



**CITY OF BOULDER  
CITY COUNCIL AGENDA ITEM**

**MEETING DATE: July 19, 2011**

**AGENDA TITLE:**

**Matters related to the creation of a municipal light and power utility:**

- 1. Introduction, first reading, and consideration of a motion to order published by title only** an ordinance submitting to the registered electors of the City of Boulder at the municipal coordinated election to be held on Tuesday, November 1, 2011, the question of amending the City Charter to authorize the City Council to create a local utility and the principles for the operation of said utility for the distribution of electricity; authorizing the City Council to issue bonds for the acquisition of the distribution system and other assets necessary for the operation of the local utility; and setting forth related details.
- 2. Introduction, first reading, and consideration of a motion to order published by title only** an ordinance submitting to the registered electors of the City of Boulder at the municipal coordinated election to be held on Tuesday, November 1, 2011, the question of authorizing the City Council to extend and increase the climate action plan tax that was approved by the voters in November 2006 and approved by the City Council in Chapter 3-12, B.R.C. 1981, through March 31, 2018, as an excise tax computed upon the basis of the amount of electricity used by residential, commercial, and industrial customers for the purposes of funding the climate action plan to reduce and mitigate the health and safety impacts of greenhouse gas emissions and address global warming; funding preliminary costs associated with the creation of a municipal utility; giving approval for the collection, retention, and expenditure of the full tax proceeds and any related earnings notwithstanding any state revenue or expenditure limitation; setting forth the ballot title; and setting forth related details.

**PRESENTERS:**

Jane S. Brautigam, City Manager  
Paul J. Fetherston, Deputy City Manager  
Tom Carr, City Attorney  
Bob Eichem, Chief Financial Officer  
David Driskell, Executive Director of Community Planning and Sustainability  
Maureen Rait, Executive Director of Public Works

Patrick von Keyserling, Communications Manager  
David Gehr, Deputy City Attorney  
Debra Kalish, Senior Assistant City Attorney  
Mary Ann Weideman, Deputy Director of Operations for Community Planning and Sustainability  
Jonathan Koehn, Regional Sustainability Coordinator  
Kara Mertz, Local Environmental Action Manager  
Yael Gichon, Residential Sustainability Coordinator  
Sarah Huntley, Media Relations/Communications Coordinator

### **EXECUTIVE SUMMARY**

At the April 26, May 10 and June 14, 2011, City Council study sessions, council provided general guidance for staff to conduct additional analysis and to prepare draft ballot language for the Nov. 1, 2011, election that would provide a viable alternative to a franchise agreement with Xcel Energy (Xcel).

At the June 14, 2011, study session, City Council also provided feedback to the staff to bring back two packages for ballot measures related to the creation of an electric utility and an interim taxation measure intended to provide the funds necessary to pay for the upfront costs associated with acquisition and starting an electric utility. Council also requested additional analyses related to the financial feasibility of creating a local utility that explore higher risk scenarios. This memo includes these additional analyses as well as information on the timing, associated “off-ramps” and processes following a positive vote for municipalization. Under a separate memo, a status report will be presented based on the Xcel franchise and wind energy contract proposal.

The purpose of this agenda item is for the council to consider the additional analyses on financial feasibility, the timeline, the attached ordinances, take public testimony, and decide whether to introduce, conduct first reading, and pass a motion to order the ordinances published by title only. The council may also decide to amend; direct the staff to draft additional amendments for consideration at the Aug. 2, 2011, meeting; or simply to not pass this item.

### **BACKGROUND**

During the past months, considerable time and effort have been devoted to discussions and analyses related to Boulder’s energy future. The goals that have been defined through this process speak to a number of community priorities, including not only affordable rates and high reliability, but also the desire to create a new business model that can serve as an alternative to the current “energy as a commodity” model. This vision of Boulder’s energy future goes beyond fuel switching; it envisions a fundamental shift--over time--toward a more decentralized, networked and integrated approach to energy generation, use and management. This “energy as a service” model is beginning to emerge as the high costs of the currently inefficient system become more evident, and the reliability of current fuel sources becomes more tentative. Decisions and investments made now in system change have not only important environmental consequences, but also (and possibly more importantly) long-term economic benefits. Communities that are able to offer high quality, reliable, efficient, affordable and clean energy into the future will be positioned for economic success. A recent one-page summary of Boulder’s clean economy from the Brookings Institute (**Attachment D**) underscores the economic value already being realized by the energy system changes underway.

The analysis of Boulder's energy options has focused on four potential paths. Three of those paths involve Xcel (signing a new standard 20-year franchise agreement; developing a new form of partnership; or staying with the current "status quo," which would mean continuing to be served by Xcel but without signing a franchise agreement). The fourth option is to create a locally owned and operated electric utility. Under state law, there is not an option of having another company compete for providing electric service in Boulder; although, that could be an option following municipalization.

Last year, City Council concurred with the staff recommendation not to renew a standard 20-year franchise agreement with Xcel, finding that--absent additional agreements or commitments--it would fall short of meeting Boulder's energy goals. Subsequently, the voters supported a utility occupation tax, enabling the city to move forward in its study of energy options.

In recent weeks, Xcel proposed a new offer to the city which would involve a complex contract for development of a new wind resource in conjunction with a new 20-year franchise agreement. As expressed in a previous memo, staff believed this proposal had potential promise in regard to the city's energy goals, and as a result staff and the city's consultants devoted significant time and effort to negotiating and analyzing this contract over the past weeks. However, those negotiations came to a standstill this week when the company reintroduced a condition that would require the city to also put a standalone 20-year franchise agreement on the ballot. This condition is unacceptable, as has been communicated to the company repeatedly since last year, and was stated clearly--and unanimously--by council on June 14.

### **STAFF RECOMMENDATION**

*Staff recommends approval on first reading of the proposed ballot language to create a municipal electric utility, and related ballot language to extend and increase the Climate Action Plan tax to both continue the city's climate action programs and initiatives past the end of 2012, and to fund the interim costs of creating the new utility.*

At this time, the city and its consultants have conducted adequate analysis of the municipal utility path to recommend it as a feasible option. That feasibility was initially outlined in the June 14 study session memo, with additional information presented in this first reading memo. A municipal utility could bond for a reasonably high level of acquisition and start-up costs; and have adequate revenues to meet its debt requirements as well as provide industry-standard operations to ensure a high level of reliability and customer service. While some start-up costs are not definitively known at this time, "off ramps" exist through the municipalization process that would allow the council and community to decide not to move forward if financial feasibility was not certain. A clear "check" on decision-making would be provided by the bond market, which is conservative and risk-averse by design. If financial feasibility of the new utility was at all in question, it would not be able to issue bonds and incur debt.

The city staff believes strongly that voters should be given a choice. It also believes that the choices that are offered should reflect the goals our community has set and present viable paths for achieving them. Given the constraints of utility regulations in Colorado, city staff recommends the most viable path to that future at this time is the creation of a municipal utility. The creation of a municipal utility does not, in and of itself, achieve those goals--but it would position the community to move forward in a constructive way, with a long-term view.

Xcel has been--and will continue to be--a valued community partner regardless of the outcome of this process and any vote. Staff wants to emphasize its belief that the company's staff and leadership have worked in good faith to develop creative ideas for responding to Boulder's energy goals. Unfortunately, some of these ideas were cut short by regulatory realities inherent in the current environment, while others were cut short by time constraints and the realities of differing needs and priorities. Boulder has worked, and continues to work, on a near-daily basis with staff and representatives of Xcel to ensure the safe and reliable delivery of electricity to homes and businesses in Boulder. A ballot measure related to municipalization of the electric utility will certainly change the nature of that relationship. A recommendation to place this measure before the voters is not a judgment of Xcel or a statement about the work of the company and its staff. Boulder has articulated its goals, and evaluated its options. Xcel must work within significant constraints, as a highly regulated, for-profit entity. A municipal utility would also have constraints, but its challenges would be fundamentally different ones. Based on current information and possibilities, the municipal utility option represents the most viable and promising path to achieving Boulder's energy goals.

Further, staff recommends that interim funding to cover the costs of establishing the new utility be created through an extension and increase of the existing Climate Action Plan (CAP) tax. The current CAP tax expires on March 31, 2013. If voters decide to municipalize the electric distribution system and create a utility, that process will take from three to five years to complete and will cost in the range of three to six million dollars. The extension to the CAP Tax will provide the city with a revenue source that it can use to continue to provide the current CAP programs during the transition, while the increased revenue will be used to fund the costs associated with acquisition, including the legal costs associated with negotiation, condemnation, or legal action that may be required before the Federal Energy Regulatory Commission or in the local district court.

**Suggested Motion Language:**

Staff requests council consideration of this matter and action in the form of the following motion:

- 1. Motion to introduce, complete first reading, and order published by title only** an ordinance submitting to the registered electors of the City of Boulder at the municipal coordinated election to be held on Tuesday, November 1, 2011, the question of amending the City Charter to authorize the City Council to create a local utility and the principles for the operation of said utility for the distribution of electricity; authorizing the City Council to issue bonds for the acquisition of the distribution system and other assets necessary for the operation of the local utility; and setting forth related details.
- 2. Motion to introduce, complete first reading, and order published by title only** an ordinance submitting to the registered electors of the City of Boulder at the municipal coordinated election to be held on Tuesday, November 1, 2011, the question of authorizing the City Council to extend and increase the climate action plan tax that was approved by the voters in November 2006 and approved by the City Council in Chapter 3-12, B.R.C. 1981, through March 31, 2018, as an excise tax computed upon the basis of the amount of electricity used by residential, commercial, and industrial customers for the purposes of funding the climate action plan to reduce and mitigate the health and safety

impacts of greenhouse gas emissions and address global warming; funding preliminary costs associated with the creation of a municipal utility; giving approval for the collection, retention, and expenditure of the full tax proceeds and any related earnings notwithstanding any state revenue or expenditure limitation; setting forth the ballot title; and setting forth related details.

## **COMMUNITY SUSTAINABILITY ASSESSMENTS AND IMPACTS**

- **Economic:** The discussion of Boulder’s energy future has focused on the economic risks and opportunities associated with near-term energy decisions. In light of projected increases in fossil fuel prices and concerns regarding the long-term availability of these supplies, it is imperative to begin planning for and investing in alternative energy resources to secure Boulder’s economic future. Further, Boulder’s current economic vitality has benefited from considerable growth of “clean energy” companies in recent years. Continuing to position the city as an innovation hub for clean energy will have important economic benefits. The decision to create a municipal utility or to continue being served by Xcel will have economic consequences. The analysis completed to determine the feasibility of a locally owned utility has demonstrated potential economic benefits. Nonetheless, there are many “unknowns” regarding costs related to system acquisition that can only be determined through the acquisition process itself. If voters approve the proposed ballot language to municipalize the electric utility, these numbers will become known. If these costs end up being too high, the municipal utility option may ultimately be determined to be infeasible or undesirable, leading to a decision not to proceed.
- **Environmental:** The energy discussion in Boulder is driven by concerns about the environmental impact of our current energy system. The high percentage of the current energy supply that comes from coal combustion results in a very carbon-intensive electricity supply. The resulting greenhouse gas emissions are a significant contributor to climate change. While Boulder’s efforts to reduce its greenhouse gas emissions will not have any significant impact at the global (or even regional) level, Boulder residents have consistently expressed their commitment to doing their part within a global effort, and to demonstrate leadership in the hope that others will follow. Without changing the fuel mix of its electricity supply, it will be difficult for Boulder to achieve its current goal of emission reductions based on the Kyoto protocol, let alone deeper reductions in the future. Switching to cleaner fuel sources and renewable resources is essential to our environmental future. The decision to create a municipal utility will provide greater flexibility and control for Boulder to decide how it wants to invest its energy dollars in an environmentally responsible manner, allowing it to determine the appropriate trade-off between cost and benefit based on local concerns and priorities. Information is provided in this memo (pgs. 9-10) describing several potential “resource planning” scenarios for shifting to a higher percentage of renewable energy and lower carbon electricity supply. These shifts would not, however, be possible until the new utility is operational and would depend on financial conditions and resource costs in the market at that time. Alternatively, it can be argued that staying with Xcel provides the opportunity to impact a larger system and larger emissions inventory, with related economies of scale, creating a more significant regional environmental benefit.

- **Social:** The rising cost of fossil fuels will impact household budgets, in potentially significant ways. This is especially true for lower income households. Prudent planning to ensure price stability over time can help to manage and mitigate this impact. Changes in the energy system also create the opportunity for new jobs. In recent years, “clean jobs” in Boulder have been growing at a rate of 10% per year--and half of these jobs have been “green collar,” requiring mid-level skills rather than a high degree of expertise. These jobs also have higher than average pay. Continuing to grow this sector of the local and regional economy will have important social benefits. Realizing these benefits will also require investment in appropriate work force training.

### **OTHER IMPACTS**

- **Fiscal:** Expert estimates project that the process of creating a municipal utility will cost between three to six million dollars, extending over the next three to five years. The General Fund cannot sustain this level of expenditure without impacting core services. Staff is recommending a tax increase to cover these costs. Subsequent to establishment of a new utility, that utility (like the city’s other utilities) would operate as an “enterprise fund” within the city, which means it would operate as a revenue-based fund apart from the other parts of the city operations. Replacement of current fees and taxes would occur through a “payment in lieu of taxes.” The amount of this payment would be established by the new utility board, with confirmation by the City Council, as a policy decision. It could be higher than what is currently paid, or lower. At present, it is assumed that the payments would be comparable to current levels, resulting in minimal if any fiscal impact.
- **Staff Time:** The staff time needed to complete the background work for ballot issues will be completed with existing staff resources, supplemented with expertise provided by independent consultants.

### **MUNICIPAL UTILITY FEASIBILITY**

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#### **Background**

In 2010, council decided not to renew the previous Xcel franchise agreement and directed staff to consider the community’s energy options. As an option, council requested that staff research, analyze and determine the technical, legal and financial feasibility of creating a municipal utility.

As discussed in previous memos to council, it is technically and legally possible for the city to acquire and operate its own electric utility. As council is aware, a number of local utilities exist in the front range of Colorado and more than 2,000 exist around the nation. At the June 14 study session, an initial cost model was presented demonstrating it is also financially feasible to purchase the distribution system from Xcel and maintain rate parity.

#### **Analysis**

As outlined in the June 14 study session memo, the primary costs that significantly influence the financial feasibility of a municipal utility are acquisition costs, stranded costs, interest rates, and power supply costs. The initial cost model included the following estimates and assumptions based on industry standards, work completed by city consultants, and input from bond counsel:

- a. Taxable Interest Rate = 8%
- b. Stranded Costs = \$0
- c. Acquisition (not including smart grid) = \$121.3 million
- d. Annual Power Supply = \$59.1 million
- e. Annual Utility Operations = \$13 million
- f. Annual Debt Service = \$24.7 million

These estimates and assumptions – as well as the structure and operation of the cost model itself – were independently reviewed and verified by several industry experts, each of whom confirmed that the initial cost model demonstrated financial feasibility with adequate bond reserves, operating reserves and start-up costs, providing for between \$1.5 million and \$36 million in “savings” per year, for a total net present value of \$112 million<sup>1</sup> over 10 years. These projections assume rate parity with Xcel’s projected electricity rates over that same period. These savings represent a “cushion” for the absorption of higher costs than what was initially estimated, or for the provision of rates to customers that are lower than Xcel’s projected rates.

### **Variables of the Cost Model**

Additional model runs assume alternative amounts for some of the variables described below. These variables determine the financial feasibility (based on rate parity with Xcel) of a local utility. The following descriptions of the variables help to understand how the assumptions were developed.

#### *Acquisition Costs: Inventory and Valuation of Assets*

Staff, with the assistance of outside experts, estimated the inventory and valuation of assets using data received from Xcel in 2005 as part of a request by the city under the former franchise. The inventory and valuation of assets was compared to past municipalization studies, including the RW Beck 2007 inventory of the Xcel distribution system and the 2007 Electric Municipalization Project Administrative and Operational Issues Report. These reports were based on data available at that time and without access to actual facilities.

Since the June 14, 2011, study session, staff and consultants completed a subsequent analysis to address concerns and make the estimated asset inventory as accurate as possible. The data used to create the inventory was from Xcel under the discovery request referenced above and is the best data available at this time. A revised inventory and valuation of asset report, including a summary of changes is included in **Attachment E**. Many of the changes are associated with classification of the assets in various FERC accounts to include all assets. The changes made to this report did not change the total estimated value of the assets.

Staff is confident that the results of this analysis are reliable for this phase of the feasibility study. Should the voters decide to move forward in acquiring the distribution system, one of the

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<sup>1</sup> The net present value has changed slightly from the June 14<sup>th</sup> model presentation due to the following adjustments: 1) Boulder’s hydroelectric generation is now included in the transmission system rather than the distribution system as this power would still be transmitted over PSCo’s transmission, this results in a slight increase to transmission tariffs. 2) The interest revenue from the operating reserve was decreased by 50% to account for the possibility of using the operating reserve and not being able to collect interest on the full amount. These changes are not substantial and do not impact the overall financial feasibility of a local utility, but will impact the final numbers in the feasibility study. The feasibility study has not been updated for this memo but can be updated at a later date.

first actions following a vote would be to complete a thorough appraisal and evaluation of the system as shown in the timeline (**Attachment F**).

The initial cost model included \$121.3 million for acquisition of the distribution system. Further models were run to include the possibility that negotiations or a condemnation proceeding may result in additional acquisition costs. If the acquisition costs were the only variation from the initial cost model, under current assumptions, the new utility could achieve rate parity even if it incurred \$72.4 million in additional acquisition costs at an 8% interest rate or \$111.9 million at a 7% interest rate (above the \$121.3 million acquisition estimate).

#### *Smart Grid*

The initial cost model included zero additional cost to purchase the smart grid infrastructure from Xcel. If subsequent analyses and negotiations resulted in the desire to purchase some or all of the smart grid assets, the cost for the overall system acquisition could increase. For the purposes of testing the elasticity of this cost model, the additional model runs include expenses to pay for smart grid.

#### *Stranded Costs*

The initial cost model included zero cost for a stranded cost award. This is based on information provided in the June 14 study session memo. The city requested an estimate of Xcel's stranded costs. Xcel's estimate was approximately \$336 million.

The city responded to Xcel's estimate and continues to take the position that Xcel will not have any stranded costs if the city municipalizes the electric utility system. The city's position is that Xcel's estimate did not provide any information to change its view that the company has no reasonable expectation of continuing to serve the city. The city's position is that Xcel does not have a right to continue to serve the customers of the city. This is based in part on the constitutional authority to create a municipal utility and a charter provision that prohibits the city from granting exclusive franchises. As a result, there are strong arguments that the city would have no stranded cost obligation to the company were the city to form a municipal utility.

Xcel also argues that the city's participation in Public Utility Commission (PUC) proceedings on Xcel's long term planning process that this led to an expectation of continuing service. The city asserts that simple participation in a PUC docket on these topics cannot form the basis for a reasonable expectation for Xcel to continue serving the city. Further, the city is not obligated to provide Xcel with an "unequivocal" statement of its intent to leave the Xcel system and that the lack of such a statement cannot serve as justification for the company to assume that it would continue to serve.

Finally, even if the company could establish that it has some reasonable expectation of continuing to serve the city, its stranded cost estimate is overstated and, for the most part, unsupported by the documentation that the company has provided to date.

#### *Interest Rates*

The interest rate used in the cost model is 8% on the taxable debt. This assumes that an "A" or "BBB" rating on taxable debt would result in an interest rate of 8%. This is based on current guidance from the city's financial advisor and allows for a possible rise in interest rates before the debt would be issued. This represents a conservative approach until more information is

available. In alternate scenario 1 (see additional model runs below), staff modeled a 7% interest rate, which is still possible with the “A” or “BBB” bond ratings.

#### *Annual Power Supply Costs*

The initial cost model used industry projections for power supply. A brief memo detailing how annual power supply costs are estimated is included in **Attachment G**. As detailed in **Attachment G**, the estimates are conservative. For example, a \$4.00 per megawatt-hour trade margin was added to each unit of power purchases to account for price uncertainty. As annual power supply costs are the largest recurring costs for a utility, changes to this variable will most definitely impact the overall revenue requirements and resulting rates.

Staff is releasing a request for indicative pricing (RFIP) which seeks to identify and evaluate potential alternative power supply options. The RFIP requests non-binding, indicative pricing on capacity and energy, specifically from renewable resources. The results from this RFIP can be included in the cost model to estimate the affect of increased renewable sources on annual power supply costs.

#### **Additional Model Runs**

As outlined at the June 14 study session, there are three cost factors (interest rate, acquisition and stranded costs) outside of the city’s control<sup>2</sup> that could affect the determination of financial feasibility. To assist with understanding how these factors may influence the cost model, the city ran additional scenarios (in addition to the initial model listed above) based on different interest rates and costs than what the consultants have estimated. This further analysis and comparison to the initial run is detailed below:

#### Initial cost model

- Taxable Interest Rate = 8 percent
- Initial costs (acquisition) = \$121.3 million

Rate impact: average rate decreases of 10 percent for commercial customers and 7 percent for residential and industrial customers

#### Alternate Model 1

- Taxable Interest Rate = 7 percent
- Initial costs (acquisition, smart grid, stranded costs) = \$187 million

Rate Impact: average rate decreases of 4 percent for commercial customers, 1 percent for residential and 2 percent for industrial

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<sup>2</sup> Acquisition costs will be determined through negotiation with Xcel or ruling from state condemnation court proceeding. Stranded costs will be determined through negotiations with Xcel or ruling from Federal Energy Regulatory Commission (FERC) court. Bond interest rate will be determined by bond rating and the bond issuing agency.

## Alternate Model 2

- Taxable Interest Rate = 8 percent
- Initial costs (acquisition, smart grid, stranded costs) = \$255 million

Rate Impact: average rate increases of 4 percent for commercial customers, 7 percent for residential and 8 percent for industrial

## Alternate Model 3

- Taxable Interest Rate = 8 percent
- Initial costs (acquisition, smart grid, stranded costs) = \$351 million

Rate Impact: average rate increases of 16 percent for commercial customers, 19 percent for residential and 20 percent for industrial

Under current assumptions, rate parity with Xcel's projected rates can be maintained if one-time costs<sup>[2]</sup> do not exceed \$295.4 million with a bank interest rate of 8% or \$334.9 million at a 7% interest rate. Alternatively, if council and the community decide that a small rate increase is acceptable, these additional costs could increase by a commensurate amount. For example, if the community supports a 10 percent increase in rates (above Xcel's projected rates), then \$407.6 million of one-time costs at an 8% interest rate or \$460.7 million at a 7% interest rate could be absorbed.

There are many different permutations of these variables; it is important to note that the cost model is intended to test the feasibility of creating a municipal utility. If a vote authorizes moving forward with a municipal utility, a final business decision would be based on confirmed numbers (through engineering analysis and negotiations and/or legal proceedings) as well as a more detailed business plan. Community input would be a key component of the decision-making process about whether to issue bonds and proceed at that point.

### **Resource Planning**

Resource planning is a comprehensive process by which a utility develops a long-term planning strategy for procurement of electricity based on estimated future needs. An integrated resource plan (IRP) can also include conservation programs and acquiring a variety of resources for electricity (including renewable energy). IRP's evaluate the full range of alternatives to provide adequate and reliable service to electric consumers.

In addition, IRP's equip utilities to meet its customers' needs effectively while addressing the substantial challenges that face the electric utility industry. The planning direction it recommends will give the utility flexibility to make sound choices amid economic and regulatory uncertainty. This planning process is intended to balance costs, energy efficiency and reliability, environmental responsibility and competitive prices for customers.

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<sup>[2]</sup> One-time costs include acquisition, smart grid, stranded costs (if applicable), severance, start-up costs, operating reserves, and capital reserves.

Investor Owned utilities such as Xcel are required to prepare Resource Plans that focus on providing electric service at the least-cost, The Colorado legislature passed SB144, effective June 2001, which gives direction to the PUC to consider utility investments in energy efficiency to be an acceptable use of ratepayer money. This statute also directs the PUC to "give the fullest possible consideration to the cost-effective implementation of new clean energy and energy-efficient technologies in its consideration of generation acquisition for electric utilities." Municipal Utilities are not under the rate making purview of the PUC, therefore, rates and resource planning can be based on specific community goals and balance core values such as least polluting energy generation sources, demand-side strategies to reduce overall consumption and customer bills.

The cost model was developed to test feasibility rather than a resource planning tool. It was not intended to include an integrated resource planning component. Because the community has not discussed the potential trade-offs between fuel sources and costs, resource planning is a process that is anticipated to take place at a future phase if the city moved forward with municipalization. Furthermore, while the city is soliciting actual wholesale power prices from providers, the city will not have the ability to tap the competitive energy market and receive actual bids until the resource planning phase.

Staff has not done resource planning that might be associated with a local utility; however implementing strategies that reduce the carbon intensive base load should be the focus of any local utility looking to reduce emissions. In order to determine potential reductions in emissions and percentage of renewable energy in a municipal portfolio, staff has run several scenarios that use the initial cost model to demonstrate a few possible scenarios of adding renewable energy to the local utility's energy supply.

This analysis assumes the initial savings from a municipal utility are used to construct generation facilities of wind or solar energy. The analysis is based on *current industry standard prices for wind, solar PV and natural gas*. Below are the results of a quick analysis that looks at the percentage renewables, carbon intensity and emissions associated with adding new renewable generation as compared to Xcel's existing grid carbon intensity.

It should also be noted that a municipal utility would be able to take advantage of renewable energy purchases in an opportunistic fashion, purchasing when actual costs drop below established thresholds. Additionally, a municipal utility governing board would make decisions on an annual basis, as part of its resource planning process, about whether to purchase renewable energy on the spot market, enter into long-term power purchase agreements, construct generation facilities, or some combination of these approaches.

If a municipal utility governing board, based on community interest and its own policies, chose to maximize renewable energy with a cap on rate impacts, the initial cost model shows that the following possibilities exist:

#### Model 1: Maintain rate parity with projected Xcel rates

To maintain parity with Xcel's projected rates, each of the following could be added to the system to offset coal within the first five years of utility start-up:

Energy Source	Local Renewable Energy Standard (RES) by 2020	CO2 reductions over Xcel <sup>3</sup> by 2020
60 MW wind, or	45%	12%
43 MW solar PV	41%	6%

Model 2: 3% to 7% rate increase

If the community decided it was willing to absorb an additional \$2 to \$4 per month on the average residential bill, the following could be added to the system to offset coal within the first five years of utility start-up:

Energy Source	Local Renewable Energy Standard (RES) by 2020	CO2 reductions over Xcel by 2020
69-94 MW wind, or	46-48%	13-17%
56-71 MW solar PV	42-43%	8-9%

Model 3: 10 percent rate increase

If the community decided it was willing to absorb a 10 percent increase to electricity rates, the following could be added to the system to offset coal within the first five years of utility start-up:

Energy Source	Local Renewable Energy Standard (RES) by 2020	CO2 reductions over Xcel by 2020
129 MW wind, or	52%	23%
100 MW solar PV	45%	12%

**Timeline: From Feasibility Analysis to Final Business Decision**

A timeline (**Attachment F**) has been prepared to identify the process following a community vote in favor of a municipal utility. The timeline includes subsequent steps and identifies “off-ramps” where council and the community could choose not to proceed with the process. The process is described in four stages:

1. Updating the cost model (including appraisal and valuation of the distribution system);
2. Negotiation for the purchase of the Boulder distribution system;
3. Litigation to purchase the distribution system, if negotiations were unsuccessful; and
4. Bonding.

Throughout the process map, the “off-ramps” are depicted with dark pink arrows and are associated with places in the process where more detailed cost information is obtained to inform whether or not it is feasible or desirable to proceed.

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<sup>3</sup> This assumes a primary base load energy supply of coal from Xcel. Should a municipal utility utilize natural gas as a base load resource, the CO2 emissions reductions would be much greater.

## BALLOT MEASURES

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### Introduction

This section is intended to address two of the ballot measures associated with municipalization: creation and governance of a municipal utility, and an interim tax measure to fund the necessary start-up and acquisition costs prior to initiating utility operations.

In the municipal utility measure, authority is requested from the voters to create the public utility, including Charter amendments related to the governance of the utility and voter approval of City Council authority to issue revenue bonds for the utility.

The interim revenue measure provides for an extension and increase of the Climate Action Plan tax to fund the initial acquisition start-up costs. For the most part, it is anticipated that these funds will be used for engineering, valuation, negotiation, and litigation services that will bring the city to the point where it decides to form the utility and issue revenue bonds for the acquisition of the necessary assets and services to operate the utility and begin customer service operations. The extension of the existing tax will also be used for the purpose of implementing the community's Climate Action Plan to reduce and mitigate the health and safety impacts of greenhouse gas emissions and address global warming. The proposed draft ballot language gives approval for the collection, retention, and expenditure of the full tax proceeds and any related earnings notwithstanding any state revenue or expenditure limitation.

### Background

When reviewing ballot measures, it is helpful to review some basic legal foundations associated with the matter under consideration. The City Charter provides the basic drafting principals of ballot titles. Section 48 provides, in part that:

. . . There shall appear upon the official ballot a ballot title which may be distinct from the legal title of any such proposed measure or charter amendment and which *shall be a clear, concise statement, without argument or prejudice, descriptive of the substance of such measure or charter amendment.* . . (Emphasis added.)

The City Council, as the representatives of the people, has the authority to do many of the items that are contained in the ballot measures. The council has been informed of this in the past as it has worked through the energy future project. The Charter allows the council to place items that it has the authority to do before the voters as well. Below is a summary of council and voter approval requirements.

1. Creation and Governance. The city has the authority to create "light and power utilities" and "any public utilities or works that are local in use and extent." As noted below, acquisition bonding requires voter approval. City Charter § 2(d). The Charter provides that the council can create utilities by ordinance. City Charter § 67(b).
2. Boards and Commissions. The council has the authority to create advisory commissions. They are limited in size to five members. The makeup of such boards may be found in

Charter § 130. Any variations to the Charter limitations will require an amendment to the City Charter.

3. Bonding Authority. Any bonding that is done for the purpose of acquiring a public utility should receive voter approval, as noted in City Charter Section 2(d).<sup>4</sup> The Charter does not specify anything beyond voter approval of the authority to bond. Any limitations, such as a cap or ceiling on the amount borrowed or the maximum interest rate can be added at the discretion of the City Council. Additionally, since there is no general obligation pledge of any city taxes, the requirements of the Taxpayer Bill of Rights (TABOR) do not apply to the bonding provisions in the ballot measures.
4. Taxation. An interim tax measure is proposed in the ballot measure that can be found in **Attachment B**. As a tax measure, the ballot measure has been drafted to comply with the provisions of TABOR. *See*, Colo. Constitution, Art X, Sec 20. Tax measures require voter approval.

At the June 14 meeting, the City Council provided direction to the staff to prepare a ballot measure that, to the extent possible, combined the city authority to create a utility, Charter amendments, and bonding authority into one package. A copy of that ballot measure is included as **Attachment A**. The interim revenue measure is included as a separate ballot item due to the requirements of TABOR. One of the requirements of TABOR is that ballot titles start with the language, “Shall (City of Boulder) taxes be increased. . . .” This is an awkward way to combine the measures. Therefore, two separate measures have been drafted.

## **Description of the Ballot Measures**

### Municipalization

At the June 14 study session, the council was presented two options for the governance structure for a municipal utility. One option was for an independent utility within the city that would be separated from the City Council, the city attorney, and the city manager. It would be governed by an independent utility board appointed by the City Council. The utility board would hire a manager and legal counsel and otherwise operate the utility. The council did not support this option. The council supported an option that is consistent with the present city council-city manager form of government. It has been called the ‘Planning Board’ model because it has many of the characteristics of the Planning Board. The option is described further below.

### *Authority*

The ballot measure begins with a request for voter approval for the council to create the municipal utility. As stated in the associated Charter amendments, the utility services would begin at a future point in time, as designated by the City Council.

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<sup>4</sup> However, there is authority, if such bonds were not backed by the general tax revenues of the city, that bond approval may be subject to council approval under Charter Section 97. That section, in part, provides that bonded indebtedness requires voter approval unless the “bonds . . . [are] payable in whole or in part from revenue to be derived from water, sewer, electric light and power, gas, or other public utilities, projects, enterprises, works, or ways from which the city will derive the revenue, or from sales, use, or other excise taxes, or from franchise fees or taxes, or from any other fees and charges shall not be included in determining the outstanding indebtedness of the city. A similar issue was litigated related to bonds associated with public improvement districts that would be paid by assessments from property owner (as opposed to the taxpayers generally) and the court upheld the council’s use of its bonding powers. *Sanborn v. City of Boulder*, 74 Colo. 358, 372, 221 P. 1077, 1083 (1923)

### *Charter Amendments*

A new Article XIII is proposed for the Charter related to the creation of a “light and power” department. The term “light and power” is used only for the purpose of maintaining drafting consistency with the rest of the City Charter and state statutes and the state constitution.

The new article begins with a statement related to the purpose and intent of the article. It provides the principles that are intended to guide the operations of the utility. The core principles include reliable energy, fiscal responsibility, clean energy, fair rates, environmental stewardship, and that it is operated as an enterprise.

General utility service standards are stated in the Charter, including that the utility will be operated for the benefit of its customers and the city and that it will strive to provide cost effective service. Standards are provided related to the ratemaking functions of the utility and the expectation that the council will provide rates as good service will permit. The bonding, accounting, and budgeting functions will be done in the same manner as existing utilities. Limitations are also placed on the utility. It is prohibited from providing free service and from granting preferences in ratemaking. There is also a requirement for rate equity across a class of customers.

Provisions are added to clearly state that the utility will be an enterprise under TABOR. As such, its operations and debt service will need to be predominately funded through the rates, fees, and charges collected by the enterprise. Also, the city’s bond counsel has provided advice and recommendations on how to describe the requirements related to utility bonding. These suggestions should help the city assure the bond rating agencies and bond markets that the enterprise will be well positioned to start a utility and acquire the distribution system. The Charter amendment provides for the creation of an electric utilities department, with its powers and responsibilities. It also provides for the creation of an electric utilities board. Generally, it would be a seven-member board that, for the most part, would be advisory in nature to both the City Council and the utility director. The board would be set up to take whatever powers the council is willing to turn over to it. It is anticipated that the council will provide many of the general oversight responsibilities. Over time, council would delegate additional responsibilities to the board.

The general structure of the new article is loosely based on similar special provisions in the Charter for the planning board, parks and recreation advisory board, and the open space board of trustees.

### *Bonding Authority*

The ballot measure includes a request from the voters for authority to bond for the acquisition and start up costs of the utility. As mentioned above, this provision is not required to meet the requirements of TABOR, so it is not drafted in the TABOR ballot language style. No limitations have been placed in the ballot title. The council may choose to add limitations to the ballot measure.

The most conservative approach to this ballot measure would be to use a TABOR-inspired ballot title. Bond counsel recommends this approach if the city wants to have the capacity to pledge other city revenue sources, such as general fund tax receipts to the payment of the bonds. The

City Council did not appear to favor this approach during the June 14, 2011 study session. If the council is interested in pursuing this approach, a ballot title is included in these materials as **Attachment C1**.

Drafting ballot titles in the TABOR format is a conservative approach to requesting bonding authority. If a TABOR-style ballot measure is used, then there is greater flexibility in maintaining enterprise status of the bonds in the event that the city infused general fund money into the enterprise. Further, city financial advisors have also stated that a TABOR-style bonding authority provides comfort in the bond markets, resulting in lower risk bonds that have lower interest rates.

Given that a utility provides an essential service and the city has an excellent history in the operation of its other utilities, there would be a market for start-up utility enterprise revenue bonds. Without the TABOR-style bonding authority and pledges, these bonds would have a higher interest rate.

There is also the issue of whether the council wants to add limitations within the ballot title. Staff is not recommending limitations in the bonding portion of the ballot title. Many limitations will be placed on the city's bonding authority by the bond markets. The bond markets are conservative and risk adverse. If the city desires to sell bonds in the market, it will need to satisfy investors that it will have a good business plan and that the utility will be competently operated.

If the council wants to consider limitations in the ballot measure, a ballot title option is included in **Attachment C2**. Limitations that would be typical include a maximum bonding amount, a maximum interest rate to be paid, and the repayment term on such bonds. In the event that council wants to go in this direction, staff proposes that it draft amendments for the council's consideration at second reading.

The proposed ballot title is intended to convey, in a clear manner, the city's intent with the municipalization effort. It is organized so that it describes the general element first related to acquisition. It moves on to a more specific element of the Charter amendments and concludes with the most specific element, bonding authority.

#### Interim Revenue Measure

At the June 14 study session, the staff presented two revenue measure options. The first was an increase and extension to the utility occupation tax that was passed by the voters at the last election. A utility occupation tax is an excise tax on the company that gets passed through to its customers. The advantage of this tax approach was that Xcel has an approved tariff as to how the tax on the utility is passed through to the customer.

The second option, attached to this memo as **Attachment B**, is the Climate Action Plan tax ("CAP Tax") extension and increase. The CAP Tax is a tax on the customer based on the amount of kilowatts of energy consumed. Some council members noted that this revenue measure had a greater connection to the municipalization effort. An increase and extension of the CAP Tax will help to fund the acquisition costs associated with municipalization and also fund current Climate Action Plan programs during the transition to the municipal utility.

Thereafter, Climate Action Plan programs will be funded through utility rates and a public purpose fund.

Included in **Attachment B** is an interim revenue measure that proposes to extend and increase the climate action plan tax (the “CAP Tax”). The council is aware that the CAP Tax is set to expire on March 31, 2013. If the city decides to municipalize the electric distribution system and create a utility, it will be an expensive and potentially long process. The extension to the CAP Tax will provide the city with a revenue source that it can use to continue to provide the current Climate Action Plan programs during the transition. The CAP Tax increased revenue will be used to fund the costs associated with acquisition, including the legal costs associated with negotiation, condemnation, or legal action that may be required before the Federal Energy Regulatory Commission or in the local district court.

City advisors have indicated that they anticipate that the efforts to separate from Xcel could easily be in the range of six million dollars and could take three to five years to complete. Therefore, staff is recommending doubling the CAP tax which results in the following changes to the CAP Tax rates and revenues:

	Commercial	Industrial	Residential	Total
Current CAP tax rates (\$/kwh)	0.0009	0.0003	0.0049	
Estimated revenue in 2011(\$)	\$577,458	\$140,451	\$1,148,743	\$1,866,652
Proposed CAP tax rates (\$/kwh)	0.0018	0.0006	0.0098	
Proposed revenue in 2012 (\$)	\$1,174,550	\$285,678	\$2,336,542	\$3,796,771

**Council Member Comments**

At the June 14, 2011 study session, individual council members made comments about what could be considered in the ballot measures. The items presented below are ideas related to the municipalization efforts that may not be fully included in the ballot measures. Staff requests direction from the council if it wants to have staff explore additional amendments to the ballot measures.

1. Are the limitations in the Charter amendments related to competitive rates the right limitations?
2. Should a limitation be added that the council will not issue bonds for acquisition if the utility does not make financial sense?
3. If this measure goes on the ballot with an Xcel proposal, there should be “conflicting provisions” language in the measures to make it clear that the winning measure with the most votes is the one that will be implemented.
4. Should utility board members receive compensation?
5. Should there be requirements for board members to have specialized knowledge or expertise?

### **NEXT STEPS**

Second reading on this item is scheduled for Aug. 2, 2011.

### **OPTIONS**

1. Approve the ballot measures as presented.
2. Amend and pass the ballot measures.
3. Direct the city manager and city attorney to propose amendments to be considered at second reading.
4. Not pass the ballot measures as presented.

### **ATTACHMENTS**

- A. Proposed ordinance providing the authorization for a municipal power and electric utility
- B. Proposed ordinance extending and increasing the CAP Tax to March 31, 2018
- C1. Ballot title drafted in the TABOR ballot style
- C2. Ballot title with revenue limitations
- D. Brookings Institute: Boulder's Clean Economy
- E. Updated inventory and valuation of assets
- F. Municipalization timeline
- G. Wholesale power supply pricing
- H. Responses to June 14 Study Session questions
- I. June 28 community meeting feedback
- J. Public comment

ORDINANCE NO. \_\_\_\_\_

AN ORDINANCE SUBMITTING TO THE REGISTERED ELECTORS OF THE CITY OF BOULDER AT THE MUNICIPAL COORDINATED ELECTION TO BE HELD ON TUESDAY, NOVEMBER 1, 2011, THE QUESTION OF AMENDING THE CITY CHARTER TO AUTHORIZE THE CITY COUNCIL TO CREATE A LOCAL UTILITY AND THE PRINCIPALS FOR THE OPERATION OF SAID UTILITY FOR THE DISTRIBUTION OF ELECTRICITY; AUTHORIZING THE CITY COUNCIL TO ISSUE BONDS FOR THE ACQUISITION OF THE DISTRIBUTION SYSTEM AND OTHER ASSETS NECESSARY FOR THE OPERATION OF THE LOCAL UTILITY; AND SETTING FORTH RELATED DETAILS.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BOULDER, COLORADO:

Section 1. A special municipal coordinated election will be held in the city of Boulder, county of Boulder and state of Colorado, on Tuesday, November 1, 2011.

Section 2. At that election, a question shall be submitted to the electors of the city of Boulder that will allow voters to consider the creation of a light and power utility that includes an amendment to the Charter of the City of Boulder, Colorado, adding a new Article XIII and the authority of the city council. The full text of the Charter amendment to be so submitted is as follows:

**ARTICLE XIII**

**LIGHT AND POWER UTILITY**

**Sec. 178. Purpose and intent.**

The purpose of this article is to establish a public utility under the authority in the state constitution and the city charter to create light plants, power plants, and any other public utilities or works or ways local in use and extent for the provision of electric power. The people of Boulder seek electric power supplied in a reliable, fiscally sound, and environmentally

1 responsible manner. Therefore, the utility will be operated according to the following guiding  
2 principles.

- 3 (a) Reliable Energy: Community safety, convenience, and prosperity all depend on the  
4 reliable delivery of electric power. The utility will deliver reliable electric power. The  
5 utility's foremost responsibilities will be to provide electric power that is high quality and  
6 dependable, support economic vitality, prevent service outages, and respond promptly to  
7 any service outage.
- 8 (b) Fiscal Responsibility: The cost of electric power is a significant portion of business and  
9 household budgets. The utility will operate in a fiscally responsible manner, always  
10 being mindful that every expenditure will be reflected in customers' rates and will affect  
11 household budgets and business profitability.
- 12 (c) Clean Energy: Climate change and diminishing fossil fuel supplies, combined with the  
13 high cost of those fuels, are significant factors leading to the creation of the utility. The  
14 utility will strive to reduce reliance on fossil fuels, focus on sustainable alternatives, and  
15 seek new opportunities for producing clean energy.
- 16 (d) Ratepayer Equity: The utility will direct its efforts to promote ratepayer equity in all  
17 aspects of its operations. Rates charged by the utility will be designed to create a fair and  
18 equitable distribution among all users of the costs, replacement, maintenance, expansion,  
19 operations of facilities, energy, and energy conservation programs for the safe and  
20 efficient delivery of electric power to city residents and other customers. The utility will  
21 consider the effects of its programs, policies, and rates in the development of programs  
22 for low-income customers.
- 23 (e) Environmental Stewardship: Preserving and protecting our natural environment goes  
24 well beyond producing clean energy. The utility will be a good environmental steward  
by working to reduce the environmental impact of its operations, including working to  
reduce the demand for electricity. Energy and power that is produced in an  
environmentally responsible manner requires that the city balance environmental factors  
as an integral component of planning, design, construction, and operational decisions.
- (f) Enterprise: The city will deliver electric power services by means of an enterprise, as that  
term is defined by Colorado law. The city further declares its intent that the city's  
electric utility enterprise be operated and maintained so as to exclude its activities from  
the application of Article X, Section 20 of the Colorado Constitution.

## 20 **Section 179. Definitions.**

21 Unless the context specifically indicates otherwise, the following words and phrases shall have  
22 the following meanings as used in this article:

- 23 (a) "Electric Utility Activity" includes, but is not limited to, the provision of electric power  
24 to customers within its service area.

- 1 (b) “Electric Utility Enterprise” means the electric utility business now or hereafter owned by  
2 the city, which business receives under ten percent (10%) of its annual revenues in grants  
3 from all Colorado state and local governments combined and which is authorized to issue  
4 its own revenue bonds pursuant to this article or other applicable law.
- 5 (c) “Electric Utility Facilities” means all real and personal property utilized by the city in  
6 connection with the generation, transmission, provision distribution and conservation of  
7 energy, electricity, light and power for the city, now or hereafter owned or operated by  
8 the city.
- 9 (d) “Grant” means any direct cash subsidy or other direct contribution of money from the  
10 state or any local government in Colorado which is not required to be repaid. “Grant”  
11 does not include:  
12 (1) any indirect benefit conferred upon the electric utility enterprise from the state or  
13 any local government in Colorado;  
14 (2) any revenues resulting from rates, fees, assessments, or other charges imposed by  
15 the electric utility enterprise for the provision of goods or services by such  
16 enterprise; or  
17 (3) any federal funds, regardless of whether such federal funds pass through the state  
18 of any local government in Colorado prior to receipt by the electric utility  
19 enterprise.
- 20 (e) For purposes of Section 179 and 180 hereof, the governing body of the electric utility  
21 enterprise shall be the City Council.

22 **Section 180. Powers of the electric utility enterprise.**

23 In addition to any of the powers it may have by virtue of any of the applicable provisions of state  
24 law, this Charter, and the Code, the electric utility enterprise shall have the power under this  
article:

- 1 (a) to acquire by gift, purchase, lease, or exercise of the right of eminent domain, to  
2 construct, to reconstruct, to improve, to better and to extend electric utility facilities,  
3 wholly within or wholly without or partially within and partially without the territorial  
4 boundaries of the city, and to acquire in the name of the city by gift, purchase, or the  
5 exercise of the right of eminent domain lands, easements, and rights in land in connection  
6 therewith;
- 7 (b) to operate and maintain electric utility facilities for its or the city’s own use and for the  
8 use of public and private consumers and users within and without the territorial  
9 boundaries of the city;
- 10 (c) to accept federal funds under any federal law in force to aid in financing the cost of  
11 engineering, architectural, environmental, or economic investigations or studies, surveys,

1 designs, plans, working drawings, specifications, procedures, or other action preliminary  
2 to the construction, operation or remediation of electric utility facilities;

3 (d) to accept federal funds under any federal law in force for the construction, operation or  
4 remediation of electric utility facilities;

5 (e) to prescribe, revise, and collect in advance or otherwise, from any consumer served by a  
6 electric utility activity, rates, fees, and charges or any combination thereof for the  
7 services furnished by, or the direct or indirect connection with, the electric utility  
8 facilities; and in anticipation of the collection of revenues of such electric utility facilities,  
9 to issue revenue bonds to finance in whole or in part the cost of acquisition, construction,  
10 reconstruction, improvement, betterment, or extension of the electric utility facilities; and  
11 to issue temporary bonds until permanent bonds and any coupons appertaining thereto  
12 have been printed and exchanged for the temporary bonds;

13 (f) to pledge to the punctual payment of said bonds and interest thereon all or any part of the  
14 revenues of the electric utility facilities;

15 (g) to make all contracts, execute all instruments, and do all things necessary or convenient  
16 in the exercise of the powers granted in this section or elsewhere in state law, the Charter,  
17 or the Code, or in the performance of its covenants or duties, or in order to secure the  
18 payment of its bonds if no encumbrance, mortgage, or other pledge of property,  
19 excluding any pledged revenues, of the electric utility enterprise or city is recreated  
20 thereby, and if no property, other than money, of the electric utility enterprise or city is  
21 liable to be forfeited or taken in payment of said bonds, and if no debt on the credit of the  
22 electric utility enterprise or city is thereby incurred in any manner for any purpose.

23 (h) to issue refunding bonds pursuant to this article or other applicable law to refund, pay, or  
24 discharge all or any part of its outstanding revenue bonds issued under this article or  
under any other law, including any interest thereon in arrears or about to become due, or  
for the purpose of reducing interest costs, effecting a change in any particular year or  
years in the principal and interest payable thereon or effecting other economies, or  
modifying or eliminating restrictive contractual limitations appertaining to the issuance of  
additional bonds or to any electric utility facilities.

#### 18 **Section 181. Revenue bonds.**

19 (a) In accordance with and through the provisions of this section, the electric utility  
20 enterprise, through its governing body, is authorized to issue bonds or other obligations  
21 payable solely from the revenues derived or to be derived from the functions, services,  
22 benefits or facilities of such enterprise or from any other available funds of such  
23 enterprise. Such bonds or other obligations shall be authorized by ordinance, adopted by  
24 the governing body of the electric utility enterprise in the same manner as other  
ordinances of the city. Such bonds or other obligations may be issued without voter  
approval, notwithstanding the provisions of Section 2(d) of the charter, provided that,  
during the fiscal year of the city preceding the year in which the bonds or other  
obligations are authorized, the electric utility enterprise received under ten percent

1 (10%) of its annual revenue in grants or, during the current fiscal year of the city, it is  
2 reasonably anticipated that such enterprise will receive under ten percent (10%) of its  
revenue in grants.

3 (b) The terms, conditions, and details of said bonds, or other obligations, and the procedures  
4 related thereto shall be set forth in the ordinance authorizing said bonds or other  
obligations and said bonds, or other obligations may be sold in accordance with the  
5 provisions of the charter. Each bond, note, or other obligation issued under this section  
shall recite in substance that said bond, note, or other obligation, including the interest  
6 thereon, is payable from the revenues and other available funds of the electric utility  
enterprise pledged for the payment thereof. Notwithstanding any other provision of law  
7 to the contrary, such bonds, or other obligations may be issued to mature at such times  
as are authorized by the charter, shall bear interest at such rates, and shall be sold at or  
8 above the principal amount thereof, all as shall be determined by the governing body of  
the electric utility enterprise. Notwithstanding anything in this section to the contrary, in  
9 the case of short-term notes or other obligations maturing not later than one year after  
the date of issuance thereof, the governing body of the electric utility enterprise may  
10 authorize enterprise officials to fix principal amounts, maturity dates, interest rates, and  
purchase prices of any particular issue of such short-term notes or obligations, subject to  
11 such limitations as to maximum term, maximum principal amount outstanding, and  
maximum net effective interest rates as the governing body of the electric utility  
12 enterprise shall prescribe. Refunding bonds of the electric utility enterprise shall be  
issued as provided in Part 1 of Article 56 of Title 11, C.R.S. The powers provided in  
13 this section to issue bonds, or other obligations are in addition and supplemental to, and  
not in substitution for, the powers conferred by any other law, and the powers provided  
14 in this section shall not modify, limit, or affect the powers conferred by any other law  
either directly or indirectly. Bonds, notes, or other obligations may be issued pursuant  
15 to this section without regard to the provisions of any other law. Insofar as the  
provisions of this section are inconsistent with the provisions of any other law, the  
16 provisions of this section shall control with regard to any bonds lawfully issued pursuant  
to this section.

17 (c) Any pledge of revenue or other funds of the electric utility enterprise shall be subject to  
18 any limitation on future pledges thereof contained in any ordinance of the governing  
body of the electric utility enterprise or of the city authorizing the issuance of any  
19 outstanding bonds or other obligations of the electric utility enterprise or the city  
payable from the same source or sources. Bonds or other obligations, separately issued  
20 by the city and the electric utility enterprise, but secured by the same revenues or other  
funds shall be treated as having the same obligor and as being payable in whole or in  
part from the same source or sources.

21 **Sec. 182. Utility service standards.**

22 (a) Customer Benefit: The utility shall conduct its business and affairs for the benefit of its  
23 customers and the city.

- 1 (b) Cost Effective Service: The utility will provide the electric power requirements of the  
2 customers within the service areas in a reliable, cost-effective, and environmentally  
3 responsible manner.
- 4 (c) Energy, Energy Efficiency and Renewable Energy: The utility will engage in business  
5 activities related to the provision of electric power services, which may include but are  
6 not limited to investment in conventional electric generation, generation using  
7 renewable resources, energy efficiency measures, demand side management, and  
8 associated communication systems.
- 9 (d) Rates: The council will by ordinance fix, establish, maintain, and provide for the  
10 collection of such rates, classes of rates, fees, or charges for electric service and other  
11 utility services furnished by the city, and will produce revenues at least sufficient to pay  
12 the cost of operation and maintenance of said utilities in good repair and working order;  
13 to pay the principal of and interest on all bonds of the city payable from the revenues of  
14 the utility; to provide and maintain an adequate fund for replacement of depreciated or  
15 obsolescent property, and for the extension, improvement, enlargement, and betterment  
16 of the utility; to pay the interest on, and the principal of, any bonds issued by the city to  
17 extend or improve the utilities. The council will fix rates for which electric service will  
18 be furnished for all purposes, and rates shall be as low as good service will permit.
- 19 (e) Budget and Appropriations: The council, by ordinance, will approve the budget and  
20 appropriations as required by Charter Art. VI.
- 21 (f) Accounting Standards: All revenues and expenditures of the city's electric system will  
22 be considered revenues and expenditures of the utility and shall be audited and  
23 accounted for in a manner that is consistent with charter § 127.
- 24 (g) No Free Service: No free energy or power shall be given to any person, firm,  
corporation, or institution whatsoever.
- (h) Payments in Lieu of Taxes: The utility may only transfer funds for another  
governmental purpose to the extent that a service is provided to the utility or to the  
extent that a similarly situated private utility would have been required to pay taxes to  
the city or another governmental entity taxes. If taxation due to another governmental  
entity is used as rationale for a transfer, such funds shall be transferred to the  
governmental entity.
- (i) Preferences Prohibited: The utility shall not make or grant any preference or advantage  
to any corporation or person or subject any corporation or person to any prejudice or  
disadvantage as to rates, charges, service, or facilities, or in any other respect.
- (j) Advantages Prohibited: The utility shall not establish or maintain any unreasonable  
differences or undue preferences as to rates, charges, service, facilities, or any respect as  
between any class of services except to such low-income utility customers as that term  
may be defined by the city council.

1 **Sec. 183. Creation of an electric utilities department and general powers.**

- 2 (a) Electric Utilities Department: There shall be an electric utilities department, which shall  
3 be responsible for all planning, generation, transmission, and distribution of energy,  
4 electricity and power for the city, and such other responsibilities as the city council or  
5 city manager may assign. The utility will begin operations at such time as council may by  
6 ordinance provide.
- 7 (b) General Powers: The electric utilities department shall have the authority to:
- 8 (1) Generate and deliver energy and exercise all the powers of the city including  
9 those granted by the Constitution and by the law of the state of Colorado and by  
10 the charter in regard to purchasing, condemning and purchasing, acquiring,  
11 constructing, leasing, extending and adding to, maintaining, conducting, and  
12 operating an electric utilities system for all uses and purposes, and everything  
13 necessary, pertaining or incidental thereto, including authority to dispose of real  
14 or personal property not useful for or required in the electric utilities operation.
- 15 (2) Purchase, generate, transmit, distribute, and sell electric energy.
- 16 (3) Make and execute contracts, take and give instruments of conveyance, and do all  
17 other things necessary or incidental to the powers granted in this charter.
- 18 (4) Carry out the operations, supervision, and regulation of the utility related to the  
19 lawful operation of the utility as directed by the city council.
- 20 (5) Make recommendations to the electric utilities board or the city council on  
21 matters required by the city charter.
- 22 (6) Enter into contracts and agreements with any public or private corporation or any  
23 individual, both inside and outside the boundaries of the city and state: (A) for the  
24 joint use of property belonging either to the city or to the other contracting party  
or jointly to both parties; and (B) for the joint acquisition of real and personal  
property, rights and franchises, and the joint financing, construction, and  
operation of plants, buildings, transmission lines, and other facilities.

18 **Sec. 184. Functions of the electric utilities director.**

19 Under the direction, supervision, and control of the city manager, there shall be a director of the  
20 electric utilities department who shall have the authority to:

- 21 (a) Construction, Acquisition, Maintenance. Plan, construct, purchase, acquire, lease, add to,  
22 maintain, conduct, and operate light plants, power plants, heating plants, and any  
23 necessary or appurtenant improvement or activity necessary to carry out such  
24 responsibilities;
- (b) Management and Supervision. Manage, control, and supervise agencies, service units,  
departments, divisions, offices, or persons assigned by the city manager;

- 1 (c) Operations. Operate the properties of the utility in an efficient and economical manner.
- 2 (d) Consultation with Electric Utilities Board. Prepare and submit to the electric utilities  
3 board written recommendations on those matters on which this article requires a  
4 recommendation from said board prior to council or department action;
- 5 (e) Provide Support to Electric Utilities Board. At the request of the electric utilities board,  
6 prepare and submit to the board information and recommendations on such utility matters  
7 as are not provided for by (b) above; and
- 8 (f) Request Advice. Request advice on any utility matter from the electric utilities board.

7 **Sec. 185. Creation of the electric utilities board.**

- 8 (a) Board Created: There shall be an electric utilities board consisting of seven members  
9 appointed by the city council. The members of the board shall be residents of the city,  
10 shall not hold any other office in the city, and shall serve without pay.
- 11 (b) Council Authorization: The electric utilities board shall be created at such time as the  
12 city council deems necessary. Until such time as the board is created, the city council  
13 shall be responsible for fulfilling the responsibilities of the electric utilities board.

12 **Sec. 186. Term of office of board members-removal-vacancies.**

13 The term of each member shall be five years; provided, however, that in appointing the original  
14 members of the board, the city council shall stagger the initial terms so that at least one board  
15 member's term expires in each year.

16 Five members of the council may remove any board member for non-attendance of duties, or for  
17 cause. If any member of the board is absent for three successive regular meetings, unless  
18 excused by vote of the board or the city council, he or she shall cease to be a member and the  
19 office shall be deemed vacant.

17 **Sec. 187. Organization and procedure of the board.**

- 18 (a) Chair and Secretary: The board shall choose a chair and a secretary from among its  
19 members. The director of electric utilities may be designated as secretary by the board.
- 20 (b) Regular and Special Meetings: The board shall have regular meetings once a month.  
21 Special meetings may be called at any time by the city manager, the chair, or four  
22 members of the board upon the giving of at least 24 hours notice of said special meeting  
23 to the board members.
- 24 (c) Quorum: Four members of the board shall constitute a quorum. An affirmative vote of a  
majority of the members present shall be necessary to authorize any action by the board,  
except as otherwise expressly provided herein.

1 (d) Record of Meetings: The board shall keep minutes and records of its meetings,  
2 recommendations, and decisions.

3 (e) Rules of Order: Except as otherwise expressly provided herein, the board shall have  
4 power to make rules for the conduct of its business.

5 **Sec. 188. Functions of the board.**

6 The electric utilities board shall not perform any administrative functions unless expressly  
7 provided in this charter. The duties and functions of the electric utilities board shall be:

8 (a) Advice. To advise the city council on policy matters pertaining to the municipal electric  
9 and utility systems, including without limitation such policies as the board determines are  
10 necessary or prudent to carry out its fiduciary duties and the requirement of the charter.

11 (b) Sounding Board. To act as a sounding board to the city council, city manager, and the  
12 electric utility director for the purpose of identifying the ratepayers' service delivery  
13 expectations.

14 (c) Rulemaking. To adopt rules and regulations with respect to any matter within its  
15 jurisdiction as it may be permitted by the council.

16 (d) Meeting Rules. To adopt bylaws governing its meeting and agenda procedures and other  
17 pertinent matters.

18 (e) Budget and Appropriations. To review and make recommendations to the city council on  
19 the city manager's proposed budget and appropriation as it relates to the utility.

20 (f) Revenue Bonds. To review and make recommendations to the city council concerning  
21 the issuance of revenue bonds or other obligations payable from revenues of the electric  
22 utilities enterprise.

23 (g) Other Recommendations. To review and make recommendations on any other matter  
24 relating to the electric utilities program, and may request and obtain from the electric  
utilities department and the city manager information relating thereto.

(h) Other Duties. To perform such other duties and functions and have such other powers as  
may be provided by ordinance of the city council.

Section 3. The official ballot shall contain the following ballot title, which shall also be  
the designation and submission clause for the question:

Ballot Question No. \_\_\_\_

Light and Power Utility

Shall the City of Boulder have the authority to establish, acquire, erect, maintain, and operate, by any lawful means, a municipal light and power utility with programs and improvements that include without limitation generation plants, renewable energy, energy conservation, and distribution systems, with all necessary powers appurtenant thereto; and

Shall the City amend its charter by the addition of a new Article XIII, "Light and Power Utility," as described in Ordinance No. \*\* [add ballot measure ordinance no. when assigned] that provides for utility service standards, the creation of an electric utilities department and electric utilities board, and the general powers and limitations of the utility; and

Shall the City, acting through the utility, issue enterprise revenue bonds payable solely from the net revenues of the utility, to finance the costs of acquiring from Xcel Energy and any affiliate thereof, and constructing, relocating, installing, improving, completing or expanding the equipment, facilities and other assets comprising an existing electric distribution system within or outside the City's boundaries, and paying all necessary or incidental costs related thereto, and shall the City have the authority to adopt all means necessary or appropriate to carry out the requirements, purpose and intent of this measure?

For the measure \_\_\_\_ Against the measure \_\_\_\_

Section 4. If a majority of all the votes cast at the election on the measure submitted are for the measure, the measure shall be deemed to have passed and the charter shall be amended as provided in this ordinance.

Section 5. The election shall be conducted under the provisions of the Colorado Constitution, the Charter and ordinances of the city, the Boulder Revised Code, 1981, and this ordinance.

1           Section 6. The officers of the city are authorized to take all action necessary or  
2 appropriate to effectuate the provisions of this ordinance and to contract with the county clerk to  
3 conduct the election for the city.

4           Section 7. If any section, paragraph, clause, or provision of this ordinance shall for any  
5 reason be held to be invalid or unenforceable, such decision shall not affect any of the remaining  
6 provisions of this ordinance.

7           Section 8. This ordinance is necessary to protect the public health, safety, and welfare of  
8 the residents of the city, and covers matters of local concern.

9           Section 9. The City Council deems it appropriate that this ordinance be published by title  
10 only and orders that copies of this ordinance be made available in the office of the city clerk for  
11 public inspection and acquisition.

12           INTRODUCED, READ ON FIRST READING, AND ORDERED PUBLISHED BY  
13 TITLE ONLY this 19th day of July 2011.

\_\_\_\_\_  
Mayor

Attest:

\_\_\_\_\_  
City Clerk on behalf of the  
Director of Finance and Record

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1           READ ON SECOND READING, PASSED, ADOPTED, AND ORDERED  
2 PUBLISHED BY TITLE ONLY this \_\_\_\_\_ day of August 2011.

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\_\_\_\_\_  
Mayor

Attest:

\_\_\_\_\_  
City Clerk on behalf of the  
Director of Finance and Record

ORDINANCE NO. \_\_\_\_\_

(Interim Tax Measure)

AN ORDINANCE SUBMITTING TO THE REGISTERED ELECTORS OF THE CITY OF BOULDER AT THE MUNICIPAL COORDINATED ELECTION TO BE HELD ON TUESDAY, NOVEMBER 1, 2011, THE QUESTION OF AUTHORIZING THE CITY COUNCIL TO EXTEND AND INCREASE THE CLIMATE ACTION PLAN TAX THAT WAS APPROVED BY THE VOTERS IN NOVEMBER 2006 AND APPROVED BY THE CITY COUNCIL IN CHAPTER 3-12, B.R.C. 1981, THROUGH MARCH 31, 2018 AS AN EXCISE TAX COMPUTED UPON THE BASIS OF THE AMOUNT OF ELECTRICITY USED BY RESIDENTIAL, COMMERCIAL, AND INDUSTRIAL CUSTOMERS FOR THE PURPOSES OF FUNDING THE CLIMATE ACTION PLAN TO REDUCE AND MITIGATE THE HEALTH AND SAFETY IMPACTS OF GREENHOUSE GAS EMISSIONS AND ADDRESS GLOBAL WARMING; FUNDING PRELIMINARY COSTS ASSOCIATED WITH THE CREATION OF A MUNICIPAL UTILITY; GIVING APPROVAL FOR THE COLLECTION, RETENTION, AND EXPENDITURE OF THE FULL TAX PROCEEDS AND ANY RELATED EARNINGS NOTWITHSTANDING ANY STATE REVENUE OR EXPENDITURE LIMITATION; SETTING FORTH THE BALLOT TITLE; AND SETTING FORTH RELATED DETAILS.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BOULDER,  
COLORADO:

Section 1. A special municipal coordinated election will be held in the city of Boulder, county of Boulder and state of Colorado, on Tuesday, November 1, 2011.

Section 2. The official ballot shall contain the following ballot title, which shall also be the designation and submission clause for the issue:

Ballot Question No. \_\_\_\_

SHALL CITY OF BOULDER TAXES BE INCREASED \$1,930,119 ANNUALLY (IN THE FIRST YEAR) THROUGH AN INCREASE IN THE CURRENT CLIMATE ACTION PLAN EXCISE TAX RATES FROM \$0.0049 PER KILOWATT HOUR TO \$0.0098 PER KILOWATT HOUR FOR RESIDENTIAL USE, FROM \$0.0009 PER KILOWATT HOUR TO \$0.0018 PER KILOWATT HOUR FOR COMMERCIAL USE AND FROM \$0.0003 PER KILOWATT HOUR TO \$0.0006 PER KILOWATT HOUR FOR INDUSTRIAL USE; AND SHALL THE CITY'S CLIMATE ACTION PLAN EXCISE TAX BE EXTENDED FIVE YEARS FROM ITS CURRENT EXPIRATION DATE OF MARCH 31, 2013 THROUGH MARCH 31, 2018, FOR THE CONTINUED PURPOSE OF IMPLEMENTING THE CITY'S CLIMATE ACTION PLAN AND FOR THE ADDITIONAL PURPOSE OF FUNDING PRELIMINARY COSTS ASSOCIATED WITH CREATING A MUNICIPAL ELECTRIC UTILITY AND ACQUIRING AN EXISTING ELECTRIC DISTRIBUTION SYSTEM, AND SHALL THE REVENUE FROM SUCH TAX INCREASE AND EXTENSION AND ALL EARNINGS THEREON (REGARDLESS OF AMOUNT) CONSTITUTE A VOTER APPROVED REVENUE CHANGE, AND AN EXCEPTION TO THE REVENUE AND SPENDING LIMITS OF ARTICLE X, SECTION 20 OF THE COLORADO CONSTITUTION?

For the Measure \_\_\_\_\_

Against the Measure \_\_\_\_\_

Section 3. If a majority of all the votes cast at the election on the measure submitted are for the measure, the measure shall be deemed to have passed.

Section 4. The election shall be conducted under the provisions of the Colorado Constitution, the Charter and ordinances of the city, the Boulder Revised Code, 1981, and this ordinance.

Section 5. The officers of the city are authorized to take all action necessary or appropriate to effectuate the provisions of this ordinance and to contract with the county clerk to conduct the election for the city.

Section 6. If any section, paragraph, clause, or provision of this ordinance shall for any reason be held to be invalid or unenforceable, such decision shall not affect any of the remaining provisions of this ordinance. The tax established by this measure is intended to be authorized under any lawful means of taxation, including license taxation pursuant to city of Boulder Charter Section 122.

Section 7. This ordinance is necessary to protect the public health, safety, and welfare of the residents of the city, and covers matters of local concern.

Section 8. The city council deems it appropriate that this ordinance be published by title only and orders that copies of this ordinance be made available in the office of the city clerk for public inspection and acquisition.

INTRODUCED, READ ON FIRST READING, AND ORDERED PUBLISHED BY  
TITLE ONLY this 19th day of July 2011.

---

Mayor

Attest:

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City Clerk on behalf of the  
Director of Finance and Record

READ ON SECOND READING, PASSED, ADOPTED, AND ORDERED  
PUBLISHED BY TITLE ONLY this \_\_\_\_ day of August 2011.

---

Mayor

Attest:

---

City Clerk on behalf of the  
Director of Finance and Record

ALTERNATE BALLOT TITLE

Title Drafted in the TABOR Ballot Style for Both  
City Revenue Bonds or Utility Enterprise Revenue Bonds

Section \*. The official ballot shall contain the following ballot title, which shall also be the designation and submission clause for the question:

**Ballot Question No. \_\_\_\_**

**Light and Power Utility**

Shall City of Boulder debt be increased \$\_\_\_\_\_ with a repayment cost of \$\_\_\_\_\_, with no increase in any city taxes, by the issuance of utility revenue bonds of the city or an enterprise thereof, payable solely from the net revenues of a municipal light and power utility for the purpose of financing the costs of acquiring from Xcel Energy and any affiliate thereof, and constructing, relocating, installing, improving, completing or expanding the equipment, facilities and other assets comprising an existing electric distribution system within or outside the city's boundaries, and paying all necessary or incidental costs related thereto; such bonds to bear interest at a net effective interest rate not to exceed \_\_\_\_\_ per annum, to mature, to be subject to redemption, with or without premium, and to be issued, dated and sold at such time or times, at such prices (at or above par) and in such manner and containing such terms, not inconsistent herewith, as the city council may determine; and shall the earnings on the investment of the proceeds of such bonds (regardless of amount) constitute a voter-approved revenue change, and in connection therewith;

Shall the City have the authority to establish, acquire, erect, maintain, and operate, by any lawful means, a municipal light and power utility as an enterprise, with programs and improvements that include without limitation generation plants, renewable energy, energy conservation, and distribution systems, with all necessary powers appurtenant thereto,; and in connection therewith;

Shall the City amend its charter by the addition of a new Article XIII, "Light and Power Utility," as described in Ordinance No. \*\* [add

ballot measure ordinance no. when assigned] that provides for utility service standards, the creation of an electric utilities department and electric utilities board, and the general powers and limitations of the utility and shall the City have the authority to adopt all means necessary or appropriate to carry out the requirements, purpose and intent of this measure?

For the measure \_\_\_\_\_

Against the measure \_\_\_\_\_

ALTERNATE BALLOT TITLE  
Ballot Title with Revenue Limitations

Section \*. The official ballot shall contain the following ballot title, which shall also be the designation and submission clause for the question:

**Ballot Question No. \_\_\_\_**

**Light and Power Utility**

Shall the City of Boulder have the authority to establish, acquire, erect, maintain, and operate, by any lawful means, a municipal light and power utility with programs and improvements that include without limitation generation plants, renewable energy, energy conservation, and distribution systems, with all necessary powers appurtenant thereto; and

Shall the City amend its charter by the addition of a new Article XIII, "Light and Power Utility," as described in Ordinance No. \*\* [add ballot measure ordinance no. when assigned] that provides for utility service standards, the creation of an electric utilities department and electric utilities board, and the general powers and limitations of the utility; and

Shall the City, acting through the utility, issue enterprise revenue bonds payable solely from the net revenues of the utility, to finance the costs of acquiring from Xcel Energy and any affiliate thereof, and constructing, relocating, installing, improving, completing or expanding the equipment, facilities and other assets comprising an existing electric distribution system within or outside the City's boundaries, and paying all necessary or incidental costs related thereto, [such bonds to be issued in a par amount not to exceed \$\_\_\_\_\_,] [with a term not to exceed 40 years] and [a net effective interest rate not to exceed \_\_\_\_\_ per annum] and otherwise in such manner and containing such terms, not inconsistent herewith, as the city council may determine, and shall the City have the authority to adopt all means necessary or appropriate to carry out the requirements, purpose and intent of this measure?

For the measure \_\_\_\_

Against the measure \_\_\_\_

## Sizing the Clean Economy: Boulder, CO Metropolitan Area

*“Sizing the Clean Economy: A National and Regional Green Jobs Assessment” is a new report by the Metropolitan Policy Program at Brookings that provides a first-of-its-kind, “bottom-up” count of “clean” or “green” establishments and jobs in the United States and in its largest metropolitan areas. This profile highlights a dynamic smaller metropolitan area that is leading the nation’s transition to a cleaner, lower carbon economy. To view the full report, please visit [www.brookings.edu/metro/clean\\_economy.aspx](http://www.brookings.edu/metro/clean_economy.aspx).*

### Boulder’s Clean Economy Profile

**Clean jobs**—Metropolitan Boulder’s **7,195 clean jobs make up 4.5 percent of all jobs** in the region. Nationally, 2.0 percent of jobs reside in the clean economy.

**Growth**—Boulder added 3,536 clean jobs between 2003 and 2010, growing at **10.1 percent annually**.<sup>\*</sup> The U.S. clean economy grew by 3.4 percent annually, by comparison.

**Exports per job**—Each clean economy job in Boulder produces on average **\$52,294** in exports, compared to \$20,129 for the average clean job nationally and \$10,392 in exports per job in the rest of the economy.

**Annual wage**—The estimated median wage in Boulder’s clean economy is **\$53,871**, compared to \$47,759 for all jobs in the region. Nationally, clean jobs pay on average \$43,773.

**Green collar jobs**—Some **50.5 percent** of Boulder’s clean economy jobs are “green collar,” meaning they reside in occupations that pay mid-level wages and typically require only mid-level skills. 67.7 percent of clean economy jobs are similarly “green collar” nationally.

**Cleantech jobs**—Fully **50.0 percent** of Boulder’s clean economy jobs are in young “cleantech” segments. Nationally, 6.9 percent of clean economy jobs are “cleantech.”

**Largest segments**—Boulder’s five largest clean economy segments are **fuel cells, energy-saving consumer products, professional environmental services, professional energy services, and public mass transit**.

**Fastest growing segments**—The five fastest growing clean economy segments in Boulder are **solar photovoltaic, solar thermal, fuel cells, smart grid, and battery technologies**.

\*

### For more information

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\* Growth rates exclude establishments that may have closed before 2010

## MEMORANDUM

---

Date: July 8, 2011

To: Yael Gichon, City of Boulder

From: Nils Tellier

Project: City of Boulder Municipal Utility Feasibility Study

Re: Asset Valuation Report

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The following is a summary of the changes made to the original asset valuation report.

- New section on distribution asset inventory. This section outlines the inventory of assets for substations and distribution systems. Assets age and specific information were reported when available.
  - Data is based on the PDF files provided by the City, labeled BLR2-1A1 through - 1A4.
- The next section is the valuation of substations and service yard assets, based on the 2005 Net Value Report. The “Distribution System” in the original report has been split to show “**Substations**” and “**Service Yard**” separately. As a result, the following changes occurred –
  - Table 1 of the original report has been split into two tables - Table 1 and 2.
  - Figure 2 of the original report has been split into two figures - Figure 2 and 3.
  - Table 2 of the original report has been split into two tables - Table 3 and 4.
  - Table 3 of the original report has been split into two tables - Table 5 and 6.
  - This section does not include overhead or underground distribution asset.
- Distribution asset valuation is found in the section “2001-2010 Expense-Budget”. The original report had some mis-categorization of assets; in the updated report

“**Underground Conduit**” has been re-classified as “**Underground Services**”. As a result, the following changes occurred –

- In Table 4 of the original report, Xcel Energy Categories of “**Underground Extension**”, “**Underground Network**”, “**1% Franchise Projects**” were classified as “**Underground Conduit**”. These are now reported as “**Underground Services**” (Table 7 of the updated report).
- In Table 8, 9, 10 and 13 of the updated report (Table 5, 6, 7 and 10 of the original report), “**Underground Conduit**” (FERC account 366) has been removed and merged into “**Underground Services**” (FERC account 369.1).
- In the updated report, “**Poles, Towers and Fixtures**” (FERC account 364) has been merged into “**Overhead Services**” (FERC account 369). As a result, the following changes occurred –
  - In Table 9, 10 and 13 of the updated report (Table 6, 7 and 10 of the original report), “**Poles, Towers and Fixtures**” has been removed and merged into “**Overhead Services**”.
- Figure 4 of the updated report shows the Original Cost by FERC account after the re-classifications mentioned above.
- The section “Review of RW Beck Analysis” has been revised.
  - In Table 8 of the original report, it was mistakenly reported as “**Book Value (2006)**”. This has been rectified as “**Book Value (2010)**” in Table 11 of the updated report.
  - In Table 10 of the original report, FERC accounts were not consistent between RW Beck and RBI, resulting in some empty cells for RBI. This has been modified in Table 13 of the updated report by merging several FERC accounts into “**Services-Overhead**” and “**UG-Services**” so that all valuations can be compared.
- Appendices have been renamed “Attachment” for clarity in the overall package presented to the City Council.

BOULDER MUNICIPAL UTILITY  
INVENTORY AND VALUATION OF DISTRIBUTION SYSTEM ASSETS



*Prepared for:*



CITY OF BOULDER

*Prepared by:*



July 2011

**EXECUTIVE SUMMARY ..... ES-1**

**1 INTRODUCTION..... 1**

**2 DISTRIBUTION ASSET INVENTORY ..... 1**

    2.1 SUBSTATIONS AND FEEDERS ..... 2

    2.2 DISTRIBUTION SERVICES ..... 3

**3 VALUATION DEVELOPMENT OF SUBSTATIONS AND SERVICE YARD ..... 4**

    3.1 BOOK VALUE ..... 7

        3.1.1 SUBSTATIONS ..... 7

        3.1.2 SERVICE YARD..... 8

    3.2 REPLACEMENT COST NEW ..... 9

        3.2.1 SUBSTATIONS ..... 9

        3.2.2 SERVICE YARD..... 10

    3.3 2001 – 2010 EXPENSE - BUDGET ..... 11

    3.4 RESULTS..... 13

**4 REVIEW OF RW BECK ANALYSIS ..... 15**

    4.1 ORIGINAL COST REVIEW..... 15

    4.2 REPLACEMENT COST REVIEW ..... 15

    4.3 COMPARISON OF RW BECK AND RBI VALUATION ESTIMATES ..... 16

**5 CONCLUSION ..... 18**

**LIST OF FIGURES**

Figure 1. Historical Annual Investment in City of Boulder Substations and Service yard..... 5  
Figure 2. City of Boulder’s Substations Original Cost and Book Value Categorized by FERC Account. ... 6  
Figure 3. City of Boulder’s Service Yard Original Cost and Book Value Categorized by FERC Account... 7  
Figure 4. City of Boulder Distribution System Original Cost Categorized by FERC Account. .... 14

**LIST OF TABLES**

Table 1. City of Boulder Substations Original Cost, Cumulative Depreciation and Book Value in 2005 dollars categorized by FERC Account. 5  
Table 2. City of Boulder Service Yard Original Cost, Cumulative Depreciation and Book Value in 2005 dollars categorized by FERC Account. 6  
Table 3. City of Boulder Substations Original Cost, Cumulative Depreciation and Book Value updated to 2010 dollars by FERC Account. 8  
Table 4. City of Boulder’s Service Yard Original Cost, Cumulative Depreciation and Book Value in 2005 dollars categorized by FERC Account. 9  
Table 5. City of Boulder Substations Original Cost, Replacement Cost New, Cumulative Depreciation and Book Value updated to 2010 dollars by FERC Account. 10  
Table 6. City of Boulder Service Yard Original Cost, Replacement Cost New, Cumulative Depreciation and Book Value updated to 2010 dollars by FERC Account. 10  
Table 7. Xcel Energy Service Category for 2006–20101 Budget and RBI classification of these categories into FERC Account. 11  
Table 8. Xcel Energy Annual Budget by FERC Account for 2006 to 2010. 12  
Table 9. City of Boulder Distribution System Original Cost, Cumulative Depreciation, Book Value, Replacement Cost New, and Replacement Cost New Less Depreciation based on expense budget report updated to 2010 dollars by FERC Account. 12  
Table 10. City of Boulder Distribution System Original Cost, Cumulative Depreciation, Book Value, Replacement Cost New, and Replacement Cost New Less Depreciation based on expense budget report updated to 2010 dollars by FERC Account. 13  
Table 11. Original Cost, Cumulative Depreciation, and Book Value in 2006 dollars estimated by RW Beck and updated to 2010 dollars by RBI, categorized by FERC Account. 15  
Table 12. RW Beck Analysis Update from 2006 to 2010 dollars categorized by FERC Account. 16  
Table 13. Comparison of RW Beck and RBI Valuation Estimates. 17

**ATTACHMENTS**

- Attachment A Main Valuation Graphs, 1948 to 2005
- Attachment B Depreciation Curves (Partial Set)

## EXECUTIVE SUMMARY

The City of Boulder, CO, contracted Robertson Bryan, Inc. (RBI) to update the inventory and valuation of the City’s electric distribution assets as part of the “**Boulder Municipal Utility Feasibility Study.**”

- Inventory and valuation of assets are based upon record files provided by the City
- Inventoried assets include:
  - Substations: Boulder Terminal, Sunshine Canyon, NCAR and Gunbarrel
  - Boulder Service Center
  - Underground and overhead distribution system
  - Street lights
- Data records included:
  - 1948 to 2005 data for the substations
  - 2001 to 2005 actual costs for the distribution and street lights
  - 2006 to 2010 budget costs for the distribution and street lights
- Costs and cumulative depreciations were updated to 2010 dollars.
- Summary of asset valuation:
  - Original cost.....\$95.6 million
  - Cumulative Depreciation .....\$11.8 million
  - Book Value .....\$83.7 million
  - Replacement Cost New.....\$133.1 million
  - Replacement Cost New Less Depreciation.....\$121.2 million

## 1 INTRODUCTION

As part of the “**Boulder Municipal Utility Feasibility Study**,” Robertson-Bryan, Inc. (RBI) prepared the inventory of City of Boulder’s distribution system and also performed the valuation of assets. This study was synthesized based on the several data sources provided by the City of Boulder. This report contains discussion of inventory of assets, estimation of Book Value, Replacement Cost New and update of RW Beck Analysis.

## 2 DISTRIBUTION ASSET INVENTORY

The City’s distribution asset inventory was developed from several lists received from the City, including Xcel’s 2005 Net Value Report. The inventory consists of:

- Four substations: Boulder Terminal, Sunshine, NCAR<sup>1</sup>, Gunbarrel and Niwot. Information for Valmont, Legget and University of Colorado were not provided and are not included in this report.
- Overhead and underground services.
- Street lights.
- Xcel’s service center on 63<sup>rd</sup> Street.

The City inventory includes services to Gunbarrel, south east of Diagonal Highway, and IBM, northeast of Diagonal Highway. In addition, the inventory includes county enclaves inside the City (east of Foothills Parkway and north of Iris Avenue) and the Xcel service center located outside of City limits on 63<sup>rd</sup> Street. The distribution asset inventory and valuation are preliminary, it will be necessary to perform a detailed on-site survey and severance plan if the City decides to investigate further the acquisition of these assets. For example, the Xcel service center, which is located outside of the City limits, may be excluded from the acquisition plan; additional determination of the University of Colorado’s substation and distribution may require further clarifications as to whether the state university assets can be acquired by the City. Other concerns in this inventory include:

- The accuracy and completeness of the data received from Xcel in 2005.
- The severance of a distribution system that was not designed to be separated from the regional grid.
- Ownership of the substations’ high side (incoming 115 or 230 kV) when the feeders serve circuits inside and outside of the City.

<sup>1</sup> National Center for Atmospheric Research

- Ownership of the hydroelectric generator tie line, as it is technically considered transmission by FERC, could require the owner to develop an OATT<sup>2</sup> plan and comply with extensive NERC requirements.<sup>3</sup>

## 2.1 SUBSTATIONS AND FEEDERS

The City is served by two transmission services.<sup>4</sup> A 230 kV line feeds the Niwot and Gunbarrel distribution substations. It is stepped down to 115 kV at the Valmont transmission substation to feed the Boulder Terminal, Sunshine and NCAR distribution substations. A 115 kV loop returns from NCAR to Eldorado Canyon to the Valmont transmission substation. The City's distribution system consists of 13.2 kV three-phase and 7,620 V single-phase circuits.

The Boulder Terminal substation, located on 28<sup>th</sup> Street, is fed by the 115 kV transmission loop. It serves the majority of the City with 12 distribution circuits. One distribution circuit (BTER1347B) serves the Boulder Reservoir and IBM area, northwest of Diagonal Highway. The distribution feeder vintages span from 1969 to today, with the feeder BTER1347B dating 1983.

The Sunshine Canyon distribution substation is located at the west end of Mapleton. It is fed by the 115 kV transmission loop and serves three distribution circuits. Further study is needed to determine which distribution circuits serve foothills areas outside of the City, as well as the Boulder hydro connection configuration. The vintage spans from 1985 to today.

The NCAR distribution substation is located at the south end of the City, off Wildwood Road. It is fed by the 115 kV transmission loop and serves 4 distribution circuits, including the National Center for Atmospheric Research. The vintage spans from 1971 to today.

The Gunbarrel substation, located near the Boulder Reservoir, is fed by a 230 kV transmission line and serves 4 distribution circuits; two distribution circuits are in service and two are on standby, including back-up service to IBM.

The Niwot substation is located on 75<sup>th</sup> Street. It is fed by a 230 kV loop and serves 4 distribution circuits. Further study is needed to determine which distribution circuits serve areas outside of the City. The vintage spans from 1979 to today.

The other substations not included in this report consist of Leggett and Valmont, both located outside of the City limits, and University of Colorado.

<sup>2</sup> Open Access Transmission Tariff

<sup>3</sup> FERC indicated verbally in April 2011 that it would consider separating generator ties from transmission lines (3<sup>rd</sup> Annual Energy Executive Briefing, Dickstein-Shapiro, Washington DC). It is prudent at this stage to consider the Boulder Hydro generator tie as a radial transmission line, subject to all transmission requirements.

<sup>4</sup> Cf Nexant Baseline Analysis.

## 2.2 DISTRIBUTION SERVICES

Distribution services include the feeder lines, circuit breakers and protective relays, overhead and underground services, and meters.

**Overhead services** represent the legacy distribution system since the City started enforcing an undergrounding policy in the late 1990s. Overhead service includes:

- 12,200 power poles, with vintages range from 1940 to today—45 poles date from the 1940s, 6 percent of the poles date from the 1950s, 20 percent from the 1960s, 7 percent from the 1970s, 7.5 percent from the 1980s, 10.3 percent from the 1990s, and 4 percent from the 2000s; 44 percent of the power poles were not identified by age.
- 395 miles of primary voltage wires (13,200 Volt three-phase, and 7,620 Volt single-phase).
- 189 miles of secondary voltage wires, ranging from 480 Volt three-phase to 120 Volt single-phase.
- 2,213 pole-mounted transformers' vintages range from 1964 to today; it seems that the replacement rate is 45 transformers per year, with the numbers tapering off after 1996.
- 629 overhead switches, ranging from 100 to 600 continuous amperes rating; it seems that the switches were installed or replaced after 1996.

**Underground distribution service** includes:

- 60 miles of conduit, ranging from 1¼- to 6-inch diameter.
- 550 miles of primary voltage wiring; aluminum wiring was installed between 1994 and 2000, copper wiring was installed after 2000.
- 186 miles of secondary voltage wiring, installed from 1963 to now.
- 3,084 transformers, with capacities up to 2,500 kVA and vintages ranging from 1963 to today; two transformers are vault-mounted and the others are pad-mounted.
- 701 switches and 897 fuses for underground services, rated at 200 and 600 amps.

**Street lights** include 4,667 lights, ranging from 70 to 400 watts, and representing an aggregate load of 673 kW. Street light vintages range from 1987 to today. Only 1,066 lights are owned by PSCo.

**Meters** consist of billing-grade meters serving the 47,000 accounts<sup>5</sup>, and substation meters typically located at the incoming lines and the distribution feeders. The billing-grade meters are largely energy meters that measure the incremental energy in kWh, but do not log hourly data. Although no detail was provided on the meters, it is expected that interval meters are installed on the substations, transmission and primary voltage customer accounts; interval meters track hourly demand as well as incremental energy. Meters upgraded under the SmartCity™ program are likely to be secondary interval meters; however, it is not determined if the interval data features are functional, therefore these meters are considered energy meters at this point.

### 3 VALUATION DEVELOPMENT OF SUBSTATIONS AND SERVICE YARD

In December 2005, Xcel Energy produced a Net Value Report of the City of Boulder's substations and service yard. This report included the Original Cost (Accumulation Cost), Cumulative Depreciation (Allocation Reserve), and Book Value (Net Value) by Utility Account and Retirement Unit. RBI created an Excel inventory of this report, which was earlier published as a PDF document.

According to this Xcel Energy Net Value Report, from 1948 to 2005, City of Boulder's substations and service yard has approximately a total Original Cost of **\$13.5 million**, Cumulative Depreciation of **\$4.5 million** and Book Value of **\$9.1 million** in 2005 dollars. Of this, major costs (above 0.5 million) were incurred only during 6 out of 58 years.

**Figure 1** shows the historical annual investment in the City of Boulder's substations and service yard. **Table 1** and **2** also shows the Original Cost, Cumulative Depreciation, and the Book Value in 2005 dollars categorized by FERC accounts for Substations and Service Yard respectively.

<sup>5</sup> Reference: 2009 Xcel report to the City. Xcel reports 122,902 active and inactive meters in its 2000-2010 electric distribution trend sheet developed in 2005. The discrepancy between the number of meters and the number of accounts makes valuation efforts very speculative.

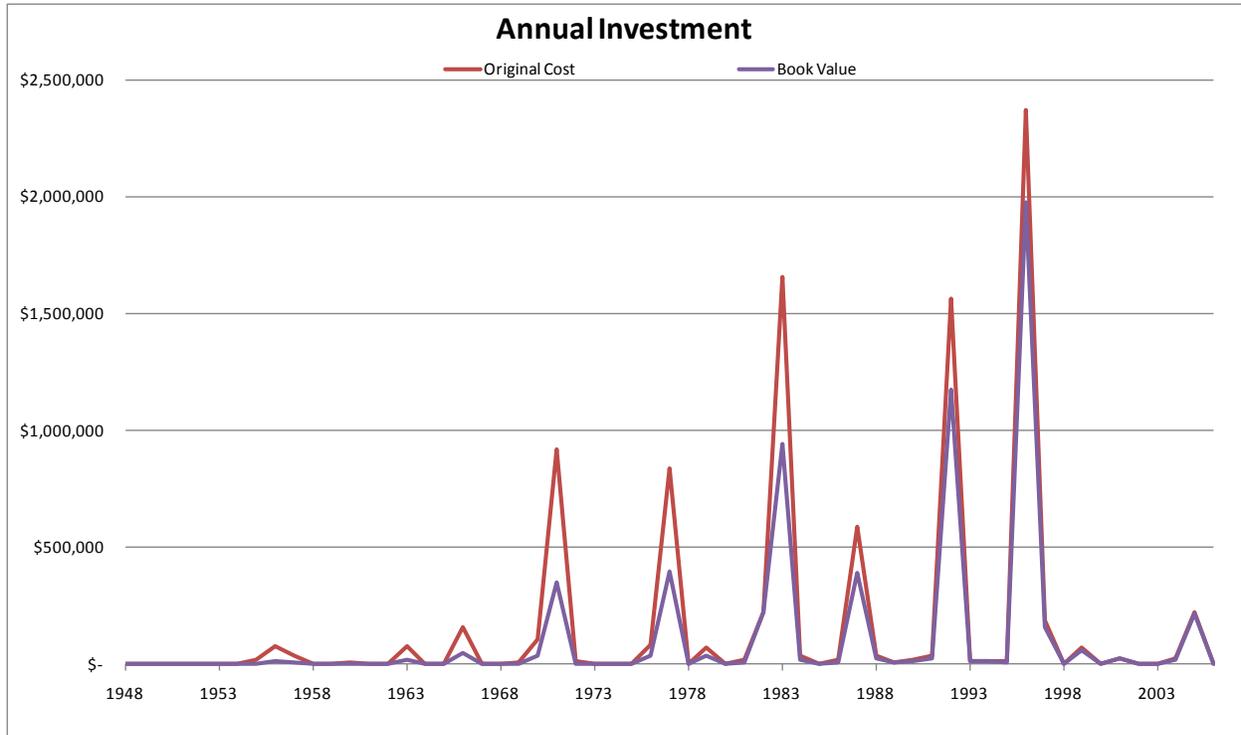


Figure 1. Historical Annual Investment in City of Boulder Substations and Service yard.

Table 1. City of Boulder Substations Original Cost, Cumulative Depreciation and Book Value in 2005 dollars categorized by FERC Account.

FERC Account No.	Description	Original Cost (\$)	Cumulative Depreciation (\$)	Book Value (\$)
302	Intg Franchises & Consents	234,045	177,953	56,093
356	Tran OH Conductor & Device	34,236	6,050	28,187
360.1	Dist Land Owned in Fee	222,371	0	222,371
360.2	Distribution Land Rights	98	39	59
361	Distribution Str & Improve	1,179,153	484,229	694,923
362	Distribution Station Equip	8,130,317	2,768,983	5,361,334
<b>Total</b>		<b>\$9,800,220</b>	<b>\$3,437,254</b>	<b>\$6,362,966</b>

Table 2. City of Boulder Service Yard Original Cost, Cumulative Depreciation and Book Value in 2005 dollars categorized by FERC Account.

FERC Account No.	Description	Original Cost (\$)	Cumulative Depreciation (\$)	Book Value (\$)
389.1	General Land Owned in Fee	49,552	0	49,552
390	Genl Structures & Improve	1,864,564	291,607	1,572,957
390.6	Genl Str & Imp-Owned Bldg	1,175,118	549,930	625,188
391	General Office Furn & Eqp	2,667	53	2,613
394	General Tools & Shop Equip	6,061	399	5,662
397	General Communication Eqp	641,990	191,153	450,836
398	General Miscellaneous Eqp	3,335	499	2,836
<b>Total</b>		<b>\$3,743,285</b>	<b>\$1,033,642</b>	<b>\$2,709,644</b>

As seen above, Distribution Station Equipment holds the majority share of the Total Accumulated Cost. **Figure 2 and 3** below also graphically illustrates the above summary.

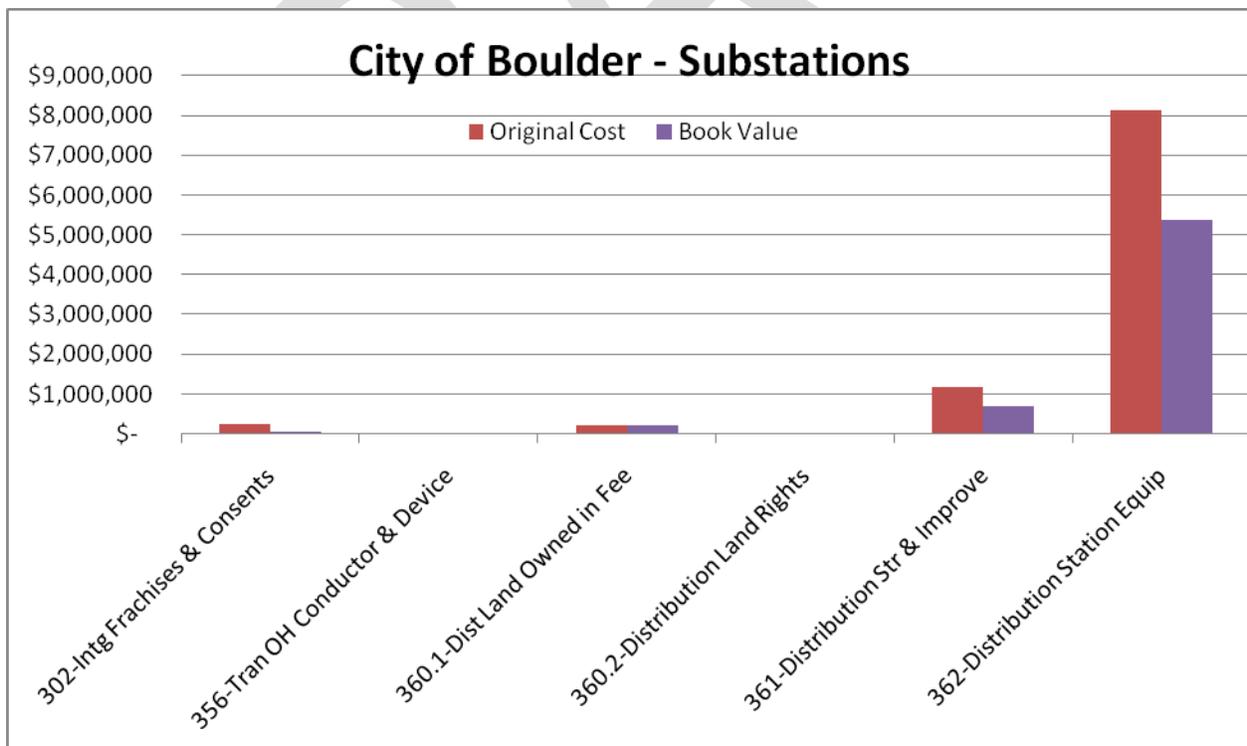


Figure 2. City of Boulder’s Substations Original Cost and Book Value Categorized by FERC Account.

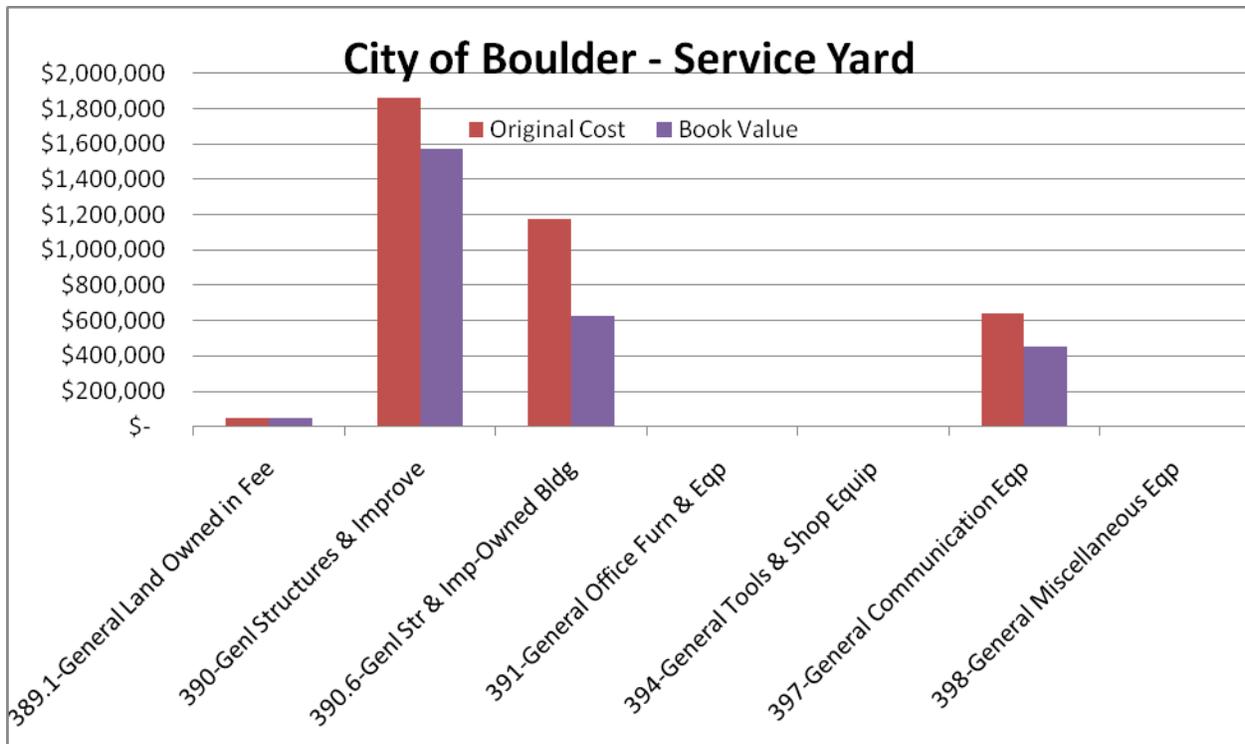


Figure 3. City of Boulder's Service Yard Original Cost and Book Value Categorized by FERC Account.

### 3.1 BOOK VALUE

Book Value is the difference between the original cost and the cumulative depreciation.

#### 3.1.1 SUBSTATIONS

Net Value reports published by Xcel Energy reported cumulative depreciation until December 2005. Based on this reported depreciation value and the number of years, correlations were developed for each retirement unit. For the units where only one depreciation value was reported, a linear correlation was used. Using these correlations, depreciation value was updated and Book Value was calculated to 2010 dollars. **Table 3** below shows the Original Cost, Cumulative Depreciation, and Book Value for Substations.

Table 3. City of Boulder Substations Original Cost, Cumulative Depreciation and Book Value updated to 2010 dollars by FERC Account.

FERC Account No.	Description	Original Cost (\$)	Cumulative Depreciation (\$)	Book Value (\$)
302	Intg Frachises & Consents	234,045	184,166	49,879
356	Tran OH Conductor & Device	34,236	9,410	24,826
360.1	Dist Land Owned in Fee	222,371	0	222,371
360.2	Distribution Land Rights	98	45	53
361	Distribution Str & Improve	1,179,153	590,126	589,027
362	Distribution Station Equip	8,130,317	3,534,503	4,595,814
<b>Total</b>		<b>\$9,800,220</b>	<b>\$4,318,251</b>	<b>\$5,481,969</b>

### 3.1.2 SERVICE YARD

For FERC accounts 389.1-General Land Owned in Fee, 390-Genl Structures & Improve, 390.6-Genl Str & Imp-Owned Bldg, 391-General Office Furn & Eqp, 394-General Tools & Shop Equip, 397-General Communication Eqp, and 398-General Miscellaneous Eqp, the year of establishment was not reported. Hence, the year of establishment was back calculated using the correlation developed for 362-Station Equipment. Using these correlations, depreciation value was updated and Book Value was calculated to 2010 dollars. **Table 4** below shows the Original Cost, Cumulative Depreciation, and Book Value for Service Yard.

Table 4. City of Boulder's Service Yard Original Cost, Cumulative Depreciation and Book Value in 2005 dollars categorized by FERC Account.

FERC Account No.	Description	Original Cost (\$)	Cumulative Depreciation (\$)	Book Value (\$)
389.1	General Land Owned in Fee	49,552	4,093	45,459
390	Genl Structures & Improve	1,864,564	536,276	1,328,287
390.6	Genl Str & Imp-Owned Bldg	1,175,118	638,756	536,362
391	General Office Furn & Eqp	2,667	493	2,174
394	General Tools & Shop Equip	6,061	1,300	4,761
397	General Communication Eqp	641,990	254,914	387,076
398	General Miscellaneous Eqp	3,335	915	2,420
<b>Total</b>		<b>\$3,743,285</b>	<b>\$1,436,747</b>	<b>\$2,306,539</b>

### 3.2 REPLACEMENT COST NEW

Replacement Cost New (RCN) was calculated by using the Handy-Whitman July 2010 coefficients.

#### 3.2.1 SUBSTATIONS

Handy-Whitman Index of Public Utility Construction Costs provided coefficients only for FERC accounts 356-Overhead Conductors and Devices, 361-Total Distribution Plant and 362-Station Equipment. FERC account 362 coefficients were used for the remaining FERC accounts.

Replacement Cost New was then calculated using these coefficients. Replacement Cost New Less Depreciation was also calculated as the difference between the Replacement Cost New and Cumulative Depreciation. **Table 5** below shows the Original Cost, Replacement Value New, Cumulative Depreciation, and Replacement Cost New Less Depreciation by FERC account for Substations.

Table 5. City of Boulder Substations Original Cost, Replacement Cost New, Cumulative Depreciation and Book Value updated to 2010 dollars by FERC Account.

FERC Account No.	Description	Original Cost (\$)	Replacement Value New (\$)	Cumulative Depreciation (\$)	Replacement Cost New Less Depreciation (\$)
302	Intg Franchises & Consents	234,045	1,973,573	184,166	1,789,407
356	Tran OH Conductor & Device	34,236	54,582	9,410	45,172
360.1	Dist Land Owned in Fee	222,371	658,197	0	658,197
360.2	Distribution Land Rights	98	428	45	382
361	Distribution Str & Improve	1,179,153	3,239,507	590,126	2,649,381
362	Distribution Station Equip	8,130,317	25,823,526	3,534,503	22,289,023
<b>Total</b>		<b>\$9,800,220</b>	<b>\$31,749,813</b>	<b>\$4,318,251</b>	<b>\$27,431,562</b>

**3.2.2 SERVICE YARD**

As mentioned above, Handy-Whitman Index of Public Utility Construction Costs provided coefficients only for FERC accounts 356-Overhead Conductors and Devices, 361-Total Distribution Plant and 362-Station Equipment. FERC account 362 coefficients were used for the remaining FERC accounts. Replacement Cost New was then calculated using these coefficients.

Replacement Cost New Less Depreciation was also calculated as the difference between the Replacement Cost New and Cumulative Depreciation. **Table 6** below shows the Original Cost, Replacement Value New, Cumulative Depreciation, and Replacement Cost New Less Depreciation by FERC account for the Service Yard.

Table 6. City of Boulder Service Yard Original Cost, Replacement Cost New, Cumulative Depreciation and Book Value updated to 2010 dollars by FERC Account.

FERC Account No.	Description	Original Cost (\$)	Replacement Value New (\$)	Cumulative Depreciation (\$)	Replacement Cost New Less Depreciation (\$)
389.1	General Land Owned in Fee	49,552	69,173	4,093	65,080
390	Genl Structures & Improve	1,864,564	3,482,372	536,276	2,946,095
390.6	Genl Str & Imp-Owned Bldg	1,175,118	3,730,979	638,756	3,092,223
391	General Office Furn & Eqp	2,667	4,609	493	4,116
394	General Tools & Shop Equip	6,061	10,594	1,300	9,294
397	General Communication Eqp	641,990	1,412,445	254,914	1,157,531
398	General Miscellaneous Eqp	3,335	6,175	915	5,260
<b>Total</b>		<b>\$3,743,285</b>	<b>\$8,716,346</b>	<b>\$1,436,747</b>	<b>\$7,279,600</b>

3.3 2001 – 2010 EXPENSE - BUDGET

In 2005, Xcel Energy also published City of Boulder’s expense from 2001 to 2006 and budget for 2006 to 2010. For this inventory asset analysis, it was assumed that the proposed budget was the total expenditure incurred by Xcel Energy from 2006 to 2010, excluding SmartGrid City.

**Table 7** below shows the service category published by Xcel energy and the FERC account under which RBI classified them. **Table 8** shows the yearly budget for 2006 to 2010 by FERC account.

Table 7. Xcel Energy Service Category for 2006–2010 Budget and RBI classification of these categories into FERC Account.

Xcel Energy Service Category	RBI Classification	
	FERC Account No.	Description
Overhead Extension	369	Services-Overhead
Overhead Services	369	Services-Overhead
Underground Extension	369.1	UG Services
Underground Services	369.1	UG Services
Underground Network	369.1	UG Services
Overhead Reinforcements	369	Services-Overhead
Underground Reinforcements	369.1	UG Services
Non Discretionary New Construction Specifics	361	Structures and Improvements
Discretionary New Construction Specifics	361	Structures and Improvements
Overhead Rebuilds	369	Services-Overhead
Underground Conversions/Rebuilds	369.1	UG Services
Overhead Relocations	369	Services-Overhead
Underground Relocations	369.1	UG Services
1% Franchise Projects	369.1	UG Services
Overhead Street Lights	373	Street Lighting-Overhead
Underground Street Lights	373.2	Street Lighting-Underground
Electric New Construction Contributions in Aid	369.1	UG Services

Table 8. Xcel Energy Annual Budget by FERC Account for 2006 to 2010.

FERC Account No.	Description	2006	2007	2008	2009	2010
		in Thousands of Dollars				
361	Structures and Improvements	1,490	1,490	0	0	0
369	Services-Overhead	1,980	1,280	1,287	1,295	1,301
369.1	UG Services	1,869	4,695	4,770	4,845	4,919
373	Street Lighting-Overhead	27	28	28	28	28
373.2	Street Lighting-Underground	895	903	903	903	903
	<b>Total Capital</b>	<b>6,261</b>	<b>8,396</b>	<b>6,988</b>	<b>7,071</b>	<b>7,151</b>

As no background information was available on the depreciation for these FERC accounts, depreciation correlation developed for FERC account 362-Distribution Station Equipment, was used to calculate the Cumulative Depreciation. Book Value was then calculated by subtracting the cumulative depreciation from the original cost.

Replacement Cost New was calculated by using the Handy-Whitman July 2010 coefficients. Replacement Cost New Less Depreciation was also calculated as the difference between the Replacement Cost New and the Cumulative Depreciation. **Table 9** below shows the Original Cost, Replacement Value New, Cumulative Depreciation, and Replacement Cost New Less Depreciation by FERC account.

Table 9. City of Boulder Distribution System Original Cost, Cumulative Depreciation, Book Value, Replacement Cost New, and Replacement Cost New Less Depreciation based on expense budget report updated to 2010 dollars by FERC Account.

FERC Account No.	Description	Original Cost (\$)	Cumulative Depreciation (\$)	Book Value (\$)	Replacement Cost New (\$)	Replacement Cost New Less Depreciation (\$)
361	Distribution Str & Improve	12,068,000	933,668	11,134,332	17,396,469	16,462,801
369	Services-Overhead <sup>6</sup>	13,282,000	862,208	12,419,792	15,357,411	14,495,204
369.1	UG Services <sup>7</sup>	48,000,000	3,732,294	44,267,706	48,285,600	44,553,306
373	Street Lighting-Overhead	226,000	11,887	214,113	535,054	523,167
373.2	Street Lighting-Underground	8,465,000	552,996	7,912,004	11,058,232	10,505,236
	<b>Total</b>	<b>\$82,041,000</b>	<b>\$6,093,053</b>	<b>\$75,947,947</b>	<b>\$92,632,766</b>	<b>\$86,539,713</b>

<sup>6</sup> Includes poles, towers and pole-mounted transformers (FERC Accounts 364 and 368).

<sup>7</sup> Includes UG Conduit and pad-mounted transformers (FERC accounts 366 and 368.1).

## 3.4 RESULTS

Using the Xcel Energy Net Value report (2005) and the budget proposed for 2006 to 2010, City of Boulder's distribution system was evaluated using Handy-Whitman Index of Public Utility Construction Costs. Based on this evaluation, City of Boulder's distribution system has approximately an Original Cost of **\$95.6 million**, Book Value of **\$83.7 million**, Replacement Cost New value of **\$133.1 million** and Replacement Cost New less Depreciation value of **\$121.2 million**.

**Table 10** below summarizes City of Boulder's distribution system Original Cost, Cumulative Depreciation, Book Value, Replacement Cost New and Replacement Cost New Less Depreciation by FERC account.

Table 10. City of Boulder Distribution System Original Cost, Cumulative Depreciation, Book Value, Replacement Cost New, and Replacement Cost New Less Depreciation based on expense budget report updated to 2010 dollars by FERC Account.

FERC Account No.	Description	Original Cost (\$)	Cumulative Depreciation (\$)	Book Value (\$)	Replacement Cost New (\$)	Replacement Cost New Less Depreciation (\$)
302	Intg Frachises & Consents	234,045	184,166	49,879	1,973,573	1,789,407
356	Tran OH Conductor & Device	34,236	9,410	24,826	54,582	45,172
360.1	Dist Land Owned in Fee	222,371	0	222,371	658,197	658,197
360.2	Distribution Land Rights	98	45	53	428	382
361	Distribution Str & Improve	13,247,153	1,523,794	11,723,359	20,635,976	19,112,182
362	Distribution Station Equip	8,130,317	3,534,503	4,595,814	25,823,526	22,289,023
369	Services-Overhead <sup>8</sup>	13,282,000	862,208	12,419,792	15,357,411	14,495,204
369.1	UG Services <sup>9</sup>	48,000,000	3,732,294	44,267,706	48,285,600	44,553,306
373	Street Lighting-Overhead	226,000	11,887	214,113	535,054	523,167
373.2	Street Lighting-Underground	8,465,000	552,996	7,912,004	11,058,232	10,505,236
389.1	General Land Owned in Fee	49,552	4,093	45,459	69,173	65,080
390	Genl Structures & Improve	1,864,564	536,276	1,328,287	3,482,372	2,946,095
390.6	Genl Str & Imp-Owned Bldg	1,175,118	638,756	536,362	3,730,979	3,092,223
391	General Office Furn & Eqp	2,667	493	2,174	4,609	4,116
394	General Tools & Shop Equip	6,061	1,300	4,761	10,594	9,294
397	General Communication Eqp	641,990	254,914	387,076	1,412,445	1,157,531
398	General Miscellaneous Eqp	3,335	915	2,420	6,175	5,260
<b>Total</b>		<b>\$95,584,505</b>	<b>\$11,848,050</b>	<b>\$83,736,455</b>	<b>\$133,098,925</b>	<b>\$121,250,875</b>

<sup>8</sup> Includes poles, towers and pole-mounted transformers (FERC Accounts 364 and 368).

<sup>9</sup> Includes UG Conduit and pad-mounted transformers (FERC accounts 366 and 368.1).

However, it should be noted that data for FERC accounts 369- Services-Overhead, 369.1- UG Services, 373- Street Lighting-Overhead, 373.2- Street Lighting-Underground were available only from 2001 to 2010, which accounts for approximately **73%** of the **Original Costs**, **77%** of the **Book Value** and **57%** of the **Replacement Cost New**. **Figure 3** below illustrates this graphically.

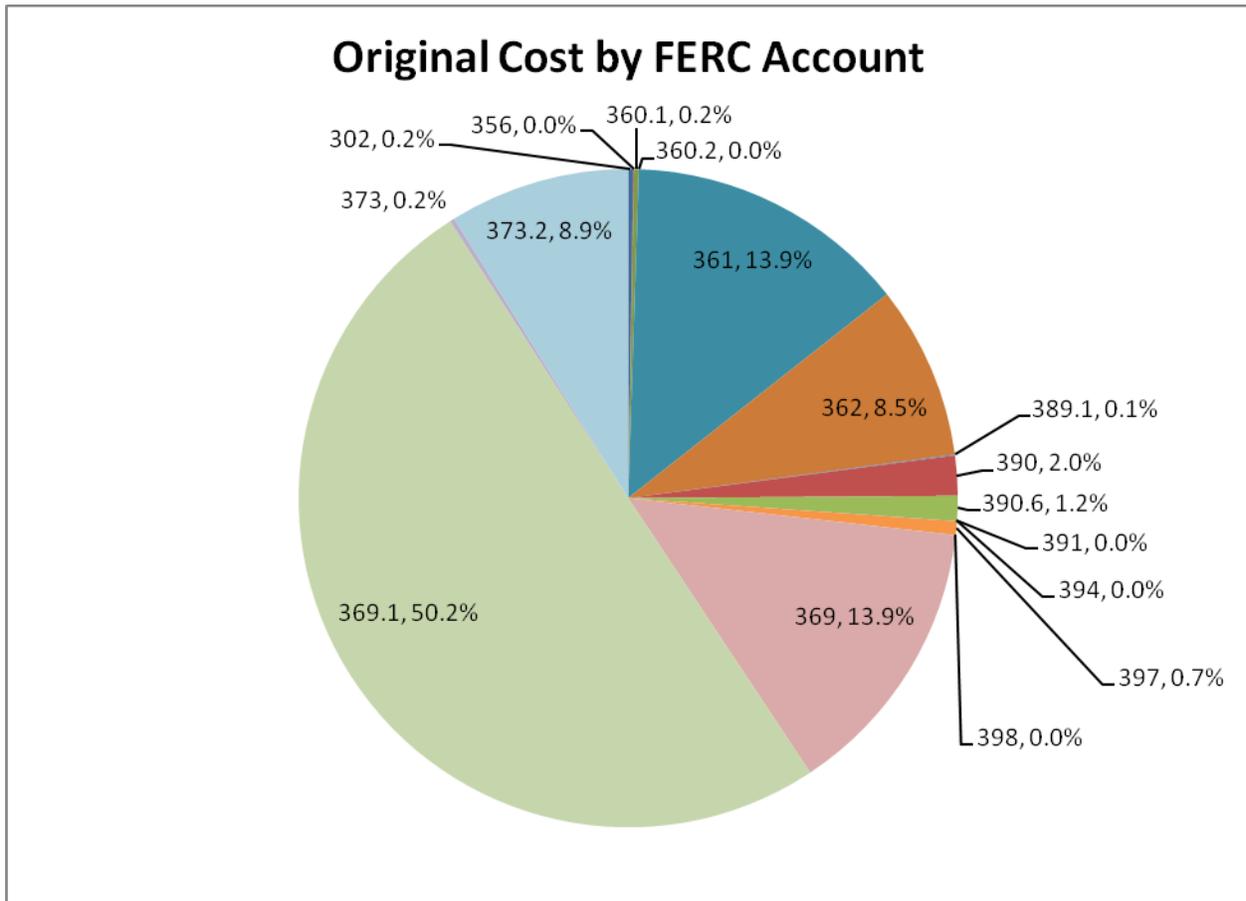


Figure 4. City of Boulder Distribution System Original Cost Categorized by FERC Account.

## 4 REVIEW OF RW BECK ANALYSIS

### 4.1 ORIGINAL COST REVIEW

In 2007, RW Beck performed a study on City of Boulder's distribution system. According to this study, until 2005, City of Boulder distribution system has an Original Cost of **\$72.6 million**, Cumulative Depreciation of **\$31.6 million** and Book Value of **\$47 million**. Using Handy-Whitman coefficients, Cumulative Depreciation was updated as approximately **\$33.6 million** and Book Value of **\$39 million**. **Table 11** below shows the Original Cost, Cumulative Distribution, and Book Value in 2006 dollars estimated by RW Beck and RBI update of these costs to 2010 dollars categorized by FERC accounts.

Table 11. Original Cost, Cumulative Depreciation, and Book Value in 2006 dollars estimated by RW Beck and updated to 2010 dollars by RBI, categorized by FERC Account.

FERC Account No.	Description	Original Cost	Cumulative Depreciation	Book Value	Accumulated Depreciation (2010)	Book Value (2010)
362	Station Equipment	20,051,026	3,239,929	22,172,430	3,436,288	16,614,737
364	Poles, Towers & Fixtures	8,320,765	4,520,791	3,799,974	4,794,778	3,525,986
365	Overhead Conductors & Devices	4,485,041	2,546,629	1,938,412	2,700,970	1,784,071
366	Underground Conduit	1,540,203	400,603	1,139,600	424,882	1,115,321
368	OV Transformers	1,922,852	827,512	1,095,341	877,664	1,045,189
368.1	UG Transformers	4,490,200	2,502,097	1,988,103	2,653,740	1,836,461
369	OV Conductors and Devices	3,478,096	1,974,880	1,503,21	2,094,570	1,383,525
369.1	UG Services	12,763,225	8,154,283	4,608,942	8,648,482	4,114,743
361	Structures and Improvements	4,025,152	1,296,900	3,393,457	1,375,500	2,649,652
373	Street Light. & Sig. Sys.	2,501,216	1,633,999	867,218	1,733,029	768,188
	Substations	9,057,652	4,541,129	4,516,523	4,816,349	4,241,303
	<b>Total</b>	<b>\$72,635,429</b>	<b>\$31,638,752</b>	<b>\$47,023,215</b>	<b>\$33,556,253</b>	<b>\$39,079,176</b>

### 4.2 REPLACEMENT COST REVIEW

RW Beck estimated the Replacement Cost New in 2006 dollars. RBI updated these estimates to 2010 dollars using the Handy-Whitman coefficients for the individual FERC accounts. According this estimate, Replacement Cost New of **\$124.9 million** in 2006 was estimated at approximately **\$153.8 million**.

**Table 12** below shows the RW Beck estimate of Replacement Cost New in 2006 dollars and RBI estimate in 2010 dollars.

Table 12. RW Beck Analysis Update from 2006 to 2010 dollars categorized by FERC Account.

FERC Account No.	Description	Replacement Cost New (2006)	Replacement Cost New (2010)
362	Station Equipment	25,090,748	32,482,629
364	Poles, Towers & Fixtures	14,660,395	17,253,880
365	Overhead Conductors and Devices	9,121,476	11,562,701
366	Underground Conduit	2,738,139	3,065,525
368	OV Transformers	2,770,366	5,376,696
368.1	UG Transformers	11,775,771	13,624,677
369	OV Conductors and Devices	9,121,476	10,548,299
369.1	UG Services	21,013,486	22,000,697
361	Structures and Improvements	5,126,423	7,176,992
373	Street Light. & Sig. Sys.	4,395,254	6,062,731
	Substations	19,064,578	24,681,113
	<b>Total</b>	<b>\$124,878,111</b>	<b>\$153,835,940</b>

#### 4.3 COMPARISON OF RW BECK AND RBI VALUATION ESTIMATES

RW Beck estimated City of Boulder's distribution system Original Cost as approximately **\$72.6 million**, whereas RBI estimated it as **\$95.6 million**. Similarly, RW Beck estimated the Book Value as **\$39.1 million** and RBI estimated it at **\$83.7 million**. RW Beck estimated the Replacement Cost New as **\$153.9 million** (in 2010 dollars) and RBI estimated it at **\$133.1 million**.

**Table 13** below shows the RW Beck and RBI estimates of Original Cost, Book Value and Replacement Cost New. As shown in the table, RBI's estimate differs with RW Beck's estimate for any of the FERC accounts. This could be due to different datasets used in the valuation.

Table 13. Comparison of RW Beck and RBI Valuation Estimates.

FERC Account No.	Description	Original Cost		Book Value		Replacement Cost New	
		RW Beck	RBI	RW Beck	RBI	RW Beck	RBI
302	Intg Frachises & Consents		\$234,045		\$49,879		\$1,973,573
356	Tran OH Conductor & Device		\$34,236		\$24,826		\$54,582
360.1	Dist Land Owned in Fee		\$222,371		\$222,371		\$658,197
360.2	Distribution Land Rights		\$98		\$53		\$428
361	Distribution Str & Improve	\$ 4,025,152	\$13,247,153	\$ 2,649,652	\$11,723,359	\$ 7,176,992	\$20,635,976
362	Distribution Station Equip	\$ 20,051,026	\$8,130,317	\$ 16,614,737	\$4,595,814	\$ 32,482,629	\$25,823,526
369 <sup>10</sup>	Services-Overhead	\$ 18,206,754	\$13,282,000	\$ 7,738,771	\$12,419,792	\$ 44,741,577	\$15,357,411
369.1 <sup>11</sup>	UG Services	\$ 18,793,629	\$48,000,000	\$ 7,066,526	\$44,267,706	\$ 38,690,899	\$48,285,600
373	Street Lighting-Overhead	\$ 2,501,216	\$226,000	\$ 768,188	\$214,113	\$ 6,062,731	\$535,054
373.2	Street Lighting-Underground		\$8,465,000		\$7,912,004		\$11,058,232
389.1	General Land Owned in Fee		\$49,552		\$45,459		\$69,173
390	Genl Structures & Improve		\$1,864,564		\$1,328,287		\$3,482,372
390.6	Genl Str & Imp-Owned Bldg		\$1,175,118		\$536,362		\$3,730,979
391	General Office Furn & Eqp		\$2,667		\$2,174		\$4,609
394	General Tools & Shop Equip		\$6,061		\$4,761		\$10,594
397	General Communication Eqp		\$641,990		\$387,076		\$1,412,445
398	General Miscellaneous Eqp		\$3,335		\$2,420		\$6,175
	Substations	\$ 9,057,652		\$ 4,241,303		\$ 24,681,113	
	<b>Total</b>	<b>\$ 72,635,429</b>	<b>\$ 95,584,505</b>	<b>\$ 39,079,176</b>	<b>\$ 83,736,455</b>	<b>\$ 153,835,940</b>	<b>\$ 133,098,925</b>

<sup>10</sup> Includes Poles, Towers, Fixtures, Overhead Conductors and Devices, and Overhead Transformers (FERC Accounts 364, 365, 368)

<sup>11</sup> Includes Underground Conduit and Underground Transformers (FERC Accounts 366 and 368.1)

## 5 CONCLUSION

The inventory and valuation of the City's distribution assets was conducted as a ground-up effort. The study was based on data provided by the City that listed equipment categories and assets by FERC account between 1940 and 2005. For the period between 2006 and 2010, RBI used Xcel's then-budgetary projection. Cumulative depreciation for 2010 was calculated from curves based on the equipment vintage, original cost and 2005 book values. In cases where data was incomplete, the costs were estimated by curve interpolation from similar FERC accounts. Given additional time and more recent data from PSCo, it is recommended that a physical survey be performed and this study updated accordingly. This report does not include the liabilities from SmartGrid City.

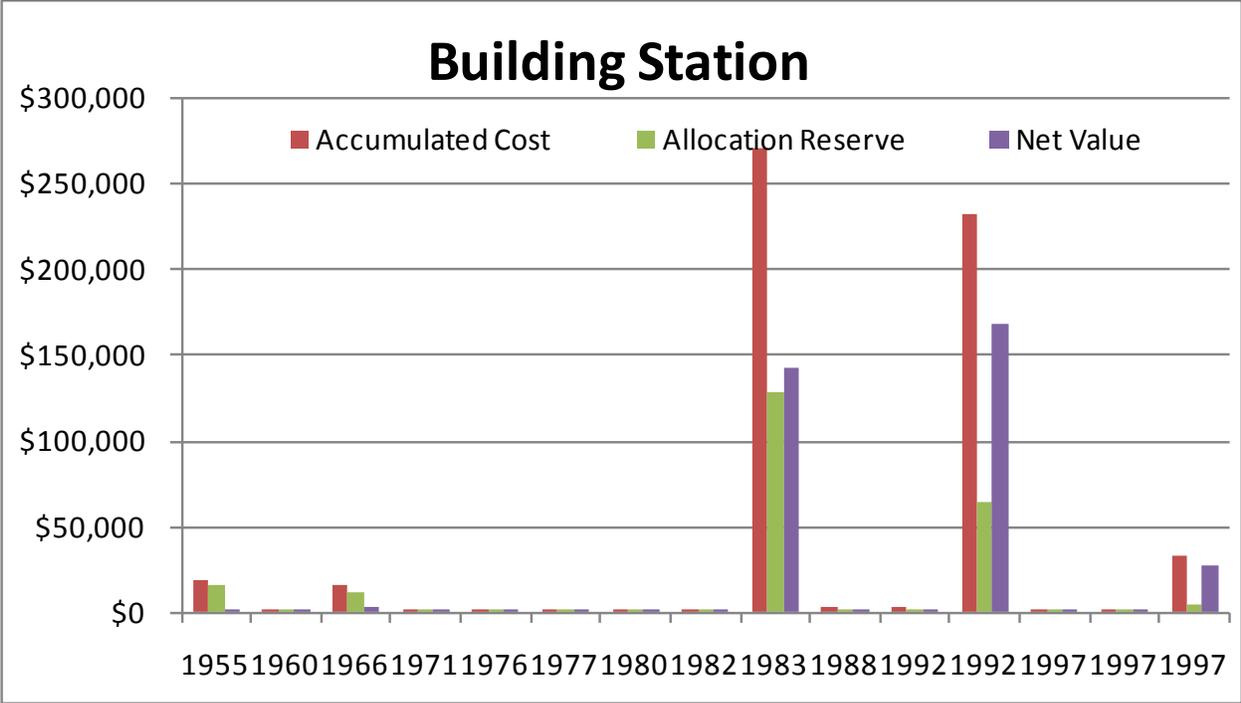
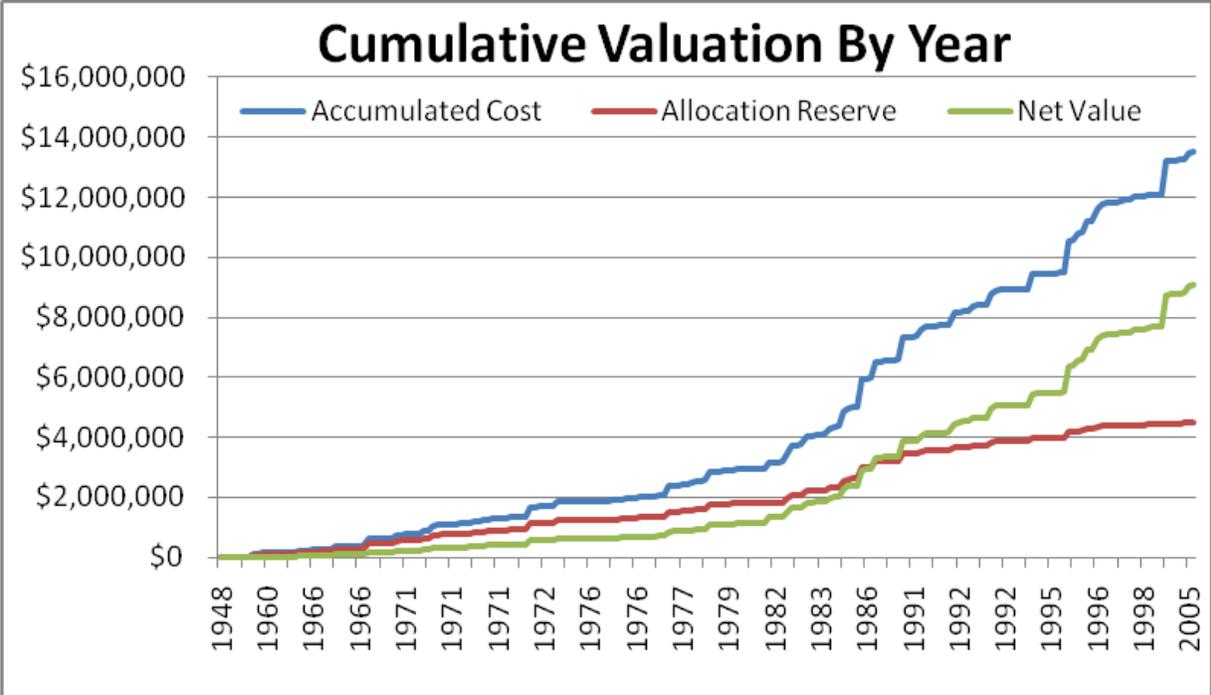
RW Beck performed a similar study in 2007. Their report categorized the City's assets along 10 FERC accounts and a "Substation" category, while the present study categorized the assets entirely into 17 FERC accounts. RBI's estimate of Replacement Cost New and Original Cost are within 30 percent of RW Beck's, which may stem from the undergrounding of overhead services after the 2007 study. Excluding FERC account 369.1 (Underground Services), which represents the highest cost element, the total Replacement Cost New are very close between the RW Beck and RBI calculations. FERC account 369.1 represents PSCo's post-2000 effort to underground power lines in the City. Again, 2006 to 2010 numbers are based on the then-budget from Xcel.

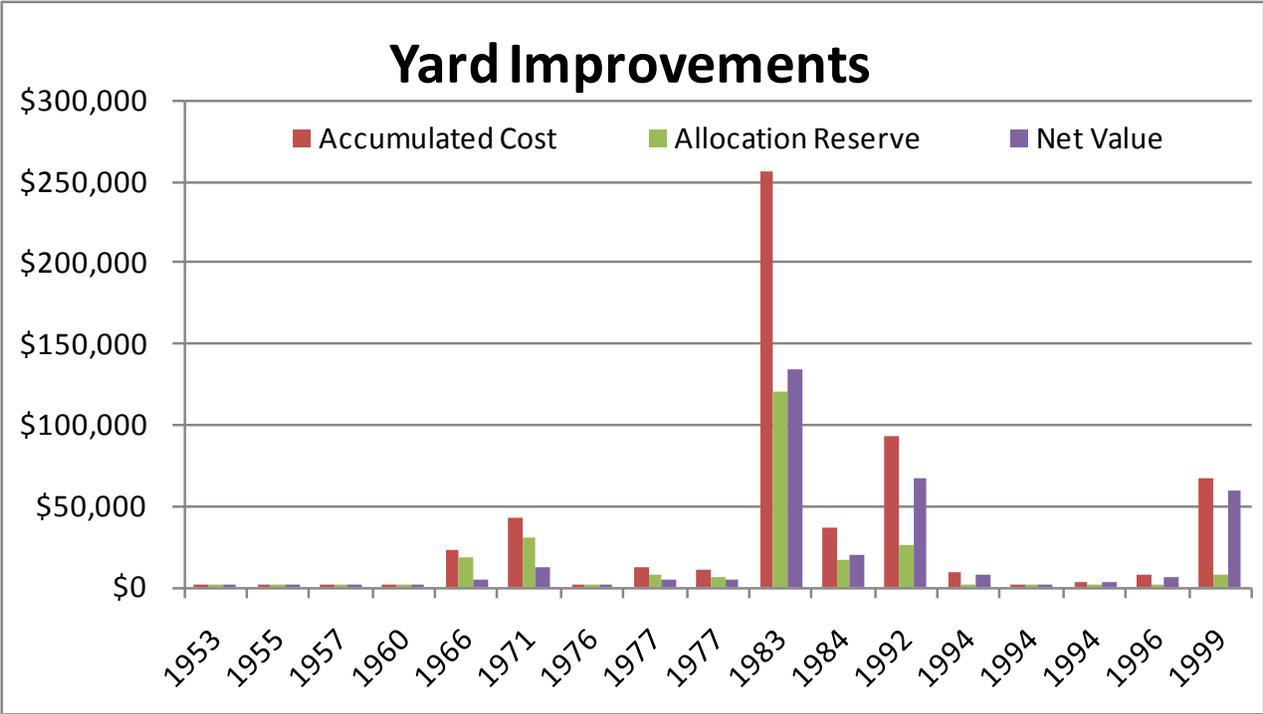
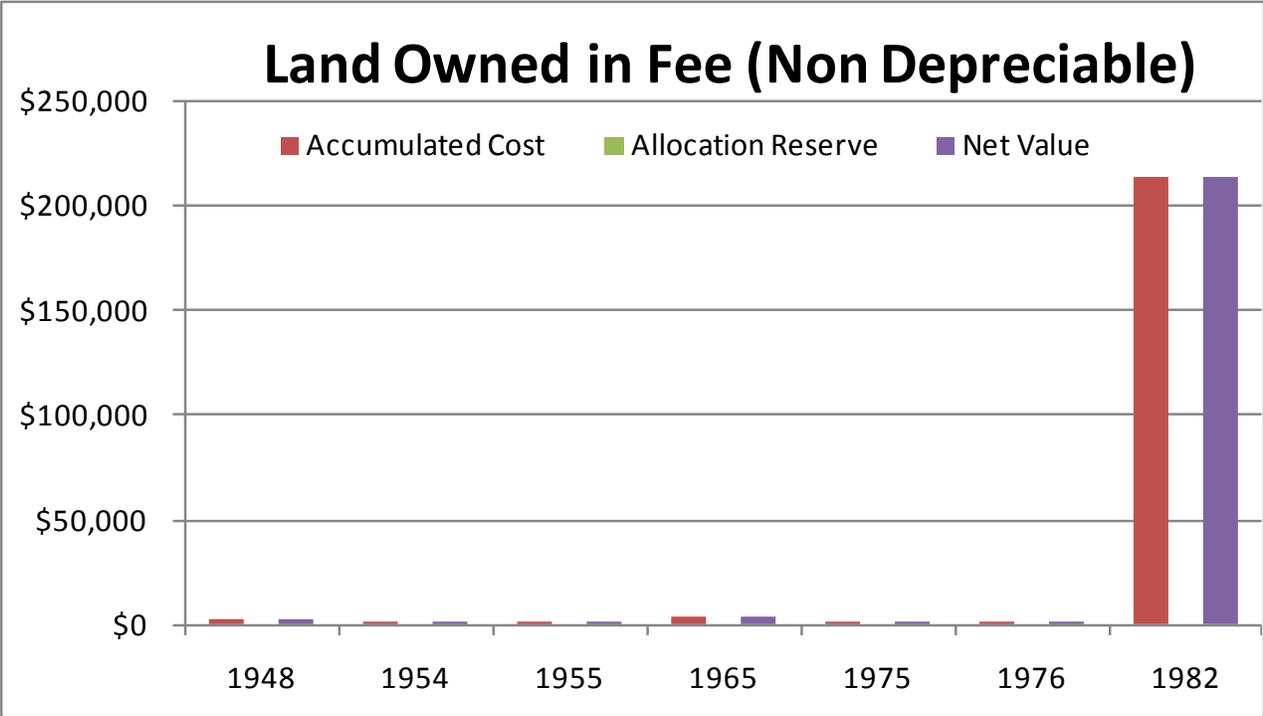
The valuation of electric distribution assets for the City of Boulder is a significant component to the municipal utility feasibility study. The Book Value and Replacement Cost New provide the book-end expectations for the acquisition cost estimate. Ultimately, Xcel Energy will provide its own valuation and likely include its cost liability for the SmartGrid City. It is important to determine how the PSCo assets were valued during the merger with Xcel Energy in 1996. If the assets were valued at Book Value, Xcel would have a weak argument to ask for original or replacement cost.

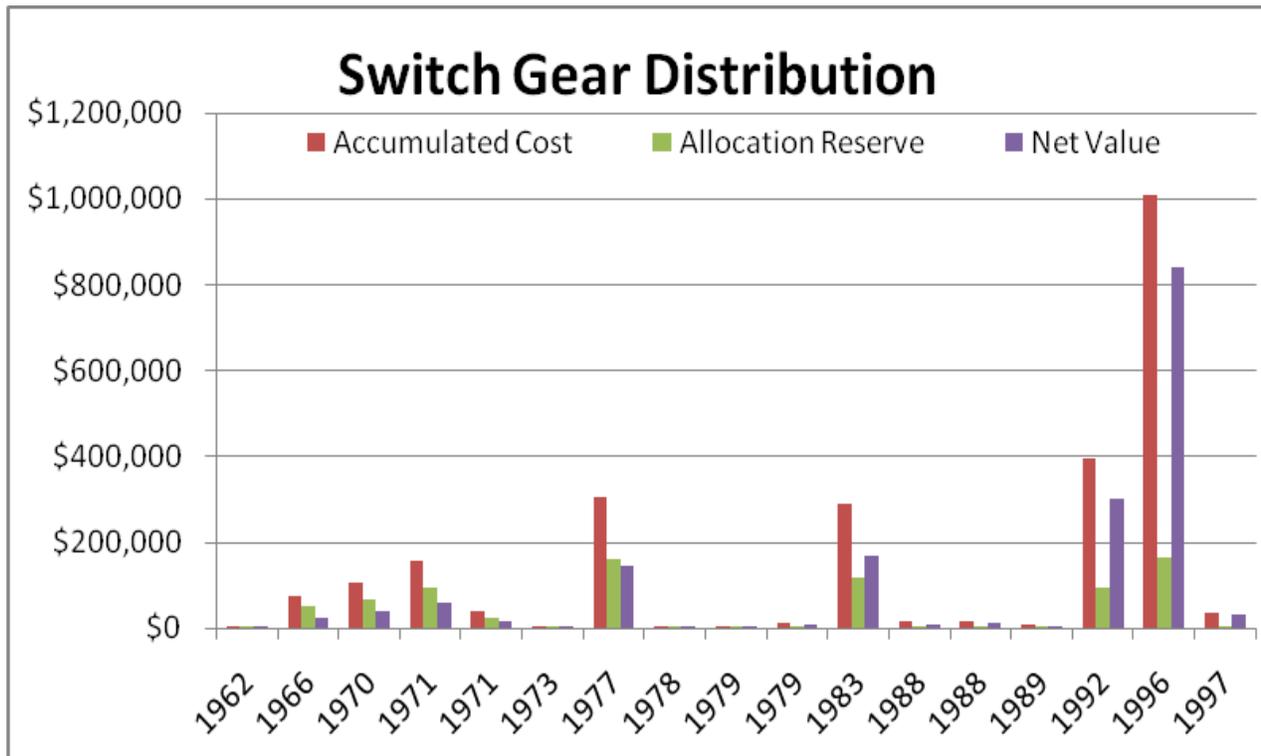
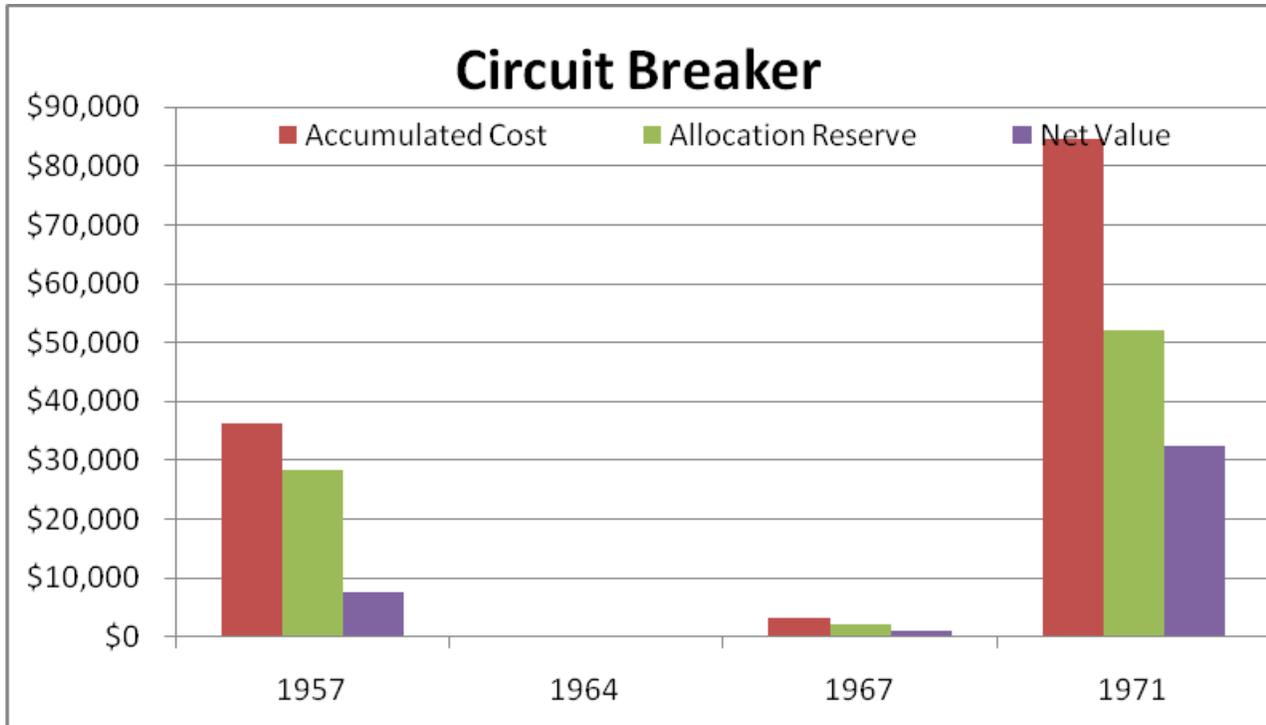
**Attachment A**

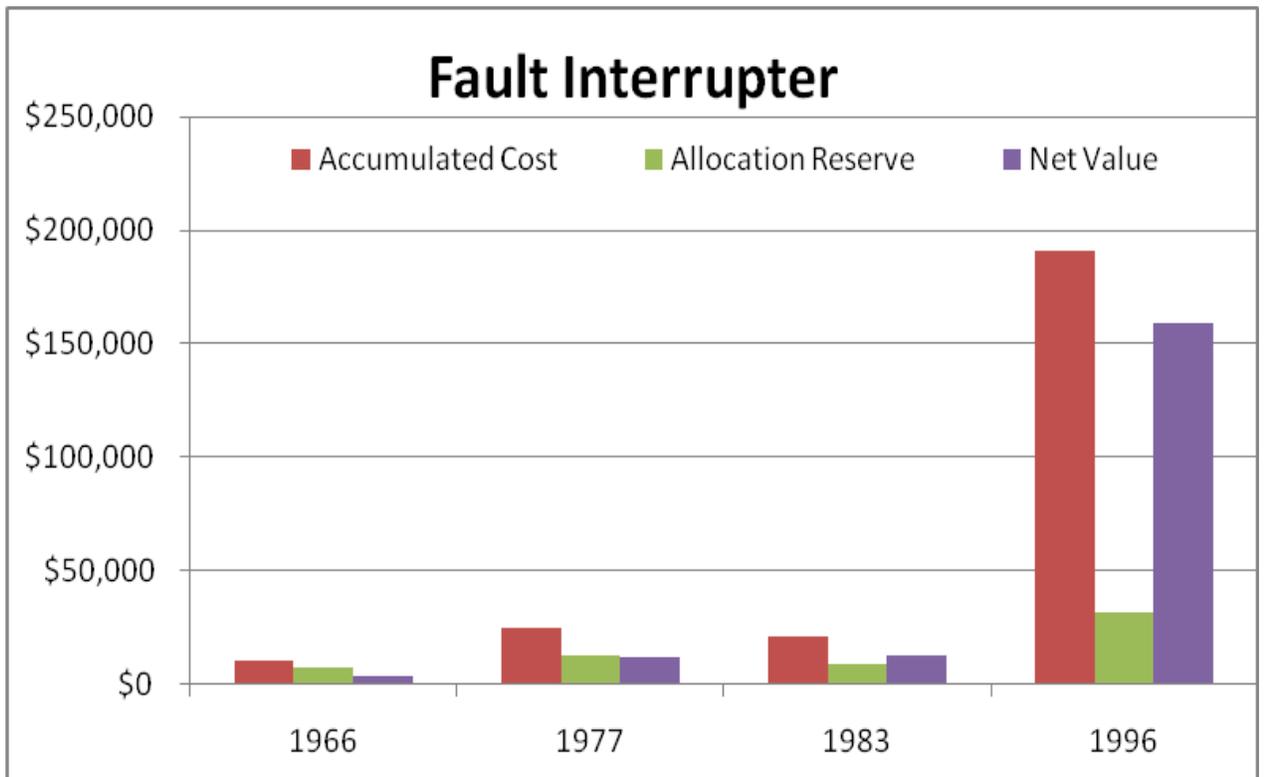
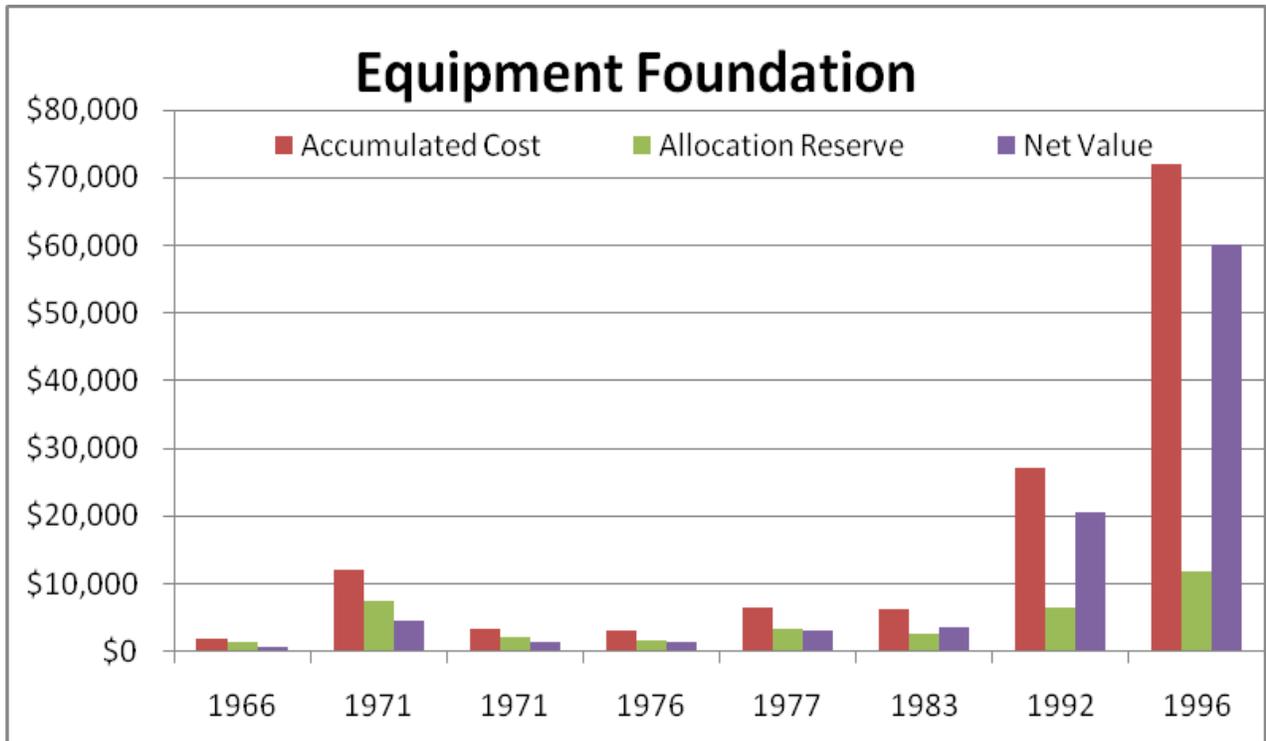
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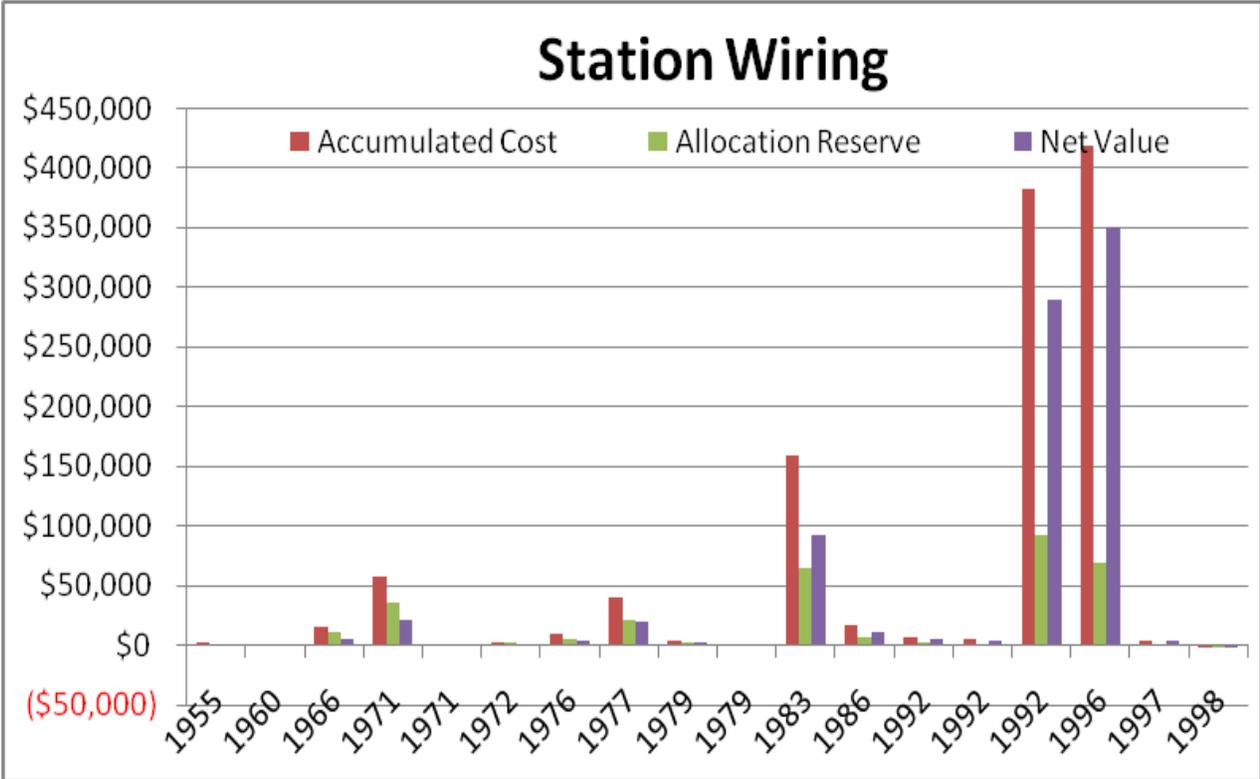
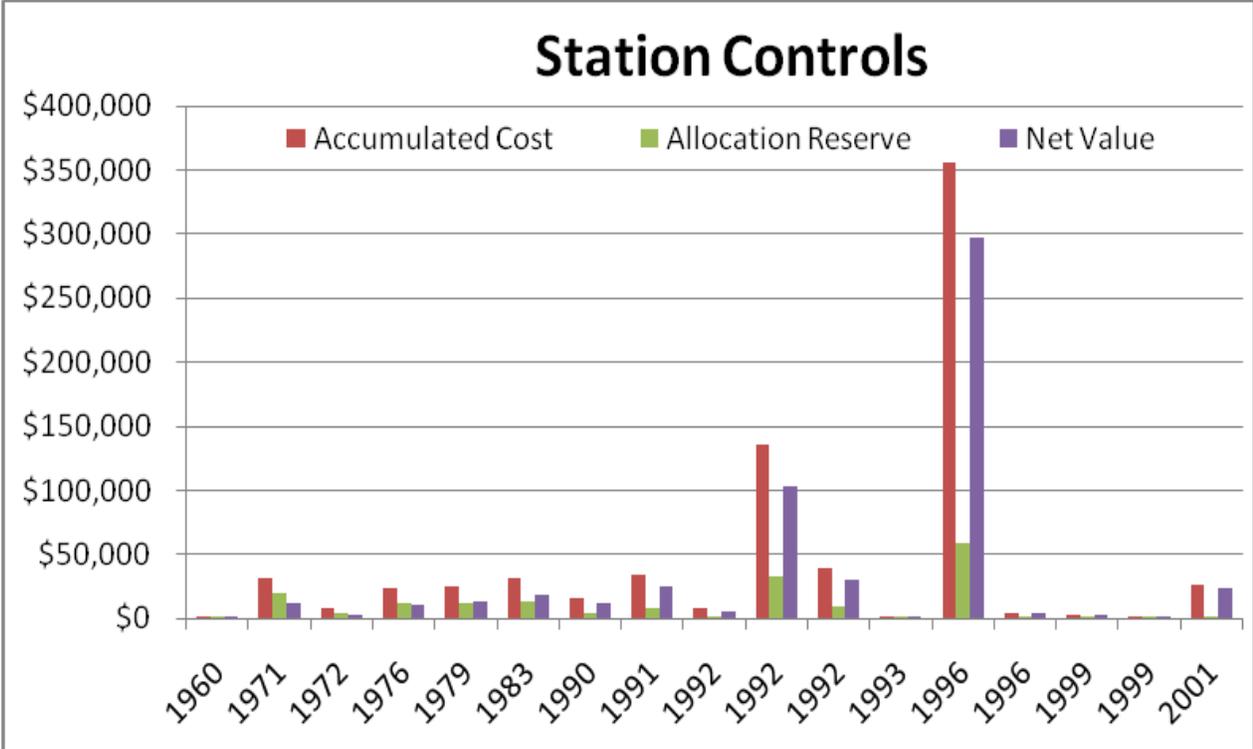
**Main Valuation Graphs, 1948 to 2005**

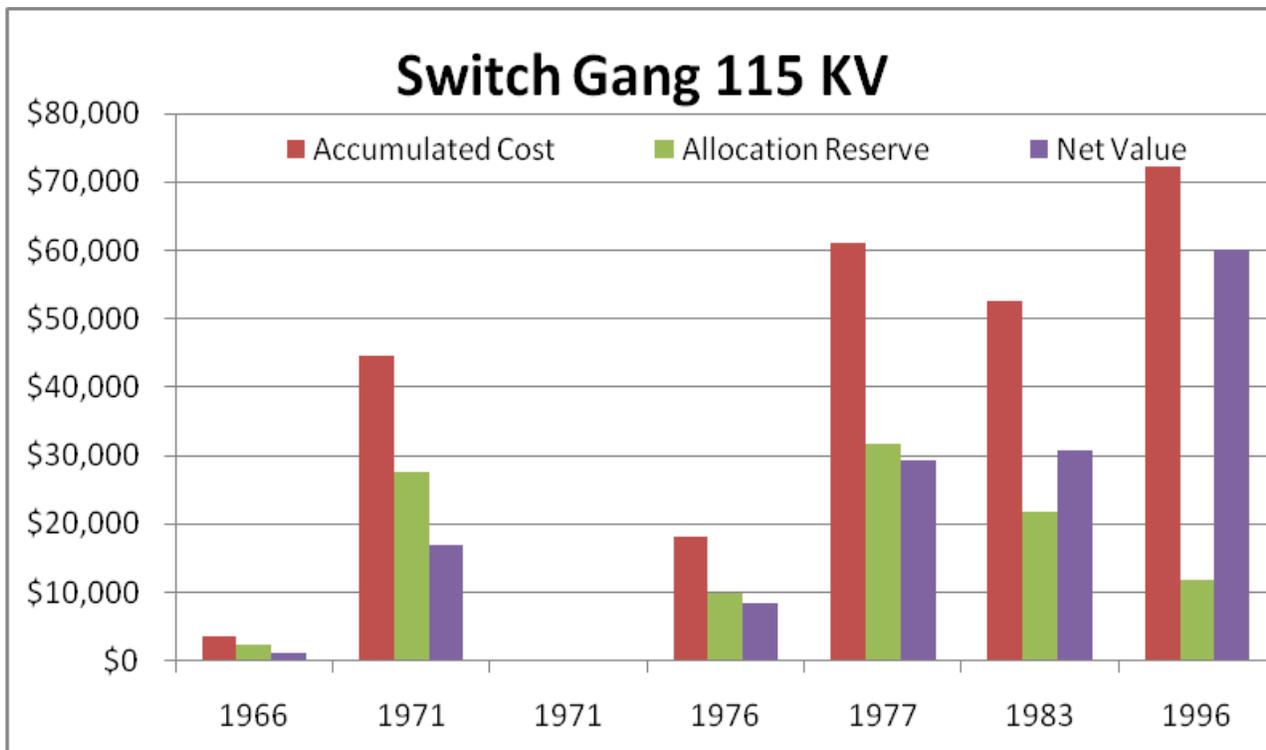
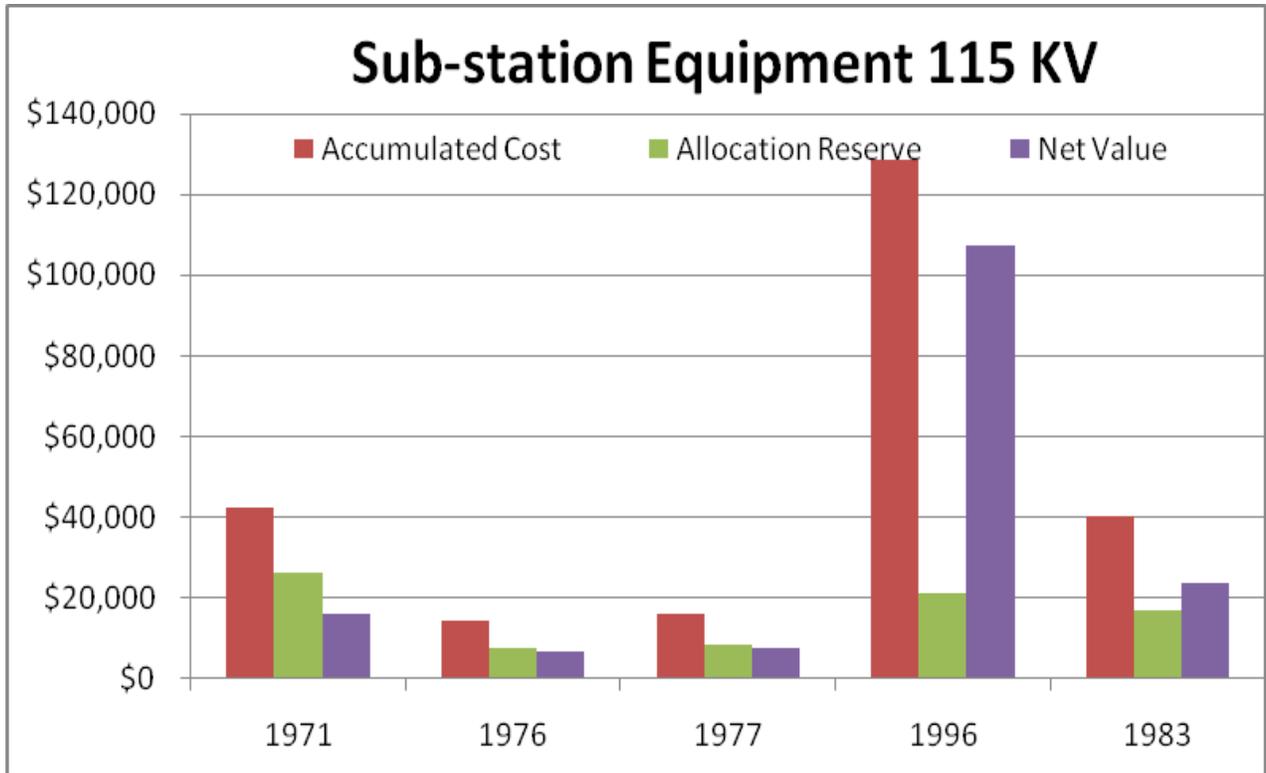


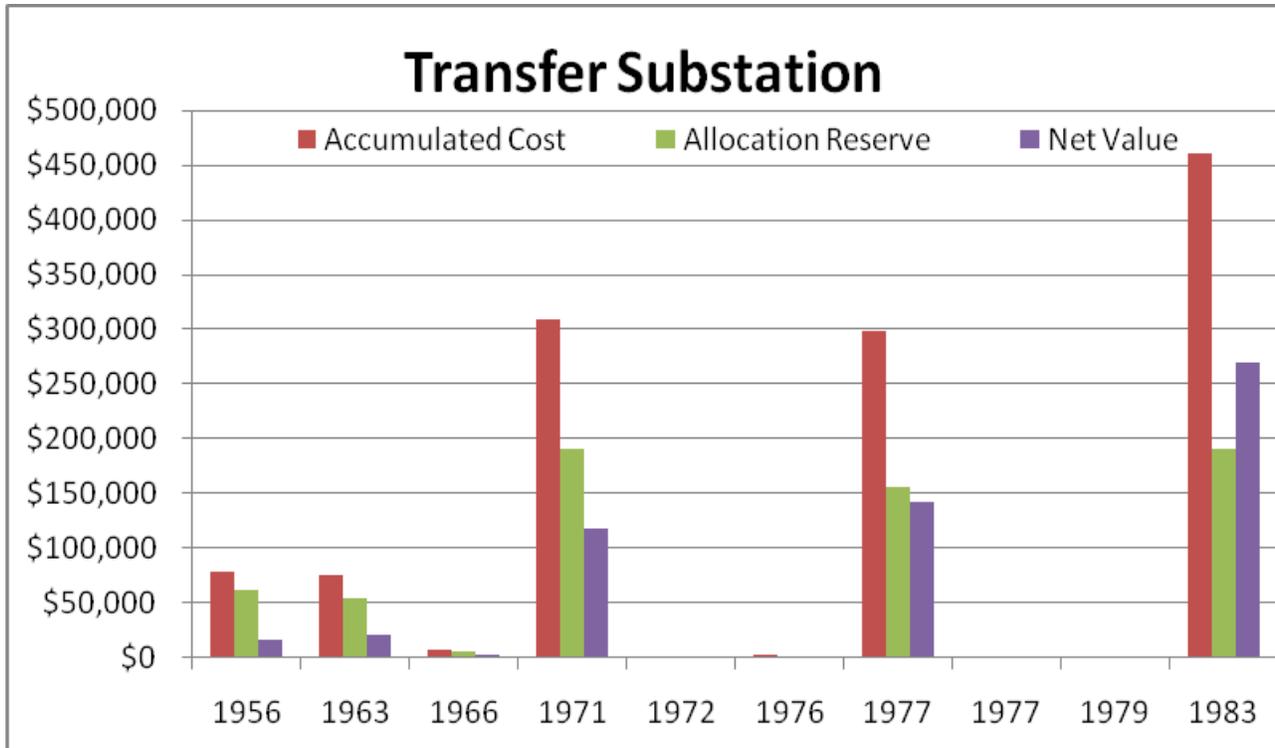








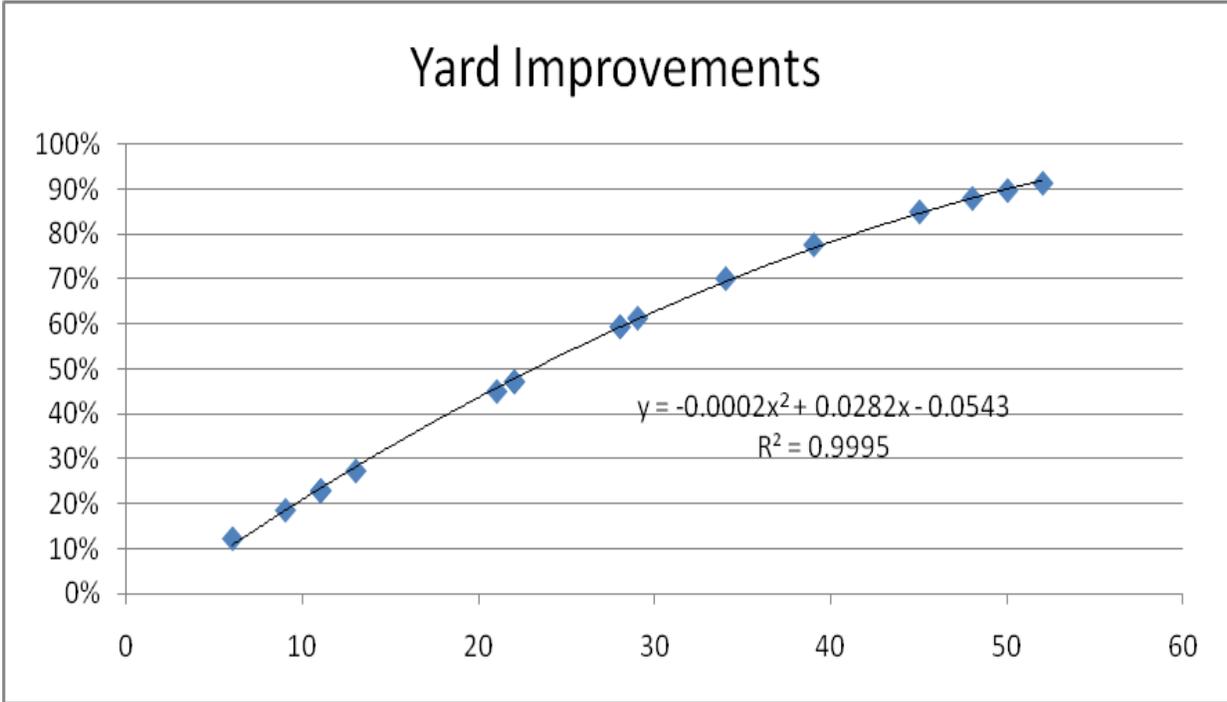
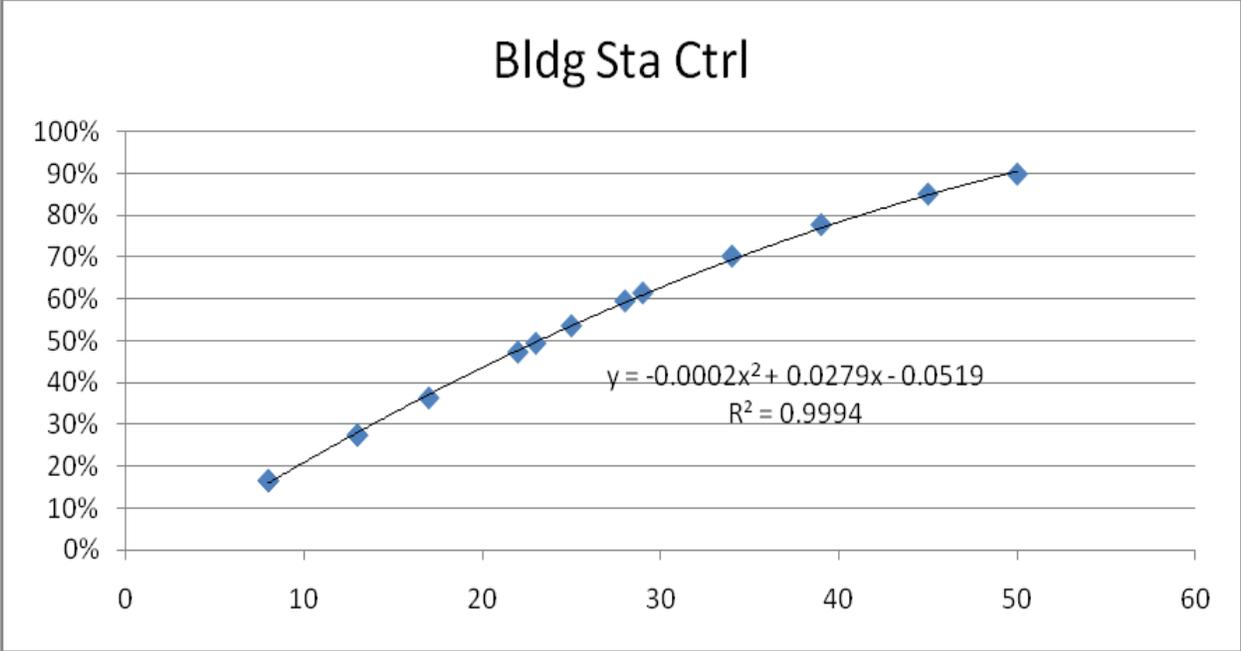


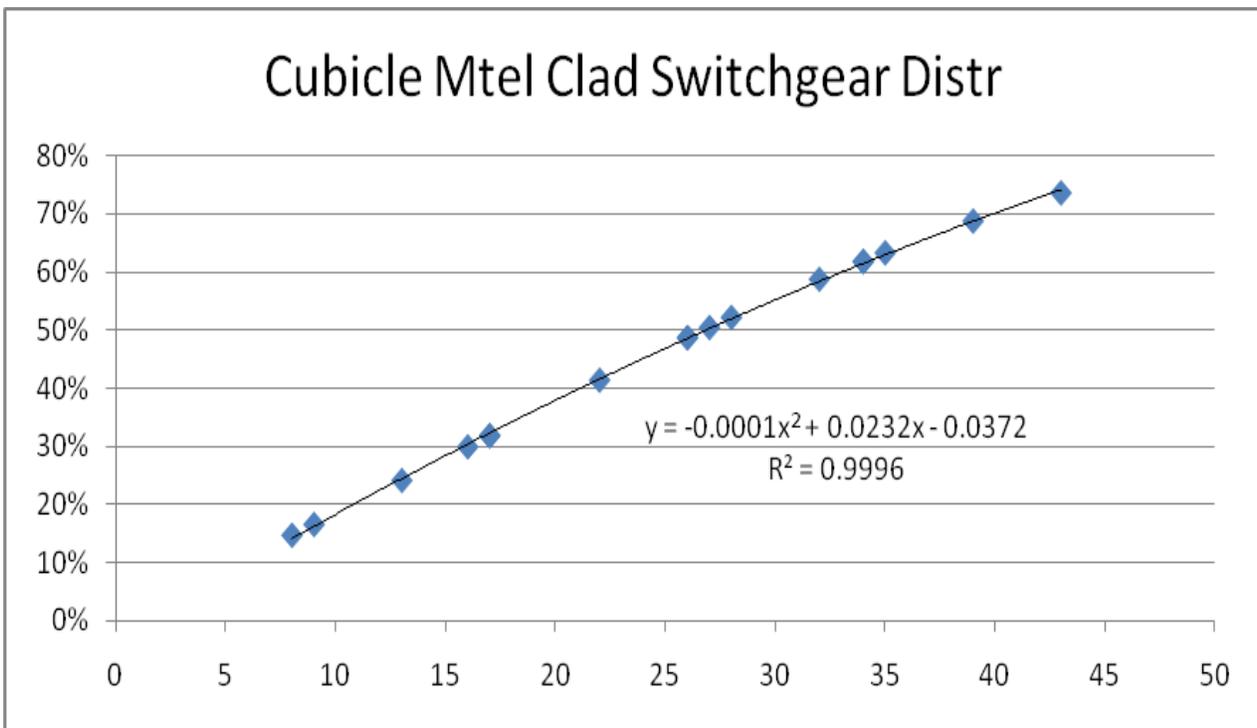
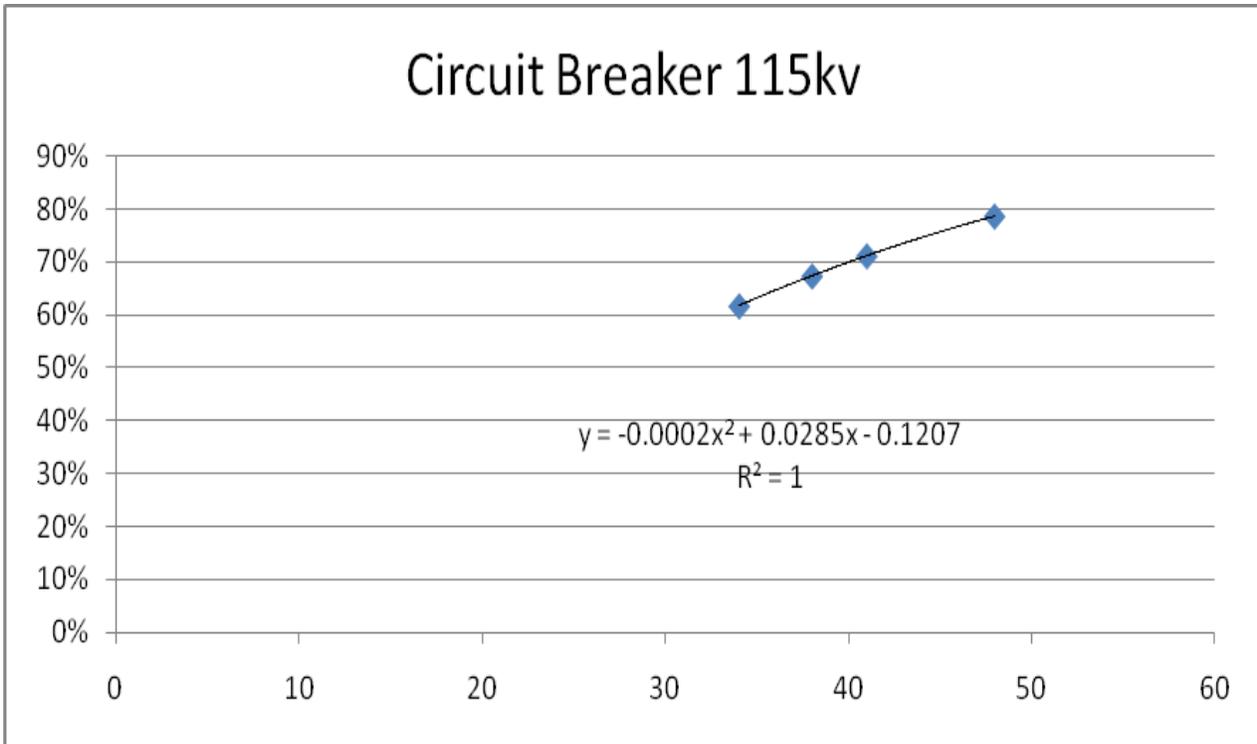


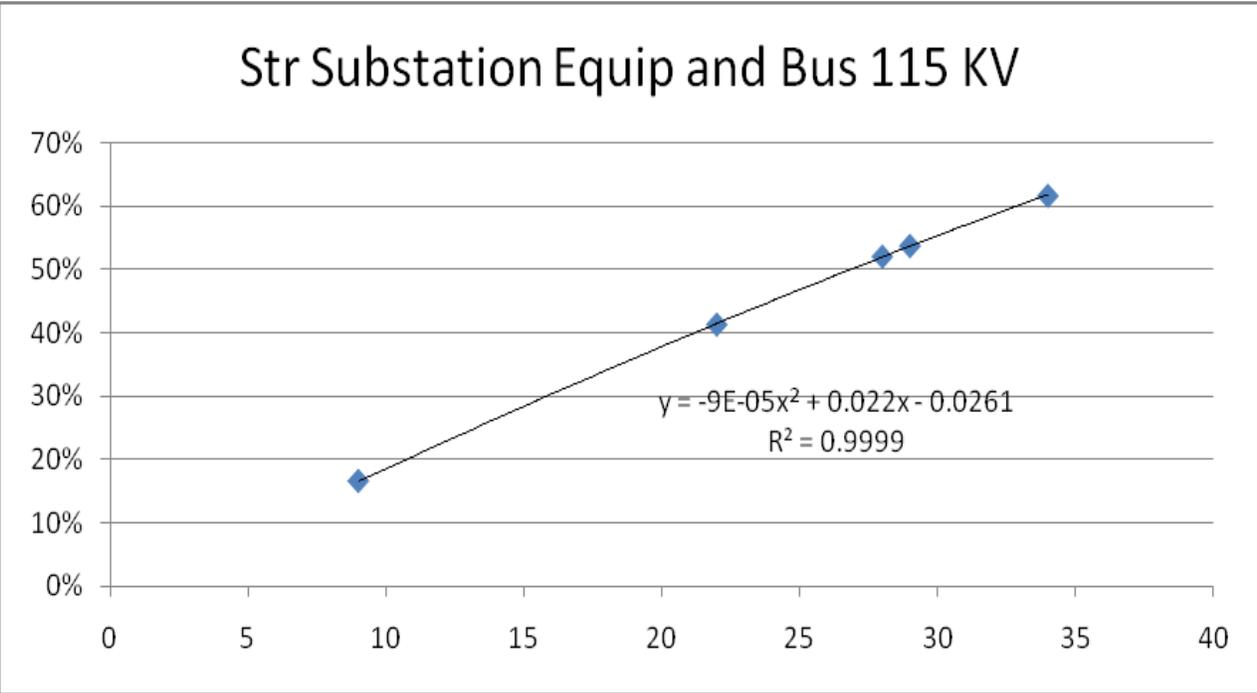
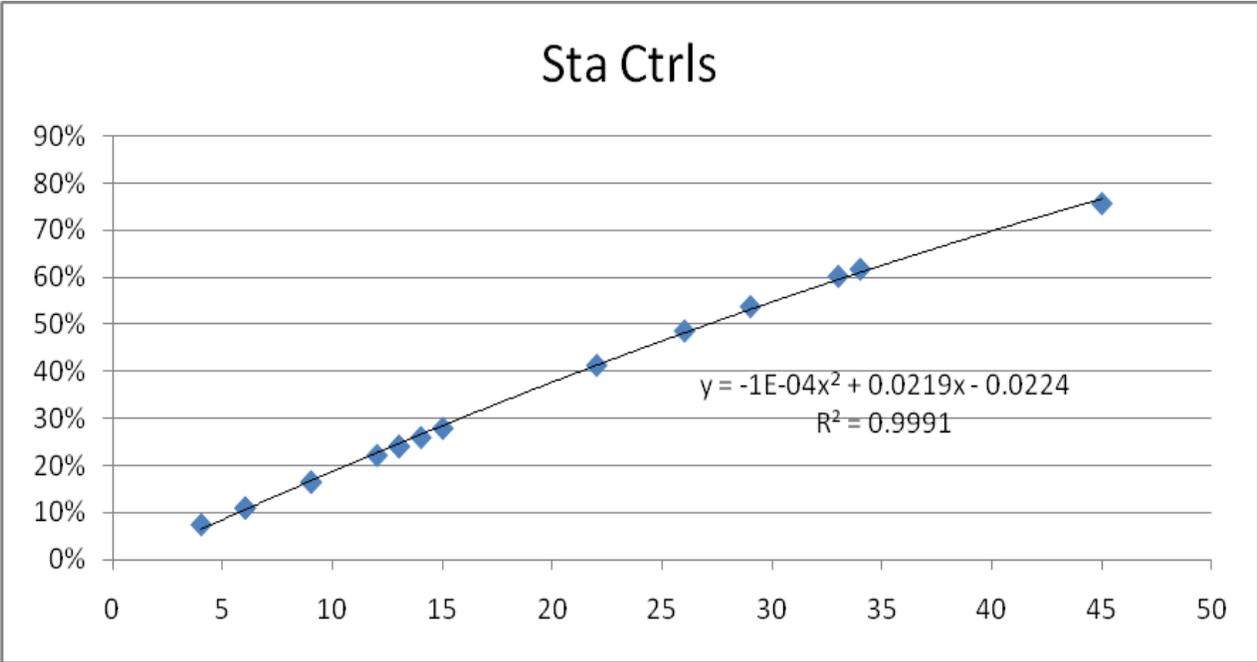
**ATTACHMENT B**

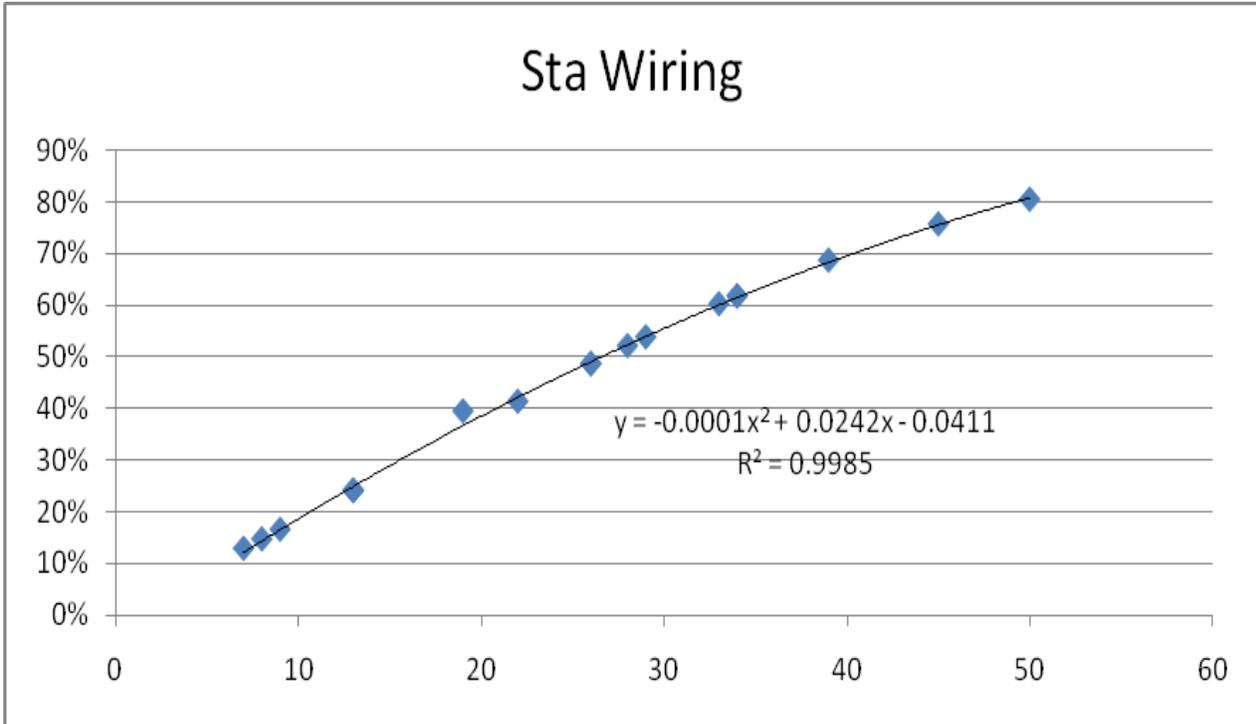
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**DEPRECIATION CURVES (PARTIAL SET)**

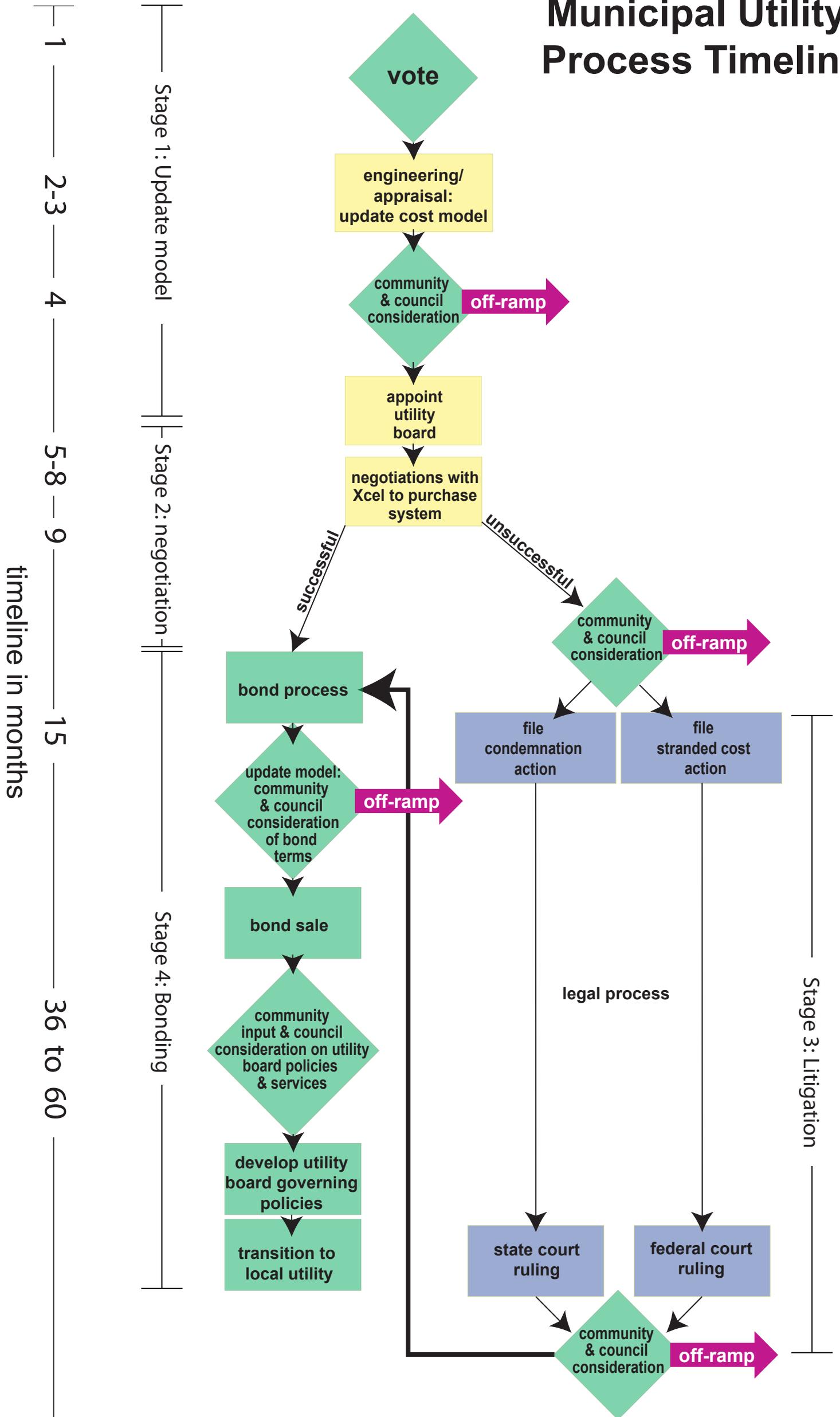








# ATTACHMENT F Municipal Utility Process Timeline



## Description of Timeline - Municipalization

If Boulder voters approve a municipalization ballot option, there could be up to four basic stages:

1. Updating the cost model;
2. Negotiation for the purchase of the Boulder distribution system;
3. Litigation to purchase the grid, if negotiations were unsuccessful; and
4. Bonding.

A failed negotiation could lead to litigation, or a successful negotiation could progress directly to bonding to purchase the distribution system. Throughout these stages, the city would continue to evaluate the financial feasibility of municipalization. Accordingly, there are specific “off-ramps” built in to the process so that, if municipalization became economically unsound, the city could decide to pursue a different option. A complete process to municipalize could take between 1 to 5 years, depending on the need for litigation.

### Stage 1: Updating the cost model (2 to 3 months)

If Boulder voters approve the municipalization ballot option, the first stage is to verify that municipalization remains financially viable. Analysis would include a complete engineering review and analysis by the city of Xcel’s distribution system. This new information would be updated in the cost model. The community and council would have an opportunity to review the results and determine if the city should continue with this process. If municipalization is not feasible based on this new information, the city could pursue a different option. If it is still feasible, then Stage 2: Negotiation begins. At this point, the city could appoint a utility board to inform the future processes.

### Stage 2: Negotiation (2 to 12 months)

The city would initiate negotiations with Xcel to establish the costs and conditions for purchasing the Boulder distribution system. Staff and legal counsel would attempt to reach a reasonable settlement. If the negotiations are successful, litigation would be avoided and the city could proceed to Stage 4: Bonding. A successful negotiation could be completed in as little as a year, if both parties were willing. If negotiations are unsuccessful, Stage 3: Litigation could be pursued. The community and council would have an opportunity to consider whether or not the city should continue with litigation.

### Stage 3: Litigation (12 to 60 months)

If negotiation is unsuccessful, approximately one year after the vote, the city could enter the litigation process to purchase the Boulder distribution grid. This process involves two separate but concurrent actions in different courts. First, the city would file an action for condemnation in state court. Second, the city would file a “stranded cost” action with the Federal Energy Regulatory Commission (FERC). The feasibility of

municipalization would be considered both as these cases unfold, and after decisions are issued by the state court and FERC. The community and council would have an opportunity to consider whether or not the city should continue with the process. If municipalization became infeasible, a different option could be pursued. This legal process could take between 2 and 5 years. Depending on the outcome of the cases, if municipalization remains feasible, the city would proceed to Stage 4: Bonding.

**Stage 4: Bonding (3 to 6 months)**

In the event of successful negotiation or litigation, the city would need to initiate bonds to fund the purchase of the Boulder distribution grid and to start the municipal utility. Within the limits set by the ballot option, the structure of the bonds, including the bond rating and resulting interest rate, would be subject to community input and council consideration. This input could lead to the bonds not being issued. However, if the bonds are structured to the community's and council's satisfaction, they would be sold and funding attributed to both purchasing the distribution grid and starting the municipal utility. The bonding process could take between 3 and 6 months. After the bond sale and before the starting of utility, the city would develop the utility governing board policies.



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## TECHNICAL MEMORANDUM

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Date: July 5, 2011

To: Yael Gichon, City of Boulder

From: Nils Tellier, Cori Pritchard

Project: City of Boulder Municipal Utility Feasibility Study

Re: Forward Electricity Market Summary

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### Introduction

A municipal electric utility can procure part or all of its energy on the wholesale market, unlike the current retail mechanism where Xcel Energy provides energy at rates approved by the Colorado Public Utility Commission (PUC). The municipal utility feasibility study requires a forecast of wholesale electricity pricing that is both conservative and accurate. This technical memorandum explains the forecasting process and compares the feasibility model results to actual pricing as it becomes available.

### Electricity Market

Electricity can be generated for self consumption or generated for sales to others. As a sale to others, electricity is a commodity, and like all other commodities, is frequently bought and re-sold a number of times before being consumed. These purchase and sale transactions are what make up the wholesale energy market. Unlike natural gas, electricity cannot be stored; therefore, its price tends to be more volatile. A prudent practice for electric utilities is to purchase energy futures in order to hedge against the risk of price volatility. Generally, energy futures end up costing more than the day-ahead market; therefore, futures are a good tool to represent day-ahead trading in the feasibility study.

Wholesale electricity is understood to be multi-state interconnection transactions and is thus regulated by the Federal Energy Regulatory Commission (FERC). Electricity is generated and consumed at nearly the same time; therefore, it is necessary to have a regulatory balancing authority to match supply and demand. Some regions have their balancing areas controlled by Independent System Operators (ISO), such as the California ISO or Southwest Power Pool (SPP) which facilitate wholesale trades of electrical energy in a dynamic and competitive environment. The wholesale market is not fully developed in Eastern Colorado, and in contrast, Xcel Energy, as the incumbent utility, runs a quasi-retail monopoly and is regulated by a PUC. They set retail rates, which are approved by the PUC, to charge end-customers.

Nevertheless wholesale power can be traded with independent power producers and market counterparties in the Western Electricity Coordinating Council (WECC) area, more specifically in the East Colorado region. The wholesale energy trade mechanisms rely on FERC's open access to transmission and North American Electric Reliability Corporation (NERC) requirements as opposed to PUC regulations for retail.

### Wholesale Market Pricing

There are several pricing forecasts and indices for wholesale energy:

- Fundamentals pricing forecasts
- Market pricing forecasts
- Trade indices
- Day-ahead market prices
- Actual closing prices

Fundamentals pricing forecasts are developed from detailed research and analysis of weather, fuel costs and storage, generation availability and performance, load growth etc. Fundamentals describe the near and long-term picture of energy supply and demand, from which the forecasts are derived. Ventyx is a leading entity in commodity fundamental pricing.

Market pricing forecasts are developed by each supplier for competitive intelligence and marketing. These price forecasts trend slightly higher than fundamentals and are used for futures purchases. Market pricing forecasts follow Palo Verde prices for WECC East Colorado. The feasibility study uses price forecasts from well-know and established wholesale market suppliers. In addition, prices used in the feasibility study include a conservative margin of \$4.00 per MWh, as a safety cushion over the wholesale price forecasts.

Market pricing forecast constitutes a crystal ball, whose accuracy declines in time. As trades are settled, the actual prices of the transactions are recorded for futures. These prices constitute an index and the InterContinental Exchange (ICE) is a leading commodity price index. ICE reports the actual futures closing prices, including those for WECC East Colorado, which information can be used to track the accuracy of the feasibility model prices into the next 12 to 14 months. In addition to Palo Verde, ICE also tracks the Four Corner pricing point.

Futures are settled at the discretion of counterparties; however, the day-ahead market is typically settled at the ICE historical price, plus or minus a margin.

### Detailed Explanation Electricity Prices used in the Cost Model

The electricity market forward pricing is by month for both on-peak and off-peak time of use hours. The market prices used in the cost model add \$4.00 to account for price uncertainty. We benchmark the forward market prices by comparing against the actual market price.

- Electricity forecasts are done by region. The region that we use is 'WECC\_E\_COL' which stands for WECC East Colorado (cell B5). The forecast in the model is as of 4/12/2011 (cell c8).
- The prices are divided into two times of use—on-peak and off-peak.

- Column B is the month of the forecast.
- Column C is the prices for on-peak, it is termed '6x16' because there are 6 peak days in the week, 16 hours a day.
- Column D is the off-peak prices, it is termed 'wrap' because it includes all non-on-peak hours and days. Sundays and Holidays do not have any on-peak hours and is therefore off-peak all hours of the day.
- Because these forward positions are not secured, a \$4.00 margin (cell D9) is added to the forward prices.
  - Column F is a repeat of the months of the forecasted price.
  - Column G is the on-peak prices in column C, plus the \$4 margin adder.
  - Column H is the off-peak prices in column D, plus the \$4 margin adder.
- Column J is the ICE indices with a description of what each one represents.
  - ICE 1 in column J is the cleared futures price as of June 1, 2011.
  - ICE 2-4 is the day-ahead price for both on- and off-peak time of use and for each Palo Verde and Four Corners.
  - Starting in column O, there is a graph showing how the margin inflated prices used in the cost model compare to the ICE futures and day-ahead market.

## Conclusion

The graph tracks the on-peak prices used in the feasibility model (blue line) and the cleared futures (red line). The market price used in the feasibility model seemed 10 percent low for the first summer month, but then tracked higher than the cleared futures for on-peak hours. Despite the difficulty in predicting energy price, it appears that the model is both accurate and conservative.

During off-peak hours, the modeled energy price tracks higher than the actual futures. This has mixed benefits because wind energy is highest during off-peak hours and any surplus wind energy would be sold back on the wholesale market at the off-peak rate, minus the \$4.00 margin.

Overall, the feasibility model seems to be successful at tracking the wholesale market prices while remaining conservative overall.

**FROM THE COST MODEL (ENERGY RATES): ELECTRICITY PRICE**

MARKET ENERGY	
<b>WECC_E_COL</b>	
Quote Date	4/12/2011
Trade Margin:	\$ 4.00
Forward Prices (\$/MWh, Nominal)	



**Pricing used for Cost Model (forecast + Trade Margin)**

Forward Month	On Peak (6x16)	Wrap (Off-Peak)
Jan-11	28.03	18.02
Feb-11	35.84	18.18
Mar-11	28.03	18.02
Apr-11	35.84	18.18
May-11	35.28	17.29
Jun-11	35.90	14.63
Jul-11	42.82	21.93
Aug-11	42.75	27.23
Sep-11	39.90	27.25
Oct-11	39.10	28.53
Nov-11	38.35	28.96
Dec-11	38.40	31.09
Jan-12	38.36	31.17
Feb-12	39.25	32.38
Mar-12	39.41	27.26
Apr-12	36.20	26.20
May-12	37.75	21.32
Jun-12	43.90	24.50
Jul-12	54.17	33.75
Aug-12	50.80	34.05
Sep-12	44.46	31.99
Oct-12	42.67	32.96
Nov-12	42.65	33.46
Dec-12	44.31	35.93
Jan-13	42.51	34.68
Feb-13	43.50	36.02
Mar-13	43.67	30.33
Apr-13	38.91	27.52
May-13	40.57	22.39
Jun-13	47.19	25.73
Jul-13	60.44	35.73
Aug-13	56.68	36.05
Sep-13	49.61	33.87
Oct-13	46.70	35.27
Nov-13	46.67	35.80
Dec-13	48.49	38.44
Jan-14	46.10	38.11
Feb-14	47.18	39.59
Mar-14	47.36	33.32
Apr-14	41.81	29.49
May-14	43.59	23.99
Jun-14	50.70	27.57
Jul-14	66.51	38.57
Aug-14	62.38	38.92
Sep-14	54.60	36.56
Oct-14	50.67	37.79
Nov-14	50.64	38.37
Dec-14	52.62	41.19
Jan-15	49.77	40.98
Feb-15	50.93	42.57
Mar-15	51.13	35.83
Apr-15	44.64	31.80
May-15	46.54	25.87
Jun-15	54.13	29.74
Jul-15	70.66	41.66
Aug-15	66.27	42.03

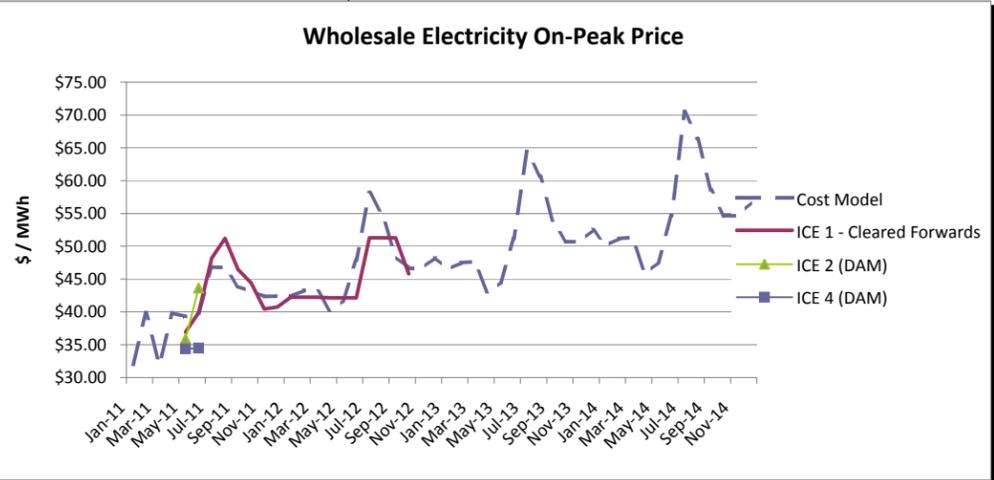
**ACTUAL MARKET PRICES (FUTURES, DAY-AHEAD SAMPLES)**

The VENTYX fundamental price forecast for WECC East Colorado follows Palo Verde price point. The table below charts the actual electricity prices, from the InterContinental Exchange (ICE). Day-Ahead Market (DAM) pricing at Four-Corners price point is included.

Intercontinental Exchange (ICE) legend:  
 ICE 1: West ICE Cleared Forwards, Palo Verde price point, On-Peak (as of June 1, 2011)  
 ICE 2: West Day Ahead Indices, Four Corners, On-peak (May 16 and June 13 2011 samples)  
 ICE 3: West Day Ahead Indices, Four Corners, Off-peak (May 16 and June 13 2011 samples)  
 ICE 4: West Day Ahead Indices, Palo Verde, On-peak (May 16 and June 13 2011 samples)  
 ICE 5: West Day Ahead Indices, Palo Verde, Off-peak (May 16 and June 13 2011 samples)

**ICE Index Actual cost tracking**

Forward Month	On Peak (6x16)	Wrap (Off-Peak)	ICE 1	ICE 2	ICE 3	ICE 4	ICE 5
Jan-11	\$ 32.03	\$ 22.02					
Feb-11	\$ 39.84	\$ 22.18					
Mar-11	\$ 32.03	\$ 22.02					
Apr-11	\$ 39.84	\$ 22.18					
May-11	\$ 39.28	\$ 21.29	\$ 36.94	35.89	13	34.37	18.56
Jun-11	\$ 39.90	\$ 18.63	\$ 39.90	43.63	10.5	34.5	17.95
Jul-11	\$ 46.82	\$ 25.93	\$ 48.20				
Aug-11	\$ 46.75	\$ 31.23	\$ 51.20				
Sep-11	\$ 43.90	\$ 31.25	\$ 46.45				
Oct-11	\$ 43.10	\$ 32.53	\$ 44.40				
Nov-11	\$ 42.35	\$ 32.96	\$ 40.45				
Dec-11	\$ 42.40	\$ 35.09	\$ 40.75				
Jan-12	\$ 42.36	\$ 35.17	\$ 42.25				
Feb-12	\$ 43.25	\$ 36.38	\$ 42.25				
Mar-12	\$ 43.41	\$ 31.26	\$ 42.25				
Apr-12	\$ 40.20	\$ 30.20	\$ 42.14				
May-12	\$ 41.75	\$ 25.32	\$ 42.14				
Jun-12	\$ 47.90	\$ 28.50	\$ 42.14				
Jul-12	\$ 58.17	\$ 37.75	\$ 51.28				
Aug-12	\$ 54.80	\$ 38.05	\$ 51.28				
Sep-12	\$ 48.46	\$ 35.99	\$ 51.28				
Oct-12	\$ 46.67	\$ 36.96	\$ 45.79				
Nov-12	\$ 46.65	\$ 37.46					
Dec-12	\$ 48.31	\$ 39.93					
Jan-13	\$ 46.51	\$ 38.68					
Feb-13	\$ 47.50	\$ 40.02					
Mar-13	\$ 47.67	\$ 34.33					
Apr-13	\$ 42.91	\$ 31.52					
May-13	\$ 44.57	\$ 26.39					
Jun-13	\$ 51.19	\$ 29.73					
Jul-13	\$ 64.44	\$ 39.73					
Aug-13	\$ 60.68	\$ 40.05					
Sep-13	\$ 53.61	\$ 37.87					
Oct-13	\$ 50.70	\$ 39.27					
Nov-13	\$ 50.67	\$ 39.80					
Dec-13	\$ 52.49	\$ 42.44					
Jan-14	\$ 50.10	\$ 42.11					
Feb-14	\$ 51.18	\$ 43.59					
Mar-14	\$ 51.36	\$ 37.32					
Apr-14	\$ 45.81	\$ 33.49					
May-14	\$ 47.59	\$ 27.99					
Jun-14	\$ 54.70	\$ 31.57					
Jul-14	\$ 70.51	\$ 42.57					
Aug-14	\$ 66.38	\$ 42.92					
Sep-14	\$ 58.60	\$ 40.56					
Oct-14	\$ 54.67	\$ 41.79					
Nov-14	\$ 54.64	\$ 42.37					
Dec-14	\$ 56.62	\$ 45.19					



Forward Month	On Peak (6x16)	Wrap (Off-Peak)	Forward Month	On Peak (6x16)	Wrap (Off-Peak)	ICE 1	ICE 2	ICE 3	ICE 4	ICE 5
Sep-15	58.00	39.49								
Oct-15	54.24	40.27								
Nov-15	54.21	40.89								
Dec-15	56.32	43.89								
Jan-16	53.26	39.90								
Feb-16	54.50	41.45								
Mar-16	54.71	34.89								
Apr-16	47.33	37.88								
May-16	49.34	30.82								
Jun-16	57.39	35.42								
Jul-16	74.70	44.25								
Aug-16	70.06	44.65								
Sep-16	61.32	41.95								
Oct-16	57.89	43.37								
Nov-16	57.86	44.03								
Dec-16	60.11	47.27								
Jan-17	56.21	42.01								
Feb-17	57.52	43.64								
Mar-17	57.75	36.74								
Apr-17	49.71	39.89								
May-17	51.83	32.45								
Jun-17	60.29	37.30								
Jul-17	79.24	46.59								
Aug-17	74.31	47.01								
Sep-17	65.04	44.16								
Oct-17	61.49	45.66								
Nov-17	61.45	46.36								
Dec-17	63.85	49.77								
Jan-18	56.57	44.20								
Feb-18	57.89	45.92								
Mar-18	58.11	38.65								
Apr-18	57.74	41.97								
May-18	60.20	34.14								
Jun-18	70.02	39.24								
Jul-18	86.47	49.03								
Aug-18	81.10	49.46								
Sep-18	70.98	46.47								
Oct-18	66.25	48.05								
Nov-18	66.21	48.77								
Dec-18	68.79	52.36								
Jan-19	58.73	47.38								
Feb-19	60.10	49.22								
Mar-19	60.33	41.43								
Apr-19	59.94	44.99								
May-19	62.50	36.60								
Jun-19	72.69	42.07								
Jul-19	89.77	52.55								
Aug-19	84.19	53.02								
Sep-19	73.69	49.81								
Oct-19	68.77	51.50								
Nov-19	68.73	52.29								
Dec-19	71.41	56.13								
Jan-20	61.54	48.94								
Feb-20	62.98	50.90								
Mar-20	63.22	43.61								
Apr-20	62.82	46.84								
May-20	65.50	40.63								
Jun-20	76.18	45.54								
Jul-20	94.08	55.35								
Aug-20	88.23	55.40								
Sep-20	77.23	52.40								
Oct-20	72.07	52.48								
Nov-20	72.03	54.22								
Dec-20	74.84	55.68								
Jan-21	64.31	50.74								
Feb-21	66.73	52.19								
Mar-21	67.35	47.64								
Apr-21	63.80	48.91								
May-21	72.40	47.91								

Forward Month	On Peak (6x16)	Wrap (Off-Peak)	Forward Month	On Peak (6x16)	Wrap (Off-Peak)	ICE 1	ICE 2	ICE 3	ICE 4	ICE 5
Jun-21	83.39	50.24								
Jul-21	101.61	57.74								
Aug-21	98.76	56.77								
Sep-21	79.89	54.16								
Oct-21	80.39	52.48								
Nov-21	81.50	55.78								
Dec-21	83.26	54.19								
Jan-22	75.43	50.04								
Feb-22	78.26	50.77								
Mar-22	75.72	48.08								
Apr-22	59.64	47.53								
May-22	83.19	50.29								
Jun-22	92.70	50.55								
Jul-22	109.20	57.16								
Aug-22	110.55	55.48								
Sep-22	77.33	53.38								
Oct-22	86.64	50.80								
Nov-22	88.13	53.35								
Dec-22	88.27	52.52								
Jan-23	84.97	50.48								
Feb-23	87.02	51.24								
Mar-23	82.23	48.91								
Apr-23	57.43	49.07								
May-23	94.20	51.43								
Jun-23	100.67	52.10								
Jul-23	115.68	58.51								
Aug-23	118.38	56.31								
Sep-23	77.45	54.40								
Oct-23	91.27	52.39								
Nov-23	93.98	55.91								
Dec-23	91.66	54.55								
Jan-24	87.59	51.72								
Feb-24	90.99	52.81								
Mar-24	84.18	49.99								
Apr-24	58.37	49.62								
May-24	92.17	51.46								
Jun-24	97.51	51.39								
Jul-24	120.88	58.96								
Aug-24	122.05	57.64								
Sep-24	91.27	57.08								
Oct-24	95.01	52.94								
Nov-24	92.05	55.41								
Dec-24	94.72	55.57								
Jan-25	90.87	53.36								
Feb-25	94.07	54.55								
Mar-25	84.07	49.77								
Apr-25	57.36	48.37								
May-25	89.83	50.36								
Jun-25	97.59	50.70								
Jul-25	121.00	57.63								
Aug-25	121.32	57.26								
Sep-25	89.72	55.19								
Oct-25	93.14	52.65								
Nov-25	91.99	55.56								
Dec-25	93.69	53.89								
Jan-26	98.80	58.16								
Feb-26	101.64	59.12								
Mar-26	85.95	51.07								
Apr-26	58.60	48.99								
May-26	92.70	52.02								
Jun-26	99.65	52.87								
Jul-26	122.72	58.98								
Aug-26	121.20	58.16								
Sep-26	88.01	56.23								
Oct-26	91.54	52.60								
Nov-26	90.69	55.68								
Dec-26	90.99	53.39								
Jan-27	92.98	53.35								
Feb-27	96.40	54.29								

Forward Month	On Peak (6x16)	Wrap (Off-Peak)	Forward Month	On Peak (6x16)	Wrap (Off-Peak)	ICE 1	ICE 2	ICE 3	ICE 4	ICE 5
Mar-27	87.78	50.34								
Apr-27	60.84	50.93								
May-27	94.49	53.37								
Jun-27	103.52	53.79								
Jul-27	129.25	61.11								
Aug-27	129.65	59.82								
Sep-27	89.17	57.43								
Oct-27	98.40	55.19								
Nov-27	101.49	60.70								
Dec-27	101.20	58.38								
Jan-28	97.60	56.94								
Feb-28	99.14	57.20								
Mar-28	91.65	53.06								
Apr-28	63.50	53.20								
May-28	100.12	55.37								
Jun-28	108.60	56.07								
Jul-28	132.03	64.87								
Aug-28	132.59	62.91								
Sep-28	86.43	59.97								
Oct-28	101.36	58.14								
Nov-28	102.63	61.51								
Dec-28	101.96	59.85								
Jan-29	98.52	57.05								
Feb-29	102.82	59.32								
Mar-29	94.67	54.49								
Apr-29	65.54	54.30								
May-29	100.97	56.56								
Jun-29	105.91	55.35								
Jul-29	135.66	66.31								
Aug-29	139.47	64.47								
Sep-29	102.86	64.16								
Oct-29	106.65	59.14								
Nov-29	102.47	62.43								
Dec-29	105.88	62.19								
Jan-30	100.93	58.20								
Feb-30	103.82	59.64								
Mar-30	95.23	54.88								
Apr-30	65.31	53.95								
May-30	101.14	55.91								
Jun-30	107.82	56.05								
Jul-30	137.19	65.82								
Aug-30	138.21	64.24								
Sep-30	102.92	64.21								
Oct-30	108.03	59.41								
Nov-30	104.48	63.37								
Dec-30	109.23	63.03								
Jan-31	101.74	58.69								
Feb-31	104.58	60.15								
Mar-31	95.78	55.75								
Apr-31	66.81	54.77								
May-31	102.65	57.04								
Jun-31	110.27	57.38								
Jul-31	139.12	66.84								
Aug-31	139.07	66.32								
Sep-31	104.50	63.83								
Oct-31	107.65	60.91								
Nov-31	105.80	65.64								
Dec-31	109.40	63.43								
Jan-32	103.59	60.39								
Feb-32	106.78	61.78								
Mar-32	97.17	56.06								
Apr-32	67.42	54.81								
May-32	104.18	58.58								
Jun-32	113.55	59.02								
Jul-32	136.64	67.87								
Aug-32	138.24	66.63								
Sep-32	96.42	63.52								
Oct-32	106.82	61.93								
Nov-32	107.82	65.94								

Forward Month	On Peak (6x16)	Wrap (Off-Peak)	Forward Month	On Peak (6x16)	Wrap (Off-Peak)	ICE 1	ICE 2	ICE 3	ICE 4	ICE 5
Dec-32	109.17	64.36								
Jan-33	106.88	62.31								
Feb-33	110.17	63.75								
Mar-33	100.26	57.84								
Apr-33	69.57	56.55								
May-33	107.49	60.44								
Jun-33	117.16	60.89								
Jul-33	140.99	70.03								
Aug-33	142.64	68.75								
Sep-33	99.50	65.54								
Oct-33	110.22	63.90								
Nov-33	111.25	68.04								
Dec-33	112.64	66.41								
Jan-34	110.29	64.30								
Feb-34	113.68	65.78								
Mar-34	103.46	59.69								
Apr-34	71.79	58.36								
May-34	110.92	62.37								
Jun-34	120.90	62.84								
Jul-34	145.49	72.27								
Aug-34	147.20	70.95								
Sep-34	102.67	67.64								
Oct-34	113.75	65.94								
Nov-34	114.81	70.22								
Dec-34	116.25	68.53								
Jan-35	113.82	66.35								
Feb-35	117.32	67.88								
Mar-35	106.77	61.60								
Apr-35	74.08	60.23								
May-35	114.47	64.37								
Jun-35	124.77	64.85								
Jul-35	150.15	74.58								
Aug-35	151.91	73.22								
Sep-35	105.96	69.81								
Oct-35	117.39	68.06								
Nov-35	118.49	72.47								
Dec-35	119.97	70.73								
Jan-36	117.47	68.48								
Feb-36	121.08	70.06								
Mar-36	110.20	63.57								
Apr-36	76.46	62.16								
May-36	118.15	66.44								
Jun-36	128.78	66.93								
Jul-36	154.98	76.98								
Aug-36	156.80	75.58								
Sep-36	109.37	72.05								
Oct-36	121.17	70.25								
Nov-36	122.31	74.81								
Dec-36	123.84	73.01								
Jan-37	121.26	70.69								
Feb-37	124.99	72.32								
Mar-37	113.76	65.63								
Apr-37	78.93	64.17								
May-37	121.97	68.58								
Jun-37	132.95	69.10								
Jul-37	159.99	79.47								
Aug-37	161.87	78.02								
Sep-37	112.91	74.38								
Oct-37	125.09	72.52								
Nov-37	126.27	77.23								
Dec-37	127.85	75.37								
Jan-38	125.19	72.98								
Feb-38	129.04	74.67								
Mar-38	117.44	67.75								
Apr-38	81.49	66.25								
May-38	125.92	70.81								
Jun-38	137.26	71.34								
Jul-38	165.18	82.05								
Aug-38	167.13	80.55								

Forward Month	On Peak (6x16)	Wrap (Off-Peak)	Forward Month	On Peak (6x16)	Wrap (Off-Peak)	ICE 1	ICE 2	ICE 3	ICE 4	ICE 5
Sep-38	116.58	76.80								
Oct-38	129.16	74.88								
Nov-38	130.37	79.73								
Dec-38	132.00	77.82								
Jan-39	129.25	75.35								
Feb-39	133.23	77.09								
Mar-39	121.26	69.96								
Apr-39	84.14	68.40								
May-39	130.02	73.11								
Jun-39	141.73	73.66								
Jul-39	170.56	84.72								
Aug-39	172.57	83.17								
Sep-39	120.38	79.30								
Oct-39	133.36	77.32								
Nov-39	134.62	82.33								
Dec-39	136.31	80.36								
Jan-40	133.47	77.81								
Feb-40	137.58	79.61								
Mar-40	125.22	72.24								
Apr-40	86.89	70.64								
May-40	134.26	75.50								
Jun-40	146.35	76.06								
Jul-40	176.13	87.49								
Aug-40	178.21	85.89								
Sep-40	124.31	81.89								
Oct-40	137.72	79.85								
Nov-40	139.02	85.03								
Dec-40	140.77	82.99								

**Responses to City Council Questions from the June 14 Study Session**

**A. FEASIBILITY OF FORMING A LOCAL UTILITY**

**1) What is the cause for discrepancies raised on the asset inventory and valuation inventory?**

Following the June 14<sup>th</sup> study session further analysis was completed based on the 2005 inventory data the city received from Xcel as part of a discovery request. A discussion of the inventory and valuation of assets is on p. 7 of the memo and the revised report and a summary of updates is **Attachment E**. The differences between RW Beck and the new report are due to different source data used in the analyses which resulted in different FERC account classifications. The revised report has reallocated assets to be consistent and ensure that all assets are accounted for. As mentioned in the memo, the resulting totals do not change and the results have been cross-checked with other data points to lead to the conclusion that the results are reliable for this phase of the feasibility study.

**2) What would it take to cover additional capital costs in the cost model and what is the process for determining future capital investment?**

The cost model includes a budget for capital expansions of \$1.5 million per year. Decisions on capital investments would be made through a local utility governing board.

**3) Can an additional cost model be prepared to demonstrate an exact rate match with Xcel and how the savings may be invested?**

Yes, an exact rate match with Xcel can be modeled and a discussion of this is included on p. 9 of the memo. These examples are not a complete resource planning process which would be completed at a later phase. Additional strategies are presented in the localization report.

**4) Why are there differences in line items between the RW Beck report and the new report (page 105 of Attachment G)?**

See response to question 2.

**5) What is/is not in the cost model in regard to property taxes, public purpose fund and replacement of demand-side management?**

The cost model includes a public purpose fund (5% of revenues) which is intended to replace funding currently available through Xcel's demand-side management rebates. Property tax replacement funding (\$1.6 million) is not included in the cost model's Payment in Lieu of Taxes (PILOT). The decision to collect this funding through a local utility and allocate it for similar purposes would be a policy decision by a local utility board. The current model has enough room to cover this additional collection of funds should a utility board decide to do so.

**6) Who authored the Baseline Analysis Report?**

Consultant Company names were provided on the cover page of the report. Citation of sources has been provided throughout the final report, but specific author names were not included in the final report. A list of the project team and their associated bios was included in the original response to the City's project bid. Per council's suggestion, the specific authors and citations are being included in the next version of the final report.

**7) What are the pros and cons of a Planning Board model or independent board?**

Determining the governance structure is a matter of values. On the one hand, the City Council – city manager form of government is very familiar and accountable to the voters. It also has the perspective of looking at the policies of a utility system in the context of a whole host of municipal services and values. In this model, the city would have a group of people appointed to the board for terms longer than the longest city council term. The group would advise the council from a less political place, the board members do not stand for election.

The council, on the other hand is responsible for making all of the hard decision. Council members are elected and often stand for reelection. Elected officials often have a sense of accountability to the voters that is unique and different from that of an appointive official. Also, given the breadth of issues that a council member has to deal with on a day-to-day basis, they have a more general perspective and often have the benefit of balancing the need of one area or service with another. Council members address issues from the perspective of a generalist. They also have the benefit of advice from a board that has an opportunity to develop an expertise.

On the other hand, an independent utility is more removed from the political pressures of the elected body. Its board members often have longer terms than the elected official, adding stability for the board. Also, an independent utility board, since it focuses on a single topic, has the opportunity to specialize and gain specific knowledge on the operation of an electric utility.

**8) How are the Longmont and Fort Collins utilities governed?**

Under the Longmont City Charter, the city council is responsible for governing the electric utility. There does not appear to be an official advisory board that advises the Longmont City Council on electric utility matters. The electric utility is a department within and is operated as an enterprise under the Taxpayer Bill of Rights. As an enterprise, the costs of the services provided are paid for by the utility service customers.

Under the Fort Collins City Charter, the city council is responsible for governing the electric utility. Fort Collins has an Electric Board. It is a seven member board that that advises the city manager and city council on matters pertaining to the municipal utility; a hearing body for customer complaints and perform such functions that may be set by the city council. The electric utility is a department within and is operated as an enterprise under the Taxpayer Bill of Rights. As an enterprise, the costs of the services provided are paid for by the utility service customers.

**9) What is the process to determine stranded costs?**

The Federal Energy Regulatory Commission (“FERC”) also has the authority to award stranded cost recovery, which flows from its so-called “open access transmission” orders. In those orders, FERC stated, among other things, that customers were entitled to receive nondiscriminatory access to any transmission system owned by a FERC-jurisdictional utility (or “Transmission Provider”). Where a customer such as Boulder decides to meet its electrical needs by purchasing power from parties other than its local utility (i.e., PSCo), PSCo would be required to offer services over its transmission system on the same terms as it itself uses to satisfy its demand (or “load”). However, in exchange, PSCo may recover such costs as it incurred to serve Boulder and that it will not recover once the Boulder municipal utility no longer is PSCo’s retail customer. In short, since 1996, FERC has allowed the incumbent utility to recover from the departing retail customer (rather than from its remaining customers) the reasonable costs it incurred to serve that customer where such costs became “stranded” by that customer’s departure.

To be awarded stranded cost recovery, PSCo would have to prove that any alleged stranded costs were incurred with the reasonable expectation that it would continue to serve the City of Boulder’s load. If so, PSCo then would have to prove the amount of stranded costs incurred, pursuant to a formula developed and to be applied by FERC. Among other things, that formula encourages PSCo to mitigate those costs to the extent feasible, and provides the means by which Boulder may mitigate such costs if PSCo fails to do so.

Moreover, even before deciding whether to municipalize (and, in fact, as one factor in determining whether it indeed makes economic sense to do so), the City has the right to request from PSCo an estimate of the legitimate stranded costs that it would owe should it no longer wish to be served by PSCo. The City has started this process. If the City and PSCo are unable to agree on such amounts, the dispute may be resolved in a variety of ways, including via an administrative trial, a settlement process or a determination by FERC (with a right of appeal to federal court).

**10) What are the city’s current costs associated with the Public Utilities Commission (PUC) regulatory process?**

The City Attorney’s Office devotes approximately .25 FTE on PUC matters.

**11) How do streetlights figure into this option?**

The city would presumably purchase the streetlights and associated electric facilities as part of the process to acquire the Xcel distribution system.

**12) What data has been requested from Xcel but not yet received?**

The Baseline Energy Analysis identifies which data were directly from Xcel, and which required the consultant to utilize other information resources. On May 31, 2011 the city receive Boulder specific load data from Xcel. At time of printing, the city had not yet received the 2010 Annual

Report that identifies Boulder specific information such as total sales in kWh, number of customers by sector and classification, and revenues from electricity and natural gas sales.

Xcel did provide Boulder's 2011 Annual Report at the end of June. The Baseline consultant team is currently refining the chapters on load data for a revised final report.

**13) What does the process timeline for forming a local utility?**

See **Attachment F**.

**B. XCEL PROPOSAL**

**1) What are the possible financing mechanisms?**

We are looking at creating a local energy utility, which would have the ability to impose a rate surcharge on Xcel Energy's electric bills to pay the city's cost associated with the wind farm. The local energy utility would issue debt to pay the projected costs. If gas prices rise as projected, the local energy utility would generate revenue in the future that could be used to reduce electrical rates through rebates on the bill. The revenue could also be used to support alternative energy programs and demand side management.

**2) Alternative analysis**

**i) Could Boulder invest in a wind farm without Xcel?**

Yes. It is unlikely, however, that Boulder could do so in time to take advantage of prices similar to those in the current proposal. Federal production and investment tax credits are scheduled to expire on December 31, 2012. To earn these tax credits, a developer must be producing energy by that date. It would be very difficult to meet that date unless construction begins by the end of 2011. This would be hard for the city to do without the current structure supplied by Xcel Energy. Staff will be preparing a request for indicative pricing that should provide some guidance by the end of July.

**ii) How do we compare this to:**

**(a) Municipalization**

The municipalization proposal currently being considered is to begin the process of acquiring Xcel Energy's distribution assets in Boulder. The proposal assumes an energy mix similar to that currently supplied by Xcel Energy without the benefit of the wind farm. The municipal utility will begin operations three to five years after the election. At that time it would have the ability to consider proposals similar to the current proposal. The Xcel Energy wind proposal has the potential to make Boulder greener quicker. Municipalization has the potential for longer term benefits.

**(b) The status quo**

The status quo ties Boulder's renewables and rates to Xcel Energy. Xcel Energy has 20% renewables on its system and projects to reach 30% by 2020. Xcel Energy also projects rate increases to reflect the price of natural gas, which will become a bigger part of its fuel mix as Xcel Energy retires coal plants. The proposal would give Boulder credit for 70% green energy in the first year and 90% by 2020. If gas prices rise as projected, the proposal could provide for greater rate stability in Boulder.

**iii) Would a Muni have to buy power with 20 year contracts?**

There are certainly shorter term options for purchase of electricity. The current 20 year contract proposal is driven by the fact that NextEra Energy Resources is building a wind facility to create new renewable energy that would otherwise not be on Xcel Energy's system. It is unlikely that any developer could spend the money to build a large scale facility without a long term guarantee that someone is going to purchase the energy produced.

**iv) Are there shorter term alternatives available?**

There is a spot market for energy and a market for Renewable Energy Credits. Neither would create new renewable energy.

**v) Are there things that we could do as a Muni that we could not do as part of Xcel?**

Municipal utilities are not regulated by the Colorado Public Utility Commission. We expect the PUC's primary concern to be that nothing that Xcel Energy does in one city disadvantages ratepayers in the rest of its service area within the state. This makes it very difficult for Xcel Energy to be flexible and look at opportunities for new technologies or pilot projects in one area. A municipal utility would have far more flexibility to design local programs and pursue new opportunities, but would also have to pay the full cost of those programs and opportunities locally.

**vi) Are there things that we could do as part of Xcel that we could not do as a Muni?**

Xcel Energy is a large company with a long history. As such it has market purchasing power that would not be available to a municipal utility. Moreover, Boulder has often been able to take advantage of pilot projects offered by Xcel Energy that are offered statewide.

**vii) What does the Business Plan look like?**

We are still in the process of negotiating the proposal. The current plan is to create a local energy utility that would manage the contract. The local energy utility would impose rates or issue rebates depending on Xcel Energy's avoided cost, which will be driven principally by the price of natural gas.

**viii) Can we create a comparative cost model like the one we have for municipalization?**

Yes. The comparative cost model is largely dependent on the projected price of natural gas. We will have projections of how this contract performs based on the anticipated price of natural gas as well as a moderate optimistic projection and a moderate pessimistic case.

**3) How do we get an independent analysis of the proposal?**

We have retained three independent consultants to evaluate the proposal. They have been and will continue to be actively involved in the negotiations. They are Michael Hubbard, Kirk Gibson and Erik Blank.

**4) How do we make this process transparent?**

Even though no final deal has been negotiated, we are presenting the proposal to the public on June 28, 2011 and will receive public input. Negotiations will continue. A detailed letter of intent should be finalized in early July. This proposal will be presented to the City Council at its July 19 meeting. The public will have the opportunity for input at that meeting and at the August 2 and August 16 council meetings. While a contract sounds binding, any contracts negotiated as part of this option will be contingent upon both City Council and voter decisions. If these contracts are not approved as part of the ballot and election processes, there will be no agreement.

**5) Can we hedge the downside risk?**

**i) Could the city use bond proceeds to short natural gas futures?**

We explored this option. While there are financial instruments that allow for protection against lower prices in any commodity, purchasing such financial instruments involve risks such as collateral calls that are not appropriate for a municipality to take.

**ii) Can we limit the exposure for avoided, curtailment and integration costs?**

**(a) Can we cap them?**

We are currently attempting to negotiate a structure to limit the city's exposure. It will not be possible for the city to agree to any contract that provides for

unlimited liability. This would have a negative effect on the city's ability to issue bonds for other purposes. We have not reached yet agreement on the appropriate cap structure.

**(b) Is there a fixed number that we can agree to?**

This is one possibility that we are exploring. The challenge is that any deal will need to be approved by the PUC. The PUC is unlikely to look favorably on any arrangement that shifts potential liability onto ratepayers outside of Boulder. We are exploring how to limit Boulder's liability, provide security acceptable to the wind developer, present a proposal that would be acceptable to the PUC, and manage the rate impact for Boulder residents and businesses.

**6) Franchise termination**

**i) Failure of PUC approval**

The current proposal would allow the city to terminate the franchise if the PUC does not approve the wind contract.

**ii) Failure of wind farm to be built**

The current proposal would allow the city to terminate the franchise if the wind farm is not constructed.

**7) The premium**

Xcel Energy originally proposed a premium of \$ 2 per megawatt hour to demonstrate to the PUC that the proposal would not harm non-Boulder ratepayers. Xcel Energy has shown a willingness to be flexible with respect to the premium. The final deal will depend on how the city's exposure to gas prices is capped.

**8) Enforcement provisions**

**i) What if there is a breach?**

The contract provides for \$12 million for security against a breach.

**ii) How do we share the risk?**

A cap would share the risk. We are also looking at reducing the risk by reducing the size of the facility. NextEra Energy Resources has agreed to provide the same energy price for wind facilities scaled to produce either 100 megawatts or 150 megawatts.

**iii) Can we force Xcel to sell the distribution system at a stated price if the PUC doesn't approve this deal?**

Xcel has not agreed to consider such a proposal.

**9) How do we avoid placing all of our eggs in one basket?**

**i) Can Boulder diversify to retain flexibility to achieve local energy goals?**

The current concept is to create a local energy utility. This entity could promote other means to achieve local energy goals. This could include financing local alternative energy programs and demand side management which would allow some flexibility in addressing local energy goals. In addition, a reduction in the size of the wind commitment could help the local energy utility to diversify.

**ii) Can we assign the benefits of the contract to other municipalities to allow Boulder to diversify?**

NextEra Energy Resources will require certain guarantees to facilitate their financing and board approval. It would be very difficult for the city to assign these responsibilities. The city could, however, sell the renewable energy credits to other municipalities and achieve the same result.

**iii) For example, if the city was able to develop enough solar to represent 25% of the city's load, could we somehow sell the benefits of 15% of the contract, so that we are not over 100% of renewables.**

This could be achieved through the sale of renewable energy credits. Also, as mentioned above, we are working on the possibility of investing in a smaller facility.

**iv) Can we get other local benefits, such as plug in hybrid charging stations?**

This would be something that the local energy utility could consider funding through rates or refunds under the contract.

**v) Is there a structure to allow the city to attain these goals?**

The local energy utility could provide the structure to achieve the city's goals.

**10) What is the formula for calculating the renewable percentage that Boulder would be able to take credit for?**

The formula takes the sum of the expected wind energy to be produced and Xcel Energy's other expected renewal energy and divides it by Boulder's estimated annual electrical load.

**i) Where does the formula come from?**

It is a simple mathematical formula.

**ii) Is it recognized in the industry?**

Yes. The industry recognizes the percentage of renewable energy that is consumed by any entity based upon the RECs retired in relation to that consumption. The RECs are registered with an independent REC registry and that registry makes sure that there is no double-counting of RECs. If Boulder holds the RECs, we can retire them so that Boulder's energy consumption is considered to come from renewable resources or we can sell them and then the purchaser of the RECs can retire them to claim renewable energy consumption. Because Boulder will own the RECs generated from this new wind farm, they will not be available to Xcel Energy to meet its legal obligations under the state Renewable Energy Standard.

**iii) By the state?**

Yes – the state of Colorado has adopted the standard in the industry by considering the retirement of RECs to be proof of the consumption of renewable energy.

**11) What model did Xcel use to project the avoided costs, integration costs and curtailment costs?**

Xcel Energy has used PROSYM and Strategist to model costs. Our consultants are familiar with these programs and are reviewing Xcel Energy's data. The determination of avoided cost under the Xcel proposal will be performed looking back at the previous months' generation mix using the GenTrader model that is used to price wholesale power by Xcel to satisfy its requirements under FERC .

**12) Did Xcel use Boulder-specific data to calculate the renewable percentage?**

Xcel Energy estimated Boulder's electricity usage as 1,400,000 megawatt hours annually. This is a very rough estimate, because it is very difficult to predict electrical use in the future.

**i) If so, was there anything other than the 2010 data that we have seen?**

This is consistent with the 2010 data provided to the City.

**13) Is there a realistic way that we can explain that Boulder ratepayers would not be paying for coal plants?**

No. The capital costs for these plants are included in the Xcel Energy rates that Boulder ratepayers will be paying. It is highly unlikely that the PUC would approve any arrangement that insulated Boulder ratepayers from paying for the cost of existing investments. This would

impose a greater percentage of the cost on other Colorado ratepayers and would therefore probably be unacceptable to the PUC.

**14) Is it possible for Boulder and Xcel to cooperate on Demand Side Management programs?**

Yes. If the Boulder franchise is renewed, Boulder customers will still qualify for all Xcel Energy DSM programs. In addition, Boulder's local energy utility could sponsor its own DSM Programs. Nothing in the franchise or the wind proposal would prevent this activity. Xcel Energy would coordinate programs with the City, to the extent permitted by PUC regulation.

**15) Can Boulder get two more lines on Boulder customer bills made available for future use?**

The current proposal is for one additional line. Xcel Energy is looking at whether two lines is feasible, based on the structure of the bill.

**16) We are looking at a public meeting on June 28 and council consideration on July 19. Does that work?**

Yes. Xcel Energy and NextEra Energy Resources have worked very hard to negotiate with the city to the point that we feel confident in bringing this before the public on June 28 and the council on July 19.

**17) Can Xcel split the cost of generation and transmission on our bills?**

Xcel Energy will take this request under advisement. The splitting would have to take place in the context of a future Phase II electric rate case

**18) What is the basis for your projection of avoided costs?**

Xcel Energy has projected avoided costs based on the difference between generation costs with and without the wind project.

**i) Does it include realistic projections of changes in the energy market in the next 20 years?**

The calculation includes what Xcel Energy projects to be realistic changes in its fuel mix over the next twenty years. This is only a projection and like any projection could be wrong.

**19) Can Boulder take advantage of its own production of renewable energy through solar or hydro production?**

This would be something that the local energy utility could consider. Boulder currently sells its hydroelectric power to Xcel Energy at wholesale prices. Because of the uncertainty associated

with the franchise, the city has not entered into long-term contracts for sale of this power and has instead entered into a series of one-year renewals. If the franchise agreement with Xcel Energy is renewed, Boulder could sell its renewable energy to Xcel Energy at wholesale, or could sell it to another utility on the wholesale market; Boulder could not sell this energy to retail customers.

**20) Can we lift the 120% limit on net metering?**

No. This is a state law requirement.

**21) Will avoided costs reflect unanticipated increases in Xcel's production costs?**

To the extent that Xcel Energy's production costs increase beyond projections, this will benefit the city, because the wind energy would compare more favorably to the other energy on Xcel Energy's system. The city payment would be based on actual incurred avoided costs, not the forecasted avoided costs.

**i) Federal Carbon Tax?**

The effect of a carbon tax would depend on the structure of the tax. If it was imposed on all ratepayers, it would likely not affect avoided cost. If however, it was imposed directly on the cost of fossil fuels acquired by utilities, it could be part of the avoided cost calculations.

**ii) Act of god destroying a production facility?**

If Xcel Energy lost a production facility this would impact the avoided cost. It would depend on which facility was lost. If Xcel Energy lost a coal facility, this would increase their reliance on natural gas and based on current price projections would increase Xcel Energy's avoided cost and benefit the city. If Xcel Energy lost a gas facility and was therefore required to rely more on coal, this would reduce avoided cost and be a detriment to the city. If the proposed wind farm is destroyed by Act of God, the contracts in this deal will govern the remedies available to both Xcel Energy and to the city.

**C. POTENTIAL BALLOT MEASURES**

**1) What does the reference mean on page 116 of Attachment I in regard to the Utility Occupation Tax no longer being charged?**

If a local utility were created, Payment in Lieu of Taxes (PILOT) would be collected through the rates to replace the funding currently collected through the utility occupation tax. David G.

**2) If the CAP Tax is used for interim financing, what existing programs would not continue to be supported?**

If council chooses to place the CAP Tax on the ballot with an increase and an extension for interim financing, the amount of the increase could be calculated to provide for sufficient

funding to continue current programs and services. Any increase to the CAP Tax would require voter approval as council approved an increase in the tax amount in 2010 to the maximum amount allowable by the current ordinance. If the CAP tax were placed on the ballot with only an extension, some existing programs and positions would likely be reduced. Analysis regarding which services would not be supported has not been completed at this time.

**Community Meeting: You Have the Power to Decide**  
**Community Feedback**  
June 28, 2011

**Public Comment:**

- There is concern that the new Xcel proposal would lock the city into 2011 technology for the next 20 years.
- The solar industry has dwindled in Colorado and struggles with caps on capacity and deployment. If the franchise agreement is renewed, these problems will continue. It may be more valuable to unbundle the RECs from the franchise purchase agreement.
- Boulder should be looking for a deal that is independent; new wind energy pricing should not be contingent on fossil fuel pricing. Why is Boulder not looking at other options? Boulder is taking the greater amount of risk in the new Xcel deal.
- There is a need for innovation to be negotiated into the new proposal.
- There is a need to more adequately address the term of purchase power under the Xcel proposal.
- There is concern that the costs of a local utility or the new Xcel proposal have not been fully evaluated or explained.
- The issue of reliability is a complicated topic that needs to be better addressed.
- It is important to look at the bigger picture of energy consumption and use. QiGong looks at the life force/the energy flow of both internal and external energy and the importance of managing both energies in order to answer the world-wide energy issue.
- Developing a local energy authority will allow for the city to address its energy production and use in conjunction with the community's future plans and goals. Curtailment could be offset with the development of hybrid battery back-up systems, systems that could be developed from a local-energy-based revenue stream. If extra REC credits were sold, there would be funding for innovative project development such as this.
- The Boulder Clean Energy Business Coalition is a group that shares the goals of the city regarding clean and local energy development and is working to help inform and advance the conversation ([boulderdecides.com](http://boulderdecides.com)). The Xcel proposal seems to provide an opportunity to address future growth and economic development in Boulder.
- There is support for pursuing municipalization as the financial risks seem reasonable.
- There is support for the Xcel proposal as the pricing outlined seems reasonable; City Council is urged to put this proposal—with or without the wind project—on the November ballot.
- There is a desire to see more analysis information from Eric Blank addressing what the city should do/providing the city and public with a suggested direction.
- There is a need for more information regarding the capacity for future solar energy production and a full analysis of the use and future of coal versus natural gas. The public needs full access to all the information influencing the energy decision.

- There is concern regarding the lack of transparency and forced timing of the Xcel proposal; there remain a lot of questions that the public would like to ask and have answered.
- A 20-year franchise with Xcel is not acceptable.
- It is important to create local jobs and economic development.
- There is concern that the Xcel proposal is based on one fuel source—coal.
- There is concern that the Xcel proposal does not address the core issues and goals of the Boulder community and that Boulder would be better served from municipalization.
- There is a need to look at the future of Boulder and disconnect the renewable conversation from global power.
- It may be valuable to research how to leverage municipalization in a manner that would support local solar, PV, and other renewable energy sources.
- There is a desire to know more about the potential legal timeframe and costs of pursuing municipalization and to see best- and worst-case scenarios clearly defined.
- It would be valuable to have a guarantee in the Xcel proposal that rates would not increase beyond a specified range.
- There is a need to evaluate the likelihood of the Federal Production Tax Credits actually expiring; this information might provide an opportunity for the city to negotiate a deal directly with NextEra.
- There is concern that the best-case and worst-case scenarios are not being realistically evaluated.
- There is a need to take into consideration that two-thirds of the city's energy costs are paid by businesses and large users, and these facilities will bear the greater risk. Several suggestions for risk management strategies include: 1) the development of a governing body that is far outside the political process and not based on a planning board model, 2) rates should be indexed, and 3) there is a clear threshold from which a “no-go” decision can be made throughout the process.
- There is a citizens group expanding the energy modeling conversation.
- There is concern regarding Xcel expanding coal production and increasing rates.
- There is concern regarding the process of integrating residential solar projects under the Xcel proposal.
- It is important for the community to be open-minded. There are benefits to municipalization and the Xcel proposal. The critical question that should be asked when making this decision is: how can Boulder help affect energy production and use on a larger scale and make a greater change worldwide?
- Boulder has an opportunity to set an example that could make a difference on a state and national level.
- It is important to look at the full picture of energy transmission and integration and what the impact of municipalization and the Xcel proposal would be on these key areas.

- Local power has the potential to develop distributed power/co-generation combined power; there is the potential to expand this power sources as a local utility or with an innovative contract with Xcel Energy.

**Public Questions with Response in Meeting:**

- Is this new proposal from Xcel repeatable—can it be extended to other cities and if so, what would the impacts be on Boulder?
  - A brief response indicated that a similar project with a different city would be entertained by Xcel Energy; however, timing and the low price are significant variables that may not be matched with other projects.
- Could the rates be used toward innovative projects and options for the City of Boulder?
  - A brief response indicated that the City of Boulder would develop a guiding authority and set of principles to determine how rates and refunds would/could be used.
- How will the energy imbalance in the market and the findings of the PUC affect the Xcel proposal?
  - A brief response indicated that the energy imbalance is not operating in Colorado and therefore not an issue.
- Why is there a 120% limit on residential electric bills for residential solar?
  - A brief response to this question stated that the 120% limit was determined by the State Legislature and is not one under Xcel's control.

**Other Public Questions:**

- How much coal is Xcel eliminating because of this extra wind – or is this just basically a gas deal?
- What can be done in the way of other localization efforts if the city enters into a wind deal with Xcel Energy?
- Would like to understand the 70 to 90 percent numbers and how Xcel would offer this to other communities and still have coal on the system?
- What happens in front of the PUC when Boulder residents who don't want this deal start showing up to oppose it?
- What about solar? What about paying unanticipated costs down at the PUC, like we had to with SmartGridCity? When will Xcel provide a full analysis of coal prices, facilities and supplies? How much access will Xcel give to citizens to GenTrader?
- How can we leverage the idea of funding solar PV and local renewable energy sources as part of the wind source deal?
- What will a 1-year to 5-year “sue you/sue me” cost us?
- Can we have a guarantee of rate increases of not more than 10 percent?
- Why couldn't the city negotiate the same deal with NextEra without Xcel as the middle man?
- Do you mandate a process or do you mandate an outcome? (Follow up statement: if reducing carbon footprint is your number one priority instead of accessibility or affordability, then you need to mandate the process)

- Can rates be indexed to some maximum difference from Xcel's?
- How can we implement a very innovative rate structure that promotes conservation within Xcel's proposal?
- If there is a municipal utility would it rely on its own system for integration or would it be part of the Xcel balancing system?
- Could Xcel use its contractual innovation to promote co-generation/combined heat and power?
- What impact will curtailments have on customers/the residents of Boulder?
- Under the new Xcel proposal, what is the future of the SmartGrid technology and advancement of energy efficiency?
- How can this project serve as a model if the same opportunities are not going to be available to other cities?
- How can innovative rate structuring occur with the Xcel proposal? How can a local board be created to implement innovative projects in conjunction with wind energy use?
- How will the Xcel proposal affect local businesses?
- What are the long-term implications of the 20-year Xcel agreement?
- How does the Xcel proposal take into consideration changes in technology?

**Public Comment**

July 7, 2011

**Local Energy Options:**

1. Will Xcel commit to developing a true Feed In Tariff program that covers all forms of renewable energy for Boulder?
2. What will Xcel do to increase the number of solar, efficiency and demand management jobs created in Boulder?
3. How will Xcel work with Boulder to provide some dispatchable renewable energy (e.g. geothermal, biomass, methane digestion, pumped hydro etc.)?
4. How will Xcel ensure that Boulder is able to move forward with significant efficiency and demand management efforts as new technologies become available?
5. Will Xcel allow the City to use LED and other advanced lightbulbs in its street lights?
6. Has Xcel committed to allowing Boulder to put in place a rider on the Xcel bill to collect for DSM and RE loans, so as to reduce credit costs and reduce repayment risk?
7. How will Xcel work with Boulder to ensure that an effort is made to match Boulder's load with a variety of forms of renewable energy to ensure a true experiment in integrating high levels of renewable energy?
8. How will Xcel ensure that Boulder will be able to take advantage of cost-effective energy innovations as they become available?
9. How will Xcel ensure that Boulder is able to move forward with significant solar (both photovoltaic and thermal) installations including unlimited solar gardens in the City?
10. What happens if/when solar energy drops to a point where it is economically viable without incentives? This is predicted to happen in the next 5 to 7 years, and if we are locked into a contract that doesn't anticipate this, the city will fail to meet the peoples true wants. Wind is only part of the equation, and there has to be flexibility in any Xcel contract that can account for future renewable energy prices.
11. How much gas generation and coal generation has been displaced by wind to date? How much (per MW of wind generation) of each is expected to be displaced by the "Boulder deal", and by future wind deals?
12. Since Xcel is allowed to claim 70% renewables soon with their deal and 90% by 2020 by applying the system renewables percentage to the whole Boulder load and then add the new wind, should they not also have to apply the other percentages in their power mix in the same

manner so that Boulder would expect 60% coal based power soon and a bit less than 50% coal power in 2020?

I ask this because I have seen no correction of these misrepresentations. The city handout from the City/Xcel/NextEra presentation leaves the impression the calculation was done correctly and is an industry standard. Could you point me to the industry standard that allows double counting the portion of our load that would be supplied by the "Boulder" wind farm as also being supplied by Xcel's system renewable percentage?

Should we not simply calculate the total actual KWH's that are projected be supplied to service Boulder's load and divide it by the total load? Using RECs gives an apples to oranges comparison when comparing to municipal options since they do not use RECs and do not get in state multipliers, etc.

If we do not make sure we are getting what we are paying for, the City will have to explain why emissions have not dropped the claimed 70% to 90%. Boulder voters will not be happy when they find their bills have gone up significantly but there emissions due to their power has not gone down as advertised. Now is the time to understand what our actual emissions would be.

Has anyone asked Xcel for a full accounting of what Boulder's emissions due to electricity will be under this plan? I would trust an honest answer to that a whole lot more than just being called a green city. When the City and Xcel claim to be green but still have bad emissions, we are the ones that will be labeled.

13. Since the Xcel deal is ostensibly about Boulder's carbon reduction, is there an escape clause for the City or a penalty for Xcel should Xcel's proposal not deliver as advertised? Since the 70% and 90% renewables claim has not been corrected, wouldn't that significantly cut our emissions as we move from for our current 20% renewables to 70% - 90% renewables and decrease those emissions by 50% to 70% of current?

What claims has Xcel made for our emissions and what and how is this enforceable in the contract for the Xcel deal?

Shouldn't we have an expectation on emission reductions since this is what this is supposed to be about?

Shouldn't that number be made extremely clear to the public so they understand whether emission reductions will track the renewables claims?

If we are reducing Xcel's overall emissions, that has some value to Xcel and other rate-payers because it might require lower fines and/or pollution controls for the rest of Xcel's generation, so shouldn't Boulder receive some of this value or require Xcel not to simply use our lower emissions to increase their emissions for other rate payers and keep net emissions where they are now?

With emission limits included in the Xcel deal, how will they be measured, reported and audited so these limits can be enforced?

**Gas Forecasting:**

*(the underlying question: what is the city doing to get gas forecasts or to establish the risk/certainty on gas prices? What is the floor/cap based on? And how does the gas price relate to the coal price in terms of impact on Boulder Xcel customers?)*

1. With gas capacity charges forecasted to be zero for the next 10 years for both Colorado East and West (implying a large excess of gas generation capacity), and with the NextEra wind price escalating at about 2%/year average for the duration of the contract, and with at least some gas price forecasts as being flat for some time in the future, and with NY State having approved fracking for gas, does the City have any reasonable basis for expecting that it would ever get any money back on the Xcel/NextEra hedge deal? And if so, could you provide that analysis, with quantification?

**Coal Costs to Boulder Ratepayers:**

1. Will Xcel commit to providing a review of all coal plants on their system, with expected retirement dates, coal costs for each year that they have been in operation and expected coal costs (in \$/MMBTU) for each of the remaining years, the expected source of the coal for each of the years, costs of expected upgrades, estimated operating and maintenance costs as well as expected carbon costs and litigation costs for each year of the 20 year franchise and then ensure that these costs will not increase above the costs projected by Xcel?
2. What is the City's understanding of the effect of such coal cost increases on Boulder ratepayers' rates under the Xcel deal/franchise? How much of the coal cost increases would show up in the rates? All? If not all, what is the City's basis for its answer?
3. Will Boulder ratepayers pay all future Xcel rate increases including those that are paying for the cost of coal, increased operating costs at coal plants, carbon taxes, early coal retirements even if we are buying the RECS from the wind farm?
4. What protections will Boulder rate payers have from paying future costs related to coal plants (e.g. increased coal costs, increased O&M costs, carbon charges, litigation expenses, early retirements etc.)?
5. Has the City analyzed the effect of coal cost increases or coal plant cost increases on the Xcel/NextEra hedge deal? Has the City figured out how much coal power costs would have to rise (either because of coal price increases or because of increased investment in the plants) before there would be any reduction in payments to Xcel under the proposed contract?
6. Will Boulder rate payers be exempted from future increases in the pass through of fossil fuel costs under the Electric Commodity Adjustment or "ECA" if they commit to Xcel's "90%

renewable" wind farm proposal. If so how will this guarantee be ensured for the next 20 years?

7. Will Boulder rate payers be exempted from future rate increases related to upgrades on Boulder's fossil fuel system, including for example the \$380 million expected to be spent on the Pawnee and Hayden coal plants under the "Clean Air Clean Jobs" act? If so how will this guarantee be ensured for the next 20 years?
8. Will Boulder rate payers be exempted from future rate increases related to early retirement of the over 1800 MW of coal\* that is projected to be on the Xcel system from now until 2032? If so how will this guarantee be ensured for the next 20 years?

Coal Plants and (Retirement Dates)\*:

- 325 MW Comanche 1 (2033)
- 335 MW Comanche 2 (2035)
- 511 MW (Xcel share) Comanche 3 (2069) (all in Pueblo),
- 505 MW Pawnee coal plant in Brush (2041)
- 98 MW Xcel share of Hayden 2 (2036)
- 84 MW Xcel share of the Craig 1 and 2 (2040 and 2039)

TOTAL= 1858 MW coal expected to stay on Xcel's system through 2032.

Xcel also owns 139 MW of the Hayden 1 coal plant which is expected to retire in 2025. The 186 MW Valmont plant is expected to retire in 2017. These were not included in the 1858 MW of coal above.

9. Will Boulder rate payers be exempted from future rate increases related to the legal costs for any environmental litigation (e.g. CO2, mercury, coal ash etc.) related to the over 1800 MW of coal\* that is projected to be on the Xcel system from now until 2032? If so how will this guarantee be ensured for the next 20 years?
10. What are Xcel's projected rates for the next 20 years using projections of 5%/year and 10%/year increases in coal costs. (Note that since 2004, no state in the country has coal costs increasing at less than 5% per year, but Xcel's rate projections typically assume coal costs will increase at a rate of less than 2% per year (i.e. below inflation.)

**Costs to Ratepayers: Curtailment and Integration:**

1. Please provide examples of the quantitative calculations (using reasonable estimates of costs) of the expected cost to Boulder rate payers for a 200 MW wind farm--specifying the Next Era cost, Xcel's likely avoided cost, likely curtailment costs and likely integration costs for each year of the projected project.
2. How will Boulder's 200 MW be curtailed relative to the other NextEra 200 MW, and relative to all senior and junior wind farms?

3. How much curtailment is forecasted?
4. How much wind and solar can Xcel integrate into its system by year, and how much of that would have to be curtailed or otherwise dumped?
5. How will disagreements in the Technical Review Committee (TRC) be resolved before an integration cost is agreed to by Xcel and Boulder?
6. Will Xcel commit to eliminating the curtailment cost provisions of any contract after 2017 and the retirement of the coal plants under Clean Air Clean Jobs which should largely eliminate the curtailment risk as discussed by Xcel last night.
7. Would the City provide the actual contract language that specifies the curtailment terms and formula in the NextEra deal so that those of us who are not on the inside would know the terms?

**Scalability and C02 Reduction:**

1. How "scalable" is Xcel's 200 MW wind proposal in quantitative terms? How many additional 200 MW wind farms could Xcel add to its system and keep their system operational between now and 2020? How many between 2020 and 2030? Please provide the modeling results that show the overall number of kwh of wind energy as well as Xcel's total kwh provided each year under each new 200 MW hour increment along with projections for avoided costs, integration costs and curtailment costs for each 200 MW increment for the next 20 years. Please discuss how Xcel will operate their system at each new increment level and include expected curtailment costs and increased emissions issues due to increased emissions coming from coal plants that are ramping up and down to match increased wind on the system.
2. IF the cost of solar RE generation were to decrease dramatically over the next decade or so (as some projections show) and assuming transmission, etc., is available, could Xcel potentially present a similar program for other towns or cities in its Colorado territory to consider upon its franchise expiration based on solar generation rather than wind (or a combination)? If this is possible, it would of course affect the answer to many of Leslie's question(s) about system perability/feasibility of integration as time progresses.
3. I'm very concerned about signing a 20 year commitment with Xcel's promises for wind. What is being done at the city level to truly understand whether this proposal will be an overall win as far as a carbon footprint?
4. What would the % of renewables be if they didn't use the 1.25 multiplier for renewable energy under the Renewable Portfolio Standard?
5. Natural gas is a required component that allows the city to ween ourselves off fossil fuels and into renewables. If this isn't an integral part of the contract with Xcel, then we probably aren't really doing this in such a way that we are truly benefiting from renewables. There is no such thing as a transition from coal to renewables unless there are plans to shut coal plants

down. Coal can't be scaled up and down to account for the renewable energy inconsistency, so as a result we'll end up having to run coal the same amount even if we pretend that we are being more renewable by purchasing wind. Is the city confronting the reality of moving towards renewables knowing how that actually needs to happen and taking into account the critical necessity of natural gas plants, or is it relying on Xcel to claim that more renewables are helping. As a citizen that understand the "behind the scenes" claims of Xcel, I know that most of the wind farms in Xcel's portfolio have done very little to limit the actual carbon footprint. Even with large amounts of energy coming from wind, the extra CO2 emissions from running coal plants at sub-optimal efficiencies are said to be more than the actual CO2 savings made by the wind.

I personally believe that any contact with Xcel should include the necessity of tracking the actual carbon reduction by quantifying how much energy generated by coals plants is decreased. It is way too easy for Xcel to hide the actual impact on the carbon footprint. Just because electricity is being generated by wind plants doesn't mean that the carbon footprint is reduced for the city. Any agreement with Xcel needs to include a plan to take coal plants offline as wind/solar energy is added. If this isn't quantified, then Xcel's claims are just placating the boulder citizens. Please explain how the city will hold Xcel to account for taking coal plants off line or reducing the production of coal plants in such a way that the don't increase their carbon footprint as they do so.

**Franchise Terms:**

1. Will any of the contract terms be subject to review or alteration by the PUC?
2. What process will be established for citizen review and oversight on the final wording of any new franchise?
3. Has Xcel committed to going to the Legislature to support removal of the 120% limit on net metering and the restrictive rules on solar gardens, especially the minimum of 10 limit?
4. If Boulder were to find another wind deal like the one Xcel proposed but with another utility, would Xcel allow Boulder to put a rate rider in place to do the payments/refunds?
5. Will Xcel consider a franchise that is shorter than 10 years?
6. What provisions will be in place with respect to environmental indemnification under any new 20 year franchise?
7. Can the city put in performance metrics into any contract with Xcel so if they don't meet the performance criteria that they claim (cost of coal electricity, carbon offset, etc) the city can cancel the contract?
8. Can staff tell us what the legal budget will be to attempt to enforce the various aspects of the Xcel deal in the courts and before the PUC in addition to the current legal budget required to appeal to the PUC just for being a customer of Xcel Energy under the PUC system? What

will our total legal bill be estimated to be for staying with Xcel and for enforcing the Xcel deal?

9. What penalty clauses would there be in the 20-year franchise that would allow Boulder to get out without paying any stranded costs if Xcel fails to perform under the terms of the franchise?
10. If there is a contract violation, in what venue does the City expect to file a lawsuit?

**Curtailment Costs:**

1. How does the City intend to monitor the avoided cost, curtailment, and integration charges that would have to be calculated in order to ensure compliance with the proposed Xcel deal? What is the expected cost of monitoring and ensuring compliance?
2. What are the contract terms related to curtailment? The meeting on 6/28 discussed this matter, but since none of it was in writing, it is impossible to be certain of anything.
3. Will Boulder citizens have access to the GenTrader program (and subsequent products) and be allowed to audit the calculation of avoided cost and see all assumptions used?
4. Will Xcel provide the data that will allow Boulder to see when the wind is being generated and when it is displacing natural gas and when it is displacing coal?
5. Based on my understanding, any optimization model used for this purpose (cost comparison of different scenarios of generation mix to produce the same number of MWH) must include all significant costs that vary as the generation mix varies, otherwise it would be pretty much useless in terms of optimizing the mix to get the least cost.

Specifically, then, the model should include all the wind contract terms and any variable effects on other production system costs of adding in more wind. This should be especially true for Xcel, because (1) they have a lot of wind and are adding more on a frequent basis, so they need a good model to use to do least-cost dispatch, and (2) Xcel needs to ensure that they comply with the 2% RES rate impact limit. Therefore, the model should already include the integration costs and the curtailment costs. (There are, of course, ways to kluge things on to a computer model. But it's very tricky under except under the most simplistic circumstances.)

If the model already contains these costs, then why is Xcel proposing that the integration costs and curtailment costs also be add-ons? Wouldn't Boulder be paying twice if these are charged as separate items?

And if the model does not, how can Xcel represent that they are optimizing and keeping costs to a minimum? Why would we then believe that what Xcel tells us is the "avoided cost" is the real cost, and is not some inflated number?

In addition to knowing these basic facts, for this to work, Xcel must provide the City with access to GenTrader and all inputs, and the City will need to hire an expert to review the model runs on an on-going basis, as the payments will change over time.

As to the third item, Xcel already has excess capacity that it is selling on the market and getting 20% of the net with 80% going to the ratepayers, or so I am told. So excess capacity is a profit center for Xcel. If this wind farm is built, there will be an additional excess of about 800,000+ MWH/year available to sell. Boulder should get any net proceeds above the fuel and operating costs and what goes to the ratepayers to pay them back for the facilities, as we are the ones who made this extra available.

So, the question is -- has Xcel made any proposal about who will get this excess revenue or how it will be split?

**Legal Costs of Xcel Deal:**

1. Businesses don't usually enter into long-term and expensive contracts without conducting very serious "due diligence." What due diligence will the City be conducting on the Xcel wind proposal? What questions will be asked and what reports will be prepared? When will this due diligence be conducted and by whom? How much will this cost? How will the City report the results of this due diligence review to the citizens and what opportunities will there be for feedback? Will the due diligence be conducted and reviewed before any Xcel proposal is submitted to the voters
2. What protections will Boulder have if/when Xcel drags Boulder through protracted legal struggles at the PUC in the coming years if Boulder signs a franchise?
3. What does the City project will be the legal expenses of participating in PUC dockets per year for each year of a 20-year franchise. Please include all assumptions including (# of dockets and level of involvement (e.g. high, medium, low), # staff attorneys, hours and pay, # outside attorneys, hours and pay, # hours of staff time spend in reading, research, discovery and writing testimony and pay, # of expert witnesses hired for each docket, administrative and general expenses, transportation, copying and other office expenses.)
4. Much has been made of how Boulder will pay for the costs of municipalization. How will Boulder pay the legal costs of working through the PUC and all other legal processes for the Xcel wind proposal, including potential litigation if/when there is disagreement between the City and Xcel on what the "Letter of Intent" really meant? What is the estimate for these annual legal costs and how will they be paid?
5. How much City Staff time has been spent so far reviewing the Xcel proposal and what is the cost estimate of that time? How much more City Staff time is expected to be needed to finish the evaluation and how much will that have cost?
6. Should we decide to decide put the Xcel deal on the ballot and voters accept it, there will almost certainly be a substantial overhead cost to defend, and then enforce the wind portion

of the deal before the PUC and in the courts, not to mention the continuing costs of going to the PUC as franchise customers in the Xcel system. What will the estimated initial and annual costs to the City of Boulder be for the following?

- Cost of research, preparation and negotiation of the legal contracts for the Xcel deal
- Cost of REC valuation and trading analysis or retirement should the City decide to trade these to fund programs
- Cost of defending the deal before the PUC when rate-payers make claims the deal favors Boulder over other rate-payers
- Cost of enforcing the deal's contractual requirements of Xcel and NextEra in the courts and possibly the PUC
- Cost of defending the City of Boulder from claims by Xcel and NextEra in contractual disagreements
- Cost of enforcing the 20-year franchise details with Xcel before the PUC over 20 years
- Cost of defending the powers and activities of the proposed energy authority before the PUC and in the courts versus Xcel
- Cost of monitoring or auditing the curtailment and avoided cost calculations Xcel makes
- Cost of reviewing PUC proceedings to defend the definition and processes for determining curtailment and avoided costs
- Cost of reviewing FERC proceedings for relevant decisions that may affect this deal
- Cost of lobbying the legislature to ensure the deal remains enforceable

**Costs to Ratepayers: Other**

1. Xcel has significant excess capacity on its system and the ability to sell excess generation on the open market. When that happens ratepayers (who presumably paid for 100% of the generation) generally get 80% of the sales price and Xcel gets 20% of the sales price (which could be higher than the cost to generate which could also increase Xcel's profits on electricity that Boulder rate payers paid for). If Boulder is paying for the wind generation and it is additional excess generation, how will Xcel ensure that Boulder rate payers get the proceeds of the trading sales and that the profits don't go to Xcel or other rate payers?
2. Please explain how Boulder would pay off the bonds that would be used and what kind of bonds would likely be needed for the Xcel wind project.

**Reliability:**

1. How will Xcel work with Boulder to improve reliability in Boulder? Will they meet with Boulder citizens regularly to trouble shoot issues and report reliability statistics monthly as many municipal utilities do?

**Information Sharing / Xcel Transparency:**

1. Will Xcel provide its carbon intensity for each year from 1990 to 2010 (intensity--not emissions--e.g. lbs/MWh) and projected carbon intensity for each year from 2011-2032?

2. How much money is the City of Boulder itself – not the resident and businesses - presently paying to Xcel for electricity and natural gas? Please break this down by electricity and natural gas and by department or function and indicate what percentage of the city's operating budget this is.
3. Will Xcel commit to at least quarterly meetings with Boulder citizens to ensure on-going dialogue and problem solving?
4. Why has the City not made public the proposed contract? Without that, it is impossible to understand the real details.
5. Why has the City not published Eric Blank's remarks? Hearing those once was nice, but it was impossible to take complete notes or to remember everything that he analyzed or said.

**Credibility:**

1. If Xcel wants to "partner" with Boulder why are they so resistant to sharing data and why have they *made it clear that they intend to drag Boulder through years of litigation. That isn't a very nice way for a "partner" to act.*
2. Xcel's slides said they spent \$4 million a year with Boulder businesses. Will they release a list of those businesses and the amounts spent at each?
3. Will Xcel commit to answering all questions previously posed to it by the City of Boulder and City Council members?

**Stranded Costs:**

1. I have been looking at the Xcel reports to the City of Boulder and one thing that really stands out is the year over year increase for the Combustion portion of Generation on page 3 of the 2010 report versus the same information in the 2009 report. An increase of 2.12 times in one year should be explained. The only reason I could see for this would be including the opening of the Comanche-3 coal plant, which should be highlighted as to what this poor decision is now costing the City of Boulder and all rate-payers. My question to Xcel is what justifies this incredible increase? Xcel says they are over capacity. So, then why are we paying so much of an increase to increase that over capacity?
2. On page 3 of the 2010 Xcel report to the city the estimated plant allocation to the Combustion line item jumps up from \$21,188,000 in 2009 to \$46,529,000 in 2010 which is quite a rise. This may have bearing on stranded assets information the city should be requesting from Xcel. An increase to 220% of the previous years amount should be questioned and the city can include a request for details in their reply to Xcel's reply to the city for stranded assets information.

**Other Questions:**

1. Will Xcel provide Boulder with a plan for moving forward with the Smart Grid project before the July 19, 2011 City Council meeting?
2. What changes will Xcel institute to avoid future disasters such as the death of 5 workers in the Cabin Creek project?
3. Under the Xcel proposal, what % of the approximately \$100 million that is spent each year on electricity in Boulder is expected to be spent in the City of Boulder. How does that compare to expenditures in the city by a municipal utility over the course of the next 20 years?
4. Will Xcel commit to answering all questions previously posed by the City of Boulder and City Council members?
5. Why isn't the cost of the Xcel wind deal and Xcel's rate increases not showing up in some sort of comparative analysis of the muni?

**Public Comment Received After July 7**

Sent: Thursday, July 14, 2011 1:18 PM  
To: energyfuture  
Subject: Energy Future Comment Form Submission

name: John Gress  
hometown: Boulder  
comments: It is very bad that Boulder has broken off negotiations with Xcel. The wind proposal from Xcel is Boulder's best chance to get renewable energy in the near term, and real green energy at that. These are new wind power plants being offered by Xcel. The City of Boulder does not have a plan to provide us (Boulder electric users) with renewable energy. I'm sure the city wants to provide green energy, but there are no concrete plans. It will take years longer to get green energy if the city goes it alone. I would ask that the folks involved reconsider the decision to break off negotiations. Any why is it such a big deal to put both the types of franchise agreements on the ballot? Is the city afraid the voters can't pick the green option between the two?

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**From:** Darryl Tait  
**Sent:** Thursday, July 14, 2011 3:11 PM  
**To:** Huntley, Sarah  
**Subject:** Re: [cmo-boulders-energy-future] City press release: Xcel condition ends talks about possible wind deal

Thanks for the update.

I don't see a problem, however, with the stand alone plan. I feel, the more options the better. And, whatever is less expensive is better too- especially with the way our economy is. The city should let the citizens decide on what their energy choices should be- not limit what can be on the ballot by choosing for us what we can vote on.

Darryl Tait