Municipal Electric Utility Feasibility Study

DRAFT FINAL

January 14, 2019
January 14, 2019

Mr. Sam Azad  
City Manager  
City of Pueblo  
1 City Hall Place  
Pueblo, CO 81003

SUBJECT: Municipal Electric Utility Feasibility Study

Dear Mr. Azad:

Please find attached our Draft Final of the Municipal Electric Utility Feasibility Study (Study) for the City of Pueblo (City). This Study evaluates the relative merits of the City forming a municipal electric utility. This Study was developed from work completed by EES Consulting, Inc. (EES) and Vanir Construction Management (Vanir) engineers and financial analysts and is based on legal research completed by Best Best and Krieger LLP (BB&K).

Please contact me directly if there are questions and we look forward to your comments on this Study.

Very truly yours,

Gary Saleba  
President/CEO

cc: Howard Choy, Vanir  
Ryan Barrow, BB&K  
Amber Nyquist, EES
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Section 1 – Executive Summary

Introduction

The City of Pueblo (City) is located in Colorado. The current population of the City is approximately 111,000.¹ Currently, electric customers within the City are served by Black Hills Energy (BHE). BHE is regulated by the Colorado Public Utilities Commission (CPUC).

The City asked EES Consulting, Inc. (EES), Vanir Construction Management (Vanir), and Best Best and Krieger (BBK) (Project Team), to evaluate the feasibility of forming a municipal utility to serve electric customers located within and around the City’s legal boundaries plus all of the BHE facilities in the State. The Project Team prepared this Phase 1 feasibility analysis that shows the financial and operational feasibility of municipalization.

Municipalization Process

Municipalization feasibility studies are conducted in three phases. The first phase determines whether municipalization is financially feasible and identifies areas for further study/analysis. These Phase 1 studies are typically done using publicly available data. Second, Phase 2 entails a detailed regulatory and legal analysis as well as more detailed engineering analysis. The initial financial proformas are then updated given the more detailed studies. A business plan is typically developed as well. Finally, Phase 3 determines how the City would move forward with the municipalization process. This Study is a Phase 1 study and includes a high-level financial analysis, general legal background, and a high-level engineering/operational analysis.

Regulatory/Legal Analysis

Under Colorado State law, the City may condemn BHE facilities that are located both inside and outside the City or just those facilities located inside the City boundaries; however, the process becomes more complicated if the City were to condemn BHE customers outside of the City boundaries as the Colorado Public Utility Commission (CPUC) may exercise jurisdiction over facilities that serve ratepayers outside the City limits. This involvement could add complexity to the process, however; if rate savings can be shared with all BHE Colorado ratepayers, this option may be viable.

There are several steps the City would have to take to create a municipal utility. First, a majority of City voters would have to vote to approve creating a municipal utility at either a regular or

special election. If the City desires to issue debt or obtain a loan to provide for acquisition costs, Colorado law requires certain prerequisites, such as the passage of an ordinance and/or a vote of the electorate. If the City acquires facilities that serve rate payers outside city limits, then the City may need to seek certain CPUC approval concurrent with the public process outlined in Colorado law. In addition, the City may need a determination from the Federal Energy Regulatory Commission (FERC) on any assets that BHE deems to be stranded depending on how the City decides to procure power. Finally, if BHE refuses to sell its facilities, the City would have to complete the condemnation process through a legal proceeding in Colorado district court. The court process is lengthy and could last two to three years if appeals are filed.

Financial Analysis

The detailed assumptions and analysis undertaken in this Study are presented throughout the balance of this report; however, Figure ES-1 presents a summary of the forecast rates for a scenario where BHE continues to provide service to its existing customers to a scenario where a municipal utility provides service to these same customers. The municipal utility rate assumes forecast payments for BHE generation cost stranding are required.

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Figure ES-1
Comparison of Utility Retail Rates

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The estimated average annual savings associated with forming a municipal utility as compared to BHE rates over the Study period is 10 – 12 percent. The net present value of these savings over the Study period is over $164 million ($2020).

These savings are conservative (likely understated) for the following reasons:

- BHE system value or “fair market value” for this Study is set at reconstruction cost new less depreciation. This valuation method is likely higher than the actual fair market value of the BHE assets at issue if adjudicated.
- Municipal utility retail rate revenue is estimated based on BHE retail rate forecast. The BHE retail rate forecast is developed using a conservatively low growth rate of 1% annually. Historic BHE rate increases have averaged 4% over the past ten years (2008-2017).
- Power supply costs for the municipal electric utility are forecast higher than expected for renewable energy contracts. The renewable energy costs are based on the assumption that the municipal utility will purchase short-term contracts from smaller-scale renewable energy resources. Larger-scale, or longer-term contracts would decrease the power supply cost to the municipal electric utility.
- Stranded generation costs are included for BHE owned resources that serve Colorado loads. The value of the stranded resources is estimated at a time when market purchase prices are historically low; thereby inflating the stranded cost estimates.
- Taxable take out financing was assumed; however, a public utility may have non-taxable financing options available to it with lower market rates.

**Key Findings**

This Study identified the following key findings:

- The BHE distribution system is in adequate condition. Based on the Project Team’s field work, the facilities appeared to be in good condition and subject to routine maintenance.
- If the City proceeds, the City can expect to pay for cost stranding (stranded costs) due to the agreement between BHE and Black Hills Corporation Independent power producer (BHCI) for capacity and output from the Pueblo Airport Generating Station.
- Despite stranded generation asset costs, municipalization is feasible due to lower municipal utility operation and capital costs, and projected lower power supply costs.
- Legally, the City may condemn facilities needed to serve City inhabitants, as well as ratepayers outside the City, and case law and other examples have been provided based on the City of Boulder’s efforts to municipalize.
- Forming a municipal utility has other benefits such as local control over power supply resources, rates, and local programs.
Recommendations

Based on the final results of this Study, the legal research and the engineering field work, there are adequately merits in forming a municipal utility to support proceeding to a Phase 2 analysis if the City desires to form a municipal electric utility. The Phase 2 study will consist of more in depth analysis of service area characteristics, municipal utility business plan, detailed valuation study, and specific regulatory steps.

Based upon this Study’s results, the Project Team observes the following:

- Operationally, the most appropriate BHE facilities to acquire are distribution equipment and substations in and around the City.
- All wholesale power and transmission needs should be provided via contractual agreements with BHE and other qualified third parties.
- This operational plan is financially feasible. Retail rate savings in the range of 10% - 12% are forecast based upon conservative input assumptions.
- The formation and operation of a municipal electric department is well-precedented nationally and can result in lower rates, more local economic development, less greenhouse gas emissions and more local control over key energy decisions.

The Project Team further observes that this initial Study’s findings are adequate to proceed into the Phase 2 Study process, if the City wishes to pursue the formation of a municipal electric utility.
Introduction

The City of Pueblo (City) is located in Pueblo County, Colorado. The population of the City is approximately 111,000. Currently, electric customers within the City are served by Black Hills Electric (BHE). BHE is regulated by the Colorado Public Utilities Commission (CPUC).

The City asked EES Consulting, Inc. (EES), Vanir Construction Management (Vanir), and Best Best and Krieger (BBK), (the Project Team) to evaluate the feasibility of forming a municipal utility to serve electric customers located both within the City’s legal boundaries as well as outside of the City.

In order to estimate the customer savings or costs resulting from forming a municipal utility, the Project Team forecasted retail rates for BHE for a study period of 2020-2039. Costs for the municipal utility are forecast over the same period including operating expenses, power supply, debt service, and stranded cost payments. The forecast rates for BHE and the new municipal utility are compared to comparable BHE rates to determine if any rate savings are available under “municipalization” or City ownership of the local electric utility.

Summary of Municipalization Study Process

Municipalization feasibility studies are conducted in three phases. The first phase, or Phase 1, determines whether municipalization is financially feasible and identifies areas for further study/analysis. Second, Phase 2 entails a detailed regulatory and legal analysis as well as more detailed engineering analysis. The financial proformas from Phase 1 would then be updated given the more detailed studies and business plan. Finally, in Phase 3, the City would move forward with the municipalization process. This Study is the outcome of the Phase 1 effort and includes a high-level financial analysis, general legal background, and a high-level engineering/operational analysis.

Data Limitations

As part of the City’s franchise agreement with BHE, the City can request records related to franchise compliance. A duly authorized representative of the City can request to inspect records reasonably related to compliance with the franchise including records that support the case for condemnation. Such documents may be confidential. In addition, every two years the City can request a list of BHE owned or leased property within the City. Records must be kept for at least

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four years. Other entities would need to request information on BHE facilities located outside of the City in order for the City to obtain information on the entire BHE Colorado system.

A data request was made to BHE consistent with what was needed for this feasibility study (see Appendix B). As of the date of this Study, this requested data has not been provided due to confidentiality issues. Thus, the Project Team utilized publicly available information, data from similar utilities, and Project Team expertise to develop estimates. As such, this Study should be considered an initial attempt at addressing the City’s question. Updates to this Study may be appropriate if additional BHE data is forthcoming.

**Study Framework**

This Study was prepared using publicly available information, a site survey of relevant equipment, and Project Team experience. The analytical construct includes the following assumptions:

1. Three scenarios for municipalization are evaluated from an economic perspective:
   a. City of Pueblo only
   b. City of Pueblo plus additional customers located close but outside of the City
   c. All BHE Colorado electric retail customers
2. To start, the City would not purchase BHE production facilities located in Colorado.
3. The City would pay BHE for production facility cost stranding and the payments would be made over time.
4. The City would not purchase BHE high voltage transmission facilities.
5. The City would purchase transmission service from BHE (or other providers) under standard tariffs.
6. The City will meet power supply requirements through power purchase agreements and market purchases.
7. At a minimum, Colorado’s Renewable Energy Standard (RES) would be met for the relevant proposed utility configuration.

Depending on the scenario, the Colorado Public Utilities Commission (CPUC) may have jurisdiction in the proceeding (discussed in more detail later). Acquired facilities and their value are estimated from FERC Form 1 information and the site survey. Operating costs and financing for the municipal utility are estimated based on current borrowing markets and other Colorado municipal utility budget information. Rates are then compared between BHE and the municipal utility to evaluate the financial feasibility of forming a municipal electric utility. Lastly, next steps and uncertainties are described.

**Project Team**

The Project Team consists of staff from EES, Vanir, and BBK. Backgrounds on the Project Team are provided below.
**EES Consulting**

EES is a multidisciplinary management consulting and registered professional engineering firm that provides a variety of project solutions to clients involved with electric power, natural gas, telecommunications, water, wastewater and other energy and natural resource related businesses. EES offers a broad array of services including; Mergers and Acquisitions; Cost of Service, Financial Analysis and Rate Design; Strategic Planning; Resource Development and Assessment; Energy Purchasing and Risk Management; Community Choice Aggregation Services; Expert Witness and Regulatory Support Services; and Valuations. EES has assisted clients in meeting the challenges of evolving competitive, regulatory and technical environments. EES has consulted over 200 electric utility clients over its 40 years of operation.

EES has direct, current and relevant experience with valuation, feasibility studies, power supply, economic analysis, and mergers and acquisitions. In addition, EES has also performed numerous municipalization feasibility studies throughout North America.

**Vanir**

Vanir is comprised of a registered professional electrical engineer (Colorado) and six project managers with a range of 15 to 30 years’ experience providing owner’s representative services to a variety of public clients, is supported by Vanir’s corporate office for estimating and detailed scheduling tasks.

**BB&K**

Best Best & Krieger LLP’s Municipal Law practice is regarded as a leader in the field, ranked “Tier One” by U.S. News-Best Lawyers in America. Attorneys are consistently recognized on various top attorney rankings lists, including Best Lawyers and Super Lawyers. The practice, established at the firm’s inception in 1891, currently represents approximately 250 cities, counties, and special districts. The highly skilled, diverse team of lawyers offers comprehensive, cost-effective counsel to cities, housing authorities, successor agencies, and joint powers authorities, and other public agencies nationwide. BB&K helps these clients successfully maneuver through legal complexities and governmental directives, enabling them to focus on providing superior service to their communities.

**Conflict**

The Project Team has not worked for BHE or the City in the past and has no conflicts of interest in performing this feasibility Study for the City.
BHE System Analysis and Assessment

Introduction

Specific information on the BHE distribution system serving the City was unavailable. As such, the Project Team estimated the characteristics, condition and value of the BHE distribution system based on available data and field assessment. The load characteristics contained in this Study are evaluated based on data provided by the City and publicly available information. The number of BHE facilities and original cost are estimated based on FERC Form 1 filings for Colorado BHE. The information is transformed so that estimates for facilities within and outside of the City are estimated separately.

Within this section of the Study, BHE facilities are described followed by a summary of the field assessment findings. Distribution facilities are evaluated separately from transmission facilities. The system valuation is presented last.

System Loads

System loads for the three scenarios for municipalization are estimated based on BHE’s Colorado FERC Form 1 filings. Utility characteristics such as number of customers by class (residential, commercial, and industrial), average kWh use and system peak demand are provided on BHE’s Colorado FERC Form 1. In order to estimate these characteristics for the first two municipalization scenarios, which include only the City, and the City plus nearby outside City customers, the relative share of commercial, industrial, lighting, and public authority load is disaggregated based on the number of households/residential customers, as shown in Figure 1.

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Residential</th>
<th>Small Commercial</th>
<th>Industrial</th>
<th>Lighting</th>
<th>Public Authority</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Average Use, kWh/year</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>City of Pueblo</td>
<td>48,483</td>
<td>43,095</td>
<td>5,173</td>
<td>26</td>
<td>70</td>
<td>119</td>
</tr>
<tr>
<td>Pueblo + Outside City</td>
<td>61,960</td>
<td>54,213</td>
<td>7,438</td>
<td>37</td>
<td>101</td>
<td>171</td>
</tr>
<tr>
<td>All BHE Colorado</td>
<td>96,119</td>
<td>84,101</td>
<td>11,538</td>
<td>58</td>
<td>157</td>
<td>265</td>
</tr>
<tr>
<td><strong>Number of Customers</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>City of Pueblo</td>
<td>48,483</td>
<td>43,095</td>
<td>5,173</td>
<td>26</td>
<td>70</td>
<td>119</td>
</tr>
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<td>7,438</td>
<td>37</td>
<td>101</td>
<td>171</td>
</tr>
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<td>96,119</td>
<td>84,101</td>
<td>11,538</td>
<td>58</td>
<td>157</td>
<td>265</td>
</tr>
<tr>
<td><strong>Total Retail Sales, MWh</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>City of Pueblo</td>
<td>891,348</td>
<td>311,343</td>
<td>332,425</td>
<td>194,477</td>
<td>2,851</td>
<td>50,253</td>
</tr>
<tr>
<td>Pueblo + Outside City</td>
<td>1,225,570</td>
<td>391,665</td>
<td>477,945</td>
<td>279,610</td>
<td>4,098</td>
<td>72,251</td>
</tr>
<tr>
<td>All BHE Colorado</td>
<td>1,901,235</td>
<td>607,593</td>
<td>741,439</td>
<td>433,761</td>
<td>6,358</td>
<td>112,084</td>
</tr>
</tbody>
</table>
Line losses from the BHE Colorado FERC Form 1, shown in the table below, are applied to develop system data, as shown in Figure 2.

<table>
<thead>
<tr>
<th></th>
<th>Line Losses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>5.82%</td>
</tr>
<tr>
<td>Commercial</td>
<td>5.67%</td>
</tr>
<tr>
<td>Industrial</td>
<td>4.11%</td>
</tr>
<tr>
<td>Lighting</td>
<td>5.82%</td>
</tr>
</tbody>
</table>

The annual energy forecast is escalated at 0.86 percent annually across the Study period based on the load growth predicted in BHE’s latest Electric Resource Plan. Peak demand is forecast to grow at 0.4% annually. Finally, customer growth is forecast at 1% annually, resulting in a forecast of slightly declining average use per customer, as is observed for most utilities.

**Site Assessment**

To determine the value of the distribution system needed to serve the City’s inhabitants, the Project Team conducted a review of distribution system assets located within and around the City limits. All information included in this Study was collected by the field review team through various methods. The Project Team visually observed assets (such as poles, conductors, transformers, etc.), recorded asset configurations and details as well as the observed condition of the subject equipment. The Project Team also visited all ten BHE distribution substations needed to serve customers within the City and twenty-six additional BHE transmission and distribution substations in the areas surrounding the City. The Project Team observed the conditions from outside the substation fences and had no access to purchase or maintenance records.

**Condition of Facilities**

The general condition of the distribution lines and service transformers seems to be average to good. Maintenance or replacement of this equipment appears to have been done systematically. In general, the Project Team did not identify any substations, associated equipment, or distribution system equipment that did not appear to conform with standard utility design practices; however, there were three substations that were in need of upgrades and/or maintenance.

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Transmission System

While it is not recommended for the City to purchase BHE transmission system assets to form a municipal electric utility, understanding the transmission system configuration is an important part of the municipal electric utility business plan. Figure 3 illustrates the bulk transmission facilities surrounding the City as well as the local transmission lines supplying the City. This map was taken from the Black Hills Energy 2017 BHCT TCPC Q1 Meeting Presentation for Colorado. Xcel Energy and BHE own the immediate transmission facilities used to serve the City, as shown in Figure 3.

Distribution Substations – City Electric Service

There are ten substations serving electrical load within the City. These substations generally consist of one or more incoming radial transmission taps from either a 115kV loop or a 69kV loop, terminated on a steel dead-end structure, often with surge arrestors, disconnect switches and fuses for equipment and customer protection. The distribution side of the stations generally contained oil circuit breakers, SF6 circuit breakers or circuit breakers in exterior switchgear. Most of the substations did not have buildings and many of them utilized radio antennas for communication purposes. Typical substation infrastructure included lightning protection, grounding systems, rock or crushed rock surfacing, lighting, chain linked fencing with barbed wire and signage.

The substations were in generally good condition, with no visible oil leaks noted. Oil containment measures were in place at all substations. The only substations that were observed that were not in good condition and appeared to be older were Airport Industrial, Airport Memorial, and
SkyView (near the State Hospital and not included in BHE FERC Filing). Figure 4 provides a summary of the ten substations that are located within the City boundaries. Figure 4 also highlights whether each of the substations within the City provides power to retail customers outside the City based on information obtained from the Project Team’s site visits. Images and a summary of observations of existing conditions for each of these substations is included on the following pages.
### Figure 4

**Black Hills Energy FERC Transmission and Distribution Substations – City of Pueblo**

<table>
<thead>
<tr>
<th>FERC Line Number</th>
<th>Name</th>
<th>Assumed to Feed Customers Outside City</th>
<th>Type</th>
<th>Voltage</th>
<th>Survey Status</th>
<th>Reason Substation Not Surveyed</th>
<th>Location</th>
<th>Distance from Pueblo City Center</th>
<th>Street Address</th>
<th>City</th>
</tr>
</thead>
<tbody>
<tr>
<td>D01</td>
<td>Airport Industrial</td>
<td>Yes</td>
<td>Distribution</td>
<td>115kV</td>
<td>13.8kV</td>
<td>N/A</td>
<td>Yes</td>
<td>N/A</td>
<td>Pueblo</td>
<td>N/A</td>
</tr>
<tr>
<td>D02</td>
<td>Airport Memorial</td>
<td>Yes</td>
<td>Distribution</td>
<td>115kV</td>
<td>13.8kV</td>
<td>N/A</td>
<td>Yes</td>
<td>N/A</td>
<td>Pueblo</td>
<td>N/A</td>
</tr>
<tr>
<td>D03</td>
<td>Belmont</td>
<td>No</td>
<td>Distribution</td>
<td>69kV</td>
<td>13.8kV</td>
<td>N/A</td>
<td>Yes</td>
<td>N/A</td>
<td>Pueblo</td>
<td>N/A</td>
</tr>
<tr>
<td>D13</td>
<td>Freemarry</td>
<td>No</td>
<td>Distribution</td>
<td>69kV</td>
<td>13.8kV</td>
<td>N/A</td>
<td>Yes</td>
<td>N/A</td>
<td>Pueblo</td>
<td>N/A</td>
</tr>
<tr>
<td>D16</td>
<td>Hyde Park</td>
<td>No</td>
<td>Distribution</td>
<td>115kV</td>
<td>13.8kV</td>
<td>N/A</td>
<td>Yes</td>
<td>N/A</td>
<td>Pueblo</td>
<td>N/A</td>
</tr>
<tr>
<td>D21</td>
<td>Northridge</td>
<td>Yes</td>
<td>Distribution</td>
<td>115kV</td>
<td>13.8kV</td>
<td>N/A</td>
<td>Yes</td>
<td>N/A</td>
<td>Pueblo</td>
<td>N/A</td>
</tr>
<tr>
<td>D24</td>
<td>Overton</td>
<td>No</td>
<td>Distribution</td>
<td>69kV</td>
<td>13.8kV</td>
<td>N/A</td>
<td>Yes</td>
<td>Pueblo</td>
<td>N/A</td>
<td>4495 Jerry Murphy Road</td>
</tr>
<tr>
<td>D28</td>
<td>Prairie Ave</td>
<td>No</td>
<td>Distribution</td>
<td>69kV</td>
<td>13.8kV</td>
<td>N/A</td>
<td>Yes</td>
<td>Pueblo</td>
<td>N/A</td>
<td>2013 Prairie Ave</td>
</tr>
<tr>
<td>D29</td>
<td>Pueblo 115kV Bus</td>
<td>No</td>
<td>Distribution</td>
<td>115kV</td>
<td>13.8kV</td>
<td>N/A</td>
<td>Yes</td>
<td>Pueblo</td>
<td>N/A</td>
<td>105 S. Victoria Lane</td>
</tr>
<tr>
<td>D38</td>
<td>Sunset</td>
<td>No</td>
<td>Distribution</td>
<td>69kV</td>
<td>13.8kV</td>
<td>N/A</td>
<td>Yes</td>
<td>Pueblo</td>
<td>N/A</td>
<td>3919 Northern Ave</td>
</tr>
</tbody>
</table>
Three substations are located in the City but are believed to feed customers outside of the City limits. The three substations are Airport Industrial, Airport Memorial and Northridge. In order to determine the number of customers served, the Project Team traced lines that left the substation and fed into areas that were outside City limits and then reviewed GoogleMaps to determine how many customers could potentially be in that area. Figure 5 below shows the areas that are believed to be served by substations located in the City. The Northridge substation is believed to feed approximately ten residential customers and ten industrial customers. The Airport Memorial substation is believed to serve approximately ten residential customers and forty industrial customers. The Airport Industrial substation is believed to serve approximately forty industrial customers. In total, it is believed that 20 residential customers and 90 commercial/industrial customers located outside of the city limits are served by substations located within the City.

**Figure 5**  
Black Hills Energy FERC Transmission and Distribution Substations – City of Pueblo
Distribution Substations – BHE State Electric Service

Figure 6 denotes the counties in Colorado. Within the map, Pueblo County is specifically highlighted as well as the other counties that are served by the Black Hills Energy Electrical Distribution System.

Figure 6
Colorado Counties with Pueblo County Highlighted
Figure 7 denotes the locations of the substations serving the City and the County of Pueblo as well as the distribution system within the City. This layout was developed based on information obtained from the Project Team’s site visits.

**Figure 7**
City and County of Pueblo Transmission and Distribution Substation

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Figure 8 provides an inclusive list of all the substations that are listed in BHE FERC Filing. It is indicated in the table if the field team observed the substation or not and if not, why.
## Figure 8
Black Hills Energy FERC Transmission and Distribution Substations – Inclusive List

<table>
<thead>
<tr>
<th>FERC Line Number</th>
<th>Name</th>
<th>Assumed to Feed Customers Outside City</th>
<th>Type</th>
<th>Voltage</th>
<th>Substation Surveyed</th>
<th>Reason Substation Not Surveyed</th>
<th>Inside Pueblo City Limits</th>
<th>County</th>
<th>Distance from Pueblo City Center</th>
<th>Street Address</th>
<th>City</th>
</tr>
</thead>
<tbody>
<tr>
<td>D01</td>
<td>Airport Industrial</td>
<td>Yes</td>
<td>Distribution</td>
<td>115kV</td>
<td>13.8kV</td>
<td>N/A</td>
<td>Yes</td>
<td>N/A</td>
<td>Yes</td>
<td>Pueblo</td>
<td>N/A</td>
</tr>
<tr>
<td>D02</td>
<td>Airport Memorial</td>
<td>Yes</td>
<td>Distribution</td>
<td>115kV</td>
<td>13.8kV</td>
<td>N/A</td>
<td>Yes</td>
<td>N/A</td>
<td>Yes</td>
<td>Pueblo</td>
<td>N/A</td>
</tr>
<tr>
<td>D03</td>
<td>Belmont</td>
<td>No</td>
<td>Distribution</td>
<td>69kV</td>
<td>13.8kV</td>
<td>N/A</td>
<td>Yes</td>
<td>N/A</td>
<td>Yes</td>
<td>Pueblo</td>
<td>N/A</td>
</tr>
<tr>
<td>D04</td>
<td>Blende</td>
<td>N/A</td>
<td>Distribution</td>
<td>69kV</td>
<td>13.8kV</td>
<td>N/A</td>
<td>Yes</td>
<td>N/A</td>
<td>No</td>
<td>Pueblo</td>
<td>4 Miles</td>
</tr>
<tr>
<td>D05</td>
<td>Little Burnt Mill</td>
<td>N/A</td>
<td>Distribution</td>
<td>115kV</td>
<td>13.8kV</td>
<td>7.6kV</td>
<td>No</td>
<td></td>
<td>Could't get close enough to substation - it was on private property</td>
<td>No</td>
<td>Pueblo</td>
</tr>
<tr>
<td>D06</td>
<td>Canon City - 13.8kV</td>
<td>N/A</td>
<td>Distribution</td>
<td>115kV</td>
<td>13.8kV</td>
<td>N/A</td>
<td>No</td>
<td></td>
<td>Don't know what these are - couldn't find them - are they different from the Canon Substation?</td>
<td>No</td>
<td>Fremont</td>
</tr>
<tr>
<td>D07</td>
<td>Canon City - 25kV</td>
<td>N/A</td>
<td>Distribution</td>
<td>13.8kV</td>
<td>25kV</td>
<td>N/A</td>
<td>No</td>
<td></td>
<td>Don't know what these are - couldn't find them - are they different from the Canon Substation?</td>
<td>No</td>
<td>Fremont</td>
</tr>
<tr>
<td>D08</td>
<td>Cripple Creek</td>
<td>N/A</td>
<td>Distribution</td>
<td>69kV</td>
<td>13.8kV</td>
<td>N/A</td>
<td>No</td>
<td></td>
<td>Distance from Pueblo - 91 Miles Northwest</td>
<td>No</td>
<td>Teller</td>
</tr>
<tr>
<td>D09</td>
<td>Desert Cove</td>
<td>N/A</td>
<td>Distribution</td>
<td>115kV</td>
<td>13.8kV</td>
<td>7.6kV</td>
<td>Yes</td>
<td></td>
<td>N/A</td>
<td>No</td>
<td>Pueblo</td>
</tr>
<tr>
<td>D10</td>
<td>East Canon</td>
<td>N/A</td>
<td>Distribution</td>
<td>69kV</td>
<td>13.8kV</td>
<td>N/A</td>
<td>Yes</td>
<td>N/A</td>
<td>No</td>
<td>Fremont</td>
<td>41 Miles</td>
</tr>
<tr>
<td>D11</td>
<td>Florence</td>
<td>N/A</td>
<td>Distribution</td>
<td>69kV</td>
<td>13.8kV</td>
<td>N/A</td>
<td>Yes</td>
<td>N/A</td>
<td>No</td>
<td>Fremont</td>
<td>36 Miles</td>
</tr>
<tr>
<td>D12</td>
<td>Fowler</td>
<td>N/A</td>
<td>Distribution</td>
<td>69kV</td>
<td>13.8kV</td>
<td>N/A</td>
<td>Yes</td>
<td>N/A</td>
<td>No</td>
<td>Ottero</td>
<td>40 Miles</td>
</tr>
<tr>
<td>D13</td>
<td>Freemay</td>
<td>No</td>
<td>Distribution</td>
<td>69kV</td>
<td>13.8kV</td>
<td>N/A</td>
<td>Yes</td>
<td>N/A</td>
<td>Yes</td>
<td>Pueblo</td>
<td>N/A</td>
</tr>
<tr>
<td>D14</td>
<td>Greenhorn</td>
<td>N/A</td>
<td>Distribution</td>
<td>115kV</td>
<td>13.8kV</td>
<td>7.6kV</td>
<td>No</td>
<td></td>
<td>Couldn't get close enough to substation to observe it - it was on</td>
<td>No</td>
<td>Pueblo</td>
</tr>
<tr>
<td>D15</td>
<td>Huerfano</td>
<td>N/A</td>
<td>Distribution</td>
<td>69kV</td>
<td>13.8kV</td>
<td>N/A</td>
<td>No</td>
<td></td>
<td>Distance from Pueblo - 64 Miles South</td>
<td>No</td>
<td>Huerfano</td>
</tr>
<tr>
<td>D16</td>
<td>Hyde Park</td>
<td>No</td>
<td>Distribution</td>
<td>115kV</td>
<td>13.8kV</td>
<td>N/A</td>
<td>Yes</td>
<td>N/A</td>
<td>Yes</td>
<td>Pueblo</td>
<td>N/A</td>
</tr>
<tr>
<td>D17</td>
<td>Manzanola</td>
<td>N/A</td>
<td>Distribution</td>
<td>69kV</td>
<td>13.8kV</td>
<td>N/A</td>
<td>Yes</td>
<td>N/A</td>
<td>No</td>
<td>Ottero</td>
<td>48 Miles</td>
</tr>
<tr>
<td>D18</td>
<td>Miscellaneous Subs</td>
<td>Distribution</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>No</td>
<td>Don't know what these are - couldn't find them</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>D19</td>
<td>Mobile Substation</td>
<td>N/A</td>
<td>Distribution</td>
<td>115kV</td>
<td>25kV</td>
<td>N/A</td>
<td>Yes</td>
<td>N/A</td>
<td>No</td>
<td>Fremont</td>
<td>30 Miles</td>
</tr>
<tr>
<td>D20</td>
<td>North Canon</td>
<td>N/A</td>
<td>Distribution</td>
<td>69kV</td>
<td>13.8kV</td>
<td>N/A</td>
<td>Yes</td>
<td>N/A</td>
<td>No</td>
<td>Fremont</td>
<td>41 Miles</td>
</tr>
<tr>
<td>D21</td>
<td>Northridge</td>
<td>Yes</td>
<td>Distribution</td>
<td>115kV</td>
<td>13.8kV</td>
<td>N/A</td>
<td>Yes</td>
<td>N/A</td>
<td>Yes</td>
<td>Pueblo</td>
<td>N/A</td>
</tr>
<tr>
<td>D22</td>
<td>Oak Creek</td>
<td>Distribution</td>
<td>69kV</td>
<td>24.9kV</td>
<td>N/A</td>
<td>No</td>
<td>Couldn't locate substation</td>
<td>No</td>
<td>Custer</td>
<td>56 Miles</td>
<td>TBD</td>
</tr>
<tr>
<td>D23</td>
<td>Ordway</td>
<td>N/A</td>
<td>Distribution</td>
<td>69kV</td>
<td>13.8kV</td>
<td>N/A</td>
<td>Yes</td>
<td>N/A</td>
<td>No</td>
<td>Crowley</td>
<td>54 Miles</td>
</tr>
<tr>
<td>D24</td>
<td>Overton</td>
<td>No</td>
<td>Distribution</td>
<td>69kV</td>
<td>13.8kV</td>
<td>N/A</td>
<td>Yes</td>
<td>N/A</td>
<td>Yes</td>
<td>Pueblo</td>
<td>N/A</td>
</tr>
</tbody>
</table>
Figure 9 provides an inclusive list of all the substations that are not listed in BHE FERC Filing but are in Pueblo County. Fountain Lake was included in the map above as it does appear to feed 69kV to substations located within the City of Pueblo. SkyView was not
included in the FERC filing but is located within the City boundary. It is indicated in Figure 9 if the field team observed the substation or not and if not, why.

**Figure 9**

Black Hills Energy Non-FERC Transmission and Distribution Substations – Inclusive List

<table>
<thead>
<tr>
<th>Utility Provider Name</th>
<th>Type</th>
<th>Primary</th>
<th>Secondary</th>
<th>Tertiary</th>
<th>Substation Surveyed</th>
<th>Reason Substation Not Surveyed</th>
<th>Inside Pueblo City Limits</th>
<th>County</th>
<th>Distance from Pueblo City Center</th>
<th>Street Address</th>
<th>City</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black Hills Energy</td>
<td>Black Hills Office and Power Plant</td>
<td>Distribution</td>
<td>TBD</td>
<td>TBD</td>
<td>Yes</td>
<td>N/A</td>
<td>Yes</td>
<td>Pueblo</td>
<td>N/A</td>
<td>105 S. Victoria Avenue</td>
<td>Pueblo</td>
</tr>
<tr>
<td>Black Hills Energy</td>
<td>EVRAZ Steel Mill</td>
<td>Distribution</td>
<td>TBD</td>
<td>TBD</td>
<td>No</td>
<td>There are potentially two substations at the Steel Mill - couldn't get access to the site</td>
<td>No</td>
<td>Pueblo</td>
<td>5 Miles</td>
<td>TBD</td>
<td>Pueblo</td>
</tr>
<tr>
<td>Black Hills Energy</td>
<td>Fountain Lake</td>
<td>Distribution</td>
<td>115kV</td>
<td>13.8kV</td>
<td>N/A</td>
<td>Yes</td>
<td>N/A</td>
<td>Pueblo</td>
<td>8 Miles</td>
<td>1930 Overton Road</td>
<td>Pueblo</td>
</tr>
<tr>
<td>TriState Generation and Transmission Association</td>
<td>Burnt Mill</td>
<td>Distribution</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
<td>Yes</td>
<td>N/A</td>
<td>Pueblo</td>
<td>8 Miles</td>
<td>2701 CO Road 230</td>
<td>Pueblo</td>
</tr>
<tr>
<td>Black Hills Energy</td>
<td>SkyView</td>
<td>Distribution</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
<td>Yes</td>
<td>N/A</td>
<td>Pueblo</td>
<td>N/A</td>
<td>1731 Hood Avenue</td>
<td>Pueblo</td>
</tr>
<tr>
<td>TriState Generation and Transmission Association</td>
<td>Stem Beach</td>
<td>Distribution</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
<td>No</td>
<td>Substation Did Not Belong to Black Hills Energy</td>
<td>No</td>
<td>11 Miles</td>
<td>4573 Co Rd 247</td>
<td>Pueblo</td>
</tr>
<tr>
<td>San Isabel Electric Association</td>
<td>Swallows</td>
<td>Distribution</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
<td>No</td>
<td>Substation Did Not Belong to Black Hills Energy</td>
<td>No</td>
<td>20 Miles</td>
<td>893 E. Enterprise Drive</td>
<td>Pueblo West</td>
</tr>
<tr>
<td>Black Hills Energy</td>
<td>Transportation Technology Center, Inc. - State of Colorado</td>
<td>Distribution</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
<td>No</td>
<td>Substation Did Not Belong to Black Hills Energy</td>
<td>No</td>
<td>30 Miles</td>
<td>End of N. Blackstone Drive</td>
<td>Pueblo</td>
</tr>
<tr>
<td>San Isabel Electric Association</td>
<td>Waverly</td>
<td>Distribution</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
<td>No</td>
<td>Substation Did Not Belong to Black Hills Energy</td>
<td>No</td>
<td>12 Miles</td>
<td>981 East Waverly Drive</td>
<td>Pueblo West</td>
</tr>
</tbody>
</table>
Distribution System, Poles, Conductors and Transformers

The distribution system is primarily installed at a 13.8kV voltage level. Assets were generally observed to be in good condition, with some pockets of old equipment and some pockets of brand-new equipment. Circuits tend to be of moderate length, and typically use overhead conductors on porcelain insulators with wood crossarms. There were steel poles used for distribution of higher voltage circuits, primarily in newer installations. There are significant older portions of the City that are fed overhead from adjacent alleyways. In these instances, these areas were transformed from 13.8kV down to commercial and residential service voltages utilizing pole mounted transformers.

The majority of the poles were in good condition, were not leaning and were generally found to be properly guyed. Underground distribution was very prevalent in the City and appeared to be mostly underground residential distribution. These areas were transformed from 13.8kV down to commercial and residential service voltages utilizing ground mounted transformers. Underground distribution is presumed to be in good condition, based on visual inspection limited to the exterior of transformers and above-ground equipment. Many transformers lack physical protection against vehicle traffic, such as barriers or bollards. Cables and terminations were not observed but are assumed to be the same age as the transformers. Cable is assumed to be directly buried without conduit, except in recent commercial installations.
Colorado Condemnation Law

Under the Colorado Constitution, the City, as a home rule city, is empowered to purchase or condemn utility facilities wherever located in furtherance of a public purpose. In this case, the City can condemn all of Black Hills Energy’s (“BHE”) facilities, even those located outside the City’s municipal boundaries. In Town of Telluride v. San Miguel Valley Corp., the Court held that a state statute purporting to limit home rule municipalities’ ability to condemn extra-territorial property was unconstitutional: “We have not recognized a distinction between the scope of the extraterritorial and territorial eminent domain powers conferred in article XX.” Relying on Town of Telluride, the Colorado Court of Appeal recently held that a home rule municipality may condemn the real property of a neighboring town so long as it is done for a lawful, public, local, and municipal purpose.

CPUC Jurisdiction

The CPUC does not have jurisdiction over a municipal utility operating solely within its boundaries. Therefore, if the City were to create a municipal utility to only serve residents

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6 Colo. Const. art. XX, §§ 1 and 6. Const. art. XX, §§ 1 and 6 authorize a home rule city “within or without its territorial limits, to construct, condemn and purchase, purchase, acquire, lease, add to, maintain, conduct, and operate water works, light plants, power plants, transportation systems, heating plants, and any other public utilities or works or ways local in use and extent, in whole or in part, and everything required therefore, for the use of said city and county and the inhabitants thereof, and any such systems, plants, or works or ways, or any contracts in relation or connection with either, that may exist and which said city and county may desire to purchase, in whole or in part, the same or any part thereof may be purchased by said city and county which may enforce such purchase by proceedings at law as in taking land for public use by right of eminent domain, and shall have the power to issue bonds upon the vote of the taxpaying electors, at any special or general election, in any amount necessary to carry out any of said powers or purposes, as may by the charter be provided.”

7 Colo. Const. art. XX, §§ 1 and 6.

8 185 P.3d 161, 165 (Colo. 2008).

9 City of Lafayette v. Town of Erie Urban Renewal Auth., 2018 COA 87, ¶ 15, --P.3d-- (Colo. App. 2018) (“Thus, a municipality would not necessarily be prohibited from exercising its legitimate condemnation authority to take land owned by a neighboring statutory town, if a valid public purpose exists.”).

10 Colo. Const. art. V, § 35 states “The general assembly shall not delegate to any special commission, private corporation or association, any power to make, supervise or interfere with any municipal improvement, money, property or effects, whether held in trust or otherwise, or to levy taxes or perform any municipal function whatever.” Article XXV states “Until such time as the General Assembly may otherwise designate, said authority shall be vested in the Public Utilities Commission of the State of Colorado; provided however, nothing herein shall affect the power of municipalities to exercise reasonable police and licensing powers, nor their power to grant franchises; and
within its municipal boundaries, the CPUC would not have any jurisdiction over the City’s facilities, rates, and service.\textsuperscript{11} One obvious form of CPUC regulation is the requirement of a certificate of public convenience and necessity (CPCN). CPCNs are required by the CPUC prior to a public utility entering into a franchise agreement, operating within a particular service territory or constructing or extending facilities.\textsuperscript{12} Similarly, the CPUC cannot require a municipal utility operating within the municipal boundaries to obtain a CPCN.\textsuperscript{13}

A municipal utility operating outside its boundaries, however, can be subject to CPUC regulation.\textsuperscript{14} Article XXV of the Colorado Constitution vests the CPUC with “all power to regulate the facilities, service and rates and charges . . . of every . . . public utility” operating within the state.\textsuperscript{15} In conjunction with Article V, section 35, the Colorado Supreme Court (Court) has interpreted this provision as conferring the CPUC jurisdiction over a privately owned public utility operating within municipal boundaries and over a municipal utility operating outside its municipal boundary.\textsuperscript{16} The CPUC generally has broad discretion in regulating the rates and service of utilities subject to its jurisdiction.\textsuperscript{17} State law does appear to limit the CPUC’s jurisdiction over a municipal utility operating outside its municipal boundary, though, by only allowing approval of “rates, charges, tariffs, or voluntary plans” when those rates and charges vary from those set within the municipal boundary.\textsuperscript{18}

In addition, the CPUC has jurisdiction over the transfer of a CPCN when a city has condemned public utility facilities outside its municipal boundary or when facilities serve ratepayers outside

\textsuperscript{11} \textit{Town of Holyoke v. Smith}, 226 P. 158, 162 (Colo. 1924) (CPUC does not have authority to regulate municipal utility rates); \textit{K. C. Elec. Ass’n, Inc. v. Pub. Utilities Comm’n}, 550 P.2d 871, 874 (Colo. 1976) (CPUC does not have authority to require municipal utility to purchase wholesale electricity from particular public utility).

\textsuperscript{12} C.R.S. 40-5-101 et seq.; 4 Colo. C. Regs. 723-3, 3100 et seq.

\textsuperscript{13} \textit{City of Greeley v. Poudre Valley Rural Elec. Ass’n}, 744 P.2d 739, 745 (Colo.1987).

\textsuperscript{14} \textit{City & Cty. of Denver v. Pub. Utilities Comm’n}, 507 P.2d 871, 875 (Colo. 1973) (“If Denver determines to operate its mass transit system outside of the territorial boundaries of Denver, it is subject to the jurisdiction of the P.U.C.”).

\textsuperscript{15} Colo. Const. art. XXV.

\textsuperscript{16} \textit{City of Ft. Morgan}, 159 P.3d at 96; \textit{City & Cty. of Denver}, 507 P.2d at 875.


\textsuperscript{18} C.R.S. § 40-3.5-102.
city limits. Historically, the CPCN transfer process appears to have occurred after the successful conclusion of condemnation proceedings. In the case of City and Cty. of Denver, Denver applied to the CPUC for a CPCN transfer upon a trial court’s determination that all private transportation systems had been transferred to the city from the regulated utility pursuant to a condemnation action. In the recent City of Boulder proceedings, however, the CPUC has determined that it has jurisdiction over the transfer of assets, wherever located, that serve ratepayers outside the city’s jurisdiction prior to the implementation of condemnation proceedings. The CPUC’s determination has been affirmed by a state trial court; however, neither the Colorado Supreme Court nor an appellate court have decided the issue.

City of Boulder

Boulder initially sought to form a municipal utility that would serve customers within its municipal boundary as well as extra-territorial customers. Boulder’s attempt at municipalization has been complicated by the language of the charter amendment approved by voters in 2011, which requires that in order to proceed with the creation of a municipal electric utility, the City Council would first have to determine “that it can acquire the electrical distribution system in Boulder and charge rates that do not exceed those rates charged by Xcel Energy at the time of acquisition and that such rates will produce revenues sufficient to pay for operating expenses and debt payments, plus an amount equal to twenty-five percent (25%) of the debt payments; and with the reliability comparable to Xcel Energy and a plan for reduced greenhouse gas emissions and other pollutants and increased renewable energy” (“Charter Metrics”). Additionally, in 2013, Boulder voters approved an ordinance permitting the acquisition if the bonds to purchase the existing assets and pay for stranded costs did not exceed $214 million.

Boulder’s municipalization has been further complicated by a decision by the CPUC and a state trial court. In 2013, Xcel filed a petition seeking declaratory orders related to serving existing customers outside Boulder’s municipal boundary. In Decision No. C13-1350, the CPUC determined that:

If Boulder seeks to condemn facilities, wherever located, that [the Company] currently uses, at least in part, to serve customers located outside of Boulder’s city limits, this Commission must have the ability to investigate and determine how

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19 507 P.2d at 872. It has been previously upheld by the Colorado Supreme Court that a CPCN was not a prerequisite for a public utility to condemn property. Miller v. Public Service Company, 272 P.2d 283 (Colo. 1954).


21 In a recent CPUC decision, Boulder states that it is only seeking to serve customers within city limits. Decision No. C17-0750 (Aug. 30, 2017).
the facilities should be assigned, divided, or jointly used . . . Thus, a Commission proceeding addressing these facilities should precede a condemnation action to allow the district court to rule on the public need and value of facilities that the Commission determines may be the subject of transfer to Boulder.22

Boulder appealed to the state district court, and Judge Judith LaBuda upheld the CPUC’s determination in an order dated January 14, 2015. It does not appear that the judge’s decision was appealed or is citable as a published opinion, however. Notwithstanding the lack of precedence, Boulder has since filed an application with the CPUC to determine how facilities that serve customers outside city limits should be assigned, divided, or jointly used to protect the system’s effectiveness, reliability, and safety.23 Boulder has filed several amended applications and the CPUC issued an interim decision in September 2017 that approved the transfer of Xcel’s extra-territorial assets subject to certain conditions.24 Currently, Boulder and Xcel have requested additional time to finish negotiating a joint plan to submit to the CPUC.

If Judge LaBuda’s opinion and the Commission’s decision are reflective of Colorado law, to the extent BHE’s facilities, whether located inside or outside of the City’s boundaries, are necessary to serve customers outside of Pueblo’s boundaries, then the CPUC would exercise its jurisdiction to determine how such facilities should be assigned, divided, or jointly used to protect the system’s effectiveness, reliability, and safety. Therefore, if the City’s creation of a municipal utility would impact customers outside the City’s boundaries, or if the City sought to serve customers outside its boundaries, CPUC approval of asset transfer could be required prior to instituting condemnation proceedings.

Separate from Boulder’s suit challenging the CPUC’s decision in Decision No. C13-1350, Boulder and Xcel have been engaged in protracted litigation with respect to whether the Boulder City Council correctly determined that the Charter Metrics could be satisfied. In May 2014, based on an independent consultant report, Boulder’s city council approved an ordinance declaring that the Charter Metrics could be met and creating a municipal energy utility. Xcel sued claiming that Boulder had not made the requisite showing and that the vote was premature. In June 2015,


23 Decision No. C17-0750CPUC Proceeding No. 15A-0589E.

24 The Commission determined that Boulder shall: “(1) file an agreement(s) reached between Boulder and Public Service Company of Colorado (Public Service) that provides Public Service permanent non-exclusive easements and other necessary real property rights for the location of Public Service’s electric facilities within Boulder’s city limits that are necessary for Public Service to provide service to its customers after separation; (2) correct the errors and omissions from the list of assets for transfer outside of the substations and resubmit the revised list of assets for final approval; and (3) file an agreement (or multiple agreements) between Boulder and Public Service that address(es) the payment by Boulder to Public Service of the costs incurred by Public Service to effectuate the separation of the systems.”
Judge LaBuda held that the City Council acted within its rights in creating the municipal utility and dismissed Xcel’s lawsuit. Xcel appealed, and the Colorado Court of Appeals reversed, holding that Xcel’s lawsuit was premature. Boulder appealed, and in June 2018, the Colorado Supreme Court reversed both the Court of Appeals and the district court and reinstated Xcel’s lawsuit.

**FERC and Stranded Costs**

Depending on the extent of facilities the City condemns, and how it chooses to purchase wholesale power upon creating the municipal utility, the City may be liable for BHE’s “stranded costs” under Federal Energy Regulatory Commission (“FERC”) Order No. 888. If Pueblo continues to purchase wholesale power from BHE, it may be able to avoid liability for stranded costs. At this time, we do not have sufficient information to determine whether, and to what extent, the City may be liable to BHE for stranded costs but estimates of stranded costs have been included in the Study’s proformas to keep the Study results conservative.

Specifically, in accordance with FERC’s open access order, the City may be liable for the payment of stranded costs to BHE as a retail customer that subsequently becomes an unbundled wholesale transmission services customer and continues to use the existing transmission system. It must pay the cost of any generation built to serve those customers now departing unless it (1) continues to purchase power from the utility that is still using the generation, or (2) is not using the existing transmission assets.

Any stranded cost determination by FERC is based on a case-by-case basis.

The financial analysis describes stranded cost assumptions for the purposes for the Study.

**Steps for Condemnation**

There are several steps the City would have to take to create a municipal utility. First, a majority of City voters would have to vote to approve creating a municipal utility at either a regular or special election. If the City desires to issue debt or obtain a loan to provide for acquisition costs, Colorado law requires certain prerequisites, such as the passage of an ordinance and/or a vote

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26 City of S. Daytona, Fla. Fla. Power & Light Co., 137 FERC ¶ 61183, at pg. 28 (Dec. 6, 2011) (FERC’s “stranded cost regulations do not apply to a retail-turned-wholesale municipal utility that intends to continue receiving its power supply from its former retail supplier.”).


of the electorate.\textsuperscript{30} In addition, section 31-15-3-2(1)(d)(II) provides: “No debt shall be created, except in supplying water, unless the question of incurring the same is submitted, at a regular or special election of the municipality, to the registered electors thereof as defined by the ‘Colorado Municipal Election Code of 1965’ and a majority of the registered electors voting upon the question vote in favor of creating such debt.”

As described above, certain CPUC approvals may be required if the City’s creation of a municipal utility would impact BHE customers outside the City’s boundaries.

If BHE refuses to sell its facilities, the City would have to complete the condemnation process, discussed below, through a legal proceeding in Colorado district court.

**Eminent Domain Process**

The following is an outline of the general eminent domain process. Included below are a number of statutory prerequisites which must be satisfied before filing an eminent domain action. Once the eminent domain action is filed, it is characterized as an expedited proceeding entitled to preference over other civil actions and must be conducted in accordance with the condemnation statutes.

1. **Step 1 – Notice of Intent**

C.R.S. § 38-1-121(1) requires that a condemnor make certain disclosures before instituting the condemnation action. The statute provides that “[a]s soon as a condemning authority determines that it intends to acquire an interest in property, it shall give notice of such intent, together with a description of the property interest to be acquired, to anyone having an interest of record in the property involved.” The Notice is required to include a number of items. If the “estimated value” of the property is five thousand dollars or more, the Notice includes a statement that the condemning authority “shall pay the reasonable costs” of the owner’s appraisal, and that the appraisal shall be “made using sound, fair, and recognized appraisal practices which are consistent with law.” The Notice also informs the owner that for reimbursement purposes, the appraisal should be submitted to the condemning authority “[w]ithin ninety days of the date of such notice,” at which time the condemning authority is immediately obligated to submit copies of its appraisals to the owner. Thus, this part of the process will take in excess of 90 days to complete.

2. **Step 2 – Good Faith Negotiations.**

Failure to agree upon compensation is prerequisite to initiation of a condemnation proceeding and the municipality has the burden to establish the failure to agree. The appraisals may be used by the parties to negotiate in good faith for the acquisition of the property interest, but neither

\textsuperscript{30} C.R.S. § 31-15-302.
the condemning authority nor such persons shall be bound by such appraisals. Failure to agree is established if the municipality has initiated negotiations and if further attempts to reach agreement would be futile. The prerequisite generally requires only that a condemning authority make a reasonable good faith offer to reach a purchase agreement with the owner. Lengthy or face-to-face negotiations are not required. Making a reasonable offer to purchase in good faith by letter and allowing the property owner time to respond, is sufficient to show a “failure to agree.” A Colorado court has found that a municipality has made a reasonable good faith attempt to negotiate the purchase of property, in satisfaction of prerequisite to initiation of condemnation proceeding, regardless of alleged insufficiency of amount offered, where the municipality provided landowners with an independent appraisal, waited nearly two months after conveying the offer to purchase before commencing action, and the landowners did not accept, reject, or make any counteroffer during that time.

3. **Step 3 – Final Written Offer.**

If the parties fail to reach agreement on the fair market value of the property being acquired, the municipality, prior to proceeding to trial on the issue of valuation, shall furnish the utility with a written final offer.

4. **Step 4 – File Petition in Condemnation.**

Condemnation actions are commenced with the filing and service of a pleading referred to as a petition in condemnation. Personal service on all respondents named in the condemnation action pursuant to C.R.C.P. 4 is required of the summons, the petition in condemnation, and any other documents that are filed to commence the condemnation case. Once the condemnation action has been filed and served, the utility will file an answer, which may challenge the right to condemn the property.

5. **Optional Step – Request for Immediate Possession**

Article II, Section 15 of the Colorado Constitution specifically addresses the issue of immediate possession by stating that until just compensation has been “paid to the owner, or into court for the owner, the property shall not be needlessly disturbed, or the proprietary rights of the owner therein divested.” This has been to allow a condemning entity to occupy the property before the ultimate payment of just compensation, but only in circumstances where a court has determined that possession is “needful.”

6. **Step 5 – Pretrial Process & Trial**

Condemnation actions are viewed as special statutory proceedings that must be conducted in strict accordance with the condemnation statutes. The sole purpose of the statutory framework governing condemnation proceedings is to determine if the right to condemn properly lies, and,

31 C.R.S. § 38-1-102.
if it does, the amount of just compensation that must be paid for the taking of the property at issue. Pursuant to C.R.S. § 38-1-119, condemnation actions are often characterized as expedited proceedings because they are to be given “preference over other civil actions . . . in the manner of setting the same for trial.” This statutory description of an eminent domain proceeding is important because C.R.C.P. 16(a) exempts “expedited” proceedings from the case and trial management provisions of the Rules of Civil Procedure “unless otherwise ordered by the court or stipulated by the parties.”

6(a) Board of Commissioners

Pursuant to C.R.S. § 38-1-106, if a respondent has not elected to have the issue of value determined by a jury “before the expiration of the time for the defendant to appear and answer,” the value will be determined by a “board of commissioners” appointed by the court. The appointment of the commissioners is then controlled by C.R.S. § 38-1-105(1), which provides that the commission shall be constituted of “not less than three disinterested and impartial freeholders.” Unlike a jury that must consist of “freeholders residing in the county in which the petition is filed,” C.R.S. § 38-1-105(1) does not require the commissioners to be freeholders in any particular county.

6(b) Discovery

Although condemnation proceedings are akin to “expedited” proceedings and thus are arguably exempt from some of the disclosure and discovery rules found in C.R.C.P. 26, most litigants voluntarily agree to comply with these rules to avoid surprise at trial and to allow for adequate preparation of the case. Thus, in nearly all condemnation actions, written discovery is regularly conducted by interrogatories, requests for admissions, and requests for document production and oral discovery by depositions are routinely taken of all expert witnesses who may testify in the case, as well as all key lay witnesses.

6(c) Law & Motion

As long as the requested relief is not inconsistent with the condemnation statutes, litigants in a condemnation action are free to file many of the same motions that are normally filed in other civil proceedings.

6(d) Motions In Limine

All legal issues dealing with the right to condemn property must be resolved by the trial judge either at the immediate possession hearing or at an in limine hearing specifically scheduled for this purpose. Separate and apart from this duty, it is also the responsibility of the judge to resolve issues of law that concern the manner by which the just compensation for the taking of the property will be determined.
6(e) Trial

What to expect during a valuation trial will largely depend upon whether the case is being tried to a jury or a commission. In cases where the trial judge presides over a jury, the proceedings will likely be conducted in a more formal manner, with a greater emphasis being placed on the Rules of Evidence and Rules of Civil Procedure. Although adherence to the standard civil litigation rules is also necessary in valuation trials before a commission, such trials tend to be less formal. Because a commission acts in the capacity of a “judicial body,” greater latitude may be given in the presentation of the case, in the argument of counsel, and in the admission of the evidence.
Municipal Utility Service Area

Since Colorado law allows the City to serve electric customers outside of City boundaries, this financial analysis evaluates the feasibility of forming a municipality with three options for ultimate service area:

1. Inside City Only
2. City of Pueblo plus additional customers close but outside of the City
3. All BHE Colorado electric customers

Scenario 1, where the municipal utility serves electric customers located within current city boundaries, is the least complicated option. Scenario 2 is slightly more complicated but would enable a new municipal utility to serve all of Pueblo and outside City customers in close proximity to the City. Finally, Scenario 3, where the municipal utility serves all BHE electric customers within Colorado, will be more costly.

System Valuation

Colorado law recognizes several valuation approaches to determine the fair market value of property including: (1) the sales comparison approach, (2) the income approach, and (3) the cost approach. The ultimate goal of these methodologies is to determine the “fair market value” for the subject property and equipment in a hypothetical open and free market transaction with a willing buyer and a willing seller.

This Study uses the Market and Cost Approach to valuation. The market approach was looked at quickly as comparable transactions occur only infrequently. Also, the income approach is not applied since BHE’s franchise agreement with the City expires in the near-term. Therefore, there is no “income” going forward for BHE from these assets. This Phase 1 Study includes both replacement cost and original cost valuations, as well as a rough estimate of a market approach. These methods will provide a high and a low value for the BHE assets at issue as these two metrics set the high and low range for “fair market value”. The specific approaches are detailed below.

Original Cost Approach

The Original Cost Approach uses the original cost of the existing facilities as a measure of value. The original cost of the facilities is reduced by the depreciation that has accrued since these

Source:
facilities were placed into service. This results in what is commonly referred to as the Original Cost Less Depreciation (OCLD) value or sometimes referred to as the “Net Book Value.” This value usually sets the floor for utility valuations assuming no contingent liabilities. This valuation methodology could be based on the utility’s records of the original cost of plant and subsequent depreciation that has occurred over time. If such records are not available, original cost is typically estimated by adjusting current replacement cost by appropriate economic indices. Straight-line depreciation is then used to calculate the depreciated cost.

The original cost of the plant was estimated based on BHE’s FERC 2017 Form 1 filings. The total amount of rate base (or book value) for BHE is $724.5 million, including generation and transmission facilities. When just the distribution and general plant were included, the total net plant amount is $200.5 million.

BHE’s 2017 filing shows $234.8 million as an acquisition adjustment, which reflects the premium amount over book value paid by BHE when they acquired the system from Aquila in 2008. This amount is included in BHE’s balance sheet but is not included in rate base as BHE is likely not allowed to earn a return on this amount. The amount was allocated to the distribution plant based on the 2017 share of distribution plant to total plant, which is 36.2%. The $234.8 million is not depreciated every year by BHE and so the acquisition adjustment is not declining over time in BHE’s records. However, the premium paid by BHE allows the utility to earn a return every year and expand the system to increase the rate base of the utility. For that reason, it is appropriate to amortize this amount over a 30-year period such that BHE would only pay a share of this acquisition adjustment to reflect the value that BHE has already received. The acquisition adjustment adds $56.6 million to the OCNLD value.

When the share of the acquisition adjustment is added to the net plant for distribution and general plant, the result is an OCLD of $257.1 million. Note that because the OCLD approach used for this Phase 1 Study already includes the acquisition adjustment, it would not be considered the typical “bookend” of ranges to consider and reflects an amount that is already between the typical low and high end of the range.

**Replacement Cost Approach**

The Replacement Cost Approach uses an estimate of the cost of replacing or reproducing the existing facilities as a measure of value. This amount is then reduced to reflect the amount of depreciation that has accrued to the improvements being valued. The valuation under such a method is generally referred to as the Replacement Cost New Less Depreciation (RCNLD) value. Straight-line depreciation is used for the calculation of depreciation in the RCNLD value. This approach sets a ceiling for a system’s fair market value.
The Project Team adjusted the original cost using the Handy-Whitman index (HWI)\textsuperscript{33} to determine replacement cost. The HWI was applied based on the year of addition to the rate base. By looking at the additions in each year, the amount of all facilities is brought to current cost levels.

For the distribution facilities, the additions in each year from 2008 through 2017 were used based on FERC Form 1 data. The remaining amount of gross plant values were then spread among the years 1988 to 2007 to reflect an average 30-year life. The resulting replacement cost plant amount was estimated at $531.2 million.

For general plant facilities, the annual additions from 2008 through 2017 exceeded the total value due to shorter life spans and retirements. The annual amount for 2008 was adjusted so the total additions would equal the total general plant amount prior to applying the HWI. The resulting replacement cost plant amount was estimated at $39.7 million.

The combined replacement cost is estimated at $570.9 million and was reduced by accumulated depreciation of $242.2. The resulting amount was adjusted to account for other rate base items, leading to a RCNLD value of $334.4 million.

Because the RCNLD generally reflects the high end of the valuation range, and because it is not based on actual costs incurred, it is not appropriate to add an amount for the acquisition adjustment to this value, as was done with the OCNLD.

\textit{Market Approach}

The Market Approach looks at a comparison of sales for comparable utilities. This approach is often difficult because sales of comparable utilities that are geographically close are infrequent. This approach generally looks at the percent premium over book value paid by the purchasing utility. Some recent acquisitions provide a range in the percent premium from 19\% to 36\% with an average level of 27\%. These premiums were applied to the book value for BHE prior to the acquisition adjustment. Based on the average value, the market approach yields a value of $255.5 million. This is very close to the OCNLD value, which already includes the acquisition adjustment paid by BHE.

\textit{Results}

The valuation results in the OCLD value of $257.1 million and the RCNLD value of $334.4 million for the BHE distribution and general facilities needed to serve the City’s inhabitants. The market

approach results in a value of $255.5 million. A range of premium over book value under the market approach was also calculated and is shown in Figure 10 below.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>OCNLD</td>
<td>$257.1</td>
<td></td>
</tr>
<tr>
<td>RCNLD</td>
<td>$334.4</td>
<td></td>
</tr>
<tr>
<td>Premium Over Book</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low, 19%</td>
<td>$239.5</td>
<td></td>
</tr>
<tr>
<td>Average, 27%</td>
<td>$255.5</td>
<td></td>
</tr>
<tr>
<td>High, 36%</td>
<td>$271.8</td>
<td></td>
</tr>
</tbody>
</table>

Based on this valuation exercise, the value of BHE distribution facilities needed to serve the City’s inhabitants is set at the highest possible valuation of RCNLD at $334.4 million. This valuation assumption was made to ensure that a conservative feasibility study is offered to the City policy makers. In actuality, the fair market value for the subject property will likely be set at something less than RCNLD.

**Detail of Municipal Utility Budget**

In this section of the Study, an estimate of operating costs for a new municipal electric utility is presented. There are a number of decisions that need to be made by the City that will potentially affect the cost of operations, such as whether to outsource certain functions versus building these capabilities in-house. This initial analysis assumes that the City will choose to build most capabilities in-house. Options for outsourcing and building capabilities during a transitional period are addressed following the initial analysis. Outsourcing may also provide a means to cut operating costs. Any savings associated with outsourcing have not been included in this Study to keep its findings conservative.

**Power Supply & Transmission**

Power supply and transmission includes all costs for power supply and related services to the municipal utility’s distribution system. Costs for power scheduling are included in the power supply cost estimates.

**Power Purchases**

Costs for energy purchased to meet municipal utility load is estimated at market prices for the Western Electricity Coordinating Council (WECC) and the Southwest Power Pool (SPP) transaction area.\(^{34}\) An additional $10/MWh is added to market prices to account for load shaping and

\(^{34}\) While Pueblo County is located in the WECC transaction area, the nearest pricing node is SPP.
reserves. Capacity services including, resource adequacy, are estimated to cost $32/kW-year based on recent transactions in the bulk power market. This value is included for 15% of the municipal utility’s capacity requirements to cover the planning margin, which is assumed to equal 115% of annual peak demand. Capacity value is included in the energy value for the remainder of the load (market plus $10/MWh). These prices are based on market conditions and conversations with local municipal utilities.\(^{35}\)

**Renewable Energy**

It is assumed that a new municipal utility would purchase renewable energy to meet the renewable portfolio standard of 10% renewable by the 13\(^{th}\) year of operation in the Study’s base case.\(^{36}\) Eligible renewable energy includes geothermal, solar thermal and solar photovoltaics, wind, biomass, hydroelectric, landfill gas, anaerobic digestion, and fuel cells using renewable fuel or recycled energy. Additionally, if the CPUC determines they are greenhouse gas neutral municipal solid waste and coal mine methane may also be considered renewable.

The Study power supply cost estimates assume that the new municipal utility will acquire 10% of its power supply from renewable sources beginning in the first year of operation. A renewable energy adder of $2/MWh is included in power supply costs. This construct represents short-term market transactions for renewable energy. Starting in year 3 of the Study, it is assumed that 25% of renewable energy will be purchased via long-term contracts at prices closer market, or $35/MWh.\(^{37}\) By year 8, 50% of the renewable energy is purchased via long-term contract. If the municipal electric utility is able to secure a greater share of long-term contracts sooner or in greater quantities, power supply costs would be lower. Additionally, the renewable prices are forecast conservatively high. It is assumed that the municipal utility would invest in contracts for smaller-scale projects with slightly higher costs compared with larger-scale projects where costs range from $20-$36/MWh.

Finally, in the rate comparison section, an analysis of the municipal utility rates is prepared under a scenario where the municipal utility ramps up its renewable energy share to 100% by 2035.

\(^{35}\) EES discussed market conditions and pricing with Colorado Springs Utility.

\(^{36}\) CRS 40-2-124 (1) Renewable energy standards apply to municipal electric utilities serving more than 40,000 retail customers.

Transmission

This Study assumes that the new municipal electric utility receives power purchases via the BHE Open Access Transmission Tariff (OATT) or through other third-party transmission at rates similar to the BHE OATT. BHE’s OATT rates are estimated at $5.00/MWh and are escalated at 1.5 percent annually. These transmission costs include ancillary services.

Stranded Costs

This Study assumes that the municipal utility will need to pay stranded costs for BHE generation. Based on the Colorado BHE FERC Form 1, the following BHE resources (Figure 11) are used to meet Colorado loads.

<table>
<thead>
<tr>
<th>Resource:</th>
<th>Year Built</th>
<th>Net Generation MWh</th>
<th>Capacity MW</th>
<th>Assumed Life</th>
<th>Life Remaining</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generation Station (Natural Gas)</td>
<td>2012</td>
<td>137,103</td>
<td>200</td>
<td>30</td>
<td>24</td>
</tr>
<tr>
<td>Generation Station 6</td>
<td>2016</td>
<td>20,632</td>
<td>42</td>
<td>30</td>
<td>28</td>
</tr>
<tr>
<td>Pueblo Airport</td>
<td>2001</td>
<td>-149,000</td>
<td>10</td>
<td>30</td>
<td>13</td>
</tr>
<tr>
<td>Bush Ranch Wind Farm</td>
<td>2012</td>
<td>45,000</td>
<td>29</td>
<td>30</td>
<td>24</td>
</tr>
<tr>
<td>Peak View Wind Farm</td>
<td>2016</td>
<td>131,420</td>
<td>60.8</td>
<td>30</td>
<td>28</td>
</tr>
</tbody>
</table>

*Estimated based on 3-years of FERC Form 1 data.

The diesel generators owned by BHE are excluded from the analysis since they are used only for back-up and were installed over 50 years ago. The natural gas plant built in 2012 is a 400 MW plant of which BHE owns half (200 MW) and the other half is owned by a sister company, Black Hills Colorado IPP (BHCI). Note that none of the plant is included as an asset for the Colorado portion of BHE, as indicated in the FERC Form 1 for the State.

Stranded costs are calculated as the difference between the above resource costs and the market value of the energy and capacity provided. Stranded costs are included through the end of the resource life. Values are calculated for each resource type based on the services provided. Capacity value is included for the natural gas plants and the BHCI contracts only. Renewable value is added to output from both of the wind resources:

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38 FERC defines wholesale stranded costs as “any legitimate, prudent and verifiable cost incurred by a public utility or transmitting utility to provide service to . . . a retail customer that subsequently becomes, either directly or through another wholesale transmission services purchaser, an unbundled wholesale transmission services customer of such public utility or transmitting utility.” 18 C. F. R § 35.26(b)(1)(ii).
Energy is valued at forecast market prices at SPP
Renewable energy adders of $2/MWh escalated at 2.5% annually are included for renewable projects;
Capacity value is estimated at $32/kW-year escalated at 5% annually.

The resulting stranded cost estimates are provided in Figure 12 below in $/MWh format. The driving factor behind the large stranded costs is the contract costs for PAGS output from BHCI. After that contract expires in 2031, stranded costs decrease significantly. Negative cost stranding in the 2030s is due to the wind projects. The stranded costs are positive again in 2037 after the wind projects are retired and BHE’s share of PAGS continues to be stranded.

Figure 12
Stranded Costs, $/MWh

The above methodology for estimating generation cost stranding is similar to the cost stranding mechanism used by FERC and many other state PUCs. The methodology spreads stranded costs over several years rather than requiring up-front costs. Since energy markets change frequently, calculating actual cost stranding is a reasonable approach to ensuring costs are not shifted between departing and remaining BHE customers.

**Distribution System O&M**

Distribution expenses includes all costs to operate and maintain the distribution system including substations. Distribution O&M costs were estimated by looking at comparable preference utilities. Distribution O&M per customer by customer class was taken from cost of service analyses from three comparable municipal utilities. These costs were then applied to the new

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39 Sales for resale (31,737 MWh in 2017) are included in the unit stranded costs.
municipal utility. The total Distribution O&M costs were then broken down into labor and equipment costs. Labor costs include a portion of salaries and benefits for personnel in the operations and engineering departments. Material and equipment costs include the cost of operating and maintaining fleet vehicles and other construction equipment.

**Customer Service**

Customer service expenses include labor and expenses incurred to provide customer service such as billing, meter reading, customer information and advertising, records and collection. Customer service costs may vary by type of account based on usage profile or meter type. For example, a large industrial customer with a special contract for rates would require significantly more resources to bill compared with the average residential customer on a general rate schedule. This Study assumes customer service expenses average $85/customer based on expenses reported for 2017 by the Fort Collins municipal utility.

**Administrative & General Expense**

Administrative and General expenses include all other labor and expenses necessary to run the electric utility. Labor includes personnel in billing/customer service, accounting, information systems, and management. Office supplies and equipment includes the cost of purchasing (in the case of consumables such as paper and toner) or depreciation (in the case of depreciable assets such as computers, printers, and furniture). Facilities O&M includes the cost of operating and maintaining office space to house new employees. Miscellaneous costs include other administrative and general expenses not included in the categories listed above such as maintenance and depreciation of additional modules for the City’s new billing/CIS system necessary for the electric utility.

**Payments in Lieu of Taxes.**

Generally, a new municipal utility will not pay taxes; however, because a goal of this Study is to hold impacted taxing authorities harmless, two tax amounts are included as expenses in the municipal utility’s costs:

- 3 percent franchise fee paid by BHE’s customers in the City.
- Payments in lieu of taxes, assumed at 7.5 percent annually, paid to the other taxing districts currently being paid by BHE.
- Payments in lieu of taxes (PILOT) is estimated based on average Colorado municipal electric utility payments based on revenue. A survey of Colorado municipal utilities showed that PILOT ranges from 5% to 8.6% with 6% being the median. A study by the American Public Power Association that indicates that the average contribution for PILOT is approximately 5.6% nationally and 5.7% for the Mountain Region (Colorado, Montana,
This study assumes 7.5% based on BHE annual FERC Form 1 filings for state and local taxes plus a 3% franchise fee.

**Capital Improvement Projects**

The municipal utility would need to routinely undertake capital projects. Estimates for capital improvement projects were developed from the BHE FERC Form 1 filings for the years 2015 through 2017. All BHE Colorado capital improvement expenses for the distribution system and general plant are estimated at $21.7 million per year with the majority ($19.8 million) due to distribution system investments. For the scenario where the City serves either only Pueblo or Pueblo plus outside City customers, capital improvement project expenses are estimated at $11 and $14 million respectively and based on the share of total customers, as shown in Figure 13.

<table>
<thead>
<tr>
<th></th>
<th>Distribution</th>
<th>General Plant</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pueblo</td>
<td>$10,000,000</td>
<td>$1,000,000</td>
<td>$11,000,000</td>
</tr>
<tr>
<td>Pueblo + Pueblo West</td>
<td>$12,800,000</td>
<td>$1,200,000</td>
<td>$14,000,000</td>
</tr>
<tr>
<td>All Colorado BHE</td>
<td>$19,800,000</td>
<td>$1,900,000</td>
<td>$21,700,000</td>
</tr>
</tbody>
</table>

**Non-Operating Expenses**

Non-Operating Expenses include debt service and miscellaneous revenues. These are discussed below.

**Debt Service**

The distribution plant was valued according to the market and cost approach using the field work completed for this Study. Under the cost approach, values were calculated based on both the Replacement Cost New Less Depreciation (RCNLD) and Original Cost Less Depreciation (OCLD).

For the entire BHE Colorado distribution system and general plant, the RCNLD method results in a value of $334.4 million. The OCLD method resulted in a net book value of $257.1 million. The true fair market value of the subject facilities likely lies between these two values. In order to be conservative in customer saving estimates, this Study assumes the higher plant value obtained from the RCNLD method or $334.4 million as the value of the subject BHE facilities. This value is higher than what will likely be paid if the City pursues forming a municipal electric utility.

The annual debt service payment includes the components in Figure 14 below.

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Legal costs are estimated conservatively (on the high end). The lower costs of $4 million are consistent with the City providing service to customers within its borders. Higher costs of $10 million are included where the CPUC and FERC would be involved in the municipalization process.

**Miscellaneous Revenue**

In addition to the above expenses, it is expected that the City will receive revenue from a use of facility agreement with BHE for providing distribution substation service to customers located outside of the City limits. The Project Team estimates that 90 commercial/industrial and 20 residential customers located outside of the city limits are served through facilities located within City limits.

Based on the relative share of customers and projected distribution O&M, miscellaneous revenue is estimated at roughly $16,000 in 2020 in the two cases where the City doesn’t serve all of BHE Colorado. This amounts to approximately $12.21/month per customer; however, the actual rate would likely vary by customer class and be based on specific substation costs.

Due to the above assumptions, separation costs for the new municipal utility are assumed to be zero in all cases. Therefore, costs to build distribution station assets to separately serve BHE customers adjacent to the City are not assumed or needed.

**Annual Budget**

The resulting budget is shown for 2020 in Figure 15.
The average retail rate for a new municipal utility is roughly $124 per MWh in 2020. The costs do not differ much among the three different scenarios for the customers served.
BHE Rate Forecast

This section of the Study summarizes the retail rates under continued BHE ownership. This forecast is developed based on rate approvals from the CPUC and BHE’s Electric Resource Plan (ERP).

Methodology

This section of the Study estimates future BHE retail rates in Colorado. Historic BHE rates are calculated for the period 2008 through 2017 for the total average system (all rate classes combined) from BHE’s FERC Form 1 filing. The average rate increase over the 10-year period is 4.0%. Annual rate increases were high for the first several years after BHE acquired the utility from Aquila. However, recent rate increases have averaged 1-3% annually. Therefore, the forecast BHE rate begins at $0.129/MWh in 2017, decreases 5% in 2018 based on the filed rate change, and then increases 1.0% annually after (nominal rate increase). This rate forecast is conservative given BHE rate increase history.

BHE 2016 Electric Resource Plan

BHE must meet Colorado RES which requires a higher percentage of renewable energy for IOUs compared with small coops and municipal utilities. BHE must obtain 20% of its electricity from renewable resources from 2015-2019 and 30% in 2020 and after. In addition, BHE has carve-out requirements for distributed generation of 3% of retail sales starting in 2020 (with earlier mandates). The 2016 Electric Resource Plan shows that, with some market purchases and already planned generation investment, BHE does not need to plan on obtaining additional resources until 2029. BHE also maintains that it will be able to meet the distributed generation requirement under Colorado’s renewable energy standards. Based on this information, large investments are not expected in the near-term; therefore, modest rate increases of about 1% per year, may be sufficient to cover distribution system improvements and inflationary pressures.

BHE Rate Forecast

Figure 16 below illustrates historic average rates for BHE Colorado retail customers and the rate forecast over the first 10 years of the Study period.
The forecast nominal BHE retail rate is compared with the forecast municipal utility rate to determine the best course of action for the City’s electric customers. The results of this comparison are provided in the next section.
Rate Comparison

This section presents the results of the analysis comparing forecast BHE rates with a forecast of a new municipal electric utility’s retail rates. Figure 17 compares the forecast retail rates in nominal dollars over the study period. The municipal utility rate includes the stranded cost payments to BHE.

Figure 17
Comparison BHE and New Municipal Utility Rates
Pueblo Only; Plant Value RCNLD

Figure 18 illustrates the customer savings over the Study period.
In addition to the above analysis, a 100% renewable portfolio scenario has been analyzed. Under this scenario, the municipal utility renewable energy portfolio begins as 10% in 2020 and increases to 100% by 2035. Figure 19 below summarizes this scenario analysis.

<table>
<thead>
<tr>
<th>Plant Value</th>
<th>Energy Portfolio</th>
<th>Pueblo</th>
<th>Pueblo + Outside City</th>
<th>All BHE Colorado</th>
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<td>10% Renewable</td>
<td>11%</td>
<td>10%</td>
<td>10%</td>
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<tr>
<td>RCNLD</td>
<td>100% Renewable by 2035</td>
<td>12%</td>
<td>12%</td>
<td>11%</td>
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<tr>
<td>OCNLD/Premium</td>
<td>10% Renewable</td>
<td>13%</td>
<td>12%</td>
<td>12%</td>
</tr>
<tr>
<td>OCNLD/Premium</td>
<td>100% Renewable by 2035</td>
<td>15%</td>
<td>13%</td>
<td>13%</td>
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</tbody>
</table>

Ratepayer savings are expected in the 10% to 12% range. These savings are attributed to lower operating and capital costs under a municipal utility structure compared with BHE as well as lower projected power costs. Detailed financial proformas are provided in Appendix A.
Conclusion

Summary

The study evaluated the financial feasibility of forming a municipal electric utility in Pueblo County. This Phase 1 study is the first step towards evaluating the relative merits of municipalization. The study construct is conservative in that it assumes higher costs and lower revenues to the municipal utility. These conservative assumptions are summarized below:

- Municipal utility retail rate revenue is estimated based on a discounted BHE retail rate forecast. The BHE retail rate forecast is developed using a conservatively low growth rate of 1% annually. Historic BHE rate increases have averaged 4% over the past ten years (2008-2017).
- Power supply costs for the municipal electric utility are forecast slightly higher than expected for renewable energy contracts. The renewable energy costs are based on the assumption that the municipal utility will purchase short-term contracts from smaller-scale renewable energy resources. Larger-scale, or longer-term contracts would decrease the power supply cost to the municipal electric utility.
- Stranded generation costs are included for BHE owned resources that serve Colorado loads. The value of the stranded resources is estimated at a time when market purchase prices are historically low; thereby inflating the stranded cost estimates.
- The value of the BHE distribution plant is based on replacement cost less depreciation, the highest value in the system valuation methodology. In practice, the system value would be less than this value.
- Taxable financing was assumed; however, a public utility may have non-taxable financing options with lower rates.

Based on the results of this Study, the following observations are made:

- The BHE distribution system is in adequate condition. Based on the Project Team’s field survey work, the subject facilities appeared to be in good condition and subject to routine maintenance.
- If the City proceeds, the City should assume to pay for cost stranding due to the agreement between BHE and Black Hills Corporation Independent power producer (BHCI) for capacity and output from the Pueblo Airport Generating Station.
- Despite large stranded generation asset costs, municipalization is feasible due to lower municipal utility operation and capital costs, and projected lower power supply costs. Municipal customers savings estimates range from 10 to 12 percent depending on system valuation method and energy portfolio.
- Legally, the City may condemn facilities needed to serve City inhabitants, and significant case law and other examples have been provided through the City of Boulder’s efforts to municipalize.
Recommendation/Next Steps

If the City decides to pursue forming a municipal electric utility, the following lists recommended next steps based on the results of this Phase 1 feasibility study.

- The Phase 2 analysis should include the following:
  - Step-by-step analysis of regulatory filings needed to proceed with municipalization,
  - More detailed engineering analysis to ensure distribution assets are properly functionalizing,
  - Business plan for municipal electric utility,
  - Operational power cost estimates from a public tender offer,
  - Further analysis of exit fee/cost stranding analysis.
  - Further evaluation of municipal utility that serves all BHE Colorado.

Conclusions

Based upon this Study’s results, the Project Team observes the following:

- Operationally, the simplest and most appropriate BHE facilities to acquire are distribution equipment and substations in and around the City.
- All wholesale power and transmission needs should be provided via contractual agreements with qualified third parties.
- This operational plan is financially feasible. Retail rate savings in the range of 10% - 12% are forecast based upon conservative input assumptions.
- The formation and operation of a municipal electric department is well-precedented nationally and can result in lower rates, more local economic development, less greenhouse gas emissions and more local control over key energy decisions.

The Project Team further observes that this initial Study’s findings are adequate to proceed into Phase 2 of the municipalization study process, if the City deems appropriate.
References


Colo. Const. art. V, § 35

Colo. Const. art. XX, §§ 1 and 6.

Colo. Const. art. XXV.

18 C.F.R. § 35.26 (2012)


C.R.S. §§ 31-15-707

C.R.S. § 38-1-102

C.R.S. § 40-2-124

C.R.S. § 40-3.5-102

C.R.S. § 40-4-101


*City of Ft. Morgan*, 159 P.3d at 96; *City & Cty. of Denver*, 507 P.2d at 875.


*City of Greeley v. Poudre Valley Rural Elec. Ass’n*, 744 P.2d 739, 745 (Colo.1987)


*City of S. Daytona, Fla. Fla. Power & Light Co.*, 137 FERC ¶ 61183, at pg. 28 (Dec. 6, 2011) FERC Order 888; 18 CFR § 35.26

Decision No. C13-1350, ¶ 28

Decision No. C17-0750CPUC Proceeding No. 15A-0589E


*Town of Holyoke v. Smith*, 226 P. 158, 162 (Colo. 1924)

*Union Rural Elec. Ass’n v. Town of Frederick*, 670 P.2d 4, 6 (Colo.1983).


Appendix A – Proforma Analysis
### Table A-1
**Pueblo Only, RCNLD Plant Value, 10% Renewable Energy**

<table>
<thead>
<tr>
<th>Revenues from Operations ($)</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
<th>2027</th>
<th>2028</th>
<th>2029</th>
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<td>$140,408,083</td>
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<td>$17,104</td>
<td>$17,446</td>
<td>$17,795</td>
<td>$18,151</td>
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<td>$18,884</td>
<td>$19,262</td>
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</tr>
<tr>
<td><strong>Operating Expenses</strong></td>
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<tr>
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<tr>
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<td>$20,138,382</td>
<td>$20,451,352</td>
<td>$20,860,874</td>
<td>$21,451,617</td>
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<td>$20,138,382</td>
<td>$20,451,352</td>
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<td>$21,451,617</td>
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<td>$8,363,400</td>
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<td>$10,816,695</td>
<td>$11,594,015</td>
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<td>$16,307,230</td>
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<td><strong>New Project Spending or Rate Discount</strong></td>
<td>$4,903,266</td>
<td>$6,380,229</td>
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<td>$14,090,251</td>
<td>$15,131,324</td>
<td>$16,307,230</td>
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Table A-2
Pueblo + Pueblo West, RCNLDR Plant Value, 10% Renewable Energy

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<th></th>
<th>2020</th>
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<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
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<tr>
<td>Misc Service Revenues</td>
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<td>$16,769</td>
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<td>$17,841,676</td>
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<td>$17,841,676</td>
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<td>$17,841,676</td>
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<tr>
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<td>$25,980,052</td>
<td>$26,502,850</td>
<td>$27,253,854</td>
<td>$28,027,697</td>
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<td>$30,637,454</td>
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<td>$6,781,611</td>
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<td>$17,590,865</td>
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### Table A-3

**All BHE Colorado, RCNLD Plant Value, 10% Renewable Energy**

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<th>Revenues from Operations ($)</th>
<th>2020</th>
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<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
<th>2027</th>
<th>2028</th>
<th>2029</th>
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<td>$0</td>
<td>$0</td>
<td>$0</td>
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<td>Power Supply</td>
<td>$80,373,466</td>
<td>$81,935,413</td>
<td>$83,971,655</td>
<td>$86,312,520</td>
<td>$89,202,776</td>
<td>$92,239,155</td>
<td>$94,277,167</td>
<td>$97,087,851</td>
<td>$100,030,896</td>
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<tr>
<td>Operation and Maintenance</td>
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<td>Distribution</td>
<td>$14,510,524</td>
<td>$14,948,742</td>
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<td>$15,865,280</td>
<td>$16,344,411</td>
<td>$16,838,013</td>
<td>$17,346,521</td>
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<td>$18,966,055</td>
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<td>Transmission</td>
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<td>Customer Service</td>
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<td>$8,699,674</td>
<td>$8,962,404</td>
<td>$9,233,068</td>
<td>$9,511,907</td>
<td>$9,799,167</td>
<td>$10,095,102</td>
<td>$10,399,974</td>
<td>$10,714,053</td>
<td>$11,037,617</td>
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<table>
<thead>
<tr>
<th>Non-Operating Expenses</th>
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<tbody>
<tr>
<td>BHE Exit Fee</td>
<td>$57,332,914</td>
<td>$56,228,877</td>
<td>$54,761,205</td>
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<td>$50,162,690</td>
<td>$48,478,133</td>
<td>$46,677,012</td>
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<td>Taxes</td>
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<td>$7,675,382</td>
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<td>Capital Projects</td>
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<td>$23,958,553</td>
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<td>Debt Service (Interest + Principle)</td>
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<td>$26,766,955</td>
<td>$26,766,955</td>
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</table>

| Total Expenses               | $231,773,742 | $233,959,334 | $235,010,966 | $236,518,884 | $239,297,540 | $242,546,074 | $245,869,658 | $248,131,260 | $251,087,718 | $254,094,312 |

| Surplus/(Deficit)            | $10,235,671 | $12,577,089 | $16,137,150 | $19,327,190 | $21,334,373 | $22,961,201 | $24,604,177 | $27,402,040 | $29,599,689 | $31,843,613 |

| Cumulative Reserves          | $30,000,000 | $39,029,126 | $39,923,313 | $40,560,533 | $41,388,939 | $42,574,749 | $43,953,750 | $45,393,742 | $46,518,843 | $47,913,717 |

| Accumulated Reserves         | $40,235,671 | $51,606,214 | $54,761,205 | $56,060,463 | $59,887,744 | $62,723,312 | $65,535,950 | $68,557,928 | $72,795,782 | $76,118,532 |

| Reserve Target               | $38,029,126 | $39,923,313 | $40,560,533 | $41,388,939 | $42,574,749 | $43,953,750 | $45,393,742 | $46,518,843 | $47,913,717 | $49,362,264 |

| Balance                      | $1,206,545 | $11,682,902 | $15,499,910 | $18,498,805 | $20,148,563 | $21,582,199 | $23,164,186 | $26,276,939 | $28,206,815 | $30,393,066 |

| New Project Spending or Rate Discount | $1,206,545 | $11,682,902 | $15,499,910 | $18,498,805 | $20,148,563 | $21,582,199 | $23,164,186 | $26,276,939 | $28,206,815 | $30,393,066 |
Appendix B – Data Request

To be provided later.