capital \$					
	Net O&M Expense	5,117,708	5,652,677	6,273,518	6,450,315	7,265,424

As reviewed in prior RRAs, this summary is not ideal for identifying cost drivers and explaining test period variances; for example, given that the costs associated with labour and benefits are applicable across business function and that the implementation of overall maintenance activities is effectively pooled across business function and may vary within the year based on priority or emergent need. In addition, certain costs are within the internal control of management while others are driven by external fees, charges and levies, or weather, for example, and that categorization of cost control may vary across the detailed buildup of costs within each BCUC account, where applicable.

4.1.2 O&M - Summary by Cost Driver and Control

To assist the underlying assessment of cost drivers, the following section and the individual O&M component review that follows reports O&M costs and variance explanations in relation to the following five categories of cost drivers.

1. Wages and Benefits (Steam, Distribution and Management)
2. Water-related (primarily, and Electricity Expenses)
3. Maintenance and some related Operation (e.g. parts, supplies, safety, vehicles)
4. Special Services (Regulatory, Audit, Legal, Third-party consultants); and
5. Other General and Administrative plus Sales Expense.

Consistent with the presentation in prior RRAs, the intent of these groupings is both to offer clarity on the cost of service across the Core TES and to present the specific costs driving the requested rate increases in the 2023 test period.

Also as per past practice, cost drivers are also grouped according to a qualitative assessment of where management is generally able to exercise budgeting control and decision-making and where operating costs are commonly understood to be within the scope of management control, as compared to where costs are largely determined outside Creative Energy (e.g., rates applicable to Creative Energy's water, electricity and natural gas consumption). Although we add caution to the level of precision, we consider it to be helpful presentation approach overall for providing insight and understanding of the drivers for the 2023 test-year cost of service.

For additional clarity, in the summary tables that follow the categorization of costs reflects the following:

- The only external cost categorization under 'Wages and Benefits' are pension-related costs, while wages, overtime and benefits are categorized as generally controllable, although subject to external factors such as labour market trends and inflation, for example;
- Water fees, water treatment costs and electricity costs are all externally set and vary with load;
- Maintenance costs are considered overall as under management control even though a specific driver of required maintenance may at times be an external event and requirements are influenced by external factors such as technical safety regulations;
- Special services in relation to regulatory costs and audit fees are categorized as external, while outside legal fees and consultants are considered as generally controllable (although the latter might at times depend on the specific driver of work need and any related decisions to manage peak work requirements externally versus internally); and
- General and Administration Costs are categorized as generally controllable in relation to office-related expenses, such as supplies, phones and information technology, as well as directors' fees, sales expense and WCB-related costs, while externally driven amounts relate to insurance, permits and bank charges.

Please refer to the following table for an overall summary of costs in accordance with this approach.

Table 11: Total O&M by Cost Driver and Control

	Category of Cost Control	2020 Actual	2021 Actual	2022 Application	2022 Projected	2023 Test Year
O&M	Total	5,117,707	5,650,948	6,273,518	6,379,969	7,105,173
	Not external	3,525,387	3,884,437	4,533,623	4,689,222	5,273,377
	External	1,592,321	1,766,511	1,739,895	1,690,747	1,831,797
Wages and Benefits	Total	2,969,121	3,167,515	3,757,484	3,704,320	4,238,207
	Not external	2,754,285	3,004,016	3,546,445	3,539,838	4,009,487
	External	214,837	163,499	211,039	164,483	228,719
Water-related and Electricity Expenses	Total	983,021	1,038,408	1,111,606	1,089,450	1,149,398
	Not external	0	0	0	0	0
	External	983,021	1,038,408	1,111,606	1,089,450	1,149,398
Maintenance (including parts, supplies, safety and vehicles)	Total	525,542	578,662	553,132	614,880	649,603
	Not external	525,542	578,662	553,132	614,880	649,603
	External	0	0	0	0	0
Special Services (Regulatory, Audit, third-party consultants)	Total	328,222	438,224	357,840	403,958	349,464
	Not external	100,666	61,603	142,786	177,952	111,752
	External	227,556	376,621	215,054	226,006	237,713
Other General & Administration, Sales Exp (e.g. insurance, office expenses)	Total	311,800	428,138	493,455	567,360	718,501
	Not external	144,894	240,155	291,260	356,552	502,534
	External	166,907	187,983	202,196	210,808	215,967

The detail in the following sections provides variance explanations related to the category specific detail summarized above.

4.1.3 Wages and Benefits

4.1.3.1 Summary

The Core TES system is supported by Plant and Distribution operations staff complemented by office and management staff, some of whom span business development and project engineering functions and allocate their time accordingly. Employees perform various functions across day-to-day operations and just one employee is responsible for administrative functions directly. Managing to budget is the responsibility of the entire management team.

Table 12: Summary of Total Wages and Benefits

	2020 Actual	2021 Actual	2022 Application	2022 Projected	2023 Test Year
500 Supervision and Labour	1,506,768	1,486,915	1,599,122	1,644,085	1,731,746
870 Supervision and Labour	715,176	749,889	805,343	750,418	871,223
920 Admin & General Salaries	643,851	864,155	1,177,931	1,175,708	1,458,782
926 Employee Benefits	103,326	66,556	175,088	134,110	176,457
Total	2,969,121	3,167,515	3,757,484	3,704,320	4,238,207

Attracting and retaining talent is critical to the success of Creative Energy and accordingly serving customers. Creative Energy competes with other and typically much larger utilities in BC, other parts of Canada and in some cases North America for employees with specialized skill sets that are not widely available. In addition, there are specific risks associated with the size of Creative Energy. Given a small number of employees each with multiple skill sets and responsibilities, a loss of key employees can have a significant impact on the business.

Creative Energy’s compensation strategy therefore continues to be to balance competitive compensation packages that attract, motivate and retain talent with the skills required for key roles, while also aligning the compensation of each management employee to their individual level of responsibility. The compensation program includes an incentive program designed to complement the compensation strategy.

Labour costs and year over year increases for unionized employees primarily working in steam production and distribution functions are set in accordance with a collective agreement.

4.1.3.2 Steam Production Supervision and Labour – Account 500

Compared to 2022, steam production labour costs for the 2023 Test Year are planned to increase approximately 8% percent overall, details of which are shown below.

Table 13: Steam Production Supervision and Labour – Account 500 – Summary

500 Supervision and Labour	2020 Actual	2021 Actual	2022 Application	2022 Projected	2023 Test Year
Wages	1,204,201	1,226,827	1,288,563	1,302,417	1,387,078
Overtime	45,351	41,587	41,869	100,902	69,369
Benefits	134,396	134,354	139,555	146,907	133,944
Pension Costs (footnote 4)	122,821	84,147	129,136	93,859	141,356
Total	1,506,768	1,486,915	1,599,122	1,644,085	1,731,746

Table 14: Steam Production Supervision and Labour – Account 500 - Variance

500 Supervision and Labour		2022 Application to 2023 Test Year	
Wages	Not external	98,515	7.6%
Overtime	Not external	27,500	65.7%
Benefits	Not external	(5,611)	-4.0%
Pension Costs	External	12,220	9.5%
Total		132,624	8.3%
	Not external	120,404	7.5%
	External	12,220	0.8%

Plant wages are based on a full-time equivalent (FTE) of eleven engineers and one chief engineer. The increase in wages primarily relates to an expected increase due to inflation, which has been budgeted as an influencing factor into a new collective bargaining agreement currently under negotiation. The new collective bargaining agreement will be finalized after this 2023 RRA is submitted. Creative Energy will file an evidentiary update to reflect the actual increase following execution of a new collective agreement.

The remainder of the incremental increase relates primarily to employees that left Creative Energy during 2022 that were replaced by employees who were at a higher experience level and higher hourly wage. As such, when comparing the 2023 Test year to the 2022 Application, the increase is higher than a 5% inflation budget alone.

Also note that while this category of costs is considered to be Not External, the variances are driven largely by the response to a higher level of inflation with alignment therefore to the management strategy to attract, motivate and retain talent with the skills required for key roles.

With respect to overtime expense, Creative Energy notes that it requires a minimum number of staff for every shift at the steam plant for operational and safety reasons, which leads to a circumstance where overtime will be charged under short notice for rescheduling of shifts when any staff member is absent due to sickness. In addition, if a particular job in the steam plant or distribution network warrants a specific number of personnel for the safe completion of the work on that specific day, this work will in most circumstances have been preplanned and organized in advance, which may also lead to circumstances where the work cannot be rescheduled due to a staff absence without notice for being sick. Overtime may also occur during steam plant safety training, which must occur in an overtime capacity due to the fact steam plant personnel must remain on shift when scheduled for shift coverage. By contrast, distribution and service safety training is typically scheduled during workdays as there is more flexibility in this regard.

Forecast 2023 overtime expense was calculated using a 3-year weighted average of actual costs (2022 comprised of 8 months actual and 4 months projected data) and adjusted for 5 percent inflation. As a means to take more recent outcomes into account we weighted 2022 and 2021 values at 40 percent each and weighted 2020 values at 20 percent. These weighting factors are not intended to suggest a specific precision but are considered reasonable overall to support the forecast of overtime expense. This is the approach that was used in support of the 2021 and 2022 RRAs.

Benefits are estimated based on projected rates for categories such as CPP, EI, WCB, employer health tax and extended health.

Pension costs are based on required contributions as prescribed by CEVP's actuary. The contribution rate used in 2023 is 9.1%, which is consistent with the rate used in 2022. The existing defined benefit plan with the 9.1% contribution rate will continue for all unionized staff and staff that are already in the defined benefit plan. Variances in pension costs are captured in the approved Pension Expense Deferral Account. Please note that the contribution rate for both plans is the percentage that Creative Energy must contribute to the pension on the total wages for each employee enrolled in the plan. Contribution rate does not refer to the percentage of employees enrolled in the plan.

4.1.3.3 Distribution Supervision and Labour – Account 870

The Distribution team directly charges time to the energy systems it supports. The Distribution team supports the Core TES, and also the Main & Keefer TES, South Downtown Heating TES and

Cooling TES, Kensington Gardens TES, Mount Pleasant DCS, Horseshoe Bay TES, Pendrell TES and Alberni TES. There are specific employees that are assigned to support the steam network and specific employees to support the hot water network. However, throughout the year employees that are assigned to one team may support the other when there is a pressing need. This provides flexibility and allows Creative Energy to avoid the step cost of hiring additional employees for both networks when one shared employee may be able to assist on both. At present, the combined team consists of two leads/supervisors and eight service technicians. Creative Energy plans to add two additional service technicians in 2023.

Compared to 2022, Distribution labour costs for the 2023 Test Year are budgeted to increase by approximately 7.1 percent. As noted, two additional FTE headcount are anticipated to be hired in 2023 to support the growth in Creative Energy and affiliate utility TES systems as a whole. The increase to the Core TES is approximately 0.3 FTE (from 6.7 in 2022 to 7.0 in the 2023 Test Year).

The table below illustrates the approximate headcount allocated to each system over time. This table is based on the FTE including the level of overtime required; not actual headcount. Note that the actual headcount in 2022 was 10 employees, but overtime costs were significantly higher than planned and accounted for a full headcount of additional costs. The additional two hirings in 2023 relate to replacing the one FTE of overtime that was required in 2022 and for increases for the Mount Pleasant TES and the Alberni TES (in operation in 2023).

The remaining 0.5 FTE headcount will be allocated to the Core TES. The additional 0.5 FTE headcount relates to a change in the management structure of the distribution team in 2023. It is anticipated that the lead roles will be converted to manager roles in 2023 either by promotion or external hires. At this time, the Core TES distribution lead spends part of their time on supervisory and office responsibilities while still being required and available for fieldwork. The assumption made in the 2023 Test Year is that the converted manager role would no longer be able to perform fieldwork and would spend their full time on managerial duties. This is what is driving the increase in Core and NEFC headcount by 0.5. Many of the managerial duties are currently or historically have been performed by the Director of Operations. This includes various clerical tasks, which work is better handled at a manager level and will allow the Director of Operations to focus on long-term strategic planning, customer relations, ESG reporting and other emerging needs for the operating energy systems in British Columbia. The Director of Operations salary and benefits is already allocated across all operating energy systems using the Massachusetts formula.

Table 15: Estimated headcount allocated to each TES System in BC

TES	2018 Actual	2019 Actual	2020 Actual	2021 Actual	2022 Application	2022 Actual	2023 Test Year
Core and NEFC	5.8	5.5	6.5	6.4	6.7	6.5	7.0
M&K	0.1	0.1	0.1	0.2	0.2	0.3	0.2
SODO Heating	0	0	0.2	0.3	0.3	0.4	0.3
SODO Cooling	0	0	0.1	0.5	0.2	0.4	0.5
Kensington	0	0.6	0.6	0.8	0.5	0.8	0.8
Horseshoe Bay	0	0	0	0	0.3	0.5	0.5
Mount Pleasant	0	0	0	0.7	2.0	1.8	2.0
Alberni	0	0	0	0	0	0	0.4
Capital	0.4	0.2	0.1	0.8	0	0.3	0.3
Total	6.2	6.4	7.9	10.0	10.2	11.2	12.2

In summary, the increase in headcount is partially offset by a planned decrease in overtime for all systems including the Core TES. The impact of the additional headcount is approximately \$33,000 (net of the decrease in overtime). The remainder of the increase relates to the union annual wage increase budgeted at 5 percent which is pending a new collective bargaining agreement as discussed above.

Benefits in this category of costs are estimated based on projected rates for categories such as CPP, EI, WCB, employer health tax and extended health.

Pension costs have also increase at a similar same rate as Service wages from the 2022 Application. The contribution rate of 9.1% is consistent year over year. All Service employees are part of the union and are, therefore, budgeted at the 9.1% contribution rate.

Table 16: Distribution Supervision and Labour – Account 870 - Summary

870 Supervision and Labour	2020 Actual	2021 Actual	2022 Application	2022 Projected	2023 Test Year
Wages	563,560	599,222	644,123	575,582	711,135
Overtime	17,582	13,396	23,405	53,832	10,833
Benefits	66,676	72,110	71,254	66,996	73,809
Pension	67,358	65,161	66,561	55,007	75,446
Total	715,176	749,889	805,343	750,418	871,223

Table 17: Distribution Supervision and Labour – Account 870 - Variance

870 Supervision and Labour		2022 Application to 2023 Test Year	
Wages	Not external	67,011	10.4%
Overtime	Not external	(12,572)	-53.7%
Benefits	Not external	2,555	3.6%
Pension	External	8,885	13.3%
Total		65,880	8.2%
	Not external	56,995	7.1%
	External	8,885	1.1%

4.1.3.4 Management Labour and Benefits – Accounts 920 and 926

Administration and General Salaries are planned to increase for the 2023 test period by 21 percent over the 2022 Application.

Table 18: Management Labour and Benefits – Accounts 920 and 926 - Summary

920 Admin & General Salaries	2020 Actual	2021 Actual	2022 Application	2022 Projected	2023 Test Year
Wages	643,851	864,155	1,177,931	1,175,708	1,458,782
926 Employee Benefits					
Benefits	78,668	52,365	159,745	118,493	164,539
Pension	24,658	14,192	15,343	15,616	11,918
Subtotal Total	103,326	66,556	175,088	134,110	176,457
Total	747,177	930,711	1,353,020	1,309,818	1,635,238

Table 19: Management Labour and Benefits – Accounts 920 and 926 - Variance

920 Admin & General Salaries		2022 Application to 2023 Test Year	
Wages	Not external	280,850	23.8%
926 Employee Benefits			
Benefits	Not external	4,794	3.0%
Pension	External	(3,425)	-22.3%
Subtotal		1,368	0.8%
Total		282,219	20.9%
	Internal	285,644	21.1%
	External	(3,425)	-0.3%

The increase in 2023 from the 2022 Application relates primarily to continued focus on building the complement of staff and resource allocation that is necessary to maintain safe and reliable service, to maintain timely and effective regulatory compliance and to sustain and grow the customer base connected to the Core TES system with particular response to the imperative for climate action and decarbonization.

Of the increase in wages approximately \$130,000 relates to new roles that will allocate part of their time to the Core TES system. Specifically, our resourcing priorities for 2023 reflect the increasing need to build the IT and business development team. With initiatives such as the remote metering project and a focus across the industry on cyber security, a full-time senior IT role has become necessary. In addition, with the planned growth of the Core system and the goal to maintain existing and attract new customers, a partial headcount has been added to serve various business development, opportunity assessment and marketing roles. The increase is also driven by general salary increases of 5 percent equal to the inflation assumption (approximately \$66,000) and roles that were hired in 2022 for salaries that were higher than anticipated (approximately \$91,000) as a result of the highly competitive nature of the labour market in 2022. In addition, the previous years' budgets did not include the cost of vacation, which is accrued each year. Creative Energy has a small, dedicated team and it is often difficult for them to take the full allotment of vacation each year. Instead these costs are accrued and carried forward to future years or paid out in cash. This has an impact of approximately \$25,000.

Benefits are estimated based on projected rates for categories such as CPP, EI, WCB, employer health tax, extended health and RRSP matching.

Pension costs are expected to be lower than 2022 due to the pension plan being closed to new employees. There are only three members of the management team who are still enrolled in the defined benefit pension plan.

4.1.4 Water and Electricity Expenses

The cost of water is one of the major expenses for the Core TES Steam plant. Creative Energy’s primary water usage consists of:

1. Feed water as an input in steam production; and
2. Water cooling applied to Distribution system condensate within the Beatty steam plant so that it can safely be discharged into the City of Vancouver’s storm and sewer network.

The methodology to forecast the water expense is based on a historic ratio of actual water expense and actual steam load multiplied by forecast steam load, given the direct relationship between the water inputted and steam produced.

Electricity costs are included in this cost category to reflect that the entirety of these costs are broadly driven by factors and external rates outside of management control.

Table 20: Water and Electricity Related Expenses – Account 502 Partial and Account 874 – Summary

	2020 Actual	2021 Actual	2022 Application	2022 Projected	2023 Test Year
502 Steam Expenses - Partial					
Water	743,623	837,192	834,928	813,313	879,649
Electricity	110,659	92,728	118,665	99,609	104,590
Water Treatment	103,711	79,898	91,402	146,852	134,000
Subtotal	957,993	1,009,818	1,044,995	1,059,775	1,118,239
874 Mains and Services					
Electricity	266	265	292	265	278
Water Mains	24,762	28,325	22,492	29,410	30,881
NEFC Operating Costs	0	0	43,828	0	0
Subtotal	25,028	28,590	66,612	29,675	31,159
Total	983,021	1,038,408	1,111,606	1,089,450	1,149,398

Table 21: Water and Electricity Related Expenses – Account 502 Partial and Account 874 – Variance

		2022 Application to 2023 Test Year	
502 Steam Expenses - Partial			
Water	External	44,721	5.4%
Electricity	External	(14,075)	-11.9%
Water Treatment	External	42,598	46.6%
Subtotal	External	73,244	7.0%
874 Mains and Services			
Electricity	External	(14)	-4.8%
Water Mains	External	8,389	37.3%
NEFC Operating Costs	External	(43,828)	N/A
Subtotal	External	(35,453)	-53.2%
Total		37,791	3.4%
	Not external	0	N/A
	External	37,791	3.4%

4.1.4.1 Water Expenses

Water costs in the 2023 test period are projected to increase approximately 5.4 percent over 2022. The load in the 2022 Application is the same as the load used in the 2023 Test Year. Water costs were estimated based on the projection model that has been used in previous year’s budgets, which takes the historical actual load and compares it to water usage per actual historical bills. The projected load for 2022 is applied to the model and an estimate of water usage for 2023 is calculated. This usage is multiplied by an estimated rate for 2023. Creative Energy has used the actual rates for 2022 and multiplied this by 2 percent (the actual rate increase between 2021 and 2022) to estimate 2023 rates. Note that Creative Energy uses a model of actual water usage data from previous years to project the usage in the current year given the anticipated steam load. The model provides the best estimate possible. The estimated relationship between load and water usage may change from year to year as the model is updated for more recent data. As the overall increase in water costs is 5.4 percent while the increase in the rate in the budget is 2 percent and load has remained consistent this implies that the remaining 3.4 percent increase relates to changes in the model when updated for actual 2022 data. Considering that this balance has a deferral account attached to it, this does not pose a risk to Creative Energy or our customers.

As actual water usage is based on load and City of Vancouver water rates are unknown at the time of submitting the RRA, Creative Energy has an approved deferral account in place to capture the difference between actual and approved water costs.

The City of Vancouver charges Creative Energy water and sewer fees together as part of its quarterly water billing. These costs are externally set outside of Creative Energy’s control and correlate very closely with steam load.

Table 22: Applicable City of Vancouver Water Rates

Period	Rate per unit			
	2019	2020	2021	2022
High season (May 1 – October 15)	\$3.92	\$4.297	\$4.339	\$4.427
Low season (All remaining months)	\$3.13	\$3.428	\$3.462	\$3.532
Annual rate of increase (both periods)		9.7%	1.0%	2.0%

4.1.4.2 Water Treatment

Water treatment costs also vary with load, but the relationship is not as direct as water costs. Due to other factors, historical actual costs compared to load do not provide evidence of a relationship between load and costs.

Water treatment costs in 2017 and 2018 were significantly higher than the actual cost from 2015 and 2016. Costs decreased significantly in 2019-2021 and increased significantly again in 2022. The increase in 2022 is due to cost pressures as prices for chemicals increased substantially in 2022. In addition, load appears to be recovering from the impact of the pandemic, which may also contribute partially to the cost increase. Creative Energy is still assessing the cost increase and inventory. The full cost for 2022 may decrease upon performing the year-end inventory count similar to 2021. We suggest that this cost be revisited as part of the evidentiary and information request processes when more information will be available regarding the year-end cost. A full analysis of the drivers including chemical costs, load and inventory levels is being prepared. The 2023 estimate is based on a bottom-up budget prepared by the operations team, but could be influenced by the balance of inventory remaining as at December 31, 2022.

4.1.4.3 Electricity

Creative Energy takes electricity service from BC Hydro under Large General Service Rate Schedule 1611. Electricity costs for the 2023 Test Year use the BC Hydro rates in effect at the time that forecast costs are determined (the 2022 projected costs) and adds 5 percent inflation. This is a departure from previous years method which attempted to estimate electricity usage and historical peak demand and utilized forecast rates from BC Hydro. This may have amounted to a false precision as it is challenging to forecast peak demand and electricity usage due to underlying uncertainty. Electricity usage and peak demand are not consistent over time and may not predictably vary with load as other factors also drive electricity costs, such as the use of electric pumps in the summer months. Considering that this balance is not as material as an item such as water costs, for example, we consider that this simplified approach is appropriate and does not sacrifice accuracy to a material amount.

4.1.5 Maintenance – Multiple Accounts

This general category of Maintenance includes some related operations cost components to simplify the overall summary.

Forecast 2023 maintenance costs exceed 2022 amounts by approximately 17 percent. Note that this is largely due to a grouping issue as maintenance costs for NEFC were grouped to Account 874 in 2022. The grouping has been adjusted in 2023. The increase would be 9 percent when adjusted for this.

Maintenance budgets are pooled across business function overall and they may vary within the year based on priority or emergent need, as indicated by the variation in spend within and across account category of expense. Note that the increase when compared to 2022 projected costs is approximately 5.6%, or approximately in line with inflationary increases. The 2022 projected costs are anticipated to be higher than the 2022 Application. Actual 2021 costs, if NEFC were included in that year, would be substantially higher than the 2022 Application. In the table below the total actual cost for 2021 was \$578,662. NEFC's costs were \$24,804 in 2021. This would be a total cost of \$603,466 compared to \$553,132 in the 2022 Application. When including NEFC costs and factoring in inflation, costs for the 2023 Test Year are similar to 2021 actual costs.

The budget is prepared by the plant and distribution management team based on expected spending needs in 2023. It is relatively consistent with the level of spending in 2022 and in 2021 when factoring in inflation and including NEFC costs (\$603,466 +2% inflation for 2022 +5% inflation for 2023 = \$646,312).

Table 23: Maintenance and related functional operation – Multiple Accounts – Detailed Summary

	2020 Actual	2021 Actual	2022 Application	2022 Projected	2023 Test Year
502 Steam Expenses – Maint. & related	171,780	216,324	180,006	213,802	223,416
506 Structures and Improvements	30,855	101,469	86,936	94,085	98,789
880 Other Distribution Operation	0	0	0	0	0
933 Transportation	18,246	17,447	21,632	20,542	19,226
887 Mains and Services	64,209	77,421	76,397	81,362	89,476
889 Meters & House Regulators	207,781	137,166	157,877	182,011	186,647
932 Maintenance of General Plant	32,670	28,835	30,285	23,078	32,048
Total	525,542	578,662	553,132	614,880	649,603

Table 24: Maintenance and related functional operation – Multiple Accounts – Variance

		2022 Application to 2023 Test Year	
502 Steam Expenses - Partial	Not external	43,411	24.1%
506 Structures and Improvements	Not external	11,854	13.6%
880 Other Distribution Operation	Not external	0	0%
933 Transportation	Not external	(2,406)	-11.1%
887 Mains and Services	Not external	13,080	17.1%
889 Meters & House Regulators	Not external	28,770	18.2%
932 Maintenance of General Plant	Not external	1,764	5.8%
Total	Not external	96,471	17.4%

4.1.6 Special Services

4.1.6.1 Summary

The following two tables provide an overall summary to the category discussion that follows below.

Table 25: Special Services – Account 923 – Summary

923 Special Services	2020 Actual	2021 Actual	2022 Application	2022 Projected	2023 Test Year
Audit Fees	40,824	86,001	65,054	76,006	87,713
Legal Fees	35,342	25,716	48,575	24,311	28,685
Outside Services	65,325	35,887	94,211	153,641	83,067
Regulatory	186,732	290,620	150,000	150,000	150,000
Steam Distribution Network Study	0	0	0	70,000	140,000
Opportunity Assessments and 3 rd Party Engineering	0	1,730	0	346	20,250
Total	328,222	439,954	357,840	474,304	509,714

Table 26: Special Services – Account 923 – Variance

923 Special Services		2022 Application to 2023 Test Year	
Audit Fees	External	22,659	34.8%
Legal Fees	Not external	(19,889)	-40.9%
Outside Services	Not external	(11,144)	-11.8%
Regulatory	External	0	0%
Steam Distribution Network Study	Not external	140,000	N/A
Opportunity Assessments and 3 rd Party Engineering	Not external	20,250	N/A
Total		151,875	42.4%
	Not external	129,216	36.1%
	External	22,659	6.3%

4.1.6.2 Regulatory

Projected regulatory costs in 2022 are tracking reasonably close to forecast. Further detail into total actual 2022 regulatory costs can be provided within an evidentiary update or in response to an information request as applicable.

Creative Energy continues to forecast regulatory costs in the amount \$150,000 for 2023, which high-level estimate is based indicatively on the expected filings and efforts reported in the table below.

Consistent with the fact that the level of activity and absolute costs are difficult to forecast, Creative Energy will continue to apply differences between forecast and actual amounts to the Third-Party Regulatory Costs Deferral Account as approved.

Table 27: Forecast 2023 Regulatory Expenses

	2023 Total Test Year
Quarterly Fees	25,000
Core TES 2023	50,000
Low Carbon Rate Application	50,000
Long-term Resource Plan; Generic Cost of Capital; Other misc.	25,000
Total Regulatory	150,000

4.1.6.3 Outside Services

Outside Services have historically related to consulting costs for government advisory services, reviewing customer and business development opportunities, recruiting costs and external costs for preparing the tax return. There are also other items such as enterprise risk assessments, consulting related to benefits and the pension plan and ESG consultants.

To estimate the base level of these costs Creative Energy has used the most recent three-year weighted average calculation, with the years in sequence weighted 20/40/40 plus a 5 percent inflation adjustment. Creative Energy has normalized this calculation to remove historical third-party recruiting costs as this would inflate the average. There were several roles in 2022 that were added or replaced. These costs were not all anticipated and were not recovered by Creative Energy in its 2022 rates. Instead Creative Energy has adjusted the forecast to add recruiting cost for specifically identified roles. This cost totals \$44,775 in the 2023 Test Year.

4.1.6.4 Audit Fees

Creative Energy expects an increase in 2023 audit fees from 2022 approved audit fees. The fee for the 2023 Test Year is based on the actual quote from Creative Energy’s auditor. The increase relates to competitive cost pressure and increasing regulatory complexity that has impacted the cost of their audit.

4.1.6.5 Legal Fees

Legal fees in this category of costs do not include expenses relating to regulatory applications and proceedings. Legal fees are typically driven by emergent priorities. An average forecast of legal fees has been determined using the most recent three-year weighted average approach (20/40/40 plus 5 percent inflation).

4.1.7 Other General & Administrative and Sales Expense

4.1.7.1 Other General & Administrative – Multiple Accounts

Other General and Administrative Cost comprise a relatively small percentage of Creative Energy’s cost of service.

Table 28: Other General & Administrative – Multiple Accounts – Summary

	2020 Actual	2021 Actual	2022 Application	2022 Projected	2023 Test Year
915 Directors Fees	0	24,961	48,813	74,102	63,791
921 Office Supplies & Expenses	106,037	168,563	212,881	235,020	264,315
922 Admin & General Expenses	1,212	13,554	4,067	7,546	14,381
924 Insurance	149,468	167,746	184,790	189,851	194,786
925 Injuries & Damages - WCB	3,245	4,321	6,024	5,879	7,294
Total	282,600	379,145	456,575	512,398	544,568

Table 29: Other General & Administrative – Multiple Accounts - Variance

		2022 Application to 2023 Test Year	
915 Directors Fees	Not external	14,979	30.7%
921 Office Supplies & Expenses	Not external	51,434	24.2%
922 Admin & General Expenses	Not external	10,314	253.6%
924 Insurance	External	9,996	5.4%
925 Injuries & Damages - WCB	Not external	1,270	21.1%
Total		87,992	19.3%

Director fees are budgeted in the 2023 RRA based on actual contracted amounts for three external directors. An additional external director is planned for 2023. The fourth director has been added at the same rate as the other three directors. The total cost of directors is \$120,000 with 50% being allocated to operations and subject to the Massachusetts formula allocation. The additional director will cost \$40,000 with 50% similarly charged to operations and subject to the Massachusetts formula allocation.

Office supplies, which include Information Technology costs, are partially forecast based on 1) prior actual costs using an average across 2020-2022 weighted 20%, 40% and 40% plus 5 percent inflation, 2) the 2022 projected cost plus 5 percent inflation, and 3) on management judgment. The component requiring management judgment is Information Technology costs. Creative Energy significantly upgraded its IT support and systems in 2022 and continues to do so in 2023. The changes will improve data and cyber security and provide Creative Energy with 24/7 support to minimize employee downtime. Creative Energy has budgeted to allocate 34 percent of its IT costs to its development entity with 64 percent allocated to operations.

Insurance expense has increased from 2022 due to inflation. Creative Energy renews its insurance in July and September for a period of one year. The budget for 2023 Test Year is based on the actual contracted insurance premiums for January to June for some policies and January to September for other policies with an increase in July and October equal to the 5 percent inflation.

4.1.7.2 Sales Expense – Account 910

The 2023 Test Year expense was a bottom-up budget consisting of promotional costs supporting the Low Carbon project and future growth in the Core TES (\$55,000), dues and membership (\$17,035), courses and conferences (\$7,469), bad debt (\$86,573) and travel (\$7,856).

Included in this category is a proposed recovery of a bad debt expense relating to one customer – the owner in control of the Avalon Hotel – having not paid its bills in almost two years. Creative Energy has made repeated attempts to seek payment to no avail. This building serves the housing needs of its low-income residents and Creative Energy has therefore been reticent to date to disconnect service during the winter heating season. Recording the unpaid invoices as a bad debt expense will allow for recovery of the prior billings while also highlighting this matter for the Commission’s consideration and possible direction.

Table 30: Sales Expense - Summary & Variance

	2020 Actual	2021 Actual	2022 Application	2022 Projected	2023 Test Year	Control	2022 Application to 2023 Test Year	
910 Sales Expense	51,838	48,993	36,880	54,962	173,934	Not ext.	137,054	371.6%

4.2 Municipal Taxes (City of Vancouver Municipal Access Fee)

Creative Energy has a thirty-year Municipal Access Agreement (**MAA**) with the City of Vancouver (the **City**) effective September 1, 1999. The current MAA was approved by the Commission under Order C-13-00 on June 12, 2000. The MAA grants the Company rights to continue to operate, construct and maintain its distribution system in City streets for supply of steam-heat and hot water services. In exchange for the rights under the MAA, the Company pays to the City an annual fee equal to 1.25 percent of Tariff Revenues plus a flat fee that the City escalates at 2 percent for 2023 plus an historical adjustment of \$0.41 per MMBTU multiplied by 1.25 percent to compensate the City for the component of the rate that at one time included gas costs. This process is consistent with the 2022 RRA. Please refer to the summary table below and Schedule 17 for further detail.

Table 31: Municipal Taxes – Consolidated Core and NEFC (2023)

	2020 Actual	2021 Actual	2022 Application	2022 Projected	2023 Test Year
Annual Steam Revenues	8,493,603	9,355,974	11,120,103	11,384,482	12,812,884
MMBTU Gas Adjustment	479,286	523,199	558,158	558,158	558,158
Adjusted Annual Steam Revenues	8,972,889	9,879,173	11,678,260	11,942,639	13,371,042
Tax Rate	1.25%	1.25%	1.25%	1.25%	1.25%
Municipal Tax on Steam Revenue	112,161	123,490	145,978	149,283	167,138
Prior Year Flat Fee	157,292	160,438	163,647	163,647	1
Rate Increase	2%	2%	2%	2%	2%
Escalated Flat Fee	160,438	163,647	166,920	166,920	170,258
Total Municipal Tax	272,559	287,137	312,898	316,203	337,396

Table 32: Calculation of the MMBTU gas adjustment:

	2022 Application	2023 Test Year
Steam M#	1,144,000	1,144,000
Rate to convert M# to MMBTU	1.19	1.19
Gas BTU	1,361,360	1,361,360
Tariff Rate	0.41	0.41
Adjustment	558,158	558,158

Municipal Access Fees are paid in April of each subsequent year once figures have been audited. Costs are accrued throughout the year based on the formula described in the agreement.

4.3 Property Taxes

Property taxes are paid to the City of Vancouver for the properties located at 720 Beatty Street and 701 Expo Boulevard. The total property tax expense is a function of the value of the property, as assessed annually by BC Assessment, multiplied by various levy rates, which are also set amounts and typically changed annually. Please refer to the summary table below and Schedule 16 for further detail.

Table 33: Property Taxes

Item	2020 Actual	2021 Actual	2022 Application	2022 Projected	2023 Test Year
Total for 720 Beatty Street	763,290	894,271	920,709	909,139	954,562
Reduction for Non-Core TES	(80,000)	(138,000)	(143,000)	(138,000)	(128,000)
Add Property Tax for 701 Expo Blvd.	33,083	45,974	46,894	45,894	49,239
Total	716,400	802,200	824,600	818,000	859,800

There are two classes of assessed value as well as applicable levy rates. The two classes are 1) Utility and 2) Business and Other Utility. The levies pertaining to the Utility class have higher rates.

The 2023 Test Year is based on the actual assessments from 2022. Rates from 2022 are also used in the forecast with an increase of 5% applied. Actual rates and assessed values are not yet known at the time of preparing the RRA. As the 2023 assessment and rates are not yet available, the 2023 Test Year estimates the cost by maintaining the assessed value at the 2022 values and increasing the rates by 5%. Rates set by the City of Vancouver are difficult to predict as they increase in some years and decrease in others.

Variances between forecast and actual property taxes will be captured in the Property Tax Deferral Account approved on an ongoing basis as per Order G-310-21.

4.3.1 Allocation to Non-Regulated Operations

Historically Creative Energy has allocated a portion of the total property tax to its non-Core TES operations; thus, reducing the amount of its regulated revenue requirement and benefiting customers through lower rates.

Creative Energy’s non-Core TES operations include leasing of surplus office space to tenants and parking rentals on land not used in utility operation. Creative Energy has allocated out a portion of property taxes related to office staff that are not specifically working on the Core TES consistent with the discussion if not determination in the Order G-310-21 2021 RRA decision.

To calculate the appropriate amount to be allocated to non-Core TES operations, Creative Energy applies the levy rates to the total assessed value of the land and building and a portion is then allocated using building and land square footage.

In the 2021 RRA decision, Creative Energy was directed to address the allocation of property taxes and the treatment of land located at 720 Beatty Street and 701 Expo Boulevard related to the redevelopment. There is currently no change in use of the land planned for 2023. It is anticipated that the land will be fully utilized by the regulated operations and construction of the new regulated plant in 2023. The land is not planned to be used for non-Core TES purposes by the developer in 2023. As such, there will be no change in the methodology for allocation of property taxes in the 2023 RRA.

4.4 Income Taxes

Forecast income tax expense for 2023 is reported in the following table based on the income tax pertaining to regulated operations. The effective tax rate during the test period is 27 percent. Please refer to the summary table below and to Schedule 19.

For the purpose of calculating income tax expense, Creative Energy uses a flow-through or current taxes method. Under this approach the equity portion of the return on rate base, adjusted for permanent and temporary tax differences, and future enacted tax rates (both Federal and Provincial) are used in calculating the total tax expense.

It is important to note that on an actual basis, revenues are known, and subsequently used in arriving at the Net Utility Income figure⁴. With respect to the forecast, the fundamental purpose of the revenue requirement is to determine the amount of revenues required to deliver utility services, cover all the expenses (including income tax) and provide for the allowed return on equity. Since the revenues are not “given”, but the allowed equity return⁵ is, we can use this percentage together with the rate base to calculate what the after-tax equity return would be. Working backwards and adjusting the after-tax equity return for tax differences, we can calculate the before tax income and consequently the income tax expense.

⁴ Utility Revenues less Utility Expenses equal Net Utility Income

⁵ The equity return is after tax and it is expressed as a percentage.

Table 34: Income Taxes – Consolidated Core and NEFC (2022)

	2023 Test Year
Allowed/Proposed Return on Rate Base (After Tax)	2,742,000
Add: Equity Portion of AFUDC	N/A
Less: Financing Costs	(1,369,000)
Accounting Income After Tax	1,373,000
Total Additions (Depreciation Expense)	1,288,100
Total Deductions (Capital Cost Allowance)	(1,973,238)
Taxable Income/(Loss) for Tax Purposes (After Tax)	687,862
Tax Gross Up	73%
Taxable Income/(Loss) for Tax Purposes (Before Tax)	942,276
Effective Income Tax Rate	27%
Current Income Tax Expense	254,400

As noted, the calculation in the table above is consolidated and includes both Core and NEFC. Income taxes are a function of the return on equity (net income) and the timing difference between accounting depreciation and the tax capital cost allowance (CCA). The incremental income tax expense impact is created by adding the NEFC assets into rate base, which increased the return on equity. In turn, Creative Energy updated the CCA tables used for calculating Core rates to include the undepreciated capital cost (UCC) for the NEFC system and the accounting depreciation for NEFC into the tax calculation.

4.5 Depreciation and Amortization Expense

Depreciation expense is a function of undepreciated plant balances and applicable depreciation rates. Please refer to the summary table below and to Schedule 5 for further detail.

Table 35: Depreciation Expense – Consolidated Core and NEFC (2023)

	2020 Actual	2021 Actual*	2022 Projected	2023 Test Year
Opening Accumulated Depreciation	(21,523,538)	(22,594,649)	(24,266,347)	(25,570,151)
Closing Accumulated Depreciation	(22,537,453)	(24,266,347)	(25,570,151)	(26,858,233)
Depreciation Expense (rounded)	1,013,900	986,300	1,303,800	1,288,100
NEFC Reclass	0	685,401	0	0

*The year-end balance for 2021 includes the adjustment to move NEFC into Core so that the opening balance for 2022 reflects the consolidation.

As per its existing depreciation methodology, Creative Energy uses a “pooled” or asset class depreciation approach, as opposed to depreciating individual assets. Under the asset class approach, all the capital additions to Utility plant are categorized and assigned to a specific asset class with its own specific depreciation rate. This depreciation rate is then applied to the asset class balance to arrive at the total annual depreciation expense for the class.

Creative Energy uses a “straight-line” depreciation method for recognizing and recording the annual depreciation expense for each asset class. The depreciation rates are based on an estimated useful life for a “typical asset” in each class. Thus, the rates can either be expressed on a

percentage or number-of-years basis. The asset classes and applicable rates are listed in the table below.

Table 36: Core Asset Classes and Depreciation Rates

Acct. #	Account Name	Dep. Rate	Acct. #	Account Name	Dep. Rate	Acct. #	Account Name	Dep. Rate
<u>Steam Production Plant</u>			<u>Distribution Plant</u>			<u>General Plant</u>		
311	Structures & Improvements	1.50%	376	Mains	2.00%	390	Structures & Improvements	1.50%
312.1	Boiler Plant Equipment	2.50%	378	Manhole Structures	1.50%	391	Office Furniture & Equipment	5.00%
312.2	Boiler Tanks Equipment	2.50%	380	Services	2.00%	391.1	Office Electronics	20.00%
312.3	Boiler Auxiliary Equipment	5.00%	381	Meters	3.00%	392	Transportation Equipment	15.00%
315	Accessory Electric Equipment	5.00%	382	House Regulators & Meter Instal.	3.00%	393	Stores Equipment	5.00%
316	Other Steam Production Equipment	5.00%	387	Other Distribution Equipment	5.00%	394	Tools & Work Equipment	5.00%
						398	Other General Equipment	5.00%

For each asset class, annual capital additions are tracked separately, and depreciation begins in the year following their addition. Once a particular annual capital addition has reached the end of its useful life, depreciation is no longer applied and such additions are then taken out of the depreciable asset pool for calculation purposes.

4.5.1 Depreciation of CIAC

Depreciation of Contribution-in-Aid-of-Construction reduces the overall depreciation expense and effectively lowers the rates. Creative Energy uses the same approach as discussed above when calculating CIAC depreciation. There is only one CIAC class and its depreciation rate is set at 2.5 percent. The depreciation percentage approximates the overall depreciation rate for distribution plant to which the CIAC pertains. Please refer to Schedule 6. There are no new additions to CIAC included in 2022 and none planned for 2023. The last addition was \$50,000 in 2021.

Consistent with the 2022 Application Part 1, a customer contribution of \$400,000 is currently added as a reduction to Core rate base from NEFC customers. On the NEFC side, it is recorded as a deferral balance that will be paid for over a period of 22 years by NEFC customers via the System Contribution. For Core rate setting purposes, the balance is amortized over 22 years and results in a reduction in the revenue requirement of approximately \$18,000 in reduced depreciation expense and a savings in 2023 return on rate base of approximately \$25,000. These amounts will be reviewed and updated as required in the compliance and evidentiary update filings directed by Order G-345-22.

4.6 Rate Base Return

Rate base return represents the return on capital invested to provide regulated utility services. It combines both debt and equity returns based on the capital structure and approved rates. Table 37 below summarizes the Rate Base Return as calculated for the 2021 Test Period:

Table 37: Summary of Rate Base Return – Consolidated Core and NEFC (2023)

	2023 Test Year
Mid-year Rate Base	34,010,209
Cost of Capital	
Equity	9.50%
Debt	7.00%
Return on Rate Base	8.06%

The forecast Rate Base Return for 2023 is \$2,689,000, and it is calculated in accordance with the methodology and rates discussed below.

Interest rates have increased significantly in 2022. The 7 percent rate projection for 2023 is primarily based on current interest rates with anticipated increase of an additional 0.5 percent to the Canadian prime rate in 2023. Consistent with the 2021 RRA decision, rates are not set based on current interest rates, but future interest rates that factor in risk.

The Prime rate in Canada is currently 5.95%. With a debt percentage between 55-60%, Creative Energy's interest rate would be 6.95% (Prime plus 1%). Creative Energy can benefit from drawing on BA's. As of November 2022, when Creative Energy last utilized BA's, the difference between the Prime loan and a BA was 0.43%. The difference between BA rates and Prime rates has become narrower during 2022. Based on current rates Creative Energy's interest rate would be between 6.5%-7.0%. However, there is a risk that Prime rates could increase further in 2023. In addition, with uncertainty regarding rate increases, the gap between the Prime rate and BA rate could narrow further priming less benefit for Creative Energy to draw on short term BA's. As such, Creative Energy believes that using 7%, which is the current interest rate at Prime is a reasonable estimate for 2023.

4.6.1 Equity Thickness and Allowed Return on Equity

The Commission's Generic Cost of Capital Stage 2 Decision, issued under Order G-47-14 and dated March 25, 2014, set an equity thickness for Creative Energy of 42.5 percent and a Return on Equity (ROE) at 9.5 percent. By Order G-82-15, the Commission accepted that the deemed equity thickness and ROE for Creative Energy rate setting should continue to be based on an equity thickness of 42.5 percent and an equity risk premium of 75 basis points for regulated thermal energy systems. The Commission's decision established the equity thickness as appropriate given the business risks faced by the Company and that the allowed ROE provides the Company with a reasonable opportunity to earn a fair return on its equity investment.

4.6.2 Debt Financing

Creative Energy renewed its debt financing in September 2021 with HSBC and TD. Rates are consistent with the prior HSBC/TD facility. Creative Energy has the option of drawing on banker’s acceptances or allowing the loans to float based on the prime interest rate. Principal payments on Tranche 3 are made on a quarterly basis. Loan balances/limits as at December 31, 2022 and current interest rates on these loans are provided in Table 38. The fuel loan was fully repaid in 2021. The balance of the Fuel Cost Stabilization Account is now funded by the revolving demand loan.

Table 38: Credit Facility Summary

Tranche 1	Revolving Demand	5,000,000 (limit)	Prime + 1.00% or BA Floating Rate + 2.25% plus standby fee of 0.45% on the unused balance (based on a debt % between 55- 60%)
Tranche 2	Non-revolving	10,000,000	Prime + 1.00% or BA Floating Rate + 2.25%
Tranche 3	Non-revolving	11,727,506	Prime + 1.00% or BA Floating Rate + 2.25%

4.6.3 Summary

The Mid-year Rate Base comprises the following components:

- Net Mid-year Plant in Service (comprising of gross plant in service, accumulated depreciation and adjusted for the timing of major additions)
- Net Mid-year CIAC (comprising of gross CIAC and accumulated depreciation of CIAC, includes an addition of \$400K as a contribution from NEFC customers as part of the rate redesign)
- Mid-year Plant Allocated to non-Core TES activities (portion of the plant used to support such activities)
- Mid-Year Deferral Accounts (representing the Company’s funding of activities where there is a timing difference between cost incurrence and its collection in rates)
- Mid-Year Working capital (representing Company’s investment into non-capital assets used in support of regulated operations)

Net Mid-year Plant in Service is the largest component of the Rate Base and it represents the cumulative undepreciated investment in capital assets. It is Gross Plant in Service (**GPIS**) net of Accumulated Depreciation. GPIS comprises the prior year’s closing balance carried over to the current period, plus capital additions, AFUDC, and capitalized overheads, less plant retirements. Each of these components is discussed below in respect of the 2023 test period.

Table 39: Rate Base Summary – Consolidated Core and NEFC (2023)

	2020 Actual	2021 Actual	2022 Projected	2023 Test Year
Gross Plant in Service				
Opening Balance	47,811,732	48,278,960	54,463,107	58,561,497
Closing Balance (estimated)	48,278,781	49,065,140	58,561,497	61,480,177
Average Balance (Mid-Year)	48,045,256	48,672,050	56,512,302	60,020,837
Accumulated Depreciation				
Opening Balance	(21,523,538)	(22,594,649)	(24,348,723)	(25,652,527))
Closing Balance (estimated)	(22,537,453)	(23,580,946))	(25,652,527))	(26,940,609))
Average Balance (Mid-Year)	(22,030,495)	(23,087,797))	(25,000,625))	(26,296,568)
Net Mid-year Plant in Service	26,014,761	25,584,252	31,511,677	33,724,269
Net Mid-year CIAC	(873,168)	(866,758)	(1,059,723)	(1,217,973)
Mid-year Net Plant Allocated to Non-Core TES	(24,873)	(24,167)	(23,461)	(23,461)
Mid-Year Rate Base Deferred Accounts	268,202	310,533	1,040,177	1,040,177
Mid-Year Working Capital	509,352	543,442	580,292	487,196
Mid-year Rate Base	25,894,274	25,547,302	32,048,961	34,010,209

In the Order G-310-21 2021 RRA Decision, Creative Energy was directed to address the allocation and accounting for land transferred to the developer in its 2022 RRA. Creative Energy has continued to include the land in rate base for 2023 at this time. There is no change in the use of the land anticipated in 2023. It is not anticipated that the developer will use the land for non-Core TES purposes during 2023.

4.6.4 Capital Additions

The year-over-year increases to Rate Base in 2023 is primarily driven by capital additions. Projected capital additions are \$2.9 million in 2023.

Capital additions are based on the year that costs are transferred from Construction in Progress into Plant in Service. Costs may be spent in a previous year but not added to Rate Base until a subsequent year. Higher than average capital additions in one year could be directly related to lower than average capital additions in another year. Rate Base is adjusted each year based on actual capital additions.

2023 capital additions are focused on replacing infrastructure of the aging Distribution system and primary relates to manhole rebuilds. Due to the redevelopment, Creative Energy has not planned significant capital expenditures at the plant for 2023 (\$85,000) but is instead focusing on the Distribution system. Note that this does not mean that capital additions to the steam plant will not exceed this amount if they are deemed necessary for safety and efficiency of the ageing plant.

The majority of capital expenditures (\$2.6 million) relates to three manhole rebuilds planned for 2023. Additionally, Creative Energy plans to spend \$63,000 on improvements to its accounting system (a project that started in 2022 but will not be transferred into rate base until 2023 when the project is completed). This relates to implementing a financial reporting and planning tool called Vena which was included in the 2022 RRA (unnamed at the time as Creative Energy was still

sourcing potential vendors). It was anticipated that the tool would be completed and in service during 2022, but this is now projected for Q1 2023. A portion of this cost of this tool is allocated to the Core TES and portion to other systems and non-Core TES operations.

Historical capital additions and incremental additions in the 2023 test period are summarized in Table 40. Further detail into forecast capital additions and variance explanations between the 2022 Application and 2022 Projected are also presented in Appendix E.

Table 40: Core System Capital Additions

	2020 Actual	2021 Actual	2022 Projected	2023 Test Year
Total Capital Additions	716,796	786,179	4,098,390	2,918,680
Steam Plant		393,011	510,421	85,000
Distribution System		11,467	2,846,710	2,600,000
Customer Building Services		67,479	235,811	170,000
Customer Connections		204,615	437,923	0
Other		109,607	67,526	63,680

The scope of each category is as follows:

- Steam Plant
 - production of steam; NEFC steam to hot water plant; during 2023 Test Year, additions relate to miscellaneous boiler work ;Beatty steam plant electrical, instrumentation or mechanical equipment used in the
- Distribution System
 - Any piping, manhole or auxiliary equipment used in the steam network and NEFC hot water network; during 2023 Test Year, this includes rebuilding and insulating manholes;
- Customer Building Services
 - Meter replacements, upgrades or pressure reducing station improvement; for example, the installation of a primary and secondary pressure reducing station where previously only a primary station was installed, or installation of an access platform (safety) to a pressure reducing station; in 2023 Test Year, this is specifically meter and PRV replacements; and
- Customer Connections
 - Costs directly associated with adding a new customer, including the pipe section from existing mains to building mechanical room, pressure regulating station, Energy Transfer Station, meter station, equipment insulation, mechanical and electrical install, commissioning, permits, fees, and management; in 2023 Creative Energy has no known customer connections being added to plant in service as its existing customer connections are expected to be in service by the end of 2022.
- Other
 - In 2023, this relates to initiatives that Creative Energy’s finance team is finalizing the ongoing project from 2022 for the financial reporting and forecasting software Vena.

As reviewed in the 2021 RRA Creative Energy commenced a Distribution system project to improve the operational efficiency of the steam network by using condensate return from the NEFC. This project is not anticipated to be complete during 2023, but expenditures are likely to be incurred. It is anticipated that this will be in service and added to rate base in 2023.

Likewise, Creative Energy has recommenced the remote metering project with capital expenditures of \$500,000 forecast for 2023. It is possible that some meters will be in service during 2023, but to be conservative Creative Energy has not forecast these additions to be added to rate base. The addition to rate base is likely to occur in 2024.

4.6.5 Allowance for Funds Used During Construction (AFUDC)

The AFUDC applies where an asset is not part of the rate base, but funds have been invested to finance its construction. The AFUDC recognizes that there are carrying costs arising from such an investment and provides for their future recovery. Capital additions in 2023 do not include AFUDC.

4.6.6 Accumulated Depreciation

Accumulated Depreciation is a contra asset account that reduces the carrying costs of the underlying asset (such as any plant asset) in recognition of its finite useful life and diminishing economic value with the passage of time. Annual Depreciation expense adds to the Accumulated Depreciation balance whereas plant retirements and net proceeds from disposition reduce it.

The change in Accumulated Depreciation is explained entirely by the change in annual Depreciation expense.

4.6.7 Contributions in Aid of Construction

A customer may be required to make a financial contribution to extend utility services, a Contribution in Aid of Construction, if the incremental cost of extending the service exceeds forecast incremental revenue over the planned or contracted period of service duration. When required, such contributions protect existing customers from subsidizing the costs of new customer connections.

CIAC reduces rate base and its net balance decreases over time recognizing the effect of depreciation. The change in the Mid-year CIAC in 2021 is driven by the annual CIAC depreciation. Creative Energy included a \$50,000 contribution for CIAC in 2021 related to 410 W Georgia. Creative Energy has included a contribution of \$400,000 from NEFC customers as part of the NEFC consolidation as set out in the 2022 Application, and now subject to a future compliance and evidentiary update as directed by Order G-345-22. Consistent with the proposed recovery of the System Contribution from NEFC customers over the remaining depreciable life of the NEFC assets, the contribution will be amortized over 22 years. Please refer also to Schedule 6.

Table 41: Contributions in Aid of Construction – Consolidated Core and NEFC (2022)

	2020 Actual	2021 Actual	2022 Projected	2023 Test Year
Gross CIAC				
Opening Balance	(1,256,385)	(1,256,385)	(1,306,385)	(1,706,385)
Repayments	0	0	0	0
Additions	0	(50,000)	0	0
Addition of NEFC Contribution	0	0	(400,000)	0
Closing Balance	(1,256,385)	(1,306,385)	(1,706,385)	(1,706,385)
Accumulated Depreciation				
Opening Balance	367,512	398,922	430,332	462,992
Depreciation	31,410	31,410	32,660	32,660
NEFC Contribution Depreciation	0	0	0	18,182
Closing Balance	398,922	430,332	462,992	513,833
Net CIAC				
Opening Balance	(888,873)	(857,463)	(876,053)	(1,243,394)
Closing Balance	(857,463)	(876,053)	(1,243,394)	(1,192,552)
Net Mid-Year CIAC	(873,168)	(866,758)	(1,059,723)	(1,217,973)

4.6.8 Allocation to Non-Regulated Operations

Creative Energy allocates a portion of building and land costs to non-Core TES operations and this allocation lowers the overall regulated rate base and the amount of revenue requirements to be collected through rates. Please refer to Schedule 8.

4.6.9 Rate Base Deferral Accounts

Creative Energy has one rate base deferral account – the After-Tax Regulatory Pension Asset Account. This deferral is equal to the average of the opening balance of the pre-tax pension asset reported on the most recently audited financial statements (December 31, 2021) and an ending balance based on estimated employer contributions for 2023 less approved forecast pension expense for 2023. The average balance is then multiplied by the tax rate. Creative Energy is not currently required to make solvency payments into the pension plan above its current service cost. As such, the ending balance and average balance is estimated to be equal to the opening balance.

Table 42: Rate Base Deferral

	Forecast 2023
December 31 Pension Asset (pre-tax) reported on audited financial Statements (Opening Asset)	1,424,900
Employer Contributions 2023	228,717
Forecast Pension Expense 2023	(228,717)
Additions to Asset	N/A
Closing Asset	1,424,900
Average of Closing Actual and Forecast	1,424,900
Tax Rate	27%
After-tax Mid-year Balance	1,040,177

4.6.10 Working Capital

Working capital is the amount of funds required to finance the day-to-day operations of a regulated utility and are included as part of rate base for ratemaking purposes.

Working capital represents Creative Energy’s investment in non-capital assets and accounts for timing differences between payment of current period expenses (cash outlay) and their recovery in revenues. Please refer also to Schedules 9 and 10.

Table 43: Working Capital Requirements

	2020 Actual	2021 Actual	2022 Projected	2023 Test Year
Natural Gas & Oil Purchases	-	-	-	-
Operation & Maintenance Expense	287,169	317,034	361,860	408,689
Insurance	74,734	83,873	94,925	97,393
Other	-	-	-	-
Municipal Taxes	(185,353)	(195,027)	(214,769)	(229,164)
Income Tax Expense	(114,134)	(107,204)	(110,728)	(254,400)
Property Taxes	268,650	300,825	306,750	322,425
Subtotal	331,265	399,501	435,298	344,943
Oil Inventory	192,362	158,216	156,528	156,528
Customer Deposits	(14,275)	(14,275)	(14,275)	(14,275)
Work in Process	-	-	-	-
Total	509,352	543,442	580,292	487,196

Working capital requirements for 2023 are calculated as forecast expenses multiplied by the applicable Lead/Lag Days, as currently approved by the Commission, plus any pre-paid expenses such as fuel oil inventory.

Table 44: Working Capital – Approved Net Lead (Lags) Days

	2020 Actual	2021 Actual	2022 Projected	2023 Test Year
Natural Gas & Oil Purchases	0.09	0.09	0.09	0.09
Operation & Maintenance Expense	21.10	21.10	21.10	21.10
Other	136.88	136.88	136.88	136.88
Municipal Taxes	(247.91)	(247.91)	(247.91)	(247.91)
Income Tax Expense	(142.91)	(142.91)	(142.91)	(142.91)
Insurance	182.50	182.50	182.50	182.50
Property Taxes	136.88	136.88	136.88	136.88

5 Non-Rate Base Deferrals

This section summarizes non-rate base deferral accounts in effect or proposed and the forecast balances reported to this point in time for proposed recovery in rates in 2023. Final balances in the non-rate base deferral accounts will be confirmed as part of a future evidentiary update. Please note that Creative Energy has applied its 7 percent forecast cost of debt for the purpose of recording interest to these deferral accounts in 2023 as set in the summary table below

5.1 Pension Expense Deferral Account (PEDA)

The PEDA is approved by Order G-98-15 on an ongoing basis.

The PEDA captures the annual variance between forecast Pension expenses recovered in rates and the pension expense reported in financial statements, with the balance to be amortized over one year at a carrying cost equal to Creative Energy's short-term debt rate. Recorded variances include expenses related to revaluation gains and losses.

5.2 Third Party Regulatory Costs Deferral Account (TPRCDA)

The TPRCDA is approved by Order G-310-21 on an ongoing basis.

The TPRCDA captures the annual variance between forecast and actual third-party costs relating to regulatory filings and proceedings required under the Act, with the balance to be amortized over one year. Recorded variances include quarterly Commission fees, Commissioner and Commission Contractor costs charged to individual proceedings, Intervenor Participant Assistant Cost Awards as well as the costs of external legal services that support Creative Energy's regulatory submissions and proceedings.

5.3 Property Tax Deferral Account (PTDA)

The PTDA was approved by Order G-310-21 on an ongoing basis.

The PTDA captures the annual variance between forecast property tax costs recovered in rates and actual property tax costs reported in the financial statements, with the balance to be amortized over one year and attract a carrying cost equal to Creative Energy's approved debt rate.

5.4 Water Cost Deferral Account (WCDA)

The WCDA was approved by Order G-345-22 on an ongoing basis.

The WCDA captures the annual variance between forecast water costs recovered in rates and actual water costs reported in the financial statements, with the balance amortized over one year at a carrying cost equal to Creative Energy's short-term debt rate.

5.5 Refinancing Cost Deferral Account (RCDA)

Creative Energy sought approval of the RCDA on an ongoing basis as part of the **2022 Application** and our compliance and consideration of the Commission's determination into the requested approval and into the requested treatment set out below will be subject to the future compliance filing and evidentiary update as directed by Order G-345-22.

The RCDA records the refinancing costs that Creative Energy is required to pay when debt facilities mature and where facilities are required to renew its debt agreement, but which cannot be forecast at the time of filing an RRA. An additional refinancing is anticipated in 2023. Schedule 12 includes an estimated addition to the deferral of \$111,972 for the 2023 refinancing. The actual amount of the fee is still to be determined. As such, the actual cost is proposed to be captured in a RCDA instead of in the 2023 cost of service.

5.6 Steam Distribution Network Study Deferral Account

Creative Energy requests one-time approval, effective the date of this Application, of a Steam Distribution Network Study Deferral Account (**SDNSDA**) to record the expenses incurred in 2022 to commence study of the steam distribution network and the connected buildings (**Steam Distribution Network Study, or Study**). The Study has been developed to support pre-feasibility screening of options to modernize the steam distribution network and to provide information in support the development of Creative Energy's next Long-Term Resource Plan (**LTRP**) and associated Demand-Side Management (**DSM**) options and programs.

The Study will further the understanding and assessment of:

- The technical and economic feasibility of improving the safety, reliability, efficiency and emissions of the steam distribution network through replacement of the steam distribution piping with hot water piping, low temperature piping or installation of condensate piping (**distribution piping modernization**);
- The viability of remote metering and potential DSM opportunities within customer buildings;
- The baseline information to scope a more comprehensive feasibility study at a later date in support of any contemplated capital project for distribution piping modernization and DSM program expenditures.

In support of the overall objectives, the scope of the Study includes:

- Investigation of the mechanical systems in 25 (12%) of customer buildings to build a database of knowledge to inform options and opportunities;
- Evaluation of the capital and operating costs associated with a conversion of the distribution piping system to hot water, low temperature and condensate collection on a zone-by-zone basis;

- Development of an inventory of customer building HVAC systems including:
 - In-building steam needs
 - Hot water temperature requirements
 - Presence of cooling equipment
 - Availability of sources of waste heat

- Screening of initial options including evaluation of:
 - System efficiency outcomes
 - GHG emissions outcomes
 - Reliability, resiliency and safety impacts
 - Rate and cost impacts

- Recommendations applicable to distribution piping modernization

FVB Energy has been engaged on a fee for service basis to perform the Study up to \$202,400 including expenses but not including GST. Internal Creative Energy Staff are supporting the Study with access, accompaniment and information gathering at customer premises as well overall project management and assessment support. We have attached for information at Appendix F a survey template in developed to assist the information gathering and study objectives.

The total cost of the Study is estimated at \$202,400 and will complete in 2023. The proposed SDNSDA will record the costs incurred in 2022 as outside the requested approvals of the 2022 Application, estimated to be the range of \$75,000.

Creative Energy has now reviewed the determination of the Commission in its Order G-345-22 Decision (at section 4.4.2, page 50) regarding a requested deferral account in the 2022 Application and retroactive ratemaking.

Creative Energy acknowledges that the request for approval to amortize the Steam Distribution Network Study costs in 2022 for recovery in 2023 may parallel circumstances that gave rise to the Commission’s determination noted above. Our review of the noted Commission determination is preliminary at this time , and Creative Energy may respectfully disagree with the Commission’s conclusion. We intend to submit further evidence and argument in the proceeding to be established to review this 2023 Application: 1) to defend the requested rate treatment as fair and reasonable, and not retroactive, and 2) to ensure a fulsome understanding of the nature of the System Distribution Network Study as a prudent utility management approach to commence evaluation of options to modernize the steam network and develop DSM programming.

5.7 Forecast Balances for Recovery in 2023 Rates

Table 45: Projected Deferral Account Balances

Deferred Account Name	2023 Opening Balance	Additions/ (Deductions)	Interest/ AFUDC	Amortization	Ending Balance
PEDA	(347,708)	-	(24,340)	231,806	(140,242)
TPRCDA	142,897	-	10,003	(152,900)	-
Water Cost Deferral Account	243,994		17,080	(261,074)	
Property Tax Deferral Account	20,846		1,459	(22,306)	
COVID-19 Deferral Account	(273,567)	-	(19,150)	292,717	-
Refinancing Cost Deferral Account	113,286	111,972	7,884	(113,286)	119,856
DPS Study Deferral Account	71,575	-	2,505	(74,080)	-
Total	(28,677)	111,972	(4,558)	(99,124)	(20,387)