BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO

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IN THE MATTER OF APPLICATION OF PUBLIC SERVICE COMPANY OF COLORADO FOR APPROVAL OF CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY FOR THE ACQUISITION OF, AND APPROVAL OF COST RECOVERY FOR, THE MANCHIEF GENERATION FACILITY AND VALMONT 7 & 8	**PROCEEDING NO. 19A-0409E**

UNANIMOUS COMPREHENSIVE SETTLEMENT AGREEMENT

Introduction and Identification of Parties

Public Service Company of Colorado ("Public Service" or the "Company"), Trial Staff of the Colorado Public Utilities Commission ("Staff"), the Colorado Office of Consumer Counsel ("OCC"), Western Resource Advocates ("WRA"), and Southwest Generation Operating Company, LLC ("Southwest Generation"), (collectively the "Settling Parties"), hereby enter into this unanimous and unopposed Settlement Agreement ("Agreement") to resolve all issues that have been raised in this proceeding.

Background

The 301 megawatt ("MW") Manchief generation facility ("Manchief") and the 82 MW Valmont generation facility ("Valmont 7 & 8" or "Valmont") are components of the Company's Colorado Energy Plan Portfolio ("CEPP") approved by the Commission in Decision No. C18-0761 in Proceeding No. 16A-0396E.[1] In addition to 660 MW of coal-

[1] The list of the generation resources included in the CEPP can be found in Table JWI-D-1 in the Direct Testimony and Attachments of Company witness Mr. Jack W. Ihle.

fired generation that will be voluntarily retired to allow for implementation of the CEPP, Public Service will acquire approximately 1,100 MW of new wind resources, approximately 700 MW of new solar resources, 275 MW of new battery storage, and 383 MW of existing gas assets. The 383 MW of existing gas assets are the subject of this Settlement Agreement.

In order to move forward with the generation projects that are part of the approved CEPP, the Commission directed the Company to file certain Certificate of Public Convenience and Necessity ("CPCN") applications pursuant to Rule 3102.[2] On July 23, 2019, Public Service filed a Verified Application and supporting testimony requesting that the Commission issue CPCNs for acquisition of Manchief and Valmont. The Company also requested approval to exercise the Early Purchase Option afforded by the terms of the Purchase and Sale Agreement ("PSA") to bring Valmont on-line in 2020, approximately two years earlier than the 2022 acquisition and in-service date of the facility contemplated in the approval of the CEPP. Public Service's Application also sought approval of the Company's cost recovery proposal relating to these two facilities.

The Manchief Facility is an existing 301 MW simple-cycle, natural gas-fired peaking power plant comprised of two Siemens Westinghouse V84.3A1 gas combustion turbines located approximately 90 miles northeast of Denver near Brush, Colorado. Manchief was constructed between 1999 and 2000, commenced commercial operation in July 2000, and was acquired by the current owner, Atlantic Power Corporation ("Atlantic Power"), in 2011. Since its construction, the entire output of the Manchief Facility has been contracted to Public Service under a Purchase Power Agreement

[2] Decision No. C18-0761 ¶¶ 114, 119, 122, and 133, Proceeding No. 16A-0396E (mailed Sept. 10, 2019).

("PPA") that will expire in 2022. After approval of this proceeding and after the PPA expires, the Company will own and operate the facility. Consistent with Decision No. C18-0761, the Company is proposing to acquire Manchief in 2022.

Valmont 7 & 8 is an existing 82 MW simple-cycle, natural gas-fired peaking facility located in Boulder, Colorado, within the boundary of the decommissioned former Valmont coal plant site.[3] It is owned by Southwest Generation and located on land leased from Public Service. Unit 7 commenced commercial operation in May 2000, and Unit 8 commenced commercial operation in May 2001. Public Service previously had a PPA with Southwest Generation for the full output of Valmont 7 & 8. The PPA expired in 2012, and Valmont 7 & 8 has not been under contract to the Company since that time.

Valmont is comprised of two GE LM6000 gas turbines. All plant equipment, gas supply, electric interconnection, and other infrastructure has been maintained by Southwest Generation to allow for reestablishment of commercial operation upon reinstallation of the turbine engine cores. By Decision No. C18-0761, the Commission authorized Valmont 7 & 8 to be placed in-service in 2022. In its Application and supporting testimony, Public Service requested Commission approval to exercise an Early Purchase Option included in the PSA in order to place Valmont 7 & 8 in-service in the summer of 2020 to avoid potentially higher cost market purchases and provide needed operational flexibility.

[3] The original coal-fueled unit, Valmont Unit 1, went into service in 1924 and three more coal-fired units were added in ensuing years through 1942. The four oldest coal units stopped generating power in 1986. The coal-fired Unit 5 ceased operations in 2017 as part of the Clean Air-Clean Jobs Act projects. Unit 6 is a 51 MW gas combustion turbine owned by Public Service.

On July 25, 2019, the Commission issued a Notice of Application Filed ("Notice") and set the intervention deadline to August 26, 2019.

On August 20, 2019, OCC filed a Notice of Intervention of Right, Entry of Appearance and Request for Hearing. On August 23, 2019, Leslie Glustrom filed a Petition to Intervene seeking permissive intervention, and on August 26, 2019, Southwest Generation and WRA did the same. On August 29, 2019, Staff filed a Notice of Intervention as of Right by Staff and Entry of Appearance.

On September 4, 2019 during the Commission's weekly meeting, the Application was deemed complete for purposes of § 40-6-109.5, C.R.S., and was referred to an Administrative Law Judge ("ALJ"), Steven H. Denman, for disposition.

On September 27, 2019, ALJ Denman issued Decision No. R19-0801-I which, among other things, granted intervention to WRA and Southwest Generation, and denied Ms. Glustrom's request for intervention.[4]

The Settling Parties commenced settlement negotiations on November 20, 2019 and successfully reached a settlement in principle on December 16, 2019. The Agreement filed here represents the comprehensive agreements of all Settling Parties to resolve the issues in this Proceeding No. 19A-0409E that were raised or could have been raised by the Settling Parties.

[4] *See* Decision No. C19-1024, at ¶ 31 ("The ALJ did not abuse his discretion in his findings denying intervention to include that re-litigation of final decisions – including in this instance re-litigation of the Colorado Energy Plan Portfolio and Phase II Decision that was decided after 27 months of litigation with over 31 active parties – is simply not permitted. We further affirm the ALJ's determinations in that the reasons stated for intervention more likely than not pose a collateral attack on final Commission decisions.")

Settlement Terms

I. Overview

The Settling Parties agree that the Company's Application in this proceeding, as modified by this Agreement, is in the public interest and the Commission should grant the application as modified by this Agreement. The Settling Parties agree that the Commission should grant CPCNs for the acquisition of Valmont and Manchief consistent with the acquisition dates described in items II(A) and II(B) below. The Settling Parties further agree that the Commission should approve the Company's cost recovery proposal relating to these two facilities as part of this Application.

II. General Tenets Regarding the Acquisitions

The acquisition of the Manchief and Valmont facilities is necessary to meet the Company's near-term reliability needs and to ensure system reliability for customers based on the distinct circumstances and considerations of this proceeding. The acquisition of Valmont and Manchief help ensure the Company has adequate capacity to meet its reserve margin, and without these units the Company is not projected to meet its target reserve margin of 16.3 percent in the years of 2022 through 2025 based on the Loads and Resources table provided as Table (ii) in Attachment A. Further, the acquisition of these units is necessary to integrate significant levels of renewable generation resources onto the Company's system as approved in the CEPP and projected to be necessary as the Company moves to meet future legislative clean energy targets. This flexible generation supports the integration of renewable generation because it can be operated in tandem with renewable generation and displace the operation of more carbon-intensive generation resources. Additionally, at

this time, the marketplace lacks practical zero-carbon alternatives that are able to meet the Company's specific resource and operational needs, particularly to meet the intermittency challenges of renewable generation. Manchief and Valmont provide low-cost options that allow for integration of additional levels of renewable energy as well as contribute significantly to meeting the resource need identified in Proceeding No. 16A-0396E. Based on these circumstances, the Settling Parties believe these acquisitions are in the public interest at this time, consistent with the findings of Decision No. C18-0761.

A. Valmont Acquisition

The Settling Parties agree that the Company should exercise the Early Purchase Option for Valmont and move forward the acquisition and in-service date of Valmont from May 1, 2022 to on or before June 1, 2020. The Settling Parties believe this is a cost-effective and beneficial approach for customers, and further support a finding that the exercise of the Early Purchase Option is a utility action consistent with the Company's approved resource plan. Therefore, exercise of this option should have a presumption of prudence consistent with Rule 3617(d).

The Settling Parties further agree the exercise of the Early Purchase Option is in the public interest and is beneficial to customers as compared to appropriate market options. The exercise of the Early Purchase Option to acquire Valmont two years earlier than initially approved in Phase II is a prudent option from an operational and customer perspective. First, from a customer standpoint, analysis developed by the Company and submitted as evidence in this proceeding projects that on a present value basis, the cost to customers of the Early Purchase Option is about $1 million lower than

the cost associated with a May 2022 purchase. The Early Purchase Option price is as low as $18.5 million if exercised by May 1, 2020 but increases on a sliding scale over time up to $19.9 million by May 1, 2022.

Second, from an operational standpoint, there are reliability benefits from the early acquisition of Valmont as compared to a seasonal market purchase. This reliability benefit stems from the fact that Valmont would be available to Public Service's system dispatchers for 24 hours a day for the 23-24 months between the May or June 2020 and May 2022 timeframe versus a seasonal market purchase. This considerable increase in unit availability associated with the summer 2020 purchase would be used to help serve customer load, respond to contingencies, and provide valuable flexibility to help integrate renewables onto the system.

In sum, in the absence of exercising the Early Purchase Option and acquiring Valmont two years early, the Company will go to the market and make power purchases to meet its reliability requirements in the summer of 2020. The Company projects that, given the low purchase price of Valmont under the exercise of the Early Purchase Option, it is more cost-effective to move forward this known and approved resource acquisition as opposed to relying solely on market power purchases to meet its summer 2020 resource need. These additional benefits make the Early Purchase Option for Valmont both cost-effective and the more reliable option. The Early Purchase Option will be completed and Valmont available on or before June 1, 2020. As a closing condition of the PSA, the facility must have achieved the Commercially Operable Date in order for Public Service to purchase the assets.

B. Manchief Acquisition

The Settling Parties agree that the Company should acquire Manchief upon termination of the PPA for Manchief in spring 2022. The Settling Parties further agree Public Service will assume ownership and operation of Manchief upon closing the PSA (included as part of the Company's direct case as Highly Confidential Attachment JWI-1) on or before June 1, 2022.

III. Updated Financials of Valmont and Manchief and Loads and Resources Table

The Settling Parties have included two attachments as part of this Settlement Agreement in order to create a robust record in support of the circumstances around this Settlement Agreement: (1) Attachment A relating to the Loads and Resources table as described below; and (2) Attachment B providing a financial comparison of Valmont and Manchief as modeled in Proceeding No. 16A-0396E with the more refined financial overview presented in this proceeding, also as further described below.

- *Attachment A*. Attachment A shows the different Loads and Resources tables from the August 2017 updated Electric Resource Plan ("ERP") assumptions filing (inclusive of the early retirement of Comanche 1 and Comanche 2 and the CEPP resources (provided as Table (i) in Attachment A) to the October 2019 ERP Annual Update (provided as Table (ii) in Attachment A) with annotated explanations of key drivers included as part of the Attachment. Attachment A includes explanations of updates on the resource side as well as a numeric representation of load forecast and demand response forecast changes, and narrative explanations for drivers on the load side. The final Table (iii) in

Attachment A provides a comparison between Table (i) and Table (ii) with explanations of the deltas between the two tables.

- *Attachment B*. Attachment B shows the 120-Day Report financial modeling for Valmont and Manchief versus the financial modeling for these generators based on more refined and detailed due diligence conducted for purposes of this CPCN proceeding. Attachment B includes a comparison table for each generator illustrating changes as between the two financial models as the Company has moved forward with these approved acquisitions. Attachment B also includes a breakdown of the following cost categories: (1) equity and debt components; (2) forecasts of operations and maintenance ("O&M") and capital additions, for each generator; and (3) key inputs for each generator in the financial models (e.g., weighted average cost of capital, tax rates, depreciation rates/depreciation expense, useful lives, capacity factor). The Attachment B information reflects corrections and updates identified between the Settling Parties over the course of this proceeding. The O&M forecast for each unit starts with the estimates used for the Phase II bid evaluation process for both Valmont and Manchief. These estimates replaced the ongoing O&M and capital expense estimates provided directly from the bidder when the bids were initially submitted in response to the Company's Phase II competitive solicitation. The Company conducted further due diligence on Valmont and Manchief, respectively, and then refined the O&M forecasts for purposes of this proceeding. These O&M

forecasts assume a five percent capacity factor for each facility consistent with the assumptions in the Phase II bid evaluation process. The actual O&M costs and capacity factor will depend upon the operation of Valmont and Manchief. The O&M forecasts for Valmont and Manchief reflect the Company's initial estimates to perform major repairs (i.e., hot gas inspections or major overhauls) on the units after achieving certain levels of operating hours. However, no estimated costs for inspections or overhauls were included for Valmont because the capacity factor for these units is assumed to be five percent. At this level of operation, a hot gas inspection or major overhaul will not be required on either of the two Valmont units.

IV. Key Information Regarding Valmont and Manchief

A. Asset Lives

The Settling Parties agree that the assumed asset life for Valmont is 2038 and the assumed asset life for Manchief is 2040. No costs are modeled or included for these generators beyond the end of these asset lives. The Settling Parties further agree that depreciation expenses for Valmont and Manchief are based on an assumption of straight line depreciation over the assets' remaining useful lives of 18 years (i.e., 2020-2038 for Valmont and 2022-2040 for Manchief) with an assumed 9.92 percent removal cost. Settling Parties are not restricted from taking positions in future proceedings regarding alternative asset lives or depreciation schedules.

B. Generator Operating Expectations

The Settling Parties agree on key operating expectations and constraints for Valmont and Manchief with regard to: (1) current nitrogen oxides ("NOx") limits for Valmont and Manchief and the impacts of these limits on operation; (2) the renewal of NOx emission permits issued by the Colorado Department of Public Health and Environment ("CDPHE") and any anticipated issues with renewal; and (3) other relevant constraints on generator operation through other permits or transmission constraints, as described below.

i. Valmont Current NOx Limits and Permit Renewal

Upon purchase by Public Service, Valmont will be subject to a 39.0 ton per year NOx limit, which includes emissions from both turbines and both heaters. Emissions are monitored by Continuous Emissions Monitoring Systems ("CEMS") as required by the permit and reported to the Environmental Protection Agency ("EPA") Acid Rain Program. The facility tonnage limit will restrict the facility to a capacity factor of approximately 14 percent.

The Title V Operating Permit for Valmont was renewed and is dated April 1, 2019. The next renewal application is required to be submitted by April 1, 2023. Because the permit already contains Reasonably Available Control Technology requirements, and the units are operationally limited based on the permitted NOx tonnage, no changes to the NOx permit requirements are expected during subsequent renewals of the Title V permit. This will remain the case even though the Denver Metro Northern Front Range Ozone Non-Attainment Area ("DMNFR NAA") was changed in December 2019 to a Serious non-attainment designation, and if the DMNFR NAA is

changed to a Severe non-attainment designation in the future, because the facility is already categorized as a Major Source for NOx in the current Title V permit.

ii. Manchief Current NOx Limits and Permit Renewal

The Manchief permit has a NOx limit of 396.7 tons per year for each turbine. Emissions are monitored by CEMS as required by the permit and reported to the EPA Acid Rain Program. No operational restrictions are expected based on the NOx emission limits. For reference, the maximum annual NOx tonnage reported to the Acid Rain Program from either unit between 2015 and 2018 was 50.0 tons.

The Title V Operating Permit renewal for this facility is dated January 1, 2019. The next renewal application is required to be submitted by January 1, 2023. Because the permit already contains Best Available Control Technology requirements, no changes to the NOx permit requirements are expected during subsequent renewals of the Title V permit. Manchief is outside the DMNFR NAA so it would not be impacted by any change to Severe non-attainment designation.

iii. Other Relevant Constraints

Public Service has not presently identified any other constraints on the expected operations of Valmont and Manchief but other constraints may appear in the future as the Company continues the transition of its generation fleet. As such operational or other constraints are identified in the future, the Company will report and discuss the impact in Electric Commodity Adjustment ("ECA") filings as appropriate and consistent with the discussion in Part V below.

C. Storage Substitution Considerations

The Settling Parties agree that stand-alone storage or solar with storage facilities representative of bids received in recent competitive solicitations are not suitable replacements for Valmont and Manchief. The CEPP was developed through a comprehensive and competitive process documented in the Company's 120-Day Report filed in Proceeding 16A-0396E. Through this process, bids for Manchief and Valmont, along with 17 bids for stand-alone storage, 14 bids for stand-alone solar, and 32 solar with storage bids were evaluated using the fully-litigated and Commission-approved Phase I assumptions and methodologies with oversight by an Independent Evaluator. Manchief and Valmont, four wind facilities, two stand-alone solar facilities, and three solar with storage facilities were selected as the Company's preferred, cost-effective CEPP and approved by the Commission in Decision No. C18-0761.

In approving the CEPP, the Commission specifically noted the low pricing for new wind and the existing gas-fired CTs bid into the Phase II competitive solicitation as "a rare opportunity to capture some of the lowest resource bids ever experienced in Colorado." Decision No. C18-0761, Paragraph 103. The CEPP also properly balances the use of battery energy storage and gas peaking capacity based on the current state of battery technology and operational limitations of the ERP bids. In Paragraph 106 of Decision No. C18-0761, the Commission opined on the timeliness of solar with storage acquisitions and found that "[t]he proposed acquisitions will offer a learning opportunity to examine how solar paired with storage can enhance system reliability and flexibility." The Settling Parties expect to see improvements in cost and performance in storage technology in future competitive solicitations.

With regard to generation capacity credit, based on Effective Load Carrying Capability ("ELCC") studies filed in Proceeding 16A-0396E, the Company estimates that 500-600 MW of additional solar with storage would be required to replace the generation capacity credit of Valmont and Manchief.[5] However, this level of solar with storage would only provide a maximum of 250-300 MW of flex reserve compared to the 383 MW of flex reserve credit for the combustion turbines.[6] In order to acquire a similar level of flex reserve credit, the Company would need to acquire approximately 750 MW of additional solar with storage. Manchief and Valmont provide low-cost options that allow for integration of additional levels of renewable energy and contribute significantly to meeting the resource need identified in Proceeding No. 16A-0396E. A CEPP absent Valmont and Manchief could result in increased curtailments of renewable energy, which in turn would increase carbon dioxide emissions from the Public Service system and significantly reduce the Company's ability to reliably integrate its wind generation portfolio, which is expected to increase by 1,100 MW by the end of 2020 under the approved CEPP.

The Settling Parties agree that the acquisition of flexible generation resources is an important component of the Company's energy transition. Flexible generation enables the acquisition of additional renewable energy. Flexible generation resources like these gas units in the CEPP can work together with intermittent renewable energy to displace the operation of more carbon-intensive generation resources as the

[5] This calculation assumes solar with storage facility design similar to those acquired in the CEPP, i.e., 4-hour duration battery storage with a nameplate capacity equal to 50 percent of the solar nameplate capacity.
[6] This calculation assumes that a 4-hour duration battery embedded in a solar facility could be afforded 100 percent Flex Reserve credit.

Company works to meet its carbon objectives in the future while maintaining reliability for customers. These units are being acquired in the context of adding 1,100 MW of wind and 700 MW of solar to the Public Service system, which will bring the system to 55 percent renewable energy following the full implementation of the CEPP. These units are also critical for maintaining reliability and backing up increasing amounts of variable generation while bringing minimal emissions to the system. Flexible generation to integrate variable generation is important as the Company moves into future ERP cycles with aggressive clean energy targets announced by the Company and codified by the General Assembly. Public Service estimates that these two gas combustion turbines will emit less than 2 percent of estimated 2030 carbon dioxide emissions from the Public Service owned and purchased generation fleet. The 120-Day Report filed in Proceeding No. 16A-0396E forecast Public Service's energy mix will rely less on natural gas-fired generation in 2026 with the CEPP that includes these units.[7] Further, only Valmont represents incremental emissions to the system, as Manchief is already serving the Company's customers. Viewed alone, Valmont's carbon dioxide emissions would be approximately 0.3 percent of 2030 emissions. But when viewed holistically, Valmont is likely to have an even smaller emissions impact on the system, as it is intended to balance and enable increasing amounts of renewable energy on the system.

Valmont and Manchief are low cost options while simultaneously providing reliability and flexibility benefits to the system to allow for the continued integration of intermittent and clean generation. The Settling Parties agree that, given these and

[7] 120-Day Report, at 18.

other considerations, acquisition of Valmont and Manchief is a utility action consistent with the Company's approved resource plan and should have a presumption of prudence consistent with Rule 3617(d), and there is no change in circumstances rendering the Commission's prior approvals invalid.

D. Cost and Operational Considerations

i. Total Projected Cost of Valmont and Manchief

The Settling Parties agree that the total projected levelized cost for Valmont and Manchief in $/kW-mo is reflected in the table below, categorized by purchase price, fixed O&M, and ongoing capital. In addition, Attachment B to the Settlement Agreement provides a more detailed comparison between the as bid and CPCN levelized costs for Valmont and Manchief, respectively.

($/kW-mo)	**2022 Valmont *As Bid***	**Early Valmont *CPCN***
Purchase Price	$2.43	$2.26
2016 ($/kW-mo)	**2022 Valmont *As Bid***	**Early Valmont *CPCN***
Present Value Fixed O&M	$0.36	$0.27
Present Value Ongoing Capital	$0.33	$0.45

($/kW-mo)	**Manchief *As Bid***	**Manchief *CPCN***
Purchase Price	$1.50	$1.50
2016 ($/kW-mo)	**Manchief *As Bid***	**Manchief *CPCN***
Present Value Fixed O&M	$0.11	$0.18
Present Value Ongoing Capital	$0.26	$0.33

ii. Cost to Achieve Commercial Operation for Valmont

Under the terms of the PSA between Public Service and Southwest Generation (included as part of the Company's direct case as Highly Confidential Attachment JWI-2), the term Commercially Operable is a defined term and refers to certain activities that Southwest Generation must undertake and demonstrate to Public Service that the facility is operable. Those activities and requirements are detailed in Exhibit A of the PSA and include: (1) completion of necessary restart work under the restart contracts; (2) compliance of the facility with permit requirements and national and regional reliability standards; (3) functional testing of the facility and subsystems; (4) performance testing; (5) emissions testing; and (6) system checks. When the performance demonstration has been completed, the Company and Southwest Generation, as the parties to the PSA, will confirm the date that Valmont becomes Commercially Operable (i.e., the Commercially Operable Date). As a closing condition of the PSA, the Commercially Operable Date must have occurred in order for Public Service to purchase the assets.

V. Future Reporting in the Quarterly Electric Commodity Adjustment Filings

The Settling Parties agree that the Company will provide, for informational purposes only, as part of its quarterly filings related to the ECA, unit-level details regarding the expected and actual operation of all dispatchable resources and aggregate details regarding the expected and actual operation of each category of non-dispatchable resources (e.g., wind category, solar category). Information provided will include projected use information in MWh and brief descriptions of material generator operational assumptions for the relevant period as well as a brief narrative explanation

regarding any material differences in actual operations as compared to projected operations in the corresponding prior forecasted quarterly filing. This information will first be included in the June 2020 ECA filing. The Settling Parties agree that after two years of this reporting, the Settling Parties will meet to discuss the effectiveness of this reporting and whether it should be continued or modified in any way and report any proposed modifications to the Commission. The Settling Parties further agree that information shall be designated as Confidential or Highly Confidential as appropriate. No Settling Party is restricted from accessing this information provided that the Settling Party has executed appropriate non-disclosure agreements consistent with Commission Rules and access is consistent with any protective order entered by the Commission. Moreover, this Settlement Agreement does not restrict the positions that may be taken by any Settling Party in future ECA proceedings.

VI. Cost Recovery for Valmont and Manchief

The Settling Parties agree that the Company's cost recovery proposal as set forth in the Direct Testimony of Jack W. Ihle should be approved by the Commission. For Manchief, the Settling Parties agree that the Company should recover energy costs through the ECA and capacity-related costs through the Purchased Capacity Cost Adjustment ("PCCA") from the time that Manchief is acquired until the costs are incorporated into base rates through a future rate review proceeding. The Settling Parties further agree that because the Valmont facility is not currently operating on the system under a PPA, the Company will include Valmont in rate base and recover costs through base rates as part of a future rate review proceeding.

VII. Future Electric Resource Plan Filing ("ERP") Commitments

The Settling Parties agree that going forward, the Company will provide additional analyses about Valmont and Manchief as a part of future ERP filings with the Commission, as described below.

A. Retirement Dates

The Company commits to present Valmont and Manchief for retirement by 2038 and 2040, respectively, in the Company's future ERP filing(s) with a Resource Acquisition Period that includes those years. The 2038 and 2040 end of life dates for Valmont and Manchief, respectively, are consistent with the CEPP approved by Decision No. C18-0761. While the planned retirements and associated resource need will be reflected in the Company's cumulative resource need following 2038 and 2040, the Company may bid Valmont and Manchief into competitive solicitations following their respective retirement dates. This Settlement Agreement shall not restrict the evaluation of possible bids for Valmont and Manchief pursuant to ERP Rules in future applicable ERP proceedings, nor does it restrict any Settling Party from opposing a bid for continued operation of Valmont or Manchief in a future ERP proceeding.

B. Estimate of Ongoing Capital Additions After 2035

The Company commits to present to the Commission an estimate of ongoing capital additions, and a cost-benefit analysis (i.e., early retirement of units versus continued operation) of those expenditures, at Valmont and Manchief after 2035 in all of the Company's future ERP filing(s) with a Resource Acquisition Period that includes year-end 2035 or any year thereafter (so long as Valmont and/or Manchief remain on-line). This information provided in relevant future ERP proceedings will be an estimate,

and the prudence of such expenditures will be evaluated in future rate review proceedings in recognition of the presumption of prudence that attaches to the CPCNs for Valmont and Manchief, respectively. Parties may provide testimony and/or comments to the Commission consistent with applicable ERP Rules regarding the costs and benefits of these units in future ERP proceedings.

C. Carbon-Neutral Peaking Resources Analysis in Next ERP

The Company agrees to put forward an analysis of potential utilization of carbon-neutral peaking resources as a part of the Phase I portion of the Company's next ERP.

D. Future Loads and Resources Table Reporting

The Settling Parties agree that going forward, the Company will provide a more detailed Loads and Resources table as part of its future ERP Annual Update filings made pursuant to Rule 3618. The more detailed Load and Resources table will include a detailed breakdown of the changes in the forecast as compared to the most recent ERP Annual Update filing and narrative explanation surrounding the drivers for any such changes.

GENERAL PROVISIONS

1. This Agreement is made for settlement purposes only. No Settling Party concedes the validity or correctness of any regulatory principle or methodology directly or indirectly incorporated in this Agreement. Furthermore, this Agreement does not constitute agreement, by any Settling Party, that any principle or methodology contained within or used to reach this Agreement may be applied to any situation other than the above-captioned proceeding, except as expressly set forth herein. No binding precedential effect or other significance, except as may be necessary to enforce this Agreement or a Commission order concerning the Agreement, shall attach to any principle or methodology contained in or used to reach this Agreement, except as expressly set forth herein.

2. Each Settling Party understands and agrees that this Agreement represents a negotiated resolution of all issues the Settling Party either raised or could have raised in this proceeding. The Settling Parties agree this Agreement, as well as the negotiation process undertaken to reach this Agreement, are just, reasonable, and consistent with and not contrary to the public interest and should be approved and authorized by the Commission.

3. The discussions among the Settling Parties that produced this Agreement have been conducted in accordance with Rule 408 of the Colorado Rules of Evidence ("CRE").

4. Nothing in this Agreement shall constitute a waiver by any Settling Party with respect to any matter not specifically addressed in this Agreement. In the event this Agreement becomes null and void or in the event the Commission does not

approve this Agreement, this Agreement, as well as the negotiations or discussions undertaken in conjunction with this Agreement, shall remain inadmissible into evidence in these or any other proceedings in accordance with CRE 408.

5. The Settling Parties will support all aspects of this Agreement embodied in this document in any hearing conducted to determine whether the Commission should approve this Agreement, and/or in any other hearing, proceeding, or judicial review relating to this Agreement or the implementation or enforcement of its terms and conditions. Each Settling Party also agrees that, except as expressly provided in this Agreement, it will take no action in any administrative or judicial proceeding, or otherwise, which would have the effect, directly or indirectly, of contravening the provisions or purposes of this Agreement. However, each Settling Party expressly reserves the right to advocate positions different from those stated in this Agreement in any proceeding other than one necessary to obtain approval of, or to implement or enforce, this Agreement or its terms and conditions.

6. The Settling Parties do not believe any waiver or variance of Commission Rules is required to effectuate this Agreement, but agree jointly to apply to the Commission for a waiver of compliance with any requirements of the Commission's current Rules and Regulations if necessary to permit all provisions of this Agreement to be approved, carried out and effectuated.

7. This Agreement is an integrated agreement that may not be altered by the unilateral determination of any Settling Party. There are no terms, representations or agreements among the parties which are not set forth in this Agreement (including attachments).

8. This Agreement shall not become effective until the Commission issues a final decision addressing the Agreement. In the event the Commission modifies this Agreement in a manner unacceptable to any Settling Party, that Settling Party may withdraw from the Agreement and shall so notify the Commission and the other Settling Parties in writing within ten (10) days of the date of the Commission order. In the event a Settling Party exercises its right to withdraw from the Agreement, this Agreement shall be null and void and of no effect in this or any other proceeding.

9. There shall be no legal presumption that any specific Settling Party was the drafter of this Agreement.

10. This Agreement may be executed in counterparts, all of which when taken together shall constitute the entire Agreement with respect to the issues addressed by this Agreement. This Agreement may be executed and delivered electronically and the Settling Parties agree that such electronic execution and delivery, whether executed in counterparts or collectively, shall have the same force and effect as delivery of an original document with original signatures, and that each Settling Party may use such facsimile signatures as evidence of the execution and delivery of this Agreement by the Settling Parties to the same extent that an original signature could be used.

Xcel | PSCo - Loads and Resources Tables

Manchief & Valmont Gas Acquisition - CPCN (Proceeding No. 19A-0409E)

Table (i) - ERP Phase II PSCo Loads & Resources Table - From August 2017 ERP Phase II Updated Assumption Filing

Amended to include the retirement of Comanche 1 & 2 and the Colorado Energy Plan Portfolio (CEPP) in total capacity.

		2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Notes
8	Owned Coal	2,473	1,981	1,981	1,981	1,981	1,981	1,656	1,656	1,656	1,280	- Amended to include Comanche 1 (EOY 2022) and Comanche 2 (EOY 2025) retirements.
9	Purchased Coal	150	150	150	150	150	150	-	-	-	-	
10	**Total Coal-Fired Generation**	**2,623**	**2,131**	**2,131**	**2,131**	**2,131**	**2,131**	**1,656**	**1,656**	**1,656**	**1,280**	
11	Owned Gas-Steam	-	352	352	352	352	352	352	352	352	352	
12	Owned Combined Cycle	1,836	1,836	1,836	1,836	1,836	1,836	1,836	1,836	1,836	1,836	
13	Purchased Combined Cycle	379	379	250	250	250	250	118	-	-	-	
14	Owned Combustion Turbine	723	723	723	723	723	1,067	1,067	1,067	1,067	1,067	- Amended to include CEPP resources.
15	Purchased Combustion Turbine	1,070	1,070	1,070	1,070	1,070	814	814	814	814	738	
16	**Total Gas-Fired Generation**	**4,008**	**4,360**	**4,231**	**4,231**	**4,231**	**4,319**	**4,187**	**4,069**	**4,069**	**3,993**	
17	Owned Storage	210	162	180	256	256	256	256	256	256	256	
18	Purchased Storage	-	-	-	-	-	-	196	196	196	196	- Amended to include CEPP resources.
19	Purchased Biomass	3	3	3	3	3	3	-	-	-	-	
20	Owned Hydro	25	25	25	25	25	25	25	25	25	25	
21	Purchased Hydro	20	19	19	18	16	16	15	15	14	14	
22	Owned Solar	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
23	Purchased Solar	131	130	129	129	128	127	486	483	480	479	- Amended to include CEPP resources.
24	Customer Choice Solar	115	148	210	250	289	326	360	392	421	449	
25	Owned Wind	-	-	-	49	81	81	81	81	81	81	- Amended to include CEPP resources.
26	Purchased Wind	409	409	401	401	438	438	438	438	438	428	- Amended to include CEPP resources.
27	n/a											
28	**Total Renewable/Other Generation**	**913**	**897**	**968**	**1,132**	**1,237**	**1,273**	**1,858**	**1,887**	**1,912**	**1,929**	
29	**TOTAL ACCREDITED CAPACITY (MW)**	**7,545**	**7,388**	**7,331**	**7,494**	**7,600**	**7,724**	**7,701**	**7,612**	**7,638**	**7,202**	*A*
30	PSCo Native Load Forecast - Summer 2017	6,532	6,616	6,671	6,733	6,792	6,846	7,029	7,111	7,163	7,218	
31	Demand Response	(555)	(575)	(598)	(623)	(623)	(623)	(623)	(623)	(623)	(623)	
32	**FIRM OBLIGATION LOAD (MW)**	**5,977**	**6,041**	**6,073**	**6,110**	**6,169**	**6,223**	**6,406**	**6,488**	**6,540**	**6,595**	*B*
33	Target Planning Reserve Margin @ 16.3%	974	985	990	996	1,006	1,014	1,044	1,058	1,066	1,075	
34	IREA & HCEA Backup Reserves	40	40	40	40	40	40	40	40	40	40	
35	**TOTAL PLANNING RESERVE MARGIN (MW)**	**1,014**	**1,025**	**1,030**	**1,036**	**1,046**	**1,054**	**1,084**	**1,098**	**1,106**	**1,115**	*C*
36	Actual Reserve Margin	1,568	1,348	1,259	1,385	1,432	1,501	1,296	1,125	1,099	608	*A - B*
37	**RESOURCE POSITION (MW): LONG/(SHORT)**	**554**	**323**	**229**	**349**	**386**	**447**	**213**	**28**	**(6)**	**(507)**	*A - B - C*

**In rows 29, 36, and 37: ~ 1 MW added to calculated values to account for rounding and to match original filing.*

Table (ii) - Current PSCo Loads & Resources Table - From PSCo ERP Annual Update October 2019

Generation resources and retirements of the Colorado Energy Plan Portfolio (CEPP) and ERP Amendment are included in total capacity.

					2020	2021	2022	2023	2024	2025	2026	Notes
44	Owned Coal				1,980	1,980	1,980	1,655	1,655	1,655	1,278	- Includes Comanche 1 (EOY 2022) and Comanche 2 (EOY 2025) early retirements.
45	Purchased Coal				150	150	150	-	-	-	-	
46	**Total Coal-Fired Generation**				**2,130**	**2,130**	**2,130**	**1,655**	**1,655**	**1,655**	**1,278**	
47	Owned Gas-Steam				310	310	310	310	310	310	310	
48	Owned Combined Cycle				1,836	1,836	1,836	1,836	1,836	1,836	1,836	
49	Purchased Combined Cycle				251	251	251	118	-	-	-	
50	Owned Combustion Turbine				723	723	1,067	1,067	1,067	1,067	1,067	- Includes CEPP resources.
51	Purchased Combustion Turbine				1,067	1,067	812	812	812	812	735	
52	**Total Gas-Fired Generation**				**4,187**	**4,187**	**4,276**	**4,144**	**4,026**	**4,026**	**3,948**	
53	Owned Storage				180	256	256	256	256	256	256	
54	Purchased Storage				-	-	-	206	206	206	206	- Includes CEPP & Amended ERP resources.
55	Purchased Biomass				3	3	3	3	-	-	-	
56	Owned Hydro				25	25	25	25	25	25	25	
57	Purchased Hydro				18	16	16	15	15	14	14	
58	Owned Solar				0.5	0.5	0.5	0.5	0.5	0.5	0.5	
59	Purchased Solar				136	135	134	492	489	487	484	- Includes CEPP & Amended ERP resources.
60	Customer Choice Solar				230	263	393	422	451	479	504	
61	Owned Wind				86	118	118	118	118	118	118	- Includes CEPP resources.
62	Purchased Wind				366	398	398	398	398	398	390	- Includes CEPP resources.
63	Firm Transmission Import				(58)	(58)	(58)	(58)	(58)	(58)	(58)	
64	**Total Renewable/Other Generation**				**986**	**1,158**	**1,287**	**1,879**	**1,902**	**1,926**	**1,941**	
65	**TOTAL ACCREDITED CAPACITY (MW)**				**7,304**	**7,476**	**7,694**	**7,678**	**7,583**	**7,607**	**7,167**	*A*
66	PSCo Native Load Forecast - Summer 2019				6,803	6,806	6,840	6,887	6,917	6,969	7,045	
67	Demand Response				(476)	(489)	(503)	(520)	(520)	(520)	(520)	
68	**FIRM OBLIGATION LOAD (MW)**				**6,327**	**6,317**	**6,336**	**6,367**	**6,397**	**6,449**	**6,525**	*B*
69	Target Planning Reserve Margin @ 16.3%				1,031	1,030	1,033	1,038	1,043	1,051	1,064	
70	IREA & HCEA Backup Reserves				40	40	40	40	40	40	40	
71	**TOTAL PLANNING RESERVE MARGIN (MW)**				**1,071**	**1,070**	**1,073**	**1,078**	**1,083**	**1,091**	**1,104**	*C*
72	Actual Reserve Margin				976	1,159	1,357	1,311	1,186	1,158	643	*A - B*
73	**RESOURCE POSITION (MW): LONG/(SHORT)**				**(95)**	**89**	**284**	**233**	**103**	**67**	**(461)**	*A - B - C*

Xcel | PSCo - Loads and Resources Tables

Manchief & Valmont Gas Acquisition - CPCN (Proceeding No. 19A-0409E)

Table (iii) - Changes to PSCo Loads & Resources Table - Delta of Current less Phase II

Generation resources and retirements of the Colorado Energy Plan Portfolio are included in net dependable capacity

					2020	2021	2022	2023	2024	2025	2026	Notes
80	Owned Coal				(1)	(1)	(1)	(1)	(1)	(1)	(2)	- Minor unit rating changes.
81	Purchased Coal				-	-	-	-	-	-	-	
82	**Total Coal-Fired Generation**				**(1)**	**(1)**	**(1)**	**(1)**	**(1)**	**(1)**	**(2)**	
83	Owned Gas-Steam				(42)	(42)	(42)	(42)	(42)	(42)	(42)	- Cherokee 4 derate.[1]
84	Owned Combined Cycle				-	-	-	-	-	-	-	
85	Purchased Combined Cycle				1	1	1	0	-	-	-	- Minor unit rating changes.
86	Owned Combustion Turbine				0	0	0	0	0	0	0	
87	Purchased Combustion Turbine				(3)	(3)	(2)	(2)	(2)	(2)	(3)	- Minor unit rating changes.
88	**Total Gas-Fired Generation**				**(44)**	**(44)**	**(43)**	**(43)**	**(43)**	**(43)**	**(45)**	
89	Owned Storage				(76)	(0)	(0)	(0)	(0)	(0)	(0)	- Cabin Creek upgrade delay.
90	Purchased Storage				-	-	-	10	10	10	10	- Replacement of Picadilly storage from CEPP with Front Range-Midway storage in ERP amendment (storage only portion of solar + storage).[2]
91	Purchased Biomass				0	0	0	3	-	-	-	- Biomass PPA revised PPA termination date.
92	Owned Hydro				0	0	0	0	0	0	0	
93	Purchased Hydro				(0)	0	0	(0)	(0)	(0)	(0)	
94	Owned Solar				(0)	(0)	(0)	(0)	(0)	(0)	(0)	
95	Purchased Solar				7	7	7	6	6	6	6	- 2020-26 Comanche ELCC increased from 47% to 55% due to correction of incremental ELCC interpolation formula. 2023-26 Replacement of Owl & Picadilly from CEPP with Boone & Front Range-Midway.
96	Customer Choice Solar				(20)	(26)	67	62	59	58	55	- Decrease in Customer Choice Solar forecast and the addition of EVRAZ's Bighorn (100 MW of accredited) net meter solar in 2022 forward.[3]
97	Owned Wind				37	37	37	37	37	37	37	- Rush Creek ELCC increased from 8.2% to 14.3% to incorporate into system wind ELCC.
98	Purchased Wind				(35)	(39)	(39)	(39)	(39)	(39)	(38)	- System wind ELCC decreased from 16.0% to 14.3% due to the incorporation of Rush Creek.
99	Firm Transmission Import				(58)	(58)	(58)	(58)	(58)	(58)	(58)	- Reduction the firm import transmission from Four Corners from 200 MW to 142 MW. [4]
100	**Total Renewable/Other Generation**				**(145)**	**(78)**	**15**	**21**	**15**	**14**	**12**	
101	**CHANGES TO ACCREDITED CAPACITY (MW)**				**(190)**	**(123)**	**(29)**	**(23)**	**(30)**	**(31)**	**(34)**	*A*
102	PSCo Native Load Forecast				70	14	(6)	(142)	(194)	(194)	(173)	- 2019 Forecast has less oil & gas load, includes the reduction from IVVO (2017 did not), more DSM EE, EV load (2017 did not), and less distributed generation solar.
103	Demand Response				147	134	120	103	103	103	103	- Lower Strategic Issues (SI) Demand Response Goals.
104	**CHANGES TO OBLIGATION LOAD (MW)**				**217**	**148**	**113**	**(39)**	**(91)**	**(91)**	**(70)**	*B*
105	Target Planning Reserve Margin @ 16.3%				35	24	18	(6)	(15)	(15)	(11)	- Changes based on changes in row 104.
106	IREA & HCEA Backup Reserves				-	-	-	-	-	-	-	
107	**CHANGES TO PLANNING RESERVE MARGIN (MW)**				**35**	**24**	**18**	**(6)**	**(15)**	**(15)**	**(11)**	*C*
108	Actual Reserve Margin				(407)	(271)	(142)	16	62	61	36	*A - B*
109	**CHANGES TO RESOURCE POSITION (MW): LONG/(SHORT)**				**(443)**	**(295)**	**(161)**	**22**	**76**	**76**	**47**	*A - B - C*

1. Following performance testing and boiler tuning in late 2017 the Company's Energy Supply group determined that the limiting factor on Cherokee 4's capacity was high boiler exit gas temperatures caused as a result of burning natural gas in the unit boiler. As a result, Energy Supply re-rated Cherokee 4 to 310 MW beginning summer 2018 and will retain this rating for it remaining useful life. (CPUC1-1e)

2. The tables below show the breakdown between nameplate and accredited (ELCC) MWs between the failed CEPP projects and the ERP Amendment projects (Proceeding No. 19A-0530E). Note how the same battery size but with longer duration (4 > 2 hrs) is given a higher accredited (ELCC) MW.

Company & Project	Solar Nameplate (MW)	Battery Nameplate (MW)	Battery Energy (MWh)	Total ELCC	Solar ELCC	Battery ELCC	Total ELCC (MW)	Solar ELCC (MW)	Battery ELCC (MW)
CEPP Failed Projects:									
Bid ID X427	110	50	100	44%	39%	55%	70	43	28
Bid ID S430	75	-		53%	53%		40	40	
TOTAL	185	50	100				110	83	28
ERP Amendment Projects:									
Bid ID 056	100	50	200	51%	39%	75%	76	39	38
Bid ID 035	113	-		38%	38%		43	43	
TOTAL	213	50	200				119	82	38
Delta (ERP Amendment less CEPP Fails)	28	-	100				9	(1)	10

3. The 2019 Customer Choice Solar capacity has changed due to the inclusion of more actual historical information and updated information including expected market demand and timelines for new projects. (CPUC1-1f)

4. The 58 MW reduction in firm transmission import reflects Western Area Power Administrations ("WAPA") recent reduction in the south-to-north rating of the TOT-2A transmission path starting in January 2019 and posted to PSCo's OASIS system. (PSCo Annual Progress Report '16 ERP, Oct 2019)

PSCo is interconnected with the Western Interconnect (WECC reliability council area). Due to this interconnect, PSCo expects that in an emergency situation it can import non-firm supplies from western interconnect. The exact quantity of supply is unavailable and the import dependent on the availability of unused transmission capacity. 200 MW of imports with draws around plus or minus 50 MW is considered in the analysis.

In order to test the contribution of the 200 MW Transmission LIFELINE toward resource adequacy, a sensitivity was run in which the 200 MW Transmission LIFELINE was excluded from the analysis. From this sensitivity run it was found that the existence the 200 MW Transmission LIFELINE allows reducing the Planning Reserve Margin from approximately 19.2% to 16.3% while maintaining the LOLP at 1-day-in-10-years. (Section 2.8 Transmission LIFELINE - Non PSCo Imports in the 2008 Planning Reserve Margin Report)

Xcel | PSCo - Demand Forecast

Manchief & Valmont Gas Acquisition - CPCN (Proceeding No. 19A-0409E)

Phase II PSCo Demand Forecast - Summer 2017 - From August 2017 ERP Phase II Updated Assumption Filing

	2019	2020	2021	2022	2023	2024	2025	2026	
Res Base Forecast	2,564	2,604	2,628	2,655	2,677	2,702	2,724	2,750	
Non-Res Base Forecast	3,562	3,566	3,577	3,591	3,624	3,661	3,672	3,681	
DSM Forecast	(21)	(28)	(35)	(42)	(49)	(56)	(63)	(71)	
EV's Forecast	-	-	-	-	-	-	-	-	
IVVO Forecast	-	-	-	-	-	-	-	-	
Oil&Gas Forecast	-	-	-	-	107	107	107	107	
Solar Forecast	196	230	265	300	336	372	409	446	
Retail Forecast	**5,950**	**5,968**	**5,975**	**5,988**	**6,121**	**6,154**	**6,157**	**6,162**	*15 = 8+ 9 - 10 + 11 - 12 + 13 - 14*
Wholesale Forecast	525	535	552	559	572	585	597	610	
Obligation Forecast	**6,475**	**6,503**	**6,527**	**6,547**	**6,693**	**6,739**	**6,754**	**6,772**	*17 = 15 + 16*
Solar Forecast	196	230	265	300	336	372	409	446	
PSCo Native Load Forecast - Summer 2017 (MW)	**6,671**	**6,733**	**6,792**	**6,846**	**7,029**	**7,111**	**7,163**	**7,218**	*19 = 17 + 18*

Current PSCo Demand Forecast - Summer 2019 - From PSCo ERP Annual Update Oct 2019

	2019	2020	2021	2022	2023	2024	2025	2026	
Res Base Forecast	2,708	2,715	2,746	2,771	2,803	2,820	2,836	2,862	
Non-Res Base Forecast	3,567	3,567	3,566	3,565	3,569	3,565	3,569	3,580	
DSM Forecast	17	32	50	64	79	93	108	121	
EV's Forecast	12	24	38	52	69	90	117	150	
IVVO Forecast	3	9	18	27	35	43	43	42	
Oil&Gas Forecast	-	-	-	-	-	-	-	-	
Solar Forecast	112	131	149	168	186	205	223	241	
Retail Forecast	**6,156**	**6,134**	**6,133**	**6,129**	**6,140**	**6,134**	**6,149**	**6,188**	*32 = 25 + 26 - 27 + 28 - 29 + 30 - 31*
Wholesale Forecast	528	538	523	542	561	579	597	616	
Obligation Forecast	**6,683**	**6,672**	**6,657**	**6,672**	**6,701**	**6,713**	**6,746**	**6,804**	*34 = 32 + 33*
Solar Forecast	112	131	149	168	186	205	223	241	
PSCo Native Load Forecast - Summer 2019 (MW)	**6,795**	**6,803**	**6,806**	**6,840**	**6,887**	**6,917**	**6,969**	**7,045**	*36 = 34 + 35*

Changes to PSCo Demand Forecast - Delta of Current less Phase II

	2019	2020	2021	2022	2023	2024	2025	2026
Res Base Forecast	145	111	118	116	125	118	112	112
Non-Res Base Forecast	6	1	(11)	(25)	(54)	(96)	(103)	(101)
DSM Forecast	38	60	85	106	128	150	171	191
EV's Forecast	12	24	38	52	69	90	117	150
IVVO Forecast	3	9	18	27	35	43	43	42
Oil&Gas Forecast	-	-	-	-	(107)	(107)	(107)	(107)
Solar Forecast	(84)	(99)	(115)	(132)	(150)	(167)	(186)	(205)
Changes to Retail Forecast	**206**	**166**	**158**	**142**	**19**	**(21)**	**(8)**	**26**
Wholesale Forecast	2	3	(29)	(16)	(11)	(6)	0	6
Changes to Obligation Forecast	**208**	**169**	**129**	**125**	**8**	**(26)**	**(8)**	**33**
Solar Forecast	(84)	(99)	(115)	(132)	(150)	(167)	(186)	(205)
Changes to PSCo Native Load Forecast (MW)	**125**	**70**	**14**	**(7)**	**(141)**	**(194)**	**(194)**	**(172)**

Demand Response (DR)

Programs	Phase II L&R[1]	Current L&R[2]	DELTA
Large Customers/ISOC	297	170	(127)
Medium Customers/Peak Partner Rewards	91	67	(24)
Saver's Switch	235	182	(53)
AC Rewards	-	34	34
Business Thermostats	-	7	7
Critical Peak Pricing	-	11	11
Other Product Development DR Pilots/Programs	-	5	5
TOTAL: 2020 Demand Response (MW)	**623**	**476**	**(147)**

1. 2013 Strategic Issues (SI) Total DR Goals: CPUC Decision No. C14-0731 & C17-0316_16A-0396E.
2. 2018 SI Total DR Goals: CPUC Decision No. C18-0417 & C18-0743.

The native load trajectory is flatter in the 2019 forecast for several reasons. The 2017 forecast contains 107 MW for new oil and gas load which is not included in the 2019 forecast. In addition, the 2019 forecast contains Integrated Volt Var Optimization (IVVO), which lowers the forecast and the 2017 does not include the effects of IVVO. The 2019 demand forecast trajectory is flatter than the 2017 forecast as result of changes to the DSM and solar forecast. Lastly the 2019 forecast contains the Company's projection of electric vehicles (EV) load where the 2017 did not have any EV load. (CPUC1-1a)

The base peak demand forecast ("RES Base Forecast" and "Non-RES Base Forecast") produced by the Company assumes DSM achievements will continue at the historical pace. The Company then adjusts the base peak demand forecast to account for a change in the trend of DSM achievements. When future achievements are expected to be slower than historical achievements, the Company makes a negative adjustment (increasing peak demand). When future achievements are expected to outpace historical achievements, the Company makes a positive DSM adjustment (lowering peak demand). In 2017, the forecasted DSM achievements were expected to be at a slower pace than historical achievements. In 2019, forecasted achievements are expected to outpace historical achievements. (CPUC8-3)

The 2017 behind the meter solar capacity forecast (solar forecast) was based on a regulatory outlook that assumed full annual market participation up to Solar*Rewards program caps established in the Company's RES Plans. In subsequent forecasting efforts, the Company analyzed actual historical participation in the Solar*Rewards program and identified participation rates consistently below program caps. As a result, the Company has incorporated lower participation rates in the 2019 forecast to better align forecasted Solar*Rewards capacity with observed market trends.

Levelized $/kW-mo Comparison
ERP Phase II vs. CPCN

	2022 Valmont Purchase		Early Valmont Purchase	
	As Bid	*CPCN*	*As Bid*	*CPCN*
MW Rating	82	82	82	82
In-Service	May-22	May-22	May-20	May-20
Purchase Price $M	$19.90	$19.90	$18.50	$18.50
LCC ($/kW-mo)	$2.43	$2.43	$2.26	$2.26

	2022 Manchief Purchase	
	As Bid	*CPCN*
MW Rating	301.1	301.1
In-Service	May-22	May-22
Purchase Price $M	$45.20	$45.20
LCC ($/kW-mo)	$1.50	$1.50

2016 ($000)	2022 Valmont Purchase		Early Valmont Purchase	
	As Bid	*CPCN*	*As Bid*	*CPCN*
PV Fixed O&M	$2,953	$2,000	$3,236	$2,195
PV Ongoing Capital	$2,732	$3,400	$2,994	$3,726

2016 ($000)	2022 Manchief Purchase	
	As Bid	*CPCN*
PV Fixed O&M	$3,270	$5,466
PV Ongoing Capital	$7,775	$9,802

2016 ($/kW-mo)	2022 Valmont Purchase		Early Valmont Purchase	
	As Bid	*CPCN*	*As Bid*	*CPCN*
PV Fixed O&M	$0.36	$0.24	$0.39	$0.27
PV Ongoing Capital	$0.33	$0.41	$0.37	$0.45

2016 ($/kW-mo)	2022 Manchief Purchase	
	As Bid	*CPCN*
PV Fixed O&M	$0.11	$0.18
PV Ongoing Capital	$0.26	$0.33

Ongoing O&M Expenses & CapX Comparison
ERP Phase II vs. CPCN

Valmont	2016 NPV	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Fixed O&M														
CEPP	$ 2,952,855	$ -	$ -	$ 337,177	$ 343,920	$ 350,799	$ 357,815	$ 364,971	$ 372,270	$ 379,716	$ 387,310	$ 395,056	$ 402,957	$ 411,016
CPCN	$ 2,194,871	$ 223,513	$ 223,828	$ 228,229	$ 232,719	$ 237,298	$ 245,969	$ 246,733	$ 251,593	$ 256,550	$ 261,605	$ 270,762	$ 272,022	$ 277,388
Delta	*$ (757,984)*	*$ 223,513*	*$ 223,828*	*$ (108,947)*	*$ (111,201)*	*$ (113,501)*	*$ (111,846)*	*$ (118,238)*	*$ (120,678)*	*$ (123,166)*	*$ (125,705)*	*$ (124,294)*	*$ (130,935)*	*$ (133,629)*
Variable O&M														
CEPP	$ 863,063	$ -	$ -	$ 70,738	$ 106,235	$ 73,596	$ 98,707	$ 191,104	$ 102,695	$ 79,662	$ 106,844	$ 82,881	$ 237,617	$ 86,229
CPCN	$ 1,644,504	$ 101,318	$ 177,162	$ 180,706	$ 184,320	$ 188,006	$ 191,766	$ 195,602	$ 199,514	$ 203,504	$ 207,574	$ 211,725	$ 215,960	$ 220,279
Delta	*$ 781,441*	*$ 101,318*	*$ 177,162*	*$ 109,968*	*$ 78,084*	*$ 114,411*	*$ 93,059*	*$ 4,497*	*$ 96,818*	*$ 123,842*	*$ 100,730*	*$ 128,845*	*$ (21,657)*	*$ 134,050*
Ongoing Capital														
CEPP	$ 2,731,840	$ -	$ -	$ 3,247,296	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 271,549
CPCN	$ 3,726,360	$ 4,844,450	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Delta	*$ 994,520*	*$ 4,844,450*	*$ -*	*$ (3,247,296)*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ (271,549)*
TOTAL VALMONT														
CEPP	$ 6,547,758	$ -	$ -	$ 3,655,211	$ 450,156	$ 424,394	$ 456,522	$ 556,075	$ 474,966	$ 459,378	$ 494,154	$ 477,937	$ 640,574	$ 768,794
CPCN	$ 7,565,735	$ 5,169,281	$ 400,990	$ 408,935	$ 417,039	$ 425,304	$ 437,735	$ 442,335	$ 451,106	$ 460,053	$ 469,179	$ 482,488	$ 487,982	$ 497,667
Delta	*$ 1,017,977*	*$ 5,169,281*	*$ 400,990*	*$ (3,246,276)*	*$ (33,117)*	*$ 910*	*$ (18,787)*	*$ (113,740)*	*$ (23,859)*	*$ 676*	*$ (24,975)*	*$ 4,551*	*$ (152,592)*	*$ (271,127)*

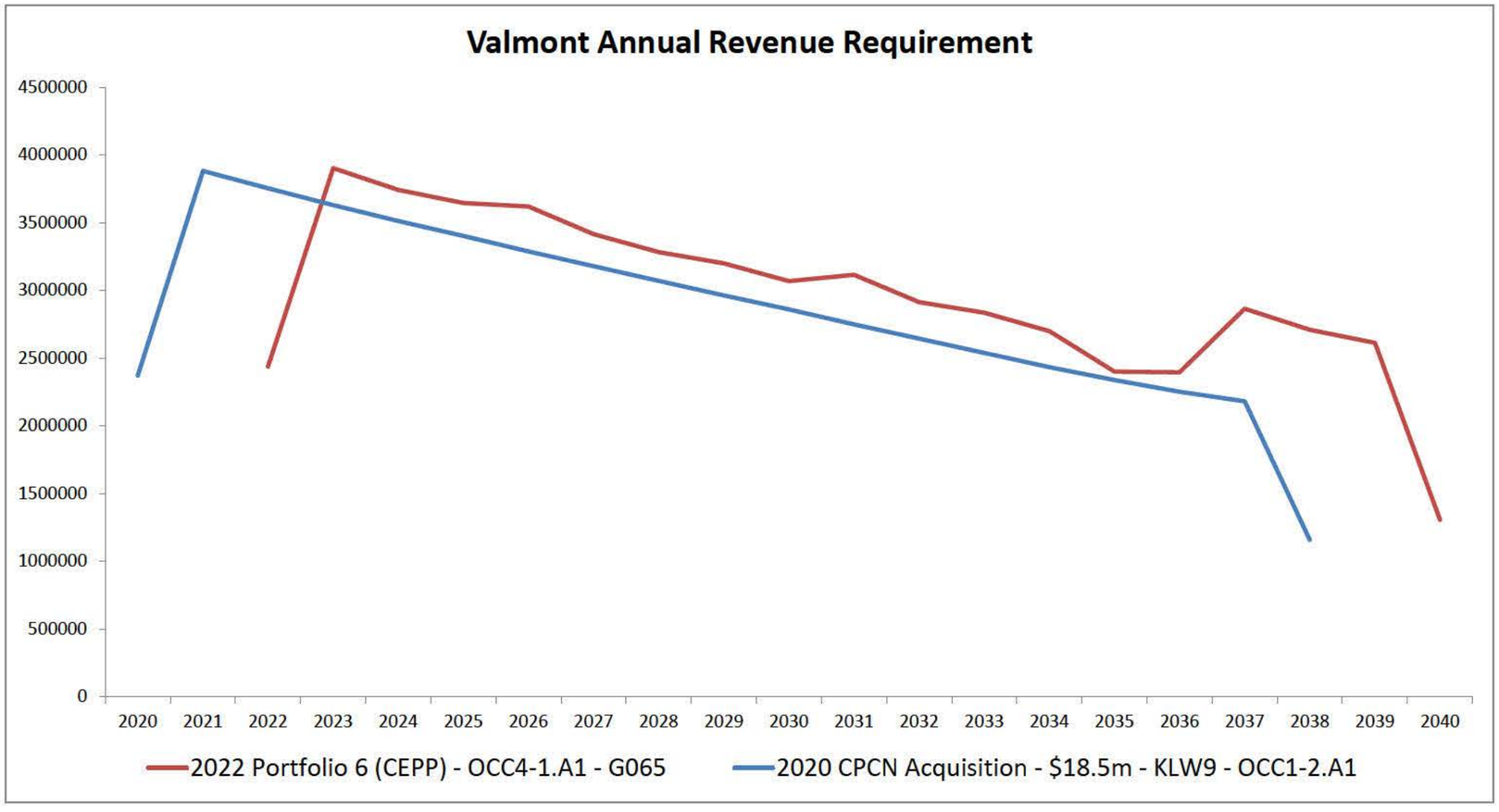
Manchief	2016 NPV	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Fixed O&M														
CEPP	$ 3,269,512	$ -	$ -	$ 259,955	$ 397,732	$ 405,686	$ 413,800	$ 422,076	$ 430,518	$ 439,128	$ 447,911	$ 456,869	$ 466,006	$ 475,326
CPCN	$ 5,465,959	$ -	$ -	$ 1,220,389	$ 389,676	$ 417,343	$ 405,418	$ 434,203	$ 495,612	$ 451,745	$ 438,838	$ 469,995	$ 456,567	$ 2,695,229
Delta	*$ 2,196,447*	*$ -*	*$ -*	*$ 960,434*	*$ (8,056)*	*$ 11,656*	*$ (8,382)*	*$ 12,127*	*$ 65,094*	*$ 12,617*	*$ (9,073)*	*$ 13,127*	*$ (9,439)*	*$ 2,219,903*
Variable O&M														
CEPP	$ 448,628	$ -	$ -	$ 37,250	$ 56,993	$ 58,133	$ 59,295	$ 60,481	$ 61,691	$ 62,924	$ 64,183	$ 65,467	$ 66,776	$ 68,111
CPCN	$ 544,487	$ -	$ -	$ 42,448	$ 43,297	$ 46,371	$ 45,046	$ 48,245	$ 55,068	$ 50,194	$ 48,760	$ 52,222	$ 50,730	$ 299,470
Delta	*$ 95,859*	*$ -*	*$ -*	*$ 5,198*	*$ (13,695)*	*$ (11,761)*	*$ (14,249)*	*$ (12,236)*	*$ (6,623)*	*$ (12,731)*	*$ (15,423)*	*$ (13,245)*	*$ (16,046)*	*$ 231,358*
Ongoing Capital														
CEPP	$ 7,774,843	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
CPCN	$ 9,802,370	$ -	$ -	$ 4,479,094	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 10,348,853
Delta	*$ 2,027,526*	*$ -*	*$ -*	*$ 4,479,094*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ 10,348,853*
TOTAL MANCHIEF														
CEPP	$ 11,492,983	$ -	$ -	$ 297,206	$ 454,725	$ 463,819	$ 473,095	$ 482,557	$ 492,208	$ 502,053	$ 512,094	$ 522,336	$ 532,782	$ 543,438
CPCN	$ 15,812,816	$ -	$ -	$ 5,741,931	$ 432,973	$ 463,714	$ 450,465	$ 482,448	$ 550,680	$ 501,939	$ 487,598	$ 522,217	$ 507,297	$ 13,343,552
Delta	*$ 4,319,833*	*$ -*	*$ -*	*$ 5,444,726*	*$ (21,752)*	*$ (105)*	*$ (22,630)*	*$ (109)*	*$ 58,471*	*$ (114)*	*$ (24,496)*	*$ (118)*	*$ (25,486)*	*$ 12,800,115*

2033	2034	2035	2036	2037	2038	2039	2040
$ 419,237	$ 427,622	$ 436,174	$ 444,897	$ 453,795	$ 462,871	$ 472,129	$ 481,571
$ 282,860	$ 288,443	$ 298,136	$ 299,944	$ 305,868	$ 311,910	$ -	$ -
$ (136,376)	*$ (139,179)*	*$ (138,038)*	*$ (144,954)*	*$ (147,928)*	*$ (150,961)*	*$ (472,129)*	*$ (481,571)*
$ 115,651	$ 89,713	$ 120,324	$ 232,955	$ 125,185	$ 97,108	$ 130,242	$ 101,031
$ 224,685	$ 229,178	$ 233,762	$ 238,437	$ 243,206	$ 103,363	$ -	$ -
$ 109,033	*$ 139,466*	*$ 113,438*	*$ 5,482*	*$ 118,021*	*$ 6,255*	*$ (130,242)*	*$ (101,031)*
$ -	$ -	$ -	$ -	$ 1,768,889	$ -	$ -	$ -
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
$ -	*$ -*	*$ -*	*$ -*	*$ (1,768,889)*	*$ -*	*$ -*	*$ -*
$ 534,888	$ 517,334	$ 556,498	$ 677,853	$ 2,347,870	$ 559,979	$ 602,371	$ 582,602
$ 507,545	$ 517,621	$ 531,898	$ 538,381	$ 549,074	$ 415,272	$ -	$ -
$ (27,343)	*$ 287*	*$ (24,599)*	*$ (139,471)*	*$ (1,798,796)*	*$ (144,707)*	*$ (602,371)*	*$ (582,602)*

2033	2034	2035	2036	2037	2038	2039	2040
$ 484,833	$ 494,530	$ 504,420	$ 514,509	$ 524,799	$ 535,295	$ 546,001	$ 278,460
$ 475,012	$ 508,738	$ 2,749,003	$ 529,291	$ 604,148	$ 550,675	$ 534,941	$ 572,922
$ (9,821)	*$ 14,209*	*$ 2,244,583*	*$ 14,783*	*$ 79,349*	*$ 15,380*	*$ (11,060)*	*$ 294,462*
$ 69,474	$ 70,863	$ 36,140	$ 73,726	$ 37,600	$ 76,705	$ 78,239	$ 39,902
$ 52,779	$ 56,526	$ 305,445	$ 58,810	$ 67,128	$ 61,186	$ 59,438	$ 63,658
$ (16,695)	*$ (14,337)*	*$ 269,305*	*$ (14,916)*	*$ 29,527*	*$ (15,519)*	*$ (18,801)*	*$ 23,756*
$ -	$ -	$ 14,138,539	$ -	$ 14,709,736	$ -	$ -	$ -
$ -	$ -	$ 10,982,286	$ -	$ -	$ -	$ -	$ -
$ -	*$ -*	*$ (3,156,253)*	*$ -*	*$ (14,709,736)*	*$ -*	*$ -*	*$ -*
$ 554,307	$ 565,393	$ 14,679,099	$ 588,235	$ 15,272,135	$ 611,999	$ 624,239	$ 318,362
$ 527,792	$ 565,265	$ 14,036,734	$ 588,101	$ 671,276	$ 611,861	$ 594,379	$ 636,580
$ (26,515)	*$ (128)*	*$ (642,365)*	*$ (133)*	*$ (14,600,859)*	*$ (139)*	*$ (29,860)*	*$ 318,218*

Valmont Revenue Requirement Analysis

ERP Phase II CEPP vs. CPCN



Inpu	
Acquisition Date:	Sunday, May 31
Useful Life:	18 years (after F
Retirement Date:	Monday, May 3
Purchase Price:	$18,500,000
Annual Average NCF:	5%

WACC - Rate Base Calculatio	Structure
Long Term Debt	44.75%
Common Stock	55.25%

Discount Rate:	6.78%
Escalation Rate:	2.00%
Depreciation:	Straightline - wi

Federal Corp Tax Rate:	21.00%
State Tax Rate:	4.63%
Composite Tax Rate:	24.66%

Narrative of Changes

Items effecting NPV Delta:
Timing of acquisition. (2020 Purchase Price $18.5m; 2022
Initial capital maintenance cost increase. (CPCN $4.8m; CI
Variable vs Fixed O&M update and classification change.

ED 120 Day Report

2022 Portfolio 6 (CEPP) - OCC4-1.A1 - G065

Revenue Requirements Calculation

In Whole Dollars

Revenue Requirements	2016 NPV	2020	2021	2022	2023	2024	2025	2026
Equity Return on CWIP/Rate Base - ***Purchase Price***	$4,137,978	$0	$0	$569,670	$1,002,665	$928,403	$856,590	$786,976
Equity Return on CWIP/Rate Base - ***Ongoing*** **CapEx**	$735,657	$0	$0	$92,959	$163,616	$151,497	$139,779	$128,419
Debt Return on CWIP/Rate Base - ***Purchase Price***	$1,278,577	$0	$0	$176,020	$309,809	$286,863	$264,674	$243,164
Debt Return on CWIP/Rate Base - ***Ongoing*** **CapEx**	$227,308	$0	$0	$28,723	$50,555	$46,811	$43,190	$39,680
O&M Expense - ***Fixed***	$2,952,855	$0	$0	$337,177	$343,920	$350,799	$357,815	$364,971
O&M Expense - ***Variable***	$863,063	$0	$0	$70,738	$106,235	$73,596	$98,707	$191,104

AS EVALUAT

Land Lease Payments	$0	$0	$0	$0	$0	$0	$0	$0
Insurance Expense	$57,837	$0	$0	$4,063	$7,104	$7,246	$7,391	$7,539
Property/Production Tax Expense	$935,541	$0	$0	$117,762	$123,650	$129,832	$136,324	$143,140
Book Depreciation Expense - ***Purchase Price***	$8,710,591	$0	$0	$708,882	$1,215,227	$1,215,227	$1,215,227	$1,215,227
Book Depreciation Expense - ***Ongoing*** **CapEx**	$1,957,190	$0	$0	$115,676	$198,302	$198,302	$198,302	$198,302
Deferred Income Tax Expense (Credit)	$171,871	$0	$0	$82,062	$193,678	$139,455	$90,941	$46,992
Current Income Tax Expense (Credit)	$1,423,151	$0	$0	$134,800	$188,018	$213,970	$235,146	$252,594
Total Revenue Requirements	**$23,451,618**	**$0**	**$0**	**$2,438,533**	**$3,902,779**	**$3,742,000**	**$3,644,085**	**$3,618,109**
Data used in chart				*$2,438,533*	*$3,902,779*	*$3,742,000*	*$3,644,085*	*$3,618,109*

Revised and Updated 2020 Acquisition

2020 CPCN Acquisition - $18.5m - KLW9 - OCC1-2.A1

Revenue Requirements Calculation
In Whole Dollars

Revenue Requirements	2016 NPV	2020	2021	2022	2023	2024	2025	2026
Equity Return on CWIP/Rate Base - ***Purchase Price***	$4,386,183	$529,593	$932,126	$863,088	$796,327	$731,611	$668,749	$607,339
Equity Return on CWIP/Rate Base - ***Ongoing*** **CapEx**	$1,148,575	$138,680	$244,089	$226,010	$208,528	$191,581	$175,120	$159,039
Debt Return on CWIP/Rate Base - ***Purchase Price***	$1,355,268	$163,637	$288,014	$266,682	$246,054	$226,057	$206,634	$187,659
Debt Return on CWIP/Rate Base - ***Ongoing*** **CapEx**	$354,893	$42,850	$75,420	$69,834	$64,432	$59,196	$54,110	$49,141
O&M Expense - ***Fixed***	$2,194,871	$223,513	$223,828	$228,229	$232,719	$237,298	$245,969	$246,733
O&M Expense - ***Variable***	$1,644,504	$101,318	$177,162	$180,706	$184,320	$188,006	$191,766	$195,602
Land Lease Payments	$0	$0	$0	$0	$0	$0	$0	$0
Insurance Expense	$61,306	$3,777	$6,605	$6,737	$6,871	$7,009	$7,149	$7,292
Property/Production Tax Expense	$1,485,701	$117,762	$123,650	$129,832	$136,324	$143,140	$150,297	$157,812
Book Depreciation Expense - ***Purchase Price***	$9,233,069	$659,011	$1,129,733	$1,129,733	$1,129,733	$1,129,733	$1,129,733	$1,129,733
Book Depreciation Expense - ***Ongoing*** **CapEx**	$2,417,791	$172,570	$295,834	$295,834	$295,834	$295,834	$295,834	$295,834
Deferred Income Tax Expense (Credit)	$211,406	$82,761	$195,327	$140,643	$91,716	$47,393	$7,099	($11,896)
Current Income Tax Expense (Credit)	$1,599,986	$135,948	$189,619	$215,792	$237,149	$254,746	$269,078	$262,713
Total Revenue Requirements	**$26,093,554**	**$2,371,421**	**$3,881,407**	**$3,753,121**	**$3,630,007**	**$3,511,604**	**$3,401,539**	**$3,287,000**

DELTA

Revenue Requirements	2016 NPV	2020	2021	2022	2023	2024	2025	2026
Equity Return on CWIP/Rate Base - ***Purchase Price***	$248,204	$529,593	$932,126	$293,418	($206,338)	($196,792)	($187,841)	($179,637)
Equity Return on CWIP/Rate Base - ***Ongoing*** **CapEx**	$412,918	$138,680	$244,089	$133,051	$44,912	$40,084	$35,341	$30,620
Debt Return on CWIP/Rate Base - ***Purchase Price***	$76,692	$163,637	$288,014	$90,662	($63,756)	($60,806)	($58,040)	($55,505)
Debt Return on CWIP/Rate Base - ***Ongoing*** **CapEx**	$127,586	$42,850	$75,420	$41,111	$13,877	$12,385	$10,920	$9,461
O&M Expense - ***Fixed***	($757,984)	$223,513	$223,828	($108,947)	($111,201)	($113,501)	($111,846)	($118,238)
O&M Expense - ***Variable***	$781,441	$101,318	$177,162	$109,968	$78,084	$114,411	$93,059	$4,497
Land Lease Payments	$0	$0	$0	$0	$0	$0	$0	$0
Insurance Expense	$3,469	$3,777	$6,605	$2,674	($233)	($238)	($242)	($247)
Property/Production Tax Expense	$550,160	$117,762	$123,650	$12,071	$12,674	$13,308	$13,973	$14,672
Book Depreciation Expense - ***Purchase Price***	$522,479	$659,011	$1,129,733	$420,851	($85,493)	($85,493)	($85,493)	($85,493)
Book Depreciation Expense - ***Ongoing*** **CapEx**	$460,601	$172,570	$295,834	$180,158	$97,533	$97,533	$97,533	$97,533
Deferred Income Tax Expense (Credit)	$39,535	$82,761	$195,327	$58,581	($101,962)	($92,063)	($83,842)	($58,889)

Current Income Tax Expense (Credit)	$176,835	$135,948	$189,619	$80,992	$49,131	$40,776	$33,932	$10,119
Total Revenue Requirements	**$2,641,935**	**$2,371,421**	**$3,881,407**	**$1,314,588**	**($272,772)**	**($230,396)**	**($242,546)**	**($331,108)**

t Assumptions

, 2020
PSCo takes ownership)
1, 2038

Return	After Tax WACC
3.75%	1.26%
9.83%	5.43%

th 9.92% Removal Cost Added

Purchase Price $19.9m)
EPP $3.2m)

2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
$719,357	$653,299	$587,850	$522,393	$456,925	$391,468	$326,000	$260,543	$195,076	$129,618	$66,574	$11,409	($38,317)	($71,619)
$117,385	$106,606	$95,926	$85,244	$74,561	$76,621	$65,389	$52,922	$40,486	$28,082	$91,309	$63,224	$27,977	($1,727)
$222,271	$201,860	$181,637	$161,412	$141,183	$120,958	$100,730	$80,504	$60,276	$40,050	$20,570	$3,525	($11,839)	($22,129)
$36,270	$32,940	$29,640	$26,339	$23,038	$23,675	$20,204	$16,352	$12,510	$8,677	$28,213	$19,535	$8,644	($534)
$372,270	$379,716	$387,310	$395,056	$402,957	$411,016	$419,237	$427,622	$436,174	$444,897	$453,795	$462,871	$472,129	$481,571
$102,695	$79,662	$106,844	$82,881	$237,617	$86,229	$115,651	$89,713	$120,324	$232,955	$125,185	$97,108	$130,242	$101,031

$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
$7,690	$7,844	$8,001	$8,161	$8,324	$8,490	$8,660	$8,833	$9,010	$9,190	$9,374	$9,561	$9,753	$4,145
$150,297	$157,812	$165,702	$173,988	$182,687	$191,821	$201,412	$211,483	$0	$0	$0	$0	$0	$0
$1,215,227	$1,215,227	$1,215,227	$1,215,227	$1,215,227	$1,215,227	$1,215,227	$1,215,227	$1,215,227	$1,215,227	$1,215,227	$1,215,227	$1,215,227	$506,344
$198,302	$198,302	$198,302	$198,302	$198,302	$233,765	$233,765	$233,765	$233,765	$233,765	$802,847	$802,847	$802,847	$334,520
$7,039	($11,796)	($11,796)	($11,225)	($11,796)	($16,622)	($14,179)	($14,245)	($15,384)	($15,329)	($303,257)	($452,224)	($456,368)	$774,052
$266,806	$260,494	$235,579	$210,090	$185,738	$169,816	$142,271	$116,834	$92,478	$66,941	$354,928	$476,650	$452,984	($798,056)
$3,415,609	**$3,281,965**	**$3,200,222**	**$3,067,867**	**$3,114,765**	**$2,912,465**	**$2,834,368**	**$2,699,553**	**$2,399,940**	**$2,394,074**	**$2,864,765**	**$2,709,733**	**$2,613,278**	**$1,307,598**
$3,415,609	*$3,281,965*	*$3,200,222*	*$3,067,867*	*$3,114,765*	*$2,912,465*	*$2,834,368*	*$2,699,553*	*$2,399,940*	*$2,394,074*	*$2,864,765*	*$2,709,733*	*$2,613,278*	*$1,307,598*

2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
$546,494	$485,642	$424,780	$363,928	$303,066	$242,213	$181,352	$120,499	$61,890	$10,606	($35,621)	($66,580)	$0	$0
$143,106	$127,171	$111,234	$95,299	$79,361	$63,427	$47,489	$31,554	$16,207	$2,777	($9,328)	($17,435)	$0	$0
$168,859	$150,056	$131,251	$112,448	$93,643	$74,841	$56,035	$37,233	$19,123	$3,277	($11,006)	($20,572)	$0	$0
$44,218	$39,294	$34,370	$29,446	$24,522	$19,598	$14,673	$9,750	$5,008	$858	($2,882)	($5,387)	$0	$0
$251,593	$256,550	$261,605	$270,762	$272,022	$277,388	$282,860	$288,443	$298,136	$299,944	$305,868	$311,910	$0	$0
$199,514	$203,504	$207,574	$211,725	$215,960	$220,279	$224,685	$229,178	$233,762	$238,437	$243,206	$103,363	$0	$0
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
$7,438	$7,586	$7,738	$7,893	$8,051	$8,212	$8,376	$8,544	$8,714	$8,889	$9,067	$3,853	$0	$0
$165,702	$173,988	$182,687	$191,821	$201,412	$211,483	$222,057	$233,160	$244,818	$257,059	$269,912	$283,407	$0	$0
$1,129,733	$1,129,733	$1,129,733	$1,129,733	$1,129,733	$1,129,733	$1,129,733	$1,129,733	$1,129,733	$1,129,733	$1,129,733	$470,722	$0	$0
$295,834	$295,834	$295,834	$295,834	$295,834	$295,834	$295,834	$295,834	$295,834	$295,834	$295,834	$123,264	$0	$0
($11,896)	($11,321)	($11,896)	($11,321)	($11,896)	($11,321)	($11,896)	($11,321)	($181,704)	($351,512)	($351,512)	$424,552	$0	$0
$237,585	$211,879	$187,320	$161,614	$137,055	$111,349	$86,790	$61,084	$207,263	$355,892	$336,801	($452,048)	$0	$0
$3,178,180	**$3,069,917**	**$2,962,231**	**$2,859,184**	**$2,748,764**	**$2,643,036**	**$2,537,990**	**$2,433,692**	**$2,338,785**	**$2,251,796**	**$2,180,071**	**$1,159,049**	**$0**	**$0**

2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
($172,863)	($167,658)	($163,070)	($158,465)	($153,860)	($149,255)	($144,649)	($140,044)	($133,186)	($119,012)	($102,195)	($77,989)	$38,317	$71,619
$25,721	$20,565	$15,308	$10,054	$4,800	($13,194)	($17,900)	($21,367)	($24,279)	($25,305)	($100,637)	($80,659)	($27,977)	$1,727
($53,412)	($51,804)	($50,386)	($48,964)	($47,540)	($46,118)	($44,694)	($43,272)	($41,152)	($36,773)	($31,577)	($24,097)	$11,839	$22,129
$7,947	$6,354	$4,730	$3,107	$1,483	($4,077)	($5,531)	($6,602)	($7,502)	($7,819)	($31,095)	($24,922)	($8,644)	$534
($120,678)	($123,166)	($125,705)	($124,294)	($130,935)	($133,629)	($136,376)	($139,179)	($138,038)	($144,954)	($147,928)	($150,961)	($472,129)	($481,571)
$96,818	$123,842	$100,730	$128,845	($21,657)	$134,050	$109,033	$139,466	$113,438	$5,482	$118,021	$6,255	($130,242)	($101,031)
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
($252)	($257)	($262)	($268)	($273)	($278)	($284)	($290)	($295)	($301)	($307)	($5,708)	($9,753)	($4,145)
$15,405	$16,176	$16,984	$17,834	$18,725	$19,662	$20,645	$21,677	$244,818	$257,059	$269,912	$283,407	$0	$0
($85,493)	($85,493)	($85,493)	($85,493)	($85,493)	($85,493)	($85,493)	($85,493)	($85,493)	($85,493)	($85,493)	($744,504)	($1,215,227)	($506,344)
$97,533	$97,533	$97,533	$97,533	$97,533	$62,069	$62,069	$62,069	$62,069	$62,069	($507,013)	($679,583)	($802,847)	($334,520)
($18,936)	$475	($100)	($96)	($100)	$5,301	$2,283	$2,924	($166,320)	($336,183)	($48,255)	$876,776	$456,368	($774,052)

($29,220)	($48,615)	($48,259)	($48,476)	($48,683)	($58,467)	($55,481)	($55,750)	$114,785	$288,952	($18,126)	($928,698)	($452,984)	$798,056
($237,429)	**($212,048)**	**($237,991)**	**($208,682)**	**($366,000)**	**($269,428)**	**($296,378)**	**($265,861)**	**($61,155)**	**($142,278)**	**($684,694)**	**($1,550,684)**	***($2,613,278)***	***($1,307,598)***

Valmont 7&8
Initial Capital - CPCN

			Valmont 7 & 8 Capital and O&		
#	*Item*	*Unit*	*2020 Capital Costs*	*Potential Future Capital Projects*	*Major Overhauls*
Section A - Valmont Purchase Cost					
1	PSA Agreement Price - Unit 11 & 12		$ 18,500,000		
	Acquisition Capital Cost - Grand Total		**$ 18,500,000**		
Section B - Valmont Acquisition Project Related Costs					
	Related labor charged to the acquisition project				
1	Xcel Labor - JD	100	$ 10,000		
2	Xcel Labor - JK	100	$ 10,000		
3	Xcel labor - Perf	100	$ 10,000		
4	Xcel labor - ES/TRC	100	$ 10,000		
5	Xcel labor - Environ	100	$ 10,000		
6	Xcel labor - Mgt	25	$ 3,750		
7	Xcel labor - Doc Control	25	$ 1,875		
8	Xcel labor - Constr site team	100	$ 10,000		
9	Xcel labor - other	25	$ 1,875		
10	Xcel labor - Admin/PC	50	$ 5,000		
11	Outside Legal	50	$ 37,500		
	Acquisition Related Capital Cost - Grand Total		**$ 110,000**		
Section C - Additional Capital Project Costs					
1	Training		$ 25,000		
2	Val Demin improvements and commissioning		$ 100,000		
3	Perf Test instruments		$ 50,000		

4	3rd Party Per test contractor		$ 50,000		
5	Relay and Automatic Voltage Regulator Setting Coordination, Arc Flash Study Update		$ 110,000		
6	Relay Maintenance Testing and Setting Updates		$ 60,000		
7	AVR/PSS Tuning and Model Verification Testing		$ 100,000		
8	AVR/PSS Replacement		$ 600,000		
9	Turbine Control System Tuning and Model Verification Testing		$ 60,000		
10	AVR/PSS, Turbine-Generator, and Reactive Capability Modeling		$ 50,000		
11	Relay Replacement		$ 280,000		
12	Generator Step-Up (GSU) Transformer Electrical Tests		$ 30,000		
13	480V and 4160V Auxiliary Transformer Electrical Tests		$ 100,000		
14	Circuit Breaker Tests		$ 24,000		
15	Control system upgrade -Valmont		$ 2,000,000		
16	Valmont Test Fuel gas		$ 30,000		
17	LAN/WAN install/upgrades		$ 400,000		
18	inlet air filters - Valmont and Manchief		$ 125,000		
19	Valmont fin-fan cleaning - hail repair		$ 50,000		
20	Batteries - DC UPS backup, FPP (Fire protect panel)		$ 250,000		

21	Valmont fogging storage tank inspections		$ 15,000		
22	Subtotal Capital		$ 4,509,000		
	Overheads	3.00%	$ 135,270		
	Contingency	2.00%	$ 90,180		
Additional Capital Projects Costs - Grand Total			**$ 4,734,450**		

Section D - Summary of All Capital Costs (As noted above)					
1	Total of Subtotal A		$ 18,500,000		
2	Total of Subtotal B		$ 110,000		
3	Total of Subtotal C		$ 4,734,450		
Capital Costs - Grand Total			**$ 23,344,450**		

Section E - Major Maintenance Overhaul Costs - Frequency based on EOH

	Overhaul Type	**EOH**			**Est. Costs**
1	Hot Gas Inspection & Repair	25,000 Hrs			$ 2,000,000
2	Major Inspection / Overhaul (Material & Labor)	50,000 Hrs			$ 4,000,000

$	4,844,450
$	5,040,166

&M Costs
Comments

Purchase & Sales Agreement with Southwest Generation

Ops, Egr, Maint - Possibly an O&M cost
new membrane - Mike McKim working with Supplier
Calibrated meters

Applicable if Xcel does not self-perform testing
Required prior to recommissioning the units for compliance with NERC PRC standards. The arc flash study, which has not been updated since 2008, should be included in the same work package. Estimated cost is for a contractor to perform the majority of the work. Company personnel may be able to perform portions of the work depending on work load. Company personnel also has no experience with the existing AVR system so it may be necessary to hire an experienced contractor for manipulating this equipment (cost included in modeling section below); will likely need to be different than the contractor performing the coordination/arc flash studies
Relays were last tested in 2012 and testing will be required prior to recommissioning the units to bring the testing into company program. Any necessary changes identified in the coordination study will also need to be implemented and can be done at this time. All are requirements for NERC PRC standards. The batteries will also need to be capacity tested
The Automatic Voltage Regulator and Power System Stabilizer will need to be tuned according to NERC standards. Will be required at the time of commissioning if considered a “new” unit for NERC compliance (later date if “existing” unit). If the requirements can be met with the existing AVR, an expert on the existing system will need to be hired. Multiple site visits may be needed. An additional company may be sub-contracted in order to perform the PSS tuning study and model verification. Any changes needed per the relay coordination study can be made at this time
The Automatic Voltage Regulator and Power System Stabilizer may need to be replaced prior to recommissioning in order to meet NERC compliance requirements if the units are considered “new”. The work included within the above AVR Tuning section is included in addition to new equipment. If the units are not considered new for the purposes of compliance, a replacement is still recommended. The equipment is aging and is no longer supported by the manufacturer. A newer system will aid in parts availability, troubleshooting, and standardization
The turbine controls may require verification of frequency response controls. Experts in the system will be needed in order to perform model verification testing needed for NERC compliance
Required for NERC standards. Some of the work may be able to be performed by the contractors mentioned above. If not, modeling work will need to be performed by a third party consultant
Recommended due to failures already occurring, to assist with standardization, and to achieve 100% generator stator ground protection
Recommended due to questionable bushing power factor test results and time since last test
Recommended due to slightly high winding resistance deviation in one of the 4160V transformers and time since last test
Recommended due to the time since last test.
Microsoft Windows, Emerson
Supports Performance Testing
integrate sites into Xcel's Business Systems structure (Avaya, etc.)
Valmont filters are in disrepair
hotsy, fin comb

Internal/external

Purchase Cost (PSA)
Purchase Support Services Costs
Facility Integration Capital Costs- Due Diligence
Sum of all capital costs

Valmont 7 & 8

Attachment KLW-9 Corrected

Ongoing O&M Expenses- CPCN

Estimated Annual Operation Hrs. (EOH)										
Combustion Turbine (CT) Equivalent Operating hours (EOH) - Scenario 1 - Assume 63,000 operated hours when purchased. (i.e., 75,000 -12,000 remaining hours)										
Combustion Turbine (CT) Equivalent Operating hours (EOH) - Scenario 2 - Assume 65,000 operated hours when purchased. (i.e., 75,000 -10,000 remaining hours)										
		SWG Reported Actuals								
Valmont 7&8 Operating Expenses		**2009**	**2010**	**2011**	**2012 [1]**	**2013**		**2014**	**2015**	**2016**
MWH Net Generation		7,296	12,204	5,904	1,488	9,264				
Year		**2009**	**2010**	**2011**	**2012 [1]**	**2013**		**2014**	**2015**	**2016**
VOM Per Net Generation ($/NMWH)			2.95	7.19	2.74	0.22		4.29	4.38	4.47
Variable O&M (VOM)										
70565	WATER/SEWER - VOM		34,761	41,672	3,763	1,902	**0.93**			
70595	WATER TREATMENT - VOM		1,199	800	317	141	**0.07**			
Sub Total Variable O&M			**35,960**	**42,472**	**4,080**	**2,043**				
Fixed O&M (FOM)										
70140	GASES (CEMS) [3]	3,201	6,355	-	-	6,000	**3,111.32**	3,173.55	3,237.02	3,301.76
70240	TOOLS/ SAFETY	12,757	6,674	16,122	1,583	1,227	**7,672.56**	7,826.01	7,982.53	8,142.18
70280	AIR POLLUTION CONTROL	4,465	14,814	10,986	4,761	5,693	**8,143.82**	8,306.70	8,472.83	8,642.29
70300	GAS TURBINE - PRIMARY [3]	-	18,503	73,788	34,097	17,885	**28,854.58**	29,431.67	30,020.31	30,620.71
70330	ELECTRICAL SYSTEMS	-	49,257	20,063	51,635	22,466	**28,684.15**	29,257.83	29,842.99	30,439.85
70342	FUEL GAS COMPRESSION SYS	-	-	-	5,573	2,863	**1,687.13**	1,720.87	1,755.29	1,790.39
70350	CONTROLS & INSTRUMENTATION	-	2,411	36,354	29,642	28,081	**19,297.56**	19,683.51	20,077.18	20,478.73

70360	MAINTENANCE EXPENSE MISC [3]	153,750	76,552	12,241	21,689	17,576	**56,361.60**	57,488.83	58,638.61	59,811.38
70380	BUILDINGS AND GROUNDS [3]	8,881	17,345	63,349	16,104	8,239	**22,783.63**	23,239.30	23,704.09	24,178.17
70420	RENTAL EQUIP - BUILDINGS	882	2,578	1,994	6,134	(544)	**2,208.88**	2,253.06	2,298.12	2,344.08
70460	PERMITS, FEES, LICENSES [6]	1,603	7,890	503	17,593	3,500	**6,217.77**	6,342.12	6,468.96	6,598.34
70480	ENVIRONMENTAL EXPENSES	20,230	2,308	661	3,304	479	**5,396.47**	5,504.40	5,614.49	5,726.78
70580	WASTE REMOVAL	9,718	7,564	7,162	2,928	3,360	**6,146.36**	6,269.29	6,394.68	6,522.57
70600	CONTRACT LABOR FOR MAINT.	2,173	2,266	-	4,950	5,000	**2,877.70**	2,935.25	2,993.96	3,053.84
	Fixed O&M (FOM)	**217,659**	**214,518**	**243,223**	**199,994**	**121,825**	199,444	203,432	207,501	211,651
	Total O&M									

Notes

1.) Plant was merchant in the last quarter of 2012 and all of 2013.

2.) Scheduling services charge during merchant operation under EDF EMSA agreement that was terminated in 12/31/2014.

3.) Gasses, chemicals, turbine maintenance and building expenses while do not increase in direct proportion to generation, are highly dependent on how much the plant runs.

4.) Non-capital Maintenance Expenses excluded house power as it is assumed that PSCo pays a different house power tariff than SWGen.

5.) Property Taxes paid by Corporate

6.) Change of Ownership for permits and APENS with State and EPA. $5,000 occur every 5th year.

			2020	2021	2022	2023	2024	2025	2026	2027	2028
			256	**438**	**438**	**438**	**438**	**438**	**438**	**438**	**438**
			63,256	63,694	64,132	64,570	65,008	65,446	65,884	66,322	66,760
			65,256	65,694	66,132	66,570	67,008	67,446	67,884	68,322	68,760

Proposed Budgets

2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
		0	20951	35916	35916	35916	35916	35916	35916	35916	35916

2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
4.56	4.65	4.74	4.84	4.93	5.03	5.13	5.23	5.34	5.45	5.56	5.67
		-	94,226	164,761	168,056	171,417	174,846	178,343	181,910	185,548	189,259
		-	7,092	12,401	12,649	12,902	13,160	13,424	13,692	13,966	14,245
		-	**101,318**	**177,162**	**180,706**	**184,320**	**188,006**	**191,766**	**195,602**	**199,514**	**203,504**
3,367.79	3,435.15	3,503.85	3,573.93	3,645.41	3,718.32	3,792.68	3,868.54	3,945.91	4,024.82	4,105.32	4,187.43
8,305.03	8,471.13	8,640.55	8,813.36	8,989.63	9,169.42	9,352.81	9,539.87	9,730.66	9,925.28	10,123.78	10,326.26
8,815.13	8,991.44	9,171.27	9,354.69	9,541.79	9,732.62	9,927.27	10,125.82	10,328.34	10,534.90	10,745.60	10,960.51
31,233.13	31,857.79	32,494.95	33,144.84	33,807.74	34,483.90	35,173.57	35,877.05	36,594.59	37,326.48	38,073.01	38,834.47
31,048.64	31,669.62	32,303.01	32,949.07	33,608.05	34,280.21	34,965.82	35,665.13	36,378.44	37,106.00	37,848.12	38,605.09
1,826.20	1,862.73	1,899.98	1,937.98	1,976.74	2,016.27	2,056.60	2,097.73	2,139.69	2,182.48	2,226.13	2,270.65
20,888.30	21,306.07	21,732.19	22,166.83	22,610.17	23,062.37	23,523.62	23,994.09	24,473.97	24,963.45	25,462.72	25,971.98

61,007.61	62,227.76	63,472.32	64,741.76	66,036.60	67,357.33	68,704.48	70,078.57	71,480.14	72,909.74	74,367.93	75,855.29
24,661.74	25,154.97	25,658.07	26,171.23	26,694.66	27,228.55	27,773.12	28,328.58	28,895.15	29,473.06	30,062.52	30,663.77
2,390.96	2,438.78	2,487.56	2,537.31	2,588.05	2,639.81	2,692.61	2,746.46	2,801.39	2,857.42	2,914.57	2,972.86
6,730.31	6,864.92	7,002.21	5,000	1,000	1,000	1,000	1,000	5,000	1,000	1,000	1,000
5,841.31	5,958.14	6,077.30	2,756	2,756	2,756	2,756	2,756	2,756	2,756	2,756	2,756
6,653.02	6,786.08	6,921.80	7,060.24	7,201.45	7,345.47	7,492.38	7,642.23	7,795.08	7,950.98	8,110.00	8,272.20
3,114.92	3,177.21	3,240.76	3,305.57	3,371.68	3,439.12	3,507.90	3,578.06	3,649.62	3,722.61	3,797.06	3,873.01
215,884	220,202	224,606	**223,513**	**223,828**	**228,229**	**232,719**	**237,298**	**245,969**	**246,733**	**251,593**	**256,550**
			324,831	**400,990**	**408,935**	**417,039**	**425,304**	**437,735**	**442,335**	**451,106**	**460,053**

2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
438	**438**	**438**	**438**	**438**	**438**	**438**	**438**	**438**	**183**
67,198	67,636	68,074	68,512	68,950	69,388	69,826	70,264	70,702	70,885
69,198	69,636	70,074	70,512	70,950	71,388	71,826	72,264	72,702	72,885

2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
35916	35916	35916	35916	35916	35916	35916	35916	35916	14965

2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
5.78	5.90	6.01	6.13	6.26	6.38	6.51	6.64	6.77	6.91
193,044	196,905	200,843	204,860	208,957	213,136	217,399	221,747	226,182	96,127
14,530	14,821	15,117	15,420	15,728	16,042	16,363	16,691	17,024	7,235
207,574	**211,725**	**215,960**	**220,279**	**224,685**	**229,178**	**233,762**	**238,437**	**243,206**	**103,363**
4,271.18	4,356.60	4,443.73	4,532.61	4,623.26	4,715.72	4,810.04	4,906.24	5,004.36	5,104.45
10,532.78	10,743.44	10,958.31	11,177.47	11,401.02	11,629.04	11,861.62	12,098.86	12,340.83	12,587.65
11,179.72	11,403.32	11,631.38	11,864.01	12,101.29	12,343.32	12,590.18	12,841.99	13,098.83	13,360.80
39,611.16	40,403.38	41,211.45	42,035.68	42,876.39	43,733.92	44,608.60	45,500.77	46,410.78	47,339.00
39,377.19	40,164.73	40,968.03	41,787.39	42,623.14	43,475.60	44,345.11	45,232.01	46,136.65	47,059.39
2,316.07	2,362.39	2,409.63	2,457.83	2,506.98	2,557.12	2,608.27	2,660.43	2,713.64	2,767.91
26,491.42	27,021.25	27,561.67	28,112.90	28,675.16	29,248.67	29,833.64	30,430.31	31,038.92	31,659.70

77,372.40	78,919.85	80,498.24	82,108.21	83,750.37	85,425.38	87,133.89	88,876.57	90,654.10	92,467.18
31,277.04	31,902.59	32,540.64	33,191.45	33,855.28	34,532.38	35,223.03	35,927.49	36,646.04	37,378.96
3,032.32	3,092.96	3,154.82	3,217.92	3,282.28	3,347.92	3,414.88	3,483.18	3,552.84	3,623.90
1,000	5,000	1,000	1,000	1,000	1,000	5,000	1,000	1,000	1,000
2,756	2,756	2,756	2,756	2,756	2,756	2,756	2,756	2,756	2,756
8,437.64	8,606.39	8,778.52	8,954.09	9,133.17	9,315.84	9,502.15	9,692.20	9,886.04	10,083.76
3,950.47	4,029.47	4,110.06	4,192.27	4,276.11	4,361.63	4,448.87	4,537.84	4,628.60	4,721.17
261,605	**270,762**	**272,022**	**277,388**	**282,860**	**288,443**	**298,136**	**299,944**	**305,868**	**311,910**
469,179	**482,488**	**487,982**	**497,667**	**507,545**	**517,621**	**531,898**	**538,381**	**549,074**	**415,272**

Valmont 7&8

2022 Ongoing O&M Expenses & CapX - ERP Phase II

Form D1B FOM/VOM/Maintenance/Ongoing Capital Expenses

NOTE: This form is not required for bids proposing Build-Own-Transfer proposals, as it will be completed by the Company. For bids proposing the sale of an existing asset, bidders may use this form to fill in their estimates for ongoing expenses; but should note that those estimates may be amended based on the Company's projections.

Enter for each operating year the Fixed Operation & Maintenance (FOM), Variable Operation & Maintenance (VOM), Non-Capital Maintenance Expenses, and Ongoing Capital Costs, if any, estimated to be expended. Provide the assumptions for annual generation and number of annual turbine starts used to generate the annual cost estimates. Costs should reflect expenditures necessary to reach, but not exceed, the useful life specified in Form D1A. Provide cost estimates in real dollar terms and provide the base year in the Year Dollars field.

Notes on Cost Allocations
FOM - Costs associated with operating the plant which are independent of operational hours.
VOM - Costs should be limited to those which are directly tied to the operation of the plant. Examples include water, chemicals or other consumables.
Non-Capital Maintenance Expenses - Costs which are operationally dependent but do not increase in *direct* proportion to generation. For example, maintenance or overhaul costs tied to operational hours or number of starts.
Ongoing Capital - Capitalized expenses associated with plant maintenance or overhauls.

Each column should contain non-duplicate costs such that a sum across all four columns would yield the total expected costs for that year.

Annual Generation (MWh)	0	**Number of Unit Starts per Year**	127.5675	**Year Dollars** 2018

Operating Year	FOM, ($/yr)	Esc. FOM	Operating Year	VOM, ($/yr)	Esc. VOM	Operating Year	Esc TOTAL Non-Capital Maintenance Expenses ($/yr)	Operating Year	Ongoing CapX, ($/yr)
2017	-	-	2017	-	-	2017	-	2017	-
2018	-	-	2018	-	-	2018	-	2018	-
2019	-	-	2019	-	-	2019	-	2019	-
2020	-	-	2020	-	-	2020	-	2020	-
2021	-	-	2021	-	-	2021	-	2021	-
2022	311,499.14	337,176.69	2022	65,350.76	70,737.77	2022	407,914.45	2022	3,000,000.00
2023	311,499.14	343,920.22	2023	96,220.76	106,235.50	2023	450,155.72	2023	-
2024	311,499.14	350,798.63	2024	65,350.76	73,595.57	2024	424,394.20	2024	-
2025	311,499.14	357,814.60	2025	85,930.76	98,707.43	2025	456,522.03	2025	-
2026	311,499.14	364,970.89	2026	163,105.76	191,104.39	2026	556,075.28	2026	-

2027	311,499.14	372,270.31	2027	85,930.76	102,695.21	2027	474,965.52	2027	-
2028	311,499.14	379,715.71	2028	65,350.76	79,662.21	2028	459,377.93	2028	-
2029	311,499.14	387,310.03	2029	85,930.76	106,844.10	2029	494,154.13	2029	-
2030	311,499.14	395,056.23	2030	65,350.76	82,880.57	2030	477,936.79	2030	-
2031	311,499.14	402,957.35	2031	183,685.76	237,617.12	2031	640,574.47	2031	-
2032	311,499.14	411,016.50	2032	65,350.76	86,228.94	2032	497,245.44	2032	205,800.00
2033	311,499.14	419,236.83	2033	85,930.76	115,651.49	2033	534,888.32	2033	-
2034	311,499.14	427,621.57	2034	65,350.76	89,712.59	2034	517,334.16	2034	-
2035	311,499.14	436,174.00	2035	85,930.76	120,323.81	2035	556,497.81	2035	-
2036	311,499.14	444,897.48	2036	163,105.76	232,955.19	2036	677,852.67	2036	-
2037	311,499.14	453,795.43	2037	85,930.76	125,184.89	2037	578,980.32	2037	1,214,220.00
2038	311,499.14	462,871.34	2038	65,350.76	97,107.79	2038	559,979.13	2038	-
2039	311,499.14	472,128.76	2039	85,930.76	130,242.36	2039	602,371.13	2039	-
2040	311,499.14	481,571.34	2040	65,350.76	101,030.95	2040	582,602.29	2040	-
2041			2041			2041		2041	
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128 Starts per year, 4 hours per start. 512 hours per year. LM6000 MI / HGP schedule is based on Hours not Starts (like Frame Machines)

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Valmont 7&8

2020 Ongoing O&M Expenses & CapX - ERP Phase II

Form D1B FOM/VOM/Maintenance/Ongoing Capital Expenses

NOTE: This form is not required for bids proposing Build-Own-Transfer proposals, as it will be completed by the Company. For bids proposing the sale of an existing asset, bidders may use this form to fill in their estimates for ongoing expenses; but should note that those estimates may be amended based on the Company's projections.

Enter for each operating year the Fixed Operation & Maintenance (FOM), Variable Operation & Maintenance (VOM), Non-Capital Maintenance Expenses, and Ongoing Capital Costs, if any, estimated to be expended. Provide the assumptions for annual generation and number of annual turbine starts used to generate the annual cost estimates. Costs should reflect expenditures necessary to reach, but not exceed, the useful life specified in Form D1A. Provide cost estimates in real dollar terms and provide the base year in the Year Dollars field.

Notes on Cost Allocations
FOM - Costs associated with operating the plant which are independent of operational hours.
VOM - Costs should be limited to those which are directly tied to the operation of the plant. Examples include water, chemicals or other consumables.
Non-Capital Maintenance Expenses - Costs which are operationally dependent but do not increase in *direct* proportion to generation. For example, maintenance or overhaul costs tied to operational hours or number of starts.
Ongoing Capital - Capitalized expenses associated with plant maintenance or overhauls.

Each column should contain non-duplicate costs such that a sum across all four columns would yield the total expected costs for that year.

Annual Generation (MWh)	0	**Number of Unit Starts per Year**		**Year Dollars**	2018

Operating Year	FOM, ($/yr)	Esc. FOM	Operating Year	VOM, ($/yr)	Esc. VOM	Operating Year	TOTAL Non-Capital Maintenance Expenses ($/yr)	Operating Year	Ongoing CapX, ($/yr)
2017	-	-	2017	-	-	2017	$ -	2017	-
2018	-	-	2018	-	-	2018	-	2018	-
2019	-	-	2019	-	-	2019	-	2019	-
2020	311,499	324,084	2020	65,351	67,991	2020	392,075	2020	3,000,000
2021	311,499	330,565	2021	96,221	102,110	2021	432,676	2021	-
2022	311,499	337,177	2022	65,351	70,738	2022	407,914	2022	-
2023	311,499	343,920	2023	85,931	94,875	2023	438,795	2023	-
2024	311,499	350,799	2024	163,106	183,684	2024	534,482	2024	-
2025	311,499	357,815	2025	85,931	98,707	2025	456,522	2025	-
2026	311,499	364,971	2026	65,351	76,569	2026	441,540	2026	-

2027	311,499	372,270	2027	85,931	102,695	2027	474,966	2027	-
2028	311,499	379,716	2028	65,351	79,662	2028	459,378	2028	-
2029	311,499	387,310	2029	183,686	228,390	2029	615,700	2029	-
2030	311,499	395,056	2030	65,351	82,881	2030	477,937	2030	205,800
2031	311,499	402,957	2031	85,931	111,161	2031	514,118	2031	-
2032	311,499	411,016	2032	65,351	86,229	2032	497,245	2032	-
2033	311,499	419,237	2033	85,931	115,651	2033	534,888	2033	-
2034	311,499	427,622	2034	163,106	223,909	2034	651,531	2034	-
2035	311,499	436,174	2035	85,931	120,324	2035	556,498	2035	1,214,220
2036	311,499	444,897	2036	65,351	93,337	2036	538,234	2036	-
2037	311,499	453,795	2037	85,931	125,185	2037	578,980	2037	-
2038	311,499	462,871	2038	65,351	97,108	2038	559,979	2038	-
2039		-	2039		-	2039		2039	
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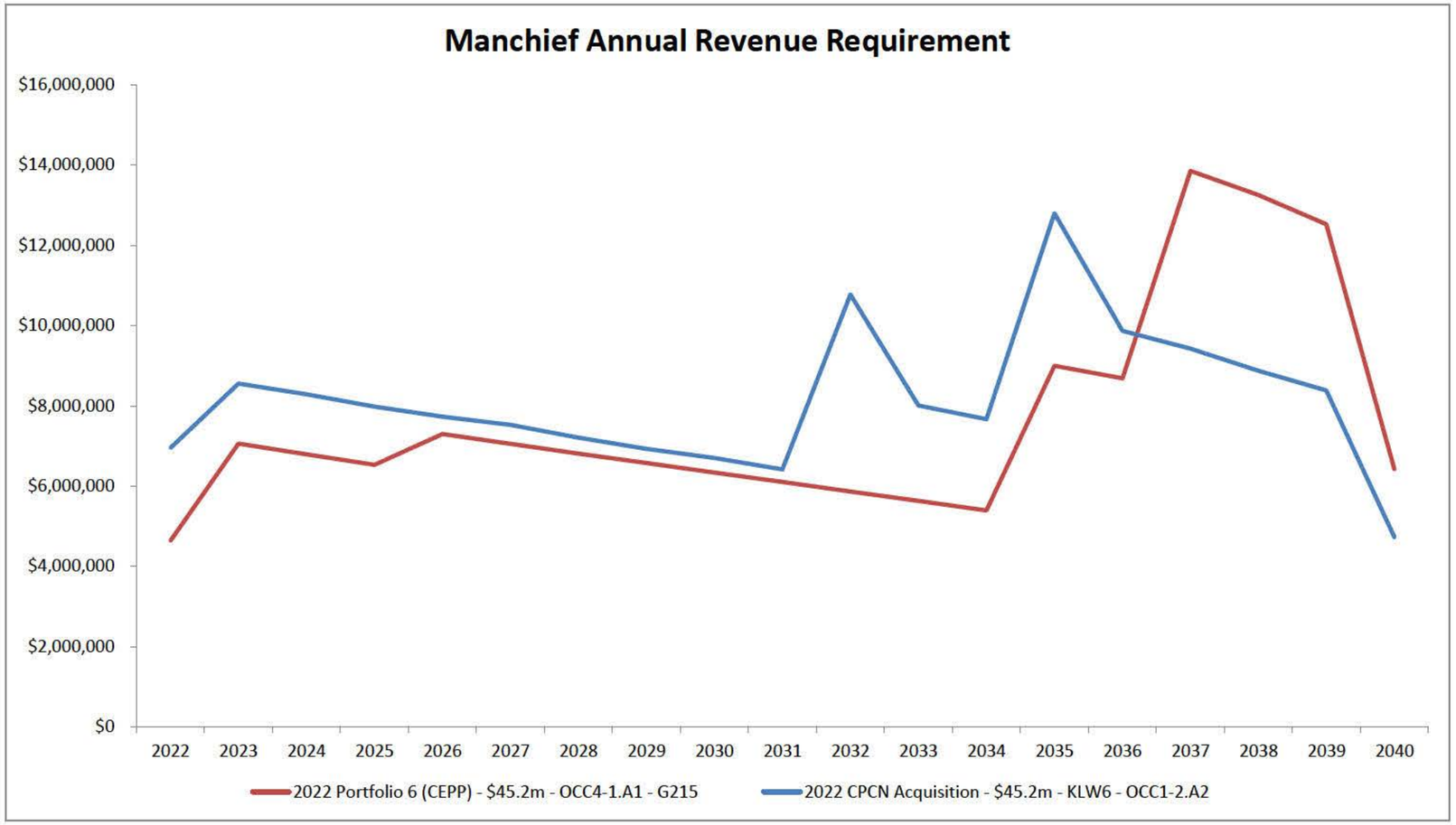
Manchief Revenue Requirement Analysis

ERP Phase II CEPP vs. CPCN



Input Assumptio	
Acquisition Date:	Sunday, May 1, 2022
Useful Life:	~18 years (after PSCo takes c
Retirement Date:	Saturday, June 30, 2040
Purchase Price:	$45,200,000
Annual Average NCF:	5%

WACC - Rate Base Calculatic	Structure	Return
Long Term Debt	44.75%	3.75%
Common Stock	55.25%	9.83%

Discount Rate:	6.78%
Escalation Rate:	2.00%
Depreciation:	Straightline - with 9.92% Ren

Federal Corp Tax Rate:	21.00%
State Tax Rate:	4.63%
Composite Tax Rate:	24.66%

Narrative of Changes

Items effecting NPV Delta:

- Initial year capital maintenance increase. CEPP added $1m to purchase
- CPCN has major overhaul costs broken out into O&M and Capital. CEPP
- Timing of major overhauls. (CPCN '32 &'35; CEPP '35 &' 37)

20 Day Report

2022 Portfolio 6 (CEPP) - $45.2m - OCC4-1.A1 - G215

Revenue Requirements Calculation

In Whole Dollars

Revenue Requirements	2016 NPV	2022	2023	2024	2025	2026	2027	2028	2029
Equity Return on CWIP/Rate Base - ***Purchase Price***	$9,722,896	$1,508,138	$2,319,478	$2,148,128	$1,982,465	$1,821,909	$1,665,983	$1,513,682	$1,362,794
Equity Return on CWIP/Rate Base - ***Ongoing*** **CapEx**	$925,016	$0	$0	$0	$0	$0	$0	$0	$0
Debt Return on CWIP/Rate Base - ***Purchase Price***	$3,004,237	$465,993	$716,686	$663,741	$612,554	$562,944	$514,765	$467,706	$421,084
Debt Return on CWIP/Rate Base - ***Ongoing*** **CapEx**	$285,817	$0	$0	$0	$0	$0	$0	$0	$0

AS EVALUATED 1

O&M Expense - ***Fixed***	$3,269,512	$259,955	$397,732	$405,686	$413,800	$422,076	$430,518	$439,128	$447,911
O&M Expense - ***Variable***	$448,628	$37,250	$56,993	$58,133	$59,295	$60,481	$61,691	$62,924	$64,183
Land Lease Payments	$0	$0	$0	$0	$0	$0	$0	$0	$0
Insurance Expense	$135,582	$10,780	$16,493	$16,823	$17,160	$17,503	$17,853	$18,210	$18,574
Property/Production Tax Expense	$5,939,152	$0	$0	$0	$0	$1,020,000	$1,020,000	$1,020,000	$1,020,000
Book Depreciation Expense - ***Purchase Price***	$20,242,453	$1,863,598	$2,795,397	$2,795,397	$2,795,397	$2,795,397	$2,795,397	$2,795,397	$2,795,397
Book Depreciation Expense - ***Ongoing*** CapEx	$7,627,077	$0	$0	$0	$0	$0	$0	$0	$0
Deferred Income Tax Expense (Credit)	$182,662	$110,073	$392,946	$284,723	$187,892	$100,175	$20,432	($17,161)	($17,161)
Current Income Tax Expense (Credit)	$3,302,140	$383,504	$366,163	$418,307	$460,920	$496,091	$524,803	$512,552	$463,170
Total Revenue Requirements	**$55,085,171**	**$4,639,292**	**$7,061,887**	**$6,790,938**	**$6,529,483**	**$7,296,576**	**$7,051,442**	**$6,812,439**	**$6,575,952**

Revised and Updated 2020 Acquisition

2022 CPCN Acquisition - $45.2m - KLW6 - OCC1-2.A2

Revenue Requirements Calculation
In Whole Dollars

Revenue Requirements	2016 NPV	2022	2023	2024	2025	2026	2027	2028	2029
Equity Return on CWIP/Rate Base - ***Purchase Price***	$9,512,444	$1,475,495	$2,269,273	$2,101,632	$1,939,555	$1,782,474	$1,629,923	$1,480,919	$1,333,297
Equity Return on CWIP/Rate Base - ***Ongoing*** CapEx	$2,101,994	$146,214	$224,874	$208,261	$192,200	$176,634	$161,517	$146,752	$132,123
Debt Return on CWIP/Rate Base - ***Purchase Price***	$2,939,210	$455,907	$701,173	$649,374	$599,295	$550,759	$503,623	$457,583	$411,970
Debt Return on CWIP/Rate Base - ***Ongoing*** CapEx	$649,486	$45,178	$69,483	$64,350	$59,387	$54,577	$49,907	$45,344	$40,824
O&M Expense - ***Fixed***	$5,465,959	$1,220,389	$389,676	$417,343	$405,418	$434,203	$495,612	$451,745	$438,838
O&M Expense - ***Variable***	$544,487	$42,448	$43,297	$46,371	$45,046	$48,245	$55,068	$50,194	$48,760
Land Lease Payments	$0	$0	$0	$0	$0	$0	$0	$0	$0
Insurance Expense	$132,648	$10,547	$16,136	$16,459	$16,788	$17,124	$17,467	$17,816	$18,172
Property/Production Tax Expense	$7,721,187	$1,020,000	$1,020,000	$1,020,000	$1,020,000	$1,020,000	$1,020,000	$1,020,000	$1,020,000
Book Depreciation Expense - ***Purchase Price***	$19,804,305	$1,823,260	$2,734,890	$2,734,890	$2,734,890	$2,734,890	$2,734,890	$2,734,890	$2,734,890
Book Depreciation Expense - ***Ongoing*** CapEx	$8,120,723	$180,676	$271,014	$271,014	$271,014	$271,014	$271,014	$271,014	$271,014
Deferred Income Tax Expense (Credit)	$224,088	$118,362	$422,537	$306,164	$202,042	$107,719	$21,971	($18,453)	($18,453)
Current Income Tax Expense (Credit)	$3,577,035	$412,384	$393,737	$449,807	$495,630	$533,449	$564,324	$551,150	$498,049
Total Revenue Requirements	**$60,793,566**	**$6,950,860**	**$8,556,089**	**$8,285,666**	**$7,981,266**	**$7,731,089**	**$7,525,314**	**$7,208,953**	**$6,929,484**

DELTA

Revenue Requirements	2016 NPV	2022	2023	2024	2025	2026	2027	2028	2029
Equity Return on CWIP/Rate Base - ***Purchase Price***	($210,452)	($32,644)	($50,205)	($46,496)	($42,911)	($39,435)	($36,060)	($32,764)	($29,498)
Equity Return on CWIP/Rate Base - ***Ongoing*** CapEx	$1,176,978	$146,214	$224,874	$208,261	$192,200	$176,634	$161,517	$146,752	$132,123
Debt Return on CWIP/Rate Base - ***Purchase Price***	($65,027)	($10,086)	($15,513)	($14,367)	($13,259)	($12,185)	($11,142)	($10,124)	($9,114)
Debt Return on CWIP/Rate Base - ***Ongoing*** CapEx	$363,669	$45,178	$69,483	$64,350	$59,387	$54,577	$49,907	$45,344	$40,824
O&M Expense - ***Fixed***	$2,196,447	$960,434	($8,056)	$11,656	($8,382)	$12,127	$65,094	$12,617	($9,073)
O&M Expense - ***Variable***	$95,859	$5,198	($13,695)	($11,761)	($14,249)	($12,236)	($6,623)	($12,731)	($15,423)
Land Lease Payments	$0	$0	$0	$0	$0	$0	$0	$0	$0
Insurance Expense	($2,935)	($233)	($357)	($364)	($371)	($379)	($386)	($394)	($402)
Property/Production Tax Expense	$1,782,036	$1,020,000	$1,020,000	$1,020,000	$1,020,000	$0	$0	$0	$0
Book Depreciation Expense - ***Purchase Price***	($438,148)	($40,338)	($60,506)	($60,506)	($60,506)	($60,506)	($60,506)	($60,506)	($60,506)
Book Depreciation Expense - ***Ongoing*** CapEx	$493,646	$180,676	$271,014	$271,014	$271,014	$271,014	$271,014	$271,014	$271,014

Deferred Income Tax Expense (Credit)	$41,426	$8,289	$29,591	$21,441	$14,149	$7,544	$1,539	($1,292)	($1,292)
Current Income Tax Expense (Credit)	$274,895	$28,880	$27,574	$31,501	$34,710	$37,358	$39,520	$38,598	$34,879
Total Revenue Requirements	**$5,708,394**	**$2,311,568**	**$1,494,202**	**$1,494,728**	**$1,451,783**	**$434,513**	**$473,873**	**$396,514**	**$353,531**

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wnership)

fter Tax WACC

1.26%

5.43%

noval Cost Added

price, CPCN has ~$4.5m.
had major overhauls classified as capital only.

During Bid Evaluation - Prope

2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
$1,211,887	$1,060,956	$910,049	$759,118	$608,211	$457,280	$306,373	$161,067	$34,056	($80,329)	($162,295)	($0)	($0)
$0	$0	$0	$0	$0	$640,820	$572,172	$1,067,140	$795,664	$458,741	$136,146		
$374,456	$327,820	$281,192	$234,557	$187,929	$141,293	$94,665	$49,767	$10,523	($24,821)	($50,147)	($0)	($0)
$0	$0	$0	$0	$0	$198,004	$176,793	$329,731	$245,849	$141,744	$42,067		

$456,869	$466,006	$475,326	$484,833	$494,530	$504,420	$514,509	$524,799	$535,295	$546,001	$278,460	$0	$0
$65,467	$66,776	$68,111	$69,474	$70,863	$36,140	$73,726	$37,600	$76,705	$78,239	$39,902		
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
$18,946	$19,325	$19,711	$20,105	$20,507	$20,918	$21,336	$21,763	$22,198	$22,642	$11,547	$0	$0
$1,020,000	$1,020,000	$1,020,000	$1,020,000	$1,020,000	$1,020,000	$1,020,000	$1,020,000	$1,020,000	$1,020,000	$1,020,000	$1,020,000	$1,020,000
$2,795,397	$2,795,397	$2,795,397	$2,795,397	$2,795,397	$2,795,397	$2,795,397	$2,795,397	$2,795,397	$2,795,397	$1,397,698	$0	$0
$0	$0	$0	$0	$0	$2,825,651	$2,825,651	$7,445,349	$7,445,349	$7,445,349	$3,722,674		
($16,022)	($17,161)	($16,022)	($17,161)	($16,022)	($539,590)	($381,570)	($1,709,645)	($1,912,119)	($1,973,420)	$5,536,811	$0	$0
$412,643	$364,386	$313,859	$265,602	$215,074	$898,971	$669,096	$2,111,607	$2,183,666	$2,097,265	($5,545,369)	($0)	($0)
$6,339,642	**$6,103,505**	**$5,867,624**	**$5,631,925**	**$5,396,489**	**$8,999,305**	**$8,688,147**	**$13,854,575**	**$13,252,581**	**$12,526,807**	**$6,427,495**	***$1,020,000***	***$1,020,000***

2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
$1,185,656	$1,037,992	$890,351	$742,687	$595,046	$447,382	$299,742	$157,581	$33,318	($78,590)	($158,783)
$117,493	$102,860	$574,094	$539,084	$456,932	$873,816	$740,758	$559,251	$381,682	$206,867	$35,265
$366,351	$320,725	$275,106	$229,480	$183,861	$138,235	$92,616	$48,690	$10,295	($24,283)	($49,062)
$36,304	$31,782	$177,387	$166,569	$141,185	$269,997	$228,884	$172,801	$117,934	$63,919	$10,896
$469,995	$456,567	$2,695,229	$475,012	$508,738	$2,749,003	$529,291	$604,148	$550,675	$534,941	$572,922
$52,222	$50,730	$299,470	$52,779	$56,526	$305,445	$58,810	$67,128	$61,186	$59,438	$63,658
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
$18,536	$18,906	$19,284	$19,670	$20,064	$20,465	$20,874	$21,292	$21,717	$22,152	$11,297
$1,020,000	$1,020,000	$1,020,000	$1,020,000	$1,020,000	$1,020,000	$1,020,000	$1,020,000	$1,020,000	$1,020,000	$1,020,000
$2,734,890	$2,734,890	$2,734,890	$2,734,890	$2,734,890	$2,734,890	$2,734,890	$2,734,890	$2,734,890	$2,734,890	$1,367,445
$271,014	$271,014	$1,609,303	$1,609,303	$1,609,303	$3,804,163	$3,804,163	$3,804,163	$3,804,163	$3,804,163	$1,902,081
($17,228)	($18,453)	($219,630)	($106,025)	($129,042)	($557,760)	($454,325)	($860,505)	($1,253,310)	($1,274,162)	$3,748,551
$443,717	$391,826	$698,908	$525,517	$473,328	$990,156	$794,855	$1,095,106	$1,389,130	$1,316,143	($3,788,976)
$6,698,948	**$6,418,839**	**$10,774,393**	**$8,008,967**	**$7,670,833**	**$12,795,792**	**$9,870,558**	**$9,424,545**	**$8,871,681**	**$8,385,478**	**$4,735,296**

2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
($26,231)	($22,964)	($19,698)	($16,431)	($13,165)	($9,898)	($6,631)	($3,486)	($737)	$1,739	$3,513	$0	$0
$117,493	$102,860	$574,094	$539,084	$456,932	$232,996	$168,586	($507,889)	($413,982)	($251,873)	($100,882)	$0	$0
($8,105)	($7,096)	($6,086)	($5,077)	($4,068)	($3,058)	($2,049)	($1,077)	($228)	$537	$1,085	$0	$0
$36,304	$31,782	$177,387	$166,569	$141,185	$71,992	$52,091	($156,930)	($127,914)	($77,825)	($31,171)	$0	$0
$13,127	($9,439)	$2,219,903	($9,821)	$14,209	$2,244,583	$14,783	$79,349	$15,380	($11,060)	$294,462	$0	$0
($13,245)	($16,046)	$231,358	($16,695)	($14,337)	$269,305	($14,916)	$29,527	($15,519)	($18,801)	$23,756	$0	$0
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
($410)	($418)	($427)	($435)	($444)	($453)	($462)	($471)	($480)	($490)	($250)	$0	$0
$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	($1,020,000)	($1,020,000)
($60,506)	($60,506)	($60,506)	($60,506)	($60,506)	($60,506)	($60,506)	($60,506)	($60,506)	($60,506)	($30,253)	$0	$0
$271,014	$271,014	$1,609,303	$1,609,303	$1,609,303	$978,512	$978,512	($3,641,186)	($3,641,186)	($3,641,186)	($1,820,593)	$0	$0

($1,207)	($1,292)	($203,608)	($88,864)	($113,020)	($18,170)	($72,755)	$849,140	$658,809	$699,259	($1,788,260)	$0	$0
$31,074	$27,440	$385,049	$259,915	$258,254	$91,185	$125,759	($1,016,501)	($794,536)	($781,122)	$1,756,394	$0	$0
$359,306	**$315,333**	**$4,906,769**	**$2,377,043**	**$2,274,343**	**$3,796,487**	**$1,182,411**	**($4,430,030)**	**($4,380,900)**	**($4,141,328)**	**($1,692,199)**	***($1,020,000)***	***($1,020,000)***

rty Taxes were off by 4 years.

2043	2044
($0)	($0)
($0)	($0)

$0	$0
$0	$0
$0	$0
$1,020,000	$1,020,000
$0	$0
$0	$0
($0)	($0)
$1,020,000	***$1,020,000***

2043	2044
$0	$0
$0	$0
$0	$0
$0	$0
$0	$0
$0	$0
$0	$0
$0	$0
($1,020,000)	($1,020,000)
$0	$0
$0	$0

$0	$0
$0	$0
($1,020,000)	***($1,020,000)***

Manchief
Initial Capital - CPCN

Manchief Expected Costs

#	Item	Unit	2022 Capital Costs	Potential Future Capital Projects	Major Overhauls
Section A - Manchief Purchase Project Cost					
1	PSA Agreement Price - Unit 11 & 12		$ 45,200,000		
Acquisition Capital Cost - Grand Total			**$ 45,200,000**		

Section B - Manchief Acquisition Project Related Costs					
	Related labor charged to the acquisition project				
1	Xcel Labor - JD	100	$ 10,000		
2	Xcel Labor - JK	100	$ 10,000		
3	Xcel labor - Perf	100	$ 10,000		
4	Xcel labor - ES/TRC	100	$ 10,000		
5	Xcel labor - Environ	100	$ 10,000		
6	Xcel labor - Mgt	25	$ 3,750		
7	Xcel labor - Doc Control	25	$ 1,875		
8	Xcel labor - Constr site team	100	$ 10,000		
9	Xcel labor - other	25	$ 1,875		
10	Xcel labor - Admin/PC	50	$ 5,000		
11	Outside Legal	50	$ 37,500		
Acquisition Related Capital Cost - Grand Total			**$ 110,000**		

Section C - Additional Capital Projects					
1	Manchief - Overflow pond - solid waste improvements		$ 100,000		
2	Unit control extension to Pawnee Control Room (Ovation)		$ 3,000,000		
3	LAN/WAN install/upgrades		$ 400,000		
4	Perf Test Instrumentation		$ 50,000		
5	AVR/PSS Upgrade		$ 200,000		
6	Relay Replacement		$ 165,000		
7	Inlet heat bleed for inlet filter freezing			$ 3,500,000	
8	VFD - static start (not likely needing to be replace during life of units)			$ -	
9					
10					
11					
	Overheads	3.00%	$ 117,450		

	Contingency	2.00%	$ 78,300		
Additional Capital Projects Costs - Grand Total			**$ 4,110,750**		

Section C - Summary of All Capital Costs (As noted above)					
1	Total of Subtotal A (Capital)		$ 45,200,000		
2	Total of Subtotal B (Capital)		$ 110,000		
3	Total of Subtotal C (Capital)		$ 4,110,750		
Capital Costs - Grand Total			**$ 49,420,750**		

Section D - Major Maintenance Overhaul Costs - Frequency based on EOH					
1	Pre-order Overhaul Parts (Capital)				$ 5,000,000
2	Contract Labor for Overhaul (Capital)				$ 3,000,000
3	Component Refurb (O&M)				$ 1,850,000
Total Major Inspection Cost					**$ 9,850,000**

Comments
Purchase and Sales Agreement with the Atlantic Group

PSA Contract
Support Staff for PSA
Due Diligence Projects
Sum of all capital costs

Dependent on run hours and year of purchase. Typically buckets & vanes
Outsource contract labor costs
Contract with Siemens or PSM
Sum of all overhaul costs

Manchief
2022 Ongoing O&M Expenses and CapX - CPCN
MANCHIEF FINANCIAL - PROJECTIONS FOR INITIAL PURCHASE & OVERHAUL COSTS (O&M and CAPITAL)

Unit 11	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
Equiv Hrs. **Last Major Overhaul - EOH 58,220 (5/1/18)**	66,800	68,118	69,436	70,754	72,072	73,390	74,708	76,026	77,344	78,662	79,980	81,298	82,616	83,934	85,252
Fired Starts	2,800	2,863	2,926	2,989	3,052	3,115	3,178	3,241	3,303	3,366	3,429	3,492	3,555	3,618	3,681
INSPECTION TYPE	Bore	Bore	Bore	Bore	Bore	Bore	Bore	Bore	Bore	Bore	Bore	Bore	Bore	MI	Bore
Component Refurb. (O&M)														$1,850,000	
Inspection at $25,000 - O&M Costs or MI Repair Labor at $3,000,000 - Capital Costs	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$3,000,000	$25,000
Component Purchase (Capital)														$5,000,000	
CT Filters Replacements (O&M)	$ 270,000	$ 175,000	$ 185,000	$ 175,000	$ 185,000	$ 210,000	$ 185,000	$ 175,000	$ 185,000	$ 175,000	$ 220,000	$ 175,000	$ 185,000	$ 175,000	$ 185,000
Contracted O&M Costs-Operational Transition	$ 300,000														

Unit 12	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
Equiv Hrs. **Last Major Overhaul - EOH 53,190 (5/1/15)**	65,900	67,218	68,536	69,854	71,172	72,490	73,808	75,126	76,444	77,762	79,060	80,378	81,696	83,008	84,326
Fired Starts	2,810	2,873	2,936	2,999	3,062	3,125	3,188	3,251	3,313	3,376	3,440	3,503	3,566	3,629	3,692
INSPECTION TYPE	Bore	Bore	Bore	Bore	Bore	Bore	Bore	Bore	Bore	Bore	MI	Bore	Bore	Bore	Bore
Component Refurb (O&M)	$0										$1,850,000				
Inspection at $25,000 - O&M Costs or MI Repair Labor at $3,000,000 - Capital Costs	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$3,000,000	$25,000	$25,000	$25,000	$25,000

Component Purchase (Capital)											$5,000,000				
CT Filters Replacements	$ 270,000	$ 175,000	$ 185,000	$ 175,000	$ 185,000	$ 210,000	$ 185,000	$ 175,000	$ 185,000	$ 175,000	$ 220,000	$ 175,000	$ 185,000	$ 175,000	$ 185,000
Contracted O&M Costs-Operational Transition	$ 300,000														
Due Diligence Projects and other Integration Capital Costs	$ 4,220,750														

TOTAL for Units 11 & 12															
TOTAL O&M	$1,190,000	$400,000	$420,000	$400,000	$420,000	$470,000	$420,000	$400,000	$420,000	$400,000	$2,315,000	$400,000	$420,000	$2,225,000	$420,000
TOTAL CAPITAL	$4,220,750	$0	$0	$0	$0	$0	$0	$0	$0	$0	$8,000,000	$0	$0	$8,000,000	$0
11&12 TOTAL	$5,410,750														

FOM = 90%	$1,150,000	$360,000	$378,000	$360,000	$378,000	$423,000	$378,000	$360,000	$378,000	$360,000	$2,083,500	$360,000	$378,000	$2,002,500	$378,000
VOM = 10%, $0.40/MWh	$40,000	$40,000	$42,000	$40,000	$42,000	$47,000	$42,000	$40,000	$42,000	$40,000	$231,500	$40,000	$42,000	$222,500	$42,000

Escalated Fixed O&M	$ 1,220,389	$ 389,676	$ 417,343	$ 405,418	$ 434,203	$ 495,612	$ 451,745	$ 438,838	$ 469,995	$ 456,567	$ 2,695,229	$ 475,012	$ 508,738	$ 2,749,003	$ 529,291
Escalated Variable O&M	$ 42,448	$ 43,297	$ 46,371	$ 45,046	$ 48,245	$ 55,068	$ 50,194	$ 48,760	$ 52,222	$ 50,730	$ 299,470	$ 52,779	$ 56,526	$ 305,445	$ 58,810
Escalated Ongoing Capital	$ 4,479,094	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 10,348,853	$ -	$ -	$ 10,982,286	$ -

1.) All costs in 2019 dollars, no future year escalation

2.) Outage schedule is based upon conversation with Atlantic Power to complete a MI every 25k EOH

3.) Inspection Labor is based upon conversations Atlantic Power to send out unit for de-stack

4.) Overhaul frequency based on intervals of 25k Equiv hours.

5.) Utilize inventory to refurbish most parts for one cycle on each unit with minor contingency to purchase some fallout parts

6.) Purchase some new parts for HGP due to refurbished parts reaching end of life (typical practice has been to replace blade rows 1-3 and vanes 1-2 which would be >$9M if purchased new parts)

7.) Remote Start Capital Project for both units assuming state of the art controls (ethernet capability)

9.) O&M number is based upon current costs for Blue Spruce for base O&M non-labor and commodities - labor costs are expected to be zero (absorbed at Pawnee)

10.) 1st Stage Air Filter replacements every 2 years starting in 2022, $5K/unit = $10K

11.) 2nd Stage Air Filter replacements every 5 years starting in 2022, $25k/unit = $50K

12.) Atlantic Group agrees with Xcel's assumption to include a major overhaul in 2032 for unit 12.

13.) Year 2022 is assumed as the purchase date

14.) Equivalent Operating Hours

5%	Capacity Factor
80%	pct. load while operating
547.5	hours of operation
8.7	hours operation per start
62.9	Starts per year
1177	EOH/yr (starts and run time)
12%	Percent adder for dynamic load

1318 EOH/yr (starts, Run time and dynamic)

2037	**2038**	**2039**	**2040**				**TOTAL**
Year 16	Year 17	Year 18	Year 19	Year 24	Year 25	Year 26	
86,570	87,888	89,206	90,524				
3,744	3,807	3,870	3,933				
Bore	Bore	Bore	Bore	Bore	Bore	Bore	
							$1,850,000
$25,000	$25,000	$25,000	$25,000				$3,450,000
							$5,000,000
$ 210,000	$ 185,000	$ 175,000	$ 185,000				$3,615,000
							$300,000
2037	**2038**	**2039**	**2040**				
Year 16	Year 17	Year 18	Year 19	Year 24	Year 25	Year 26	
85,644	86,962	88,280	89,598				
3,755	3,818	3,881	3,944				
Bore	Bore	Bore	Bore	Bore	Bore	Bore	
							$1,850,000
$25,000	$25,000	$25,000	$25,000				$3,450,000

							$5,000,000
$ 210,000	$ 185,000	$ 175,000	$ 185,000				$3,615,000
							$300,000
							$ 4,220,750

							$ 32,650,750

$470,000	$420,000	$400,000	$420,000	$0	$0	$0	$12,430,000
$0	$0	$0	$0	$0	$0	$0	$20,220,750
							$ 32,650,750

$423,000	$378,000	$360,000	$378,000				$11,266,000
$47,000	$42,000	$40,000	$42,000				$1,164,000

$ 604,148	$ 550,675	$ 534,941	$ 572,922
$ 67,128	$ 61,186	$ 59,438	$ 63,658
$ -	$ -	$ -	$ -

Manchief

2022 Ongoing O&M Expenses and CapX - ERP Phase II

Form D1B FOM/VOM/Maintenance/Ongoing Capital Expenses

NOTE: This form is not required for bids proposing Build-Own-Transfer proposals, as it will be completed by the Company. For bids proposing the sale of an existing asset, bidders may use this form to fill in their estimates for ongoing expenses; but should note that those estimates may be amended based on the Company's projections.

Enter for each operating year the Fixed Operation & Maintenance (FOM), Variable Operation & Maintenance (VOM), Non-Capital Maintenance Expenses, and Ongoing Capital Costs, if any, estimated to be expended. Provide the assumptions for annual generation and number of annual turbine starts used to generate the annual cost estimates. Costs should reflect expenditures necessary to reach, but not exceed, the useful life specified in Form D1A. Provide cost estimates in real dollar terms and provide the base year in the Year Dollars field.

Notes on Cost Allocations
FOM - Costs associated with operating the plant which are independent of operational hours.
VOM - Costs should be limited to those which are directly tied to the operation of the plant. Examples include water, chemicals or other consumables.
Non-Capital Maintenance Expenses - Costs which are operationally dependent but do not increase in *direct* proportion to generation. For example, maintenance or overhaul costs tied to operational hours or number of starts.
Ongoing Capital - Capitalized expenses associated with plant maintenance or overhauls.

Each column should contain non-duplicate costs such that a sum across all four columns would yield the total expected costs for that year.

Annual Generation (MWh)	131838
Number of Unit Starts per Year	70
Year Dollars	2018

Operating Year	FOM, ($/yr)	Esc. FOM, ($/yr)
2017	-	-
2018	-	-
2019	-	-
2020	-	-
2021	-	-
2022	360,238	259,955
2023	360,238	397,732
2024	360,238	405,686
2025	360,238	413,800
2026	360,238	422,076
2027	360,238	430,518

Operating Year	VOM, ($/yr)	Esc VOM, ($/yr)
2017	-	-
2018	-	-
2019	-	-
2020	-	-
2021	-	-
2022	51,620	37,250
2023	51,620	56,993
2024	51,620	58,133
2025	51,620	59,295
2026	51,620	60,481
2027	51,620	61,691

Operating Year	Esc. Non-Capital Maintenance Expenses ($/yr)
2017	$ -
2018	-
2019	-
2020	-
2021	-
2022	**297,206**
2023	**454,725**
2024	**463,819**
2025	**473,095**
2026	**482,557**
2027	**492,208**

Operating Year	Ongoing CapX, ($/yr)
2017	-
2018	-
2019	-
2020	-
2021	-
2022	-
2023	-
2024	-
2025	-
2026	-
2027	-

2028	360,238	439,128	2028	51,620	62,924	2028	**502,053**	2028	-
2029	360,238	447,911	2029	51,620	64,183	2029	**512,094**	2029	-
2030	360,238	456,869	2030	51,620	65,467	2030	**522,336**	2030	-
2031	360,238	466,006	2031	51,620	66,776	2031	**532,782**	2031	-
2032	360,238	475,326	2032	51,620	68,111	2032	**543,438**	2032	-
2033	360,238	484,833	2033	51,620	69,474	2033	**554,307**	2033	-
2034	360,238	494,530	2034	51,620	70,863	2034	**565,393**	2034	-
2035	360,238	504,420	2035	25,810	36,140	2035	**540,560**	2035	10,097,215
2036	360,238	514,509	2036	51,620	73,726	2036	**588,235**	2036	-
2037	360,238	524,799	2037	25,810	37,600	2037	**562,399**	2037	10,097,215
2038	360,238	535,295	2038	51,620	76,705	2038	**611,999**	2038	-
2039	360,238	546,001	2039	51,620	78,239	2039	**624,239**	2039	-
2040	360,238	278,460	2040	51,620	39,902	2040	**318,362**	2040	-
2041			2041			2041		2041	
2042			2042			2042		2042	
2043			2043			2043		2043	
2044			2044			2044		2044	
2045			2045			2045		2045	
2046			2046			2046		2046	
2047			2047			2047		2047	
2048			2048			2048		2048	
2049			2049			2049		2049	
2050			2050			2050		2050	
2051			2051			2051		2051	
2052			2052			2052		2052	
2053			2053			2053		2053	
2054			2054			2054		2054	

Notes

Estimates based on a 5% capacity factor on 301 MW nameplate capacity. Estimates provided by PSCo Energy Supply Operations dept. for remote operations from Pawnee facility. Fixed O&M does not include other non-operations expenses such as property taxes or insurance. Annual property taxes are estimated at $1,020,000 per year (2018 dollars) and insurance at $20,000 per year under PSCo ownership. Assuming a 40 year life with the unit going into service in 2000 was assumed. If we assume the unit will stay in operation longer than 40 years the costs above would need to be projected out to 2054.

[redacted]

Esc Ongoing CapX, ($/yr)
-
-
-
-
-
-
-
-
-
-
-

-
-
-
-
-
-
-
14,138,539
-
14,709,736
-
-
-