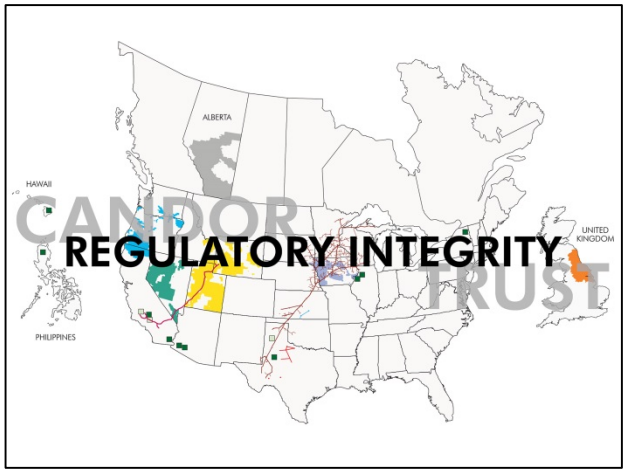

STEP Battery Storage and Solar Technical Conference

October 11, 2016

ROCKY MOUNTAIN POWER

Program Overview

- Renewable energy and energy storage will be major contributors to the modern electric grid.
  - Batteries are the best option for storage in Utah
- Strategic application of proven innovative technologies will defer the need for traditional infrastructure solutions.
- The company has identified a logical location to pilot a battery storage and solar system.
  - Solves an operational issue at the same time

ROCKY MOUNTAIN POWER

Program Purpose

- Pilot project for Rocky Mountain Power to become familiar with operation and integration of advanced technologies.
- Better understanding of interaction between energy storage and renewable energy production.
- Enables the development of common practices for integrating these technologies while maintaining a safe and reliable electric grid.

ROCKY MOUNTAIN POWER

Project Selection

- What operational issues can be solved with energy storage?
  - Renewable firming
  - Peak shaving / load shifting
  - Voltage / frequency support
- Focused on peak shaving or voltage support.
  - Peak shaving can solve thermal overload and voltage issues
  - Voltage support provides benefits not related to thermal
    - ✓ Transmission line voltage forecasted to become non-compliant to ANSI voltage standards by 2019
    - ✓ Interconnection at the distribution level is lowest cost option

ROCKY MOUNTAIN POWER

Selected Technology

- Systems Proposed
  - Five (5) megawatt hours of battery storage rated at 2 megawatts
    - ✓ Deployed in two stages: 2 MWh followed by 3 MWh
  - 650 kilowatts of PV solar generation

- Function
  - The battery releases stored energy to the distribution system during peak hours to reduce loading on the transmission line, improving voltage profile
  - The solar generation will assist with load reduction and assist in charging the battery

ROCKY MOUNTAIN POWER

Project Deployment

- Property acquisition and permitting
- Requests for proposal
  - Owner engineer
    - ✓ RFP development, system optimization, proposal evaluation, integration
  - Engineering, procure, and construct (EPC)
    - ✓ Project life performance and maintenance agreements
    - ✓ Contractor will maintain construction and in-service schedule

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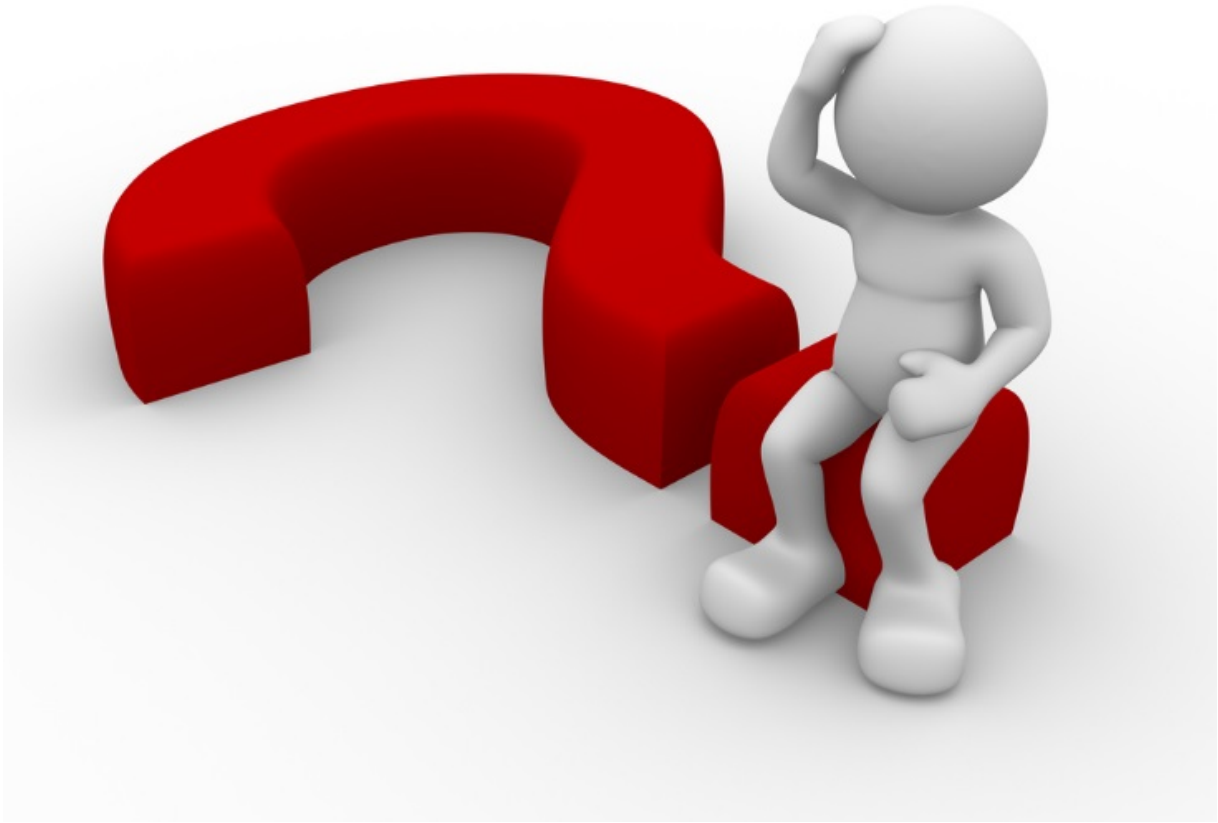
Monitoring the Benefits

- Pre-installation
  - Establish benchmarks for load and line voltage
- Mid-project *(2 MWh battery and solar)*
  - Benchmarked loads will be compared against actual load reduction due to initial battery and solar installations
- Project completion *(3 MWh battery)*
  - Final performance evaluated with total battery installation

ROCKY MOUNTAIN POWER

Review Informal Questions



ROCKY MOUNTAIN POWER

Submitted Questions
Utah Public Service Commission

1. Exhibit D presents a technical analysis including several diagrams identifying how the 8 MW-hr battery and the combined solar/5 MW-hr battery would perform (peak, 2 day, and 7 day). Is the intent to have the batteries discharge every time the net line demand exceeds the threshold on an on-going basis?
2. Please identify the expected useful life (years) of the proposed batteries in Alternative 3 and in the Combined Solar/Battery option?
3. Exhibit D discusses the need for "load shedding and load-transfer schemes" to be developed to "ensure any equipment failures will not affect safety, reliability and operability of the transmission and distribution system" (page 20). Are these costs accounted for in the requested budget?

Submitted Questions
Utah Division of Public Utilities

1. What are the Investment Tax Credit disadvantages for investor-owned utilities? (pg. 7 of 28 Confidential Exhibit D – Solar and Energy Storage Program)
2. What other resources (tax incentives, grants, etc.) are available to RMP to help pay for the Solar facility?
3. Have sites, other than the one proposed in this docket, with potential voltage issues been considered in this review? If so, please provide the site evaluation(s) and the reason each site was eliminated.
4. Blue Sky Program funding of the solar generation facility: Define what is meant by "buy down to competitive rates"? (pg. 7 of 28, Confidential Exhibit D – Solar and Energy Storage Program)
5. It appears from the filing that the storage technology has already been decided (multiple 40-feet containers with Lithium Ion batteries) Confidential Exhibit D – Solar and Energy Storage Program (pg. 9 of 28). What, if any, other storage technologies were considered and evaluated? Please provide the result of that evaluation. Does this storage technology coincide with the 2017 IRP?
6. Please explain how the Company intends to report the results of its Solar/Storage RFI and RFP to regulators and other interested parties.
7. What is the process of acquiring the services of an owner's engineer (OE)? What is the current status of this process? Please explain how the Company intends to report the results of its OE process to regulators and other interested parties.

Submitted Questions
Utah Division of Public Utilities (con't)

8. Solar assets are depreciated over 5 years for tax and 20 years for book. (pg. 11 of 28 Confidential Exhibit D – Solar and Energy Storage Program) Please explain the accounting detail of a solar project that will be paid for with Blue Sky funds and will not be included in rate base. Please explain the proposed depreciation and taxes (etc.) of the solar project
9. Please come prepared to discuss in more detail the OMAG costs for the storage and solar projects and the impacts it will have to customers.
10. Please provide a copy (or an update on the progress) of the "overarching Utah STEP Accounting document" referenced on page 10 of Confidential Exhibit D – Solar and Energy Storage Program.
11. As part of the "enable a greater understanding of these innovative solutions" (page 3 of 28 Confidential Exhibit D- Solar and Energy Storage Program) has it been determined how panels and storage will be disposed of once they have reached end-of-life? How will the expense be accounted for? Was this expense calculated in the financial analysis?
12. On the Financial Analysis chart (page 6 of 28 Confidential Exhibit D- Solar and Energy Storage Program) Property Cost and Owners Engineering Expense for 2017 is listed at $0.5 million and on page 11 Property cost is listed at $100,000 in the year 2017. Can you please provide information and calculation of the Owners Engineering Expense?
13. Please explain how the Company intends to report on the progress and results of the Solar and Energy Storage Program to regulators and other interested parties.

Submitted Questions
Utah Clean Energy

1. Please provide the company's estimated cost per kW for the solar installation.
2. What is the estimated annual energy output of the solar installation?
3. Has the company examined the costs of third-party ownership versus utility ownership?
4. How do the economics of the proposed project change assuming third party ownership, specifically given the ability of a third party to more fully take advantage of the Federal Investment Tax Credit? Please note that this question pertains to both the solar and storage aspects of the project, to the degree the project could be designed such that the battery system or some portion thereof is charged from the solar sufficient to meet the minimum charging requirements that allow storage to qualify as solar energy property under regulations governing the ITC.
5. Is there any reason not to issue an RFP that solicits both utility- and third-party owned projects for consideration, to allow more explicit cost comparison between different ownership structures?

Submitted Questions
Utah Clean Energy (con't)

6. The company's program description indicates that "the energy created by this Blue-Sky funded project will be supplied to all Utah customers." Exhibit D, page 7. Given that "community funds" are being used to purchase the solar installation, has the company considered (is the company open to) a grant program for the energy generated by the Blue Sky investment (a corollary to the existing Blue Sky grant program that helps community organizations install on-site solar)?
7. Will the proposed project have impacts (benefits) on the transmission system?
8. Please describe how the company is evaluating transmission-level impacts, including any tools the company uses.
9. Is the transmission line that is impacted by the proposed project a FERC-jurisdictional transmission line?
10. Please provide any analysis the company has quantifying the value of the distribution and transmission system impacts resulting from the proposed project.

Submitted Questions
Office of Consumer Services

1. This program provides benefits for PacifiCorp's transmission system. Please explain how non-Utah and/or non-retail users of the transmission system will help cover the cost of this program. If the Company believes that they should not incur any costs, please explain.

VALUE PROPOSITION

CUSTOMER SERVICE






PEOPLE

EMPLOYEE COMMITMENT



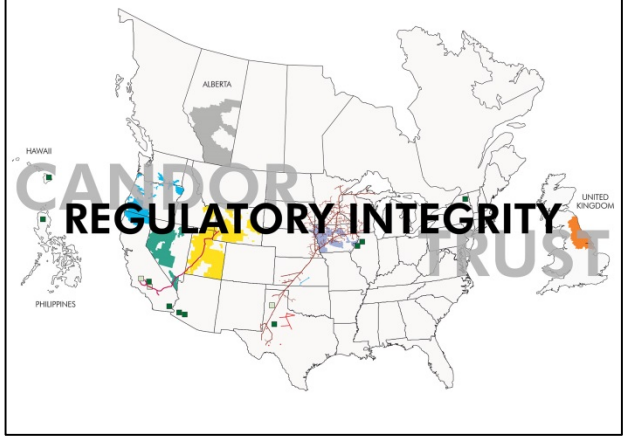



REDUCING IMPACT

ENVIRONMENTAL RESPECT





CANDOR TRUST

REGULATORY INTEGRITY

EFFECTIVE EFFICIENT

OPERATIONAL EXCELLENCE






BERKSHIRE FINANCIAL STRENGTH OWNERSHIP

ROCKY MOUNTAIN POWER