



# LOVELAND UTILITIES COMMISSION REGULAR MEETING

**January 18, 2017 - 4:00 p.m.**  
*Service Center Board Room*  
**200 North Wilson Avenue**  
**AGENDA**



## **CALL TO ORDER**

## **EMPLOYEE INTRODUCTION – Derek Turner, Water Attorney**

## **APPROVAL OF MINUTES – 12/14/2016**

## **CITIZENS REPORTS (\*See procedural instructions on the reverse side)**

### **CONSENT AGENDA**

1. 2016 4th Quarter Goal Updates – Gretchen Stanford
2. 2017 Contract Renewal for Hauling & Land Application of Biosolids – Michael McCrary

### **INFORMATION ITEMS**

3. Water Supply Update – Larry Howard

### **REGULAR AGENDA**

4. Contract Award for Foothills Substation Construction – Frank Lindauer
5. LUC 2016 Accomplishments and 2017 Goals – Gretchen Stanford
6. Potential Acceptance of 4 Shares of Louden Ditch to the Water Bank – Kim Frick
7. CBT Market Prices – Larry Howard

### **STAFF REPORT**

8. Update on The Foundry Project – Mike Scholl

## **9. COMMISSION / COUNCIL REPORTS**

## **10. DIRECTOR'S REPORT**

## **ADJOURN**

#### **\* Citizens Report Procedures**

Anyone in the audience may address the LUC on any topic relevant to the commission. If the topic is a Consent Agenda item, please ask for that item to be removed from the Consent Agenda; pulled items will be heard at the beginning of the Regular Agenda. If the topic is a Regular Agenda item, members of the public will be given an opportunity to speak to the item during the Regular Agenda portion of the meeting before the LUC acts upon it. If the topic is a Staff Report item, members of the public should address the LUC during this portion of the meeting; no public comment is accepted during the Staff Report portion of the meeting.

Anyone making comment during any portion of tonight's meeting should identify himself or herself and be recognized by the LUC chairman. Please do not interrupt other speakers. Side conversations should be moved outside the Service Center Board Room. Please limit comments to no more than three minutes.

#### **Notice of Non-Discrimination**

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**Commission Members Present:** Dan Herlihey (Vice Chair), Dave Kavanagh, David Schneider, Gary Hausman (Chairman), Gene Packer, Larry Roos, John Butler

**Commission Members Absent:** Randy Williams (Excused)

**Council Liaison:** Troy Krenning

**City Staff Members:** Alicia Calderón, Bob Miller, Brieana Reed-Harmel, Garth Silvernale, Greg Dewey, Gretchen Stanford, Jim Lees (left after item 1), John Beckstrom, Kim O'Field, Lindsey Bashline, Larry Howard, Michelle Erickson, Roger Berg, (Tom Greene, Colleen Cameron, and Steve Adams – left after the John Rust presentation)

**Guest Attendance:** John Rust Jr., Hannah Rust, Ed Rust, John Fogal, Cecil Gutierrez (all left after the John Rust presentation)

**CALL TO ORDER:** Gary Hausman called the meeting to order at 4:00 pm.

**RECOGNITION PRESENTATION - John Rust Jr.** Staff and board recognized and thanked John Rust Jr. for his years of service to the City of Loveland on the Water Board, City Council and the Loveland Utilities Commission.

**APPROVAL OF MINUTES:** Hausman asked for a motion to approve the minutes of the November 16, 2016 meeting.

**Motion:** Dan Herlihey made the motion.

**Second:** Dave Schneider seconded the motion. The minutes were approved unanimously.

**CITIZEN REPORTS:** none

#### CONSENT AGENDA

#### **Item 8: Contract Amendment for Carollo Engineering for the Wastewater Treatment Plant Biological Nutrient Removal Improvements – Brian Gandy**

This item was originally presented to LUC at the November 16, 2016 meeting. It came back to LUC to slightly modify the recommendation wording to include that the City Manager can sign the change order on behalf of the City. This is a contract amendment for additional design services with Carollo Engineering related to the wastewater treatment plant improvements project.

**Recommendation:** Adopt a motion recommending that Loveland Utilities Commission approve the amendment to the contract for Design Services with Carollo Engineers in the amount of \$245,222 and increase the not-to-exceed amount to \$1,632,688 and authorize the City Manager to sign the change order on behalf of the City.

**Motion:** Dave Schneider made the motion to accept the consent agenda as written.

**Second:** John Butler seconded the motion. The motion was approved unanimously.

#### INFORMATION ITEMS

#### **Item 1: Financial Report Update – Jim Lees**

This item summarizes the monthly and year-to-date Preliminary financials for November 2016.

Information item only. No action required.

**Item 2: Water Supply Update – Larry Howard**

Raw water supply update.

Information item only. No action required.

**REGULAR AGENDA**

**Item 3: 2017 Annual Sub-Structure Contract – Brieana Reed-Harmel**

The purpose of this item is to award contracts to GE Construction, Inc. and L&M Underground, Inc. for the 2017 Annual Substructure Projects Bid 2016-77.

**Recommendation - Option 1:**

Adopt a motion awarding two 2017 annual substructure contracts. One to GE Construction, Inc. in the amount not-to-exceed \$1,000,000 and one to L&M Underground, Inc. in the amount not-to-exceed \$1,000,000 and authorize the City Manager to sign the contracts on behalf of the City.

**Recommendation - Option 2:**

Adopt a motion awarding two 2017 annual substructure contracts. One to GE Construction, Inc. in the amount not-to-exceed \$2,000,000 and one to L&M Underground, Inc. in the amount not-to-exceed \$2,000,000 and authorize the City Manager to sign the contracts on behalf of the City. Staff should then assign projects and manage the contract amounts in a way that meets the City's best interest.

**Motion:** Dan Herlihey made the motion to go with option 2.

**Second:** Dave Kavanagh seconded the motion. The motion was approved by all but Larry Roos.

**Item 4: 2017 Annual Directional Bore Contract – Brieana Reed-Harmel**

The purpose of this item is to award contracts to Jacobs Investments LLC, dba Colorado Boring Company and L&M Underground, Inc. for the 2017 Annual Directional Bore Projects Bid 2016-78.

**Recommendation - Option 1:**

Adopt a motion awarding two 2017 annual directional bore contracts. One to Jacobs Investments LLC, dba Colorado Boring Company in the amount not-to-exceed \$1,000,000 and one to L&M Underground, Inc. in the amount not-to-exceed \$1,000,000 and authorize the City Manager to sign the contracts on behalf of the City.

**Recommendation - Option 2:**

Adopt a motion awarding two 2017 annual directional bore contracts. One to Jacobs Investments LLC, dba Colorado Boring Company in the amount not-to-exceed \$2,000,000 and one to L&M Underground, Inc. in the amount not-to-exceed \$2,000,000 and authorize the City Manager to sign the contracts on behalf of the City.

**Motion:** Dan Herlihey made the motion to go with option 2.

**Second:** Dave Kavanagh seconded the motion. The motion was approved unanimously.

**Item 5: 2017 Annual Concrete Contract for Electric Duct Banks – Brieana Reed-Harmel**

The purpose of this item is to award a contract to Loveland Ready Mix for the 2017 Annual Concrete for Electric Duct Banks.

**Recommendation:** Adopt a motion recommending that Loveland Utilities Commission approve the award of the contract to Loveland Ready Mix for the 2017 Concrete Bid for Duct Banks in an amount not-to-exceed \$750,000.00 and authorize the City Manager to sign the contract on behalf of the City.

**Motion:** Dan Herlihey made the motion.

**Second:** Dave Kavanagh seconded the motion. The motion was approved unanimously. John Butler abstained from voting.

## COMMISSION/COUNCIL REPORTS

### Item 6: Commission/Council Reports

Board members reviewed and gave individual reports as well as discussed the activities that they attended since the last regular LUC meeting on November 16, 2016 as well as discussing:

- Current opening on the LUC Board
- Reviewed LUC travel expenses from the past two years

**Council Report:** Gretchen Stanford gave on Troy Krenning's behalf

#### ***City Council Special meeting – December 13, 2016***

- Approved \$25 million in Wastewater Treatment Plant Revenue Enterprise Bonds
- COL Dedication of Right of Way to Larimer County
- Suspension of Capital expansion fees
- Viestenz-Smith mountain park services & construction administration contract award
- Viestenz-Smith mountain park supplemental appropriation
- Broadband update with possible executive session

#### ***City Council Study Session – December 6, 2016***

- IGA with PRPA for Foothills Solar Project
- Firestone 10-year water lease approved

#### ***City Council Study Session – November 22, 2016***

- The Brands update – proposed economic retail with Eagle Crossing Development and Rocky Mountain Airport Investment LLC

#### ***City Council Regular Meeting Session – November 15, 2016***

- The Brands update – proposed economic retail with Eagle Crossing Development and Rocky Mountain Airport Investment LLC

#### ***City Council Study Session – November 8, 2016***

- Nothing of interest

## DIRECTOR'S REPORT

### Item 7: Director's Report – Gretchen Stanford

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**ADJOURN** The meeting was adjourned at 5:45 pm. The next LUC Meeting will be January 18, 2017 at 4:00 pm.

Respectfully submitted,

Michelle Erickson  
Recording Secretary  
Loveland Utilities Commission





**CITY OF LOVELAND**  
WATER & POWER DEPARTMENT  
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**AGENDA ITEM:** 1

**MEETING DATE:** 1/18/2017

**SUBMITTED BY:** Gretchen Stanford, Interim Director

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**TITLE:** 2016 4th Quarter Goal Updates

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**DESCRIPTION:**

This is a quarterly review of our progress on our 2016 utility goals.

**SUMMARY:**

To provide an overall view of progress on our goals during 2016, we have included all of the quarterly updates for each goal. This item is to review the 2016 utility goals and the 4<sup>th</sup> quarter goal updates.

**RECOMMENDATION:**

Review the enclosed 2016 4<sup>th</sup> quarter goal updates and provide feedback to departmental staff.

**ATTACHMENTS:**

- **Attachment A:** 2016 Quarter Goal Updates



# Attachment A

2016 Goals & Quarterly Updates	Comp Plan #	Est. Completion	Actual Completion
1 Complete a Power Cost-of-Service Rate Study which will include a rate analysis of each customer class and current rates as well as explore new renewable rate concepts.	11C.1.5 - Power	March 2017	
<b>Q1 Update:</b> Scheduling of key study milestones and finalizing the details of the scope of service is nearly complete. The kickoff meeting for the study will be via videoconference with Mark Beauchamp, our rate consultant, on April 29, 2016. We will be asking for 2 volunteers from the Loveland Utilities Commission (LUC) to serve as liaisons for the rate study.			
<b>Q2 Update:</b> Mark came and presented to the LUC at the June 15, 2016 meeting and to seek direction on designing rates for 2017. Mark will be back at the July 27, 2016 meeting via videoconference to present proposed rates for 2017 and a rate track through 2021.			
<b>Q3 Update:</b> Mark did present on July 27 via videoconference and also presented via videoconference at the August 17, 2016 LUC meeting. At those two meetings, the key accomplishments were getting support from the LUC on a 2017 rate design, a 5-year rate track, a new way of billing Residential Self Generating customers and a new methodology for calculating the targeted minimum fund balance. The 2017 rate design, rate track, new billing for Residential Self Generating customers and new minimum fund balance calculation were all presented to City Council at a Study Session on August 30, 2016, and the City Council supported all of the recommendations from the LUC.			
<b>Q4 Update:</b> All of the newly proposed rates from the rate study for 2017 were taken to City Council and were unanimously approved on second reading on November 1, 2016.			
2 Evaluate options to find the best level of participation and funding strategy for the Windy Gap Firming Project (WGFP).	11B.2 - Water	March 2017	
<b>Q1 Update:</b> Discussions are currently being conducted among the WGFP participants on best options for funding. There has been discussion about changing levels of participation of some members, giving rise to opportunities to discuss increased participation for Loveland.			
<b>Q2 Update:</b> Funding strategy options are being studied by a consultant, and discussed with participants. Loveland expects to have an option before Council soon to increase its participation by 2,000 AF of storage, bringing its total storage participation up to 9,000 AF.			
<b>Q3 Update:</b> On November 8, 2016, participants discussed with staff and financial advisors their anticipated approaches to financing their portions of the Project. All but two participants prefer joint financing. Longmont plans to pay cash, and will raise their rates to pay its portion rather than borrow. Greeley is budgeted for individual financing and expects to move in that direction, but their staff wishes to review the joint financing option to make comparisons for a final decision. Total Project costs are estimated at \$399M. The CWCB indicates approximately \$90M are available for secondary funding for a jointly funded project, with the idea that with about 20% in secondary funding should lead to favorable rates on a primary loan. If individual participants request individual funding, it is likely that granting that request will reduce the \$90M amount for the remaining participants. Financial advisors will be working now on financial models based on this information, to provide participants with more accurate estimates of Projects costs.			
<b>Q4 Update:</b> Options for group funding are still being put together by the consultant and the group. Group funding remains the preferred method of moving ahead for most participants. A number of participants are working to acquire additional WG units from PRPA, and when that is complete the final reservoir volumes for the participants can be determined. Work on final permitting is concurrently underway with the US Army Corps of Engineers for a 404 Permit. Core sampling and evaluation of the valley is underway by the consultant HDR.			

2016 Goals & Quarterly Updates	Comp Plan #	Est. Completion	Actual Completion
3 Support the completion of the FEMA Alternate Project by installing the Foothills solar facility by December 30, 2016 to take advantage of the 3x State credit, start the construction and the bidding process for equipment at the Foothills substation with the goal of completing the entire project by September 2017.	11C.3.2 - Power	September 2017	
<p><b>Q1 Update:</b> In March 2016, LUC approved the additional purchase of expanding solar on the Foothills site to take advantage of the entire 19 acres. This will provide the opportunity to install 3.5 megawatts of DC solar for the Loveland community. At the end of March 2016, a letter was sent to 450+ residents that surround the property to inform them of the timeline and to check the website, <a href="http://cityofloveland.org/foothills">cityofloveland.org/foothills</a>, for additional information. Time-lapse cameras have been installed at three different locations on the property to capture the entire project. On April 4, 2016 construction began on the property. We continue to work on the final design of the solar with Namaste and the bid opening for the transformers for the substation is April 21, 2016.</p> <p><b>Q2 Update:</b> Construction on the Foothills site is going really well. The galvanized chain link fence has been installed around the entire site. The contract for the transformers was approved by LUC. Monthly videos have been updated to the Foothills website for the public to be able to view the progress and retrieve important notices. Shadow Play has been collecting footage for a video on snake mitigation and the entire FEMA project. Namaste is 25% complete with the pile driving to install the racking for the solar panels. Road construction for Rio Blanco is 50% complete.</p> <p><b>Q3 Update:</b> The solar facility commissioning began in early November and is expected to be completed by mid-December. The solar facility will be operational by December 31, 2016 in order to apply the 3x multiplier to the renewable energy credits (RECs) as allowed by the state. Work on the substation is continuing on schedule. Construction of the block wall began in October. A second transformer purchase was approved by LUC and the target ship date for both transformers is March 1, 2017. The switchgear contract is complete and drawings are being done by the manufacturer. The substation construction will complete by FEMA's deadline of September 2017. Construction of Rio Blanco completed in October by Coulson Excavating Company, Inc.</p> <p><b>Q4 Update:</b> The solar facility was completed in early December and finished acceptance testing in mid-December. The solar plant is complete and is producing electricity back onto the grid and it was completed prior to the deadline of December 31st, 2016 for the City to take advantage of the 3x multiplier to the renewable energy credits (RECs) allowed by the state. The substation wall is under construction and will be completed in the first part of the year. The foundations for the transformer and the switchgear are being design. The transformers and switchgear are currently in production and are expected to meet the target ship date of March 1, 2017. The road is open to the public, and final landscaping will be completed in the spring of 2017.</p>			
4 Complete reliability, safety, and capacity capital improvements at Water Treatment Plant (WTP).	11B.3.2 - Water	August 2016	
<p><b>Q1 Update:</b> The WTP expansion project is approximately 85% complete and is entering the start up phase for several project components. Final completion is scheduled for August 2016.</p> <p><b>Q2 Update:</b> The project is 95% complete. Start up is complete for the new chemical facilities, the sand drying beds are complete however we are still running tests to optimize their performance. The new filter building and soda ash silo will be complete and online by early August 2016, final completion of all work is scheduled for August 19, 2016. We will have a ribbon cutting ceremony, tours and lunch on Wednesday, August 24th from 10:00 am till 1:00 pm. LUC members are invited to attend.</p> <p><b>Q3 Update:</b> The WTP Phase II expansion construction project is completed except for a small number of punch list items. The project is running as designed. However, we were not able to run or operate the WTP at the new full capacity of 38MGD so this will need to wait until spring or summer of 2017.</p> <p><b>Q4 Update:</b> The Water Treatment Plant (WTP) Expansion project is complete. Release of the 5% retainage has been processed and paid. The only outstanding or uncompleted test remaining is to run the WTP at the full 38 million gallon per day capacity. Because the project was completed after the 2016 irrigation season ended, we were unable to perform this test in 2016. We plan to perform this test in either April or May of 2017.</p>			

2016 Goals & Quarterly Updates	Comp Plan #	Est. Completion	Actual Completion
5 <b>Begin design of regulatory, reliability, and capacity capital improvements at Wastewater Treatment Plant.</b>	11D.3 - Wastewater	End of 2018	
<b>Q1 Update:</b> Carollo Engineers has completed the preliminary design of the Nutrient Removal upgrades and the headworks screening improvements. Brown and Caldwell has completed preliminary design for Digester #3. Also, we have selected Garney Construction to be the contractor Construction Manager at Risk (CMAR) will be advancing the design of all components with both engineering firms in conjunction with Garney Construction beginning in April. Design work is scheduled to be complete by the end of 2016.			
<b>Q2 Update:</b> We have been conducting twice monthly design meetings with the consultants and the Contractor (Garney Construction), and expect to wrap up final design by the end of 2016. Garney completed a preliminary cost estimate that shows we are tracking roughly within our \$32.7M budget. Construction is expected to begin in February or March 2017 and continue through 2018.			
<b>Q3 Update:</b> Design work has continued and is currently at the 60% stage. Staff and the contractor are reviewing the latest set of drawings and specifications, and the contractor is preparing a 60% cost estimate. Once all review comments and the 60% cost estimate is complete, we will proceed with final design and value engineering to ensure the project comes in on budget. Construction is now expected to begin in May 2017.			
<b>Q4 Update:</b> The project design is 60% complete. Garney Construction, our selected Construction Manager-at-Risk (CMaR) Contractor, has also completed the 60% cost estimate. The Team is in the final stages of reviewing and commenting on the 60% design documents as well as completing the value engineering process to bring the cost estimate back in line with the City's approved budget. In order to take full advantage of the CMaR delivery method as well as the low-flow times at the plant, the Team has decided to break the construction phase into two packages – an early work package and the remaining work package. The early work package is comprised of selected construction elements in which the design can easily be completed in a short amount of time. While these elements are being constructed by the Contractor, the Design Engineers will complete the design for the remainder of the improvements.			
6 <b>Redefine the Key Accounts Program by analyzing customer utility billing data, determining appropriate metrics that qualify businesses as a Key Account and justify a tiered approach for which services are offered to Key Accounts.</b>		June 2016	Dec-16
<b>Q1 Update:</b> Staff presented to the management team of Water and Power and received approval to move forward with our recommendation to the City Manager. Staff will be meeting with the City Manager mid April 2016 and hope to present our findings to you at the May LUC meeting.			
<b>Q2 Update:</b> Staff met with the City Manager and Director of Economic Development about the restructuring of the Key Accounts program. Both managers were pleased and asked us to move forward with our plans. Staff is now developing a plan to introduce ourselves and our program to the new Key Accounts. We will also include the Economic Development department in our process.			
<b>Q3 Update:</b> Staff has introduced one of the four new businesses to the Key Accounts program. The other three will be complete before the Key Accounts meeting in December.			
<b>Q4 Update:</b> Staff welcomed all four new Key Accounts to the program. We invited them all to the annual Key Accounts meeting. Three of the four came and were introduced to the group.			

2016 Goals & Quarterly Updates	Comp Plan #	Est. Completion	Actual Completion
7 <b>Update the 2012 Raw Water Master Plan to address current and anticipated trends and concerns.</b>	11B.1.1 - Water	June 2017	
<p><b>Q1 Update:</b> This work has begun with Spronk Water Engineers doing the first step, updating the Raw Water Yield Analysis on which the Masterplan is based.</p> <p><b>Q2 Update:</b> Work continues with Spronk Water Engineers (SWE) updating the Raw Water Yield Analysis model and making model runs to simulate potential operating scenarios.</p> <p><b>Q3 Update:</b> Engineering Consultant Spronk Water Engineers has recently completed an update to the Native Raw Water Yield Analysis model to use in evaluating options for the Raw Water Master Plan. Staff is scheduled to meet in their offices in November for discussion of those options and initiating the options. This information, once developed, provides the basis for the Raw Water Master Plan update.</p>			
<p><b>Q4 Update:</b> Staff met with Engineering Consultant Spronk Water Engineers in November for the initial demonstrations of the model updates. Several new years of data have been included. SWE is currently evaluating the City's raw water yields under the scenarios provided by staff to determine the updated firm yield values. This information will then be used by staff in updating the City's Raw Water Master Plan for LUC review.</p>			
8 <b>Continue to support a city wide Priority Based Budgeting (PBB) approach which City Council will use to make future decisions on services and programs offered by the City.</b>		On-going	
<p><b>Q1 Update:</b> PBB for Water and Power has been in a holding pattern for over a year, but we expect new activity to be happening in the months to come with the hiring of a new Budget Manager who will start with the City on April 25, 2016.</p> <p><b>Q2 Update:</b> The Budget Office has been dedicating its efforts to prepare for department reviews with the City Manager, so the PBB effort continues to be on hold.</p> <p><b>Q3 Update:</b> The Budget Office has been dedicating its efforts to preparing and presenting the 2017 budget to City Council, so the PBB effort continues to be on hold.</p> <p><b>Q4 Update:</b> No new update.</p>			
9 <b>Continue to further develop the Asset Management Program for Loveland Water and Power with a focus on critical infrastructure.</b>	11B.3.3 - Water 11D.2.2 - Wastewater 11D3.1 - Wastewater	On-going	
<p><b>Q1 Update:</b> Staff continues to have regular risk mitigation meetings at the Wastewater Treatment Plant. The risk mitigation plans include actions such as creating and revising standard operating procedures, implementing preventative maintenance work orders, increasing training efforts, determining which items to keep spares on-hand and creating replacement plans. The focus during the first quarter of this year has been on mitigating the risks associated with the influent structure and influent pumps.</p> <p><b>Q2 Update:</b> Staff is working through risk mitigation meetings at the Wastewater Treatment Plant. The risk mitigation plans include actions such as creating and revising standard operating procedures, implementing preventative maintenance work orders, increasing training efforts, determining which items to keep spares on-hand and creating replacement plans.</p> <p><b>Q3 Update:</b> Staff continues to work on a risk mitigation at the Wastewater Treatment Plant. The risk mitigation plans include actions such as creating and revising standard operating procedures, implementing preventative maintenance work orders, increasing training efforts, determining which items to keep spares on-hand and creating replacement plans. During 3rd quarter, we created risk mitigation plans for Waste Activated Sludge (WAS) Thickening.</p> <p><b>Q4 Update:</b> Staff continues to work on risk mitigation plans at the Wastewater Treatment Plant. The risk mitigation plans include actions such as creating and revising standard operating procedures, implementing preventative maintenance work orders, increasing training efforts, determining which items to keep spares on-hand and creating replacement plans.</p>			

2016 Goals & Quarterly Updates	Comp Plan #	Est. Completion	Actual Completion
10 Continue to provide support of a city wide broadband initiative through staff representation on the Broadband Project Team in conjunction with representatives from Information Technology, the City Manager's Office, the Public Information Office, Finance and the City Attorney's Office.	11C.3.3 - Power	On-going	
<p><b>Q1 Update:</b> The City's internal Broadband Project Team has been meeting on a bi-weekly basis to discuss the broadband initiative. This team includes representation from Water and Power, IT, Legal, the Public Information Office and the City Manager's Office. During the 1st Quarter of 2016, a Request for Proposal was released for a Broadband Assessment and Feasibility Analysis. Responses were received on April 7, 2016 and are currently being reviewed by the internal Broadband Project Team.</p>			
<p><b>Q2 Update:</b> Brieana Reed-Harmel has been appointed as the full-time Project Manager for the broadband project in Loveland. Brieana will be taking over this role that was previously performed by Steve Adams. Denver-based consulting specialist Magellan Advisors has been selected to perform the Broadband Assessment and Feasibility Analysis for the City of Loveland. The internal Broadband Project Team and Magellan Advisors have already begun work towards this effort and public outreach and engagement is expected to begin within the next few weeks. The Broadband Task Force, comprised of representation from local business and community members with an interest in the broadband initiative had their second task force meeting on Thursday, July 7, 2016. This meeting was hosted by the Thompson School District at the Loveland High School Library. At the first meeting on Thursday June 2, 2016, Mindy McCloughan with the Loveland Chamber of Commerce was elected as the Chairperson for the Broadband Task Force and Dr. Dan Maas with the Thompson School District was elected as Vice-Chair. Future meetings will be held the first Thursday of each month from 10:00 a.m. to Noon. The locations for each meeting will rotate to the various Task Force member sites for hosting. John Fogle will represent Loveland City Council at these meetings as the appointed liaison to the Broadband Task Force.</p>			
<p><b>Q3 Update:</b> The assessment and feasibility analysis is being performed by Magellan Advisors with direction from City staff and input from the Broadband Task Force. Survey information is being collected through Open City Hall from both Loveland residents and the business community. A paper survey was distributed at public facilities to solicit feedback from non-internet users. Magellan Advisors and staff met one-on-one to discuss broadband needs and challenges with key community anchors including the School District, developers, large industry customers and healthcare providers. We also conducted separate open hall listening sessions for both commercial businesses and residential Loveland citizens. All of this information is being considered in the feasibility analysis report that Magellan is preparing. A update was given to City Council on October 25, 2016 on possible broadband business model options and preliminary findings from the feasibility analysis and public outreach. Another update will be given on December 13, 2016 with more detailed findings and preliminary financial information. The final feasibility analysis report is expected to be presented in the first quarter of 2017. This report will recommend at least two feasible broadband business model options and implementation plans for each. We then hope to get direction from City Council on which broadband business model will be implemented in Loveland.</p>			
<p><b>Q4 Update:</b> The assessment and feasibility study is still in progress. Community outreach was completed to residents, businesses and anchor institutions to determine current and future needs. An update was provided to City Council on the survey results on October 25th, however the meeting on December 13th was postponed at the request of council. Staff and Magellan Advisors have narrowed the business models down to three options, Public-Private Partnership, Public-Public Partnership, and full Retail model for further investigation. Final analysis results of the three models will be presented to the Task Force and City Council in February, 2017.</p>			

2016 Goals & Quarterly Updates		Comp Plan #	Est. Completion	Actual Completion
11	Participate in the discussion with the four cities and PRPA to explore the feasibility, the best location, and the best implementation practices on how to deploy a community solar garden program which would provide our customers with another renewable energy option.	11C.2.1 - Power	Late 2017	
<p><b>Q1 Update:</b> Staff is in the process of reviewing potential locations for the community solar garden. Platte River and staff members have also drafted an intergovernmental agreement that would include distributed energy resources and a request for proposals to seek potential solar providers.</p> <p><b>Q2 Update:</b> The intergovernmental agreement that included distributed energy resource partnership between Platte River and the Municipalities was adopted by the Loveland City Council at the July 5, 2016 meeting. Platte River has since been meeting with each individual Municipality to receive input on and revisit potential program design.</p> <p><b>Q3 Update:</b> Platte River has presented on community solar rates and preliminary cost models to the Utility Directors for input on program design. Platte River has also entered a technical and professional services agreement with a consultant that has experience designing successful community solar projects for other municipal utilities. The consultant will provide input on the financial model, marketing strategy, and legal/contractual aspects of the program.</p> <p><b>Q4 Update:</b> Staff has reviewed feedback from the Utility Directors and the community solar cost model developed by the consultant. Staff will be working on a market research survey in first quarter 2017. This research can help identify how many people in our region would likely enroll in this type of program, various pricing models and premium levels customers would be willing to pay.</p>				
12	Develop a Loveland Water & Power Strategic Plan which will include discussion on a community vision, the City's mission, LWP's mission and the departments strategic focus areas which may include public health and safety, connectedness, public infrastructure, innovation and legacy, excellent service, honor the public trust and high performance while integrating information technology through all strategic initiatives.	11B.1.2 - Water 11C.1.2 - Power 11D.1.2 - Wastewater	December 2016	
<p><b>Q1 Update:</b> Mid March 2016, an interview notification document was emailed to consultants and staff is in the process of scheduling the interviews to determine which direction we should consider moving forward with to complete our strategic plan.</p> <p><b>Q2 Update:</b> Staff completed the interviews with three consultants and has followed up with each on additional questions. We are ready to move forward with a decision when the time is right.</p> <p><b>Q3 Update:</b> Because of the unexpected changes in staffing at LWP, staff has decided it will be best to wait on starting strategic planning for the department until a permanent Director is hired.</p> <p><b>Q4 Update:</b> Because of the unexpected changes in staffing at LWP, staff has decided it will be best to wait on starting strategic planning for the department until a permanent Director is hired.</p>				

2016 Goals & Quarterly Updates	Comp Plan #	Est. Completion	Actual Completion
13 Assist in the development of Platte River Power Authority's (PRPA) Integrated Resource Plan (IRP) which will be adopted by Western Area Power Administration in 2017 and will encompass resource planning, demand side management program results, the direction on demand response, and the future of energy efficiency goals along with the evolution of the Environmental Protection Agency's (EPA) Clean Power Plan (CPP).	11C.1.2 - Power	2017	
<b>Q1 Update:</b> We do a conference call every two weeks with Fort Collins, Longmont and PRPA to discuss the possible scenarios for IRP and CPP. PRPA runs test scenarios and we discuss them and add feedback that they present to the PRPA board periodically. They have also come to Loveland once to present to LUC.			
<b>Q2 Update:</b> Staff approved the 2016 Strategic Plan that contained near term strategies in another step toward the completion of the IRP, which is not due to WAPA until 2017. Platte River experienced some staffing changes that slowed the process. We continue to wrestle with the EPA's clean power plan but meet quarterly to continue the draft scenarios of the IRP.			
<b>Q3 Update:</b> Staff completed a resource plan, similar to the IRP, but without the filing requirement. It allows us to take a look at different scenarios that might work for all four cities. Platte River still anticipates conducting outreach before we complete the IRP.			
<b>Q4 Update:</b> No change.			





**AGENDA ITEM:** **2**

**MEETING DATE:** 1/18/2017

**SUBMITTED BY:** Michael McCrary, Wastewater Treatment Plant Manager

---

**TITLE:** 2017 Contract Renewal for Hauling & Land Application of Biosolids

---

**DESCRIPTION:**

This item is to approve the 2017 contract renewal for hauling and land application of biosolids from the Wastewater Treatment Plant.

**SUMMARY:**

One of the first stages of treatment at the Wastewater Treatment Plant (WWTP) is to remove easily settled solids from the incoming wastewater. These solids, known as primary sludge, are sent to the anaerobic digesters where a bacterial population removes the various organic compounds to a level acceptable to state and federal regulations. Anaerobic bacteria live in the absence of oxygen.

The WWTP also uses biological treatment to meet state and federal limits of treatment in the downstream treatment process. In this process, known as activated sludge, populations of aerobic, or oxygen dependent, bacteria digest the polluting constituents, removing them from the water. These bacterial populations grow as they use these constituents and a certain percentage has to be wasted out of the system to maintain the proper balance of bacteria to food (the constituents of the various pollutants). This waste activated sludge population is thickened by rotary drum thickeners to reduce sludge volume and enhance further treatment.

The thickened activated sludge is then sent to the same digesters where it is treated by the anaerobic bacterial population until the sludge reaches a treatment level that meets state and federal regulations. These treated solids (biosolids) are hauled to various agricultural fields where they are applied, again within regulations, in order to recycle the remaining nutrients and organic matter to enhance soil conditions. This is a contract renewal request for Veris Environmental, LLC to continue providing biosolids hauling and land application services needed to maintain proper treatment at the WWTP. The original contract was awarded in 2015 based on bids received in November of 2014. The original contract was for one year with the option to renew for an additional four years based on mutual agreement of both parties.

The unit cost for hauling biosolids in the original contract was \$0.0376 per gallon, the amount for 2016 was increased to \$0.0380 per gallon, and this year Veris Environmental, LLC has proposed a small increase to \$0.0391 per gallon.

In 2017, we budgeted \$619,600 for biosolids and other material disposal. We currently estimate .

the highest likely amount of biosolids disposal in 2017 to be approximately 14 million gallons. This would require approximately \$550,000 in disposal costs based on the proposed 2017 hauling rate.

Thus for 2017, we are requesting a contract renewal based on \$0.0391 per gallon times actual gallons hauled in an amount not to exceed \$550,000. This contract renewal will be in effect from February 1, 2017 to January 31, 2018.

Per Municipal Code 3.12.060A and 3.12.060B, the LUC must approve Water and Power contracts above \$500,000 or any change order that causes a contract to equal or exceed \$500,000 and which, when combined with all previous change orders, equals or exceeds 20% of the original contract amount.

**RECOMMENDATION:**

Adopt a motion recommending that LUC approve renewal of the biosolids hauling and land application contract for 2017 with Veris Environmental, LLC in an amount not to exceed \$550,000 and authorize the City Manager to execute the contract on behalf of the City, following consultation with the City Attorney, and to modify the contract in form or substance as deemed necessary to protect the interests of the City.



## CITY OF LOVELAND

### WATER & POWER DEPARTMENT

200 North Wilson • Loveland, Colorado 80537

(970) 962-3000 • FAX (970) 962-3400 • TDD (970) 962-2620

**AGENDA ITEM:** 3

**MEETING DATE:** 1/18/2017

**SUBMITTED BY:** Larry Howard, Senior Civil Engineer

---

**TITLE:** Water Supply Update

---

**DESCRIPTION:**

Raw water supply update.

**SUMMARY:**

Attachment A is the Snow–Water Equivalent chart for Bear Lake station as of January 10, 2017. Water Resources Staff generated this chart to show a range of low, median, and high years as well as the current year-to-date snow accumulation for the Bear Lake SNOTEL station in the Big Thompson Watershed.

Snowpack for the Bear Lake station has increased significantly since last month. It went from following the 2002 low snowpack drought year to now being well above average. However, this is still very early in the overall accumulation for the snowpack to make predication about stream flow runoff next summer.

Attachment B is the composite snowpack for the Big Thompson Watershed for Bear Lake, Lake Irene and Willow Park. All these snowpack stations have shown considerable improvement in one month and more is yet to come.

Attachment C is the snowpack map for the entire state of Colorado, averaging 150% statewide.

**RECOMMENDATION:**

Information item only. No action required.

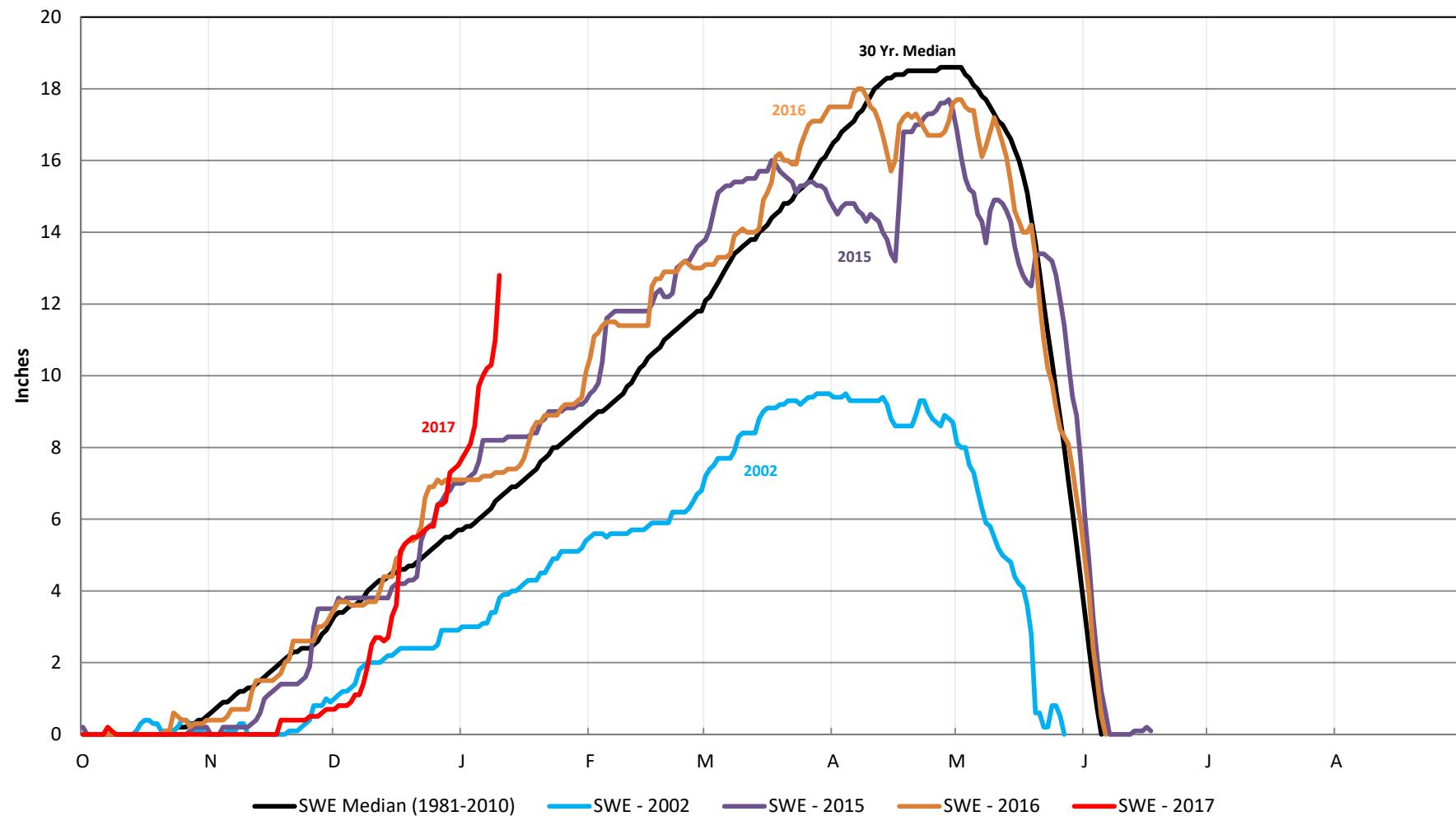
**ATTACHMENTS:**

- **Attachment A:** Snow–Water Equivalent Chart for Bear Lake SNOTEL Station
- **Attachment B:** Composite Snowpack for Big Thompson Watershed
- **Attachment C:** Colorado Snow Water Equivalent



# Attachment A

## Snow - Water Equivalent at Bear Lake as of January 10, 2017



22

3

# Attachment B

## SnoWatch

[northernwater.org/WaterProjects/SnoWatch.aspx](http://northernwater.org/WaterProjects/SnoWatch.aspx)

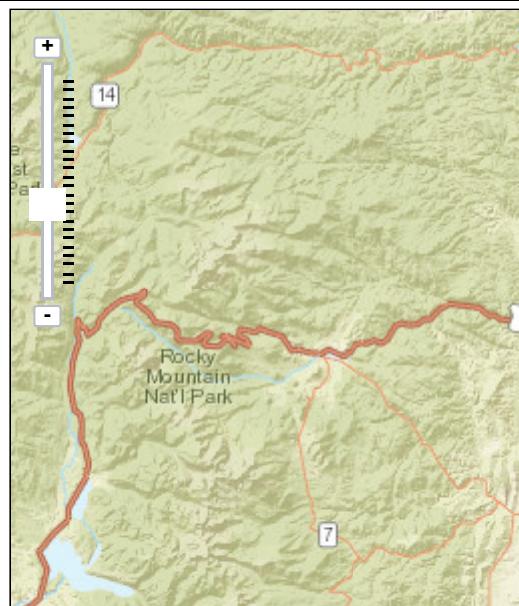


### Big Thompson River Watershed Basin SnoWatch Report for Tuesday, January 10, 2017

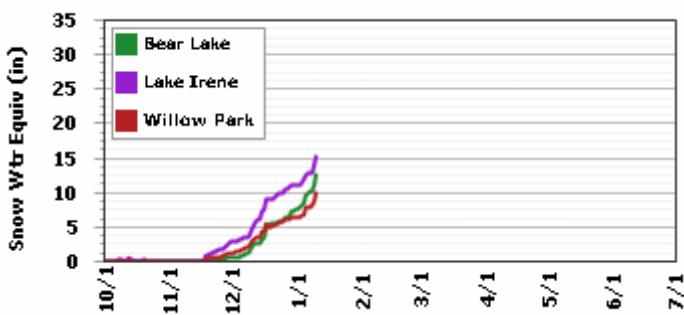
The Big Thompson River watershed drains about 305 square miles above the canyon mouth west of Loveland. In an average year, the Big Thompson River watershed produces about 124,000 acre-feet of water. Nearly 75% of the production (93,000 acre-feet) occurs during the peak snowmelt months of April through July.

The Big Thompson River watershed provides water to the cities of Berthoud, Johnstown and Loveland, and numerous ditch and reservoir companies in southwestern Larimer County.

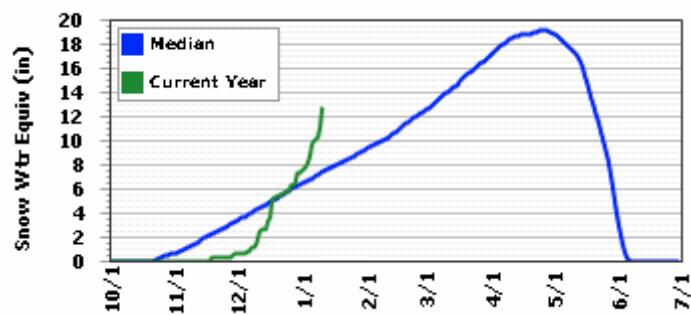
Our SnoWatch system displays year-to-date snow accumulation for three SNOTELs in and near the Big Thompson River watershed. Bear Lake and Willow Park are both within the watershed and represent middle-elevation and high-elevation snow accumulation, respectively. Lake Irene is located on the other side of the Continental Divide (in the Upper Colorado River watershed) but can give indications of snow accumulation in the westernmost portions of the watershed.



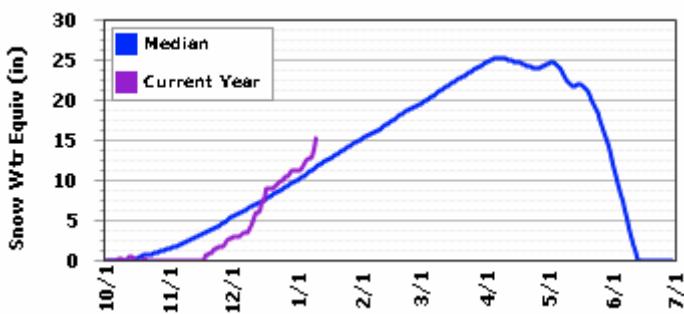
Big Thompson River SNOTEL Sites COMPOSITE



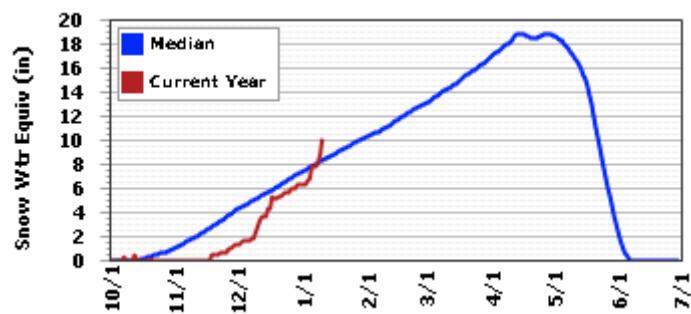
Bear Lake SNOTEL Site



Lake Irene SNOTEL Site



Willow Park SNOTEL Site



SnoWatch data are preliminary and are for general information purposes only. The "Current Year" line on the individual SNOTEL graphs indicates the water content of the snow that has accumulated at each SNOTEL site, expressed as Snow Water Equivalent (SWE) depth in inches. If there are sufficient data, a blue "Median" line is drawn to indicate a typical pattern of accumulation for a normal or average year.

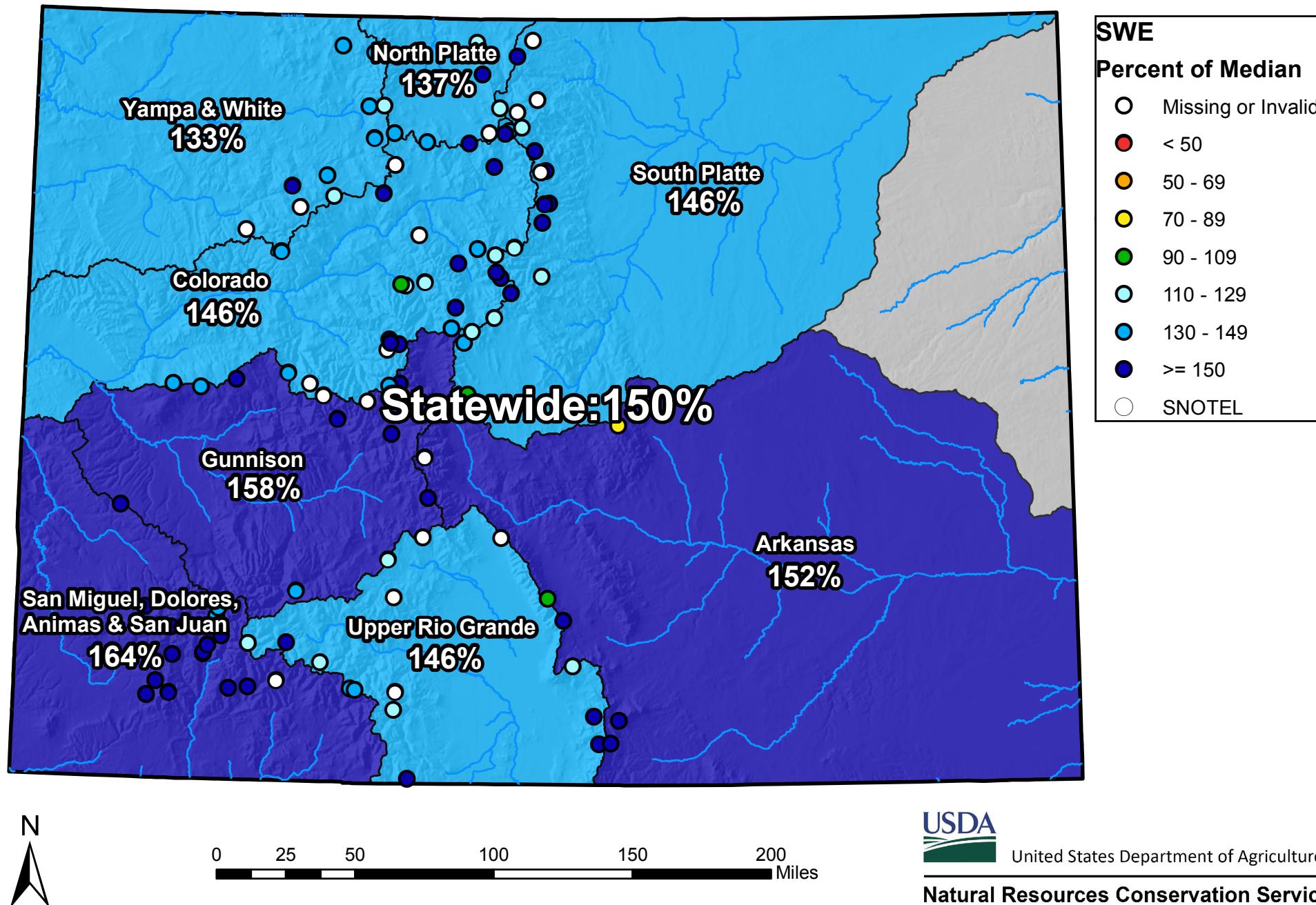
For more information contact: Sarah Smith at [ssmith@northernwater.org](mailto:ssmith@northernwater.org).  
Report generated on Tuesday, January 10, 2017 at 10:19AM MST.



# Attachment C

## Colorado SNOTEL Snow Water Equivalent (SWE) Update Map with Site Data

Current as of Jan 10, 2017







**AGENDA ITEM:** 4

**MEETING DATE:** 1/18/2017

**SUBMITTED BY:** Frank Lindauer, Electrical Engineer

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**TITLE:** Contract Award for Foothills Substation Construction

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**DESCRIPTION:**

Award of a contract for the Foothills Substation Construction Bid 2017-01.

**SUMMARY:**

On January 12, 2017, the City of Loveland will receive bids for the Foothills Substation Construction project. The scope of the construction contract includes foundations and oil containment pits for two transformers, foundation piers for the switchgear control building, conduit, control cable, and ground grid installation. A comprehensive evaluation will be conducted on January 16, 2017 by a committee comprised of Loveland Water & Power and Platte River Power Authority engineers. Among the criteria the bidders' proposals will be evaluated on are price, adherence to technical specifications, capacity to accomplish the work in the required time, and experience with similar projects. Based upon this evaluation, the committee will recommend for award the bidder that best meets our standards and present the results at the meeting.

Per Municipal Code 3.12.060A and 3.12.060B, the LUC must approve Water and Power contracts above \$500,000 or any change order that causes a contract to equal or exceed \$500,000 and which, when combined with all previous change orders, equals or exceeds 20% of the original contract amount.

**RECOMMENDATION:**

Adopt a motion recommending that LUC award the contract for the construction services at the Foothills Substation site on Rio Blanco Avenue to (company to be determined by the LUC meeting) in an amount not to exceed \$(amount to be determined by the LUC meeting) and authorize the City Manager to execute the contract on behalf of the City, following consultation with the City Attorney, and to modify the contract in form or substance as deemed necessary to protect the interests of the City.





**AGENDA ITEM:** **5**

**MEETING DATE:** 12/14/2016

**SUBMITTED BY:** Gretchen Stanford, Interim Director

---

**TITLE:** LUC 2016 Accomplishments and 2017 Goals

---

**DESCRIPTION:**

This item is will give LUC a chance to review and set new goals for 2017 as well as update a staff compilation of the Utilities' 2016 accomplishments.

**SUMMARY:**

Staff has compiled a draft of 2016 Accomplishments and 2017 Goals for your consideration, shown in Attachment A. As an example, see Attachment B for the finalized list of 2015 Accomplishments and 2016 Goals submitted last year and included in the 2016 Boards and Commissions Summit.

At the meeting, we would like to allow for time to discuss the goals the LUC would like to pursue in 2017. As a reminder, the following is the LUC purpose statement in the Boards and Commissions Handbook:

*The Loveland Utilities Commission advises the City Council on all matters pertaining to rates, fees and charges for water, sewer and electric service and other utility services furnished by the City; develops, approves and adopts policies, practices and guidelines to assist the Water and Power Department in the efficient operation of the utilities of the City; approves certain construction contracts and establishes certain fees and charges for utility services and utility development requirements pursuant to guidelines established by resolution of the City Council; and annually recommends a budget to the director of the Water and Power Department.*

**RECOMMENDATION:**

The LUC approves the list of 2016 Accomplishments and 2017 Goals determined through discussion at this LUC meeting for use at the 2017 Boards & Commissions Summit.

**ATTACHMENTS:**

- **Attachment A:** Draft list of 2016 Accomplishments & 2017 Goals compiled by staff
- **Attachment B:** LUC 2015 Accomplishments & 2016 Goals included in the 2016 Boards & Commission Summit



# Attachment A

## 2016 ACCOMPLISHMENTS & 2017 GOALS OF THE LUC

### **2016 Accomplishments**

1. Completed the 2016 Cost of Service Study for Power and developed a 5-year Power rate track.
2. Completed the \$24M Water Treatment Plant expansion.
3. Sourced a \$24.9M loan for Wastewater Treatment Plant expansion and renovation project and began the design phase of the \$32M project.
4. Redefined the Key Accounts Program.
5. Acquired an additional 2,000 acre-feet of storage in the Windy Gap Firming Project.
6. Completed the third year of a \$6M, three-year water main replacement program.
7. Completed the design and construction of the Foothills Solar project, completed the design and began the construction of the Foothills Substation.
8. Continued to evaluate the role the City should have in offering broadband.
9. Assisted in the development of Platte River's Integrated Resource Plan, which encompasses resource planning, demand side management, and the future of energy efficiency goals.
10. Launched a web portal for Coincident Peak Demand Rate customers to manage their energy usage.
11. Developed new rate design for Hidden Valley Estates water customers to address projected shortfall in collections.
12. Implemented electronic approval of invoices, purchase requisitions and purchases.

### **2017 Goals**

1. Finalize design and begin construction of the Wastewater Treatment Plant expansion and rehabilitation project.
2. Complete the construction of the Foothills Substation.
3. Complete an algae mitigation study and implement selected solutions to prevent taste and odor issues.
4. Participate with Platte River and member cities in the program evaluation of common DSM programs.
5. Continue to support the ongoing efforts of the Customer Information Systems (CIS), IT Roadmap and community solar initiatives working collaboratively with Platte River, member cities and various City departments.
6. Determine the best method of financing for participation in the Windy Gap Firming Project and finalize decision on acquiring downstream storage.
7. Complete an infiltration and inflow study/selenium study and develop a selenium reduction program.
8. Complete a comprehensive update of the Water & Power Schedule of Rates, Charges and Fees.
9. Continue to support City Council's direction on a broadband fiber network.



# Attachment B

## 2015 Accomplishments & 2016 Goals of the Loveland Water and Power (LWP) Loveland Utilities Commission

### **2015 Accomplishments**

1. Continued 2013 flood restoration and service recovery efforts by completing a water transmission main replacement, two river crossing projects, a lift station sanitary sewer force main project as well as the large rebuild/restoration of electric infrastructure.
2. Completed Home Supply Big Dam rehabilitation including dam structure upgrades and repairs to the City's and the Home Supply's' individual diversion structures. In addition a viewing and display area for dedication plaques will be built this spring, 2016, to bring full completion to the project.
3. Evaluated and recommend Wastewater Treatment Plant improvements to accommodate nutrient changes and future growth using cutting edge technology, including a nutrient removal State review and conceptual designs of a new digester tank and a control building.
4. Completed a Water and Wastewater Cost-of-Service Rate Study that was adopted by City Council in October, 2015.
5. Supported Planning's Comprehensive Plan Update and Master Plans for development along Highway 287, Highway 402 and downtown revitalization efforts.
6. Further developed the Asset Management Program for LWP by developing risk mitigation plans that include actions such as creating and revising standard operating procedures and implementing preventative maintenance work orders.
7. Completed the FEMA Alternate Project resubmittal to the State and FEMA and gained approval of the scope change, approved a solar developer contract, gained support by presenting at Construction Advisory Board, City Council, Preliminary and Special Review public meetings and several Home Owners Association meetings.
8. Supported City Council's direction on a broadband fiber network by making presentations to possible stakeholder groups and supporting the public's vote in favor of overriding SB-152.
9. Construction is at 70% completion at the Water Treatment Plant which will increase capacity, efficiencies and the safety of operations.
10. Improved the quality control and reliability significantly at the Water Treatment Plant through risk mitigation investigations and improvements.
11. Initiated risk mitigation and wastewater infrastructure improvements as a result of the 2014 Wastewater Treatment Plant influent sewer line collapse.

### **2016 Goals**

1. Complete a Power Cost-of-Service Rate Study which will include a rate analysis of each customer class and current rates as well as explore new renewable rate concepts.
2. Evaluate options to find the best level of participation and funding strategy for the Windy Gap Firming Project.
3. Support the completion of the FEMA Alternate Project by installing the Foothills solar facility by December 30, 2016 to take advantage of the 3x State credit, start the construction and the bidding process for equipment at the Foothills substation with the goal of completing the entire project by September 2017.
4. Complete reliability, safety, and capacity capital improvements at Water Treatment Plant.
5. Begin design of regulatory, reliability, and capacity capital improvements at Wastewater Treatment Plant.
6. Redefine the Key Accounts Program by analyzing customer utility billing data, determining appropriate metrics that qualify businesses as a Key Account and justify a tiered approach for which services are offered to Key Accounts.
7. Update the 2012 Raw Water Master Plan to address current and anticipated trends and concerns.
8. Continue to support a city wide Priority Based Budgeting approach which City Council will use to make future decisions on services and programs offered by the City.
9. Continue to further develop the Asset Management Program for LWP with a focus on critical infrastructure.
10. Continue to provide support of a city wide broadband initiative through staff representation on the Broadband Project Team in conjunction with representatives from Information Technology, the City Manager's Office, the Public Information Office, Finance and the City Attorney's Office.
11. Participate in the discussion with the four cities and PRPA to explore the feasibility, the best location, and the best implementation practices on how to deploy a community solar garden program which would provide our customers with another renewable energy option.
12. Develop a Loveland Water & Power Strategic Plan which will include discussion on a community vision, the City's mission, LWP's mission and the departments strategic focus areas which may include public health and safety, connectedness, public infrastructure, innovation and legacy, excellent service, honor the public trust and high performance while integrating information technology through all strategic initiatives.
13. Assist in the development of PRPA's Integrated Resource Plan which will be adopted by Western Area Power Administration in 2017 and will encompass resource planning, demand side management program results, the direction on demand response, and the future of energy efficiency goals along with the evolution of the EPA's Clean Power Plan.





**AGENDA ITEM:** **6**

**MEETING DATE:** 1/18/2017

**SUBMITTED BY:** Kim Frick, Staff Engineer

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**TITLE:** Request to Deposit 4 Shares of Louden Ditch in the Water Bank

---

**DESCRIPTION:**

This is a request to deposit 4 shares of Louden Irrigating Canal and Reservoir into the City's Water Bank.

**SUMMARY:**

The City of Loveland has received a request to deposit 4 shares of Louden Irrigating Canal and Reservoir into the City's Water Bank. The water has historically been used within Louden Irrigating Canal and Reservoir system, and the City's policy has been to accept shares from this ditch company.

The Municipal Code in Section 19.04.080 requires that the Loveland Utilities Commission consider and accept water rights upon satisfaction of each of the following requirements. (*The italics following each requirement summarizes how the requirement from Section 19.04.080 have been met*):

1. **Evidence of the Applicant's ownership of the ditch water rights in a form satisfactory to the City Attorney.** *This will be provided in the form of a special warranty deed to the City of Loveland as well as an issuance of the stock certificate in the name of the City of Loveland. The Applicant has supplied a copy of the current stock certificate that is in good standing, and in the Applicant's name.*
2. **A Water Bank Agreement executed by the Applicant and, if applicable, other documentation, such as a Statement of Historical Use and Dry-up Covenant, in a form approved by the City Attorney.** *The Applicant submitted a Water Bank Agreement and Statement of Historical Use, which City staff and legal counsel have reviewed and approved. This land has already been developed into a subdivision.*
3. **A finding by the Loveland Utilities Commission that it is in the City's best interest to accept the ditch water rights.** *If the Loveland Utilities Commission finds this water bank deposit acceptable, this condition will be met. Staff recommends this deposit is in the best interest of the City because it is a beneficial addition; it diversifies our water portfolio with native ditch and transbasin water rights.*

Note, staff and legal counsel have reviewed the submitted documents and recommend accepting this water into the City's Water Bank.

**RECOMMENDATION:**

Adopt a motion finding that the requirements set forth in City Code Section 19.04.080 have been met, and that acceptance of the Louden Irrigating Canal and Reservoir shares into the City of Loveland Water Bank is in the City's best interest and should be completed.



---

**AGENDA ITEM:** 7  
**MEETING DATE:** 1/18/2017  
**SUBMITTED BY:** Larry Howard

---

**TITLE:** CBT Water Market Update

---

**DESCRIPTION:**

Discuss the proposed CBT market price adjustment and the CBT purchase philosophy.

**SUMMARY:**

I. CBT Market Price Adjustment Proposed

The City's current cash-in-lieu (C-I-L) price of \$26,250/unit is set at market plus 5%, beginning with a recognized market price of \$25,000/unit, as acknowledged by the LUC in Resolution R-2-2014U at their meeting on 4/16/2014. The previous recognized market price was \$18,500/unit.

CBT prices have risen slowly over the last few months, and have recently averaged around \$26,500/unit. This information is shown graphically on Attachment A, where the average price for the data shown is \$26,553/unit. The vertical bars represent individual transactions, and prices have been relatively consistent between blocks of smaller and larger sizes. Adding 5% to the average price of \$26,553/unit yields a suggested C-I-L price of \$27,880/unit, should the LUC choose to recognize \$26,553 as the market price. A draft of proposed Resolution R-01-2017U is attached for use in making this change if desired.

II. CBT Purchase Philosophy

Staff receives typically two or three calls from individuals and brokers monthly, offering units for sale. A sample of some of these calls is shown for your information. The asking price for several months has been at or near \$27,000/unit.

<u>Date</u>	<u># Units</u>	<u>Asking Price</u>
10/31/16	5	\$26,000/unit
10/31/16	60	\$27,000/unit
11/09/16	13	\$27,000/unit
12/15/16	260	\$27,000/unit ("a little over")

The City's most recent purchase of CBT units occurred September 17, 2015, when the City acquired 50 units of CBT from a joint open space land purchase on CR 30, between City of Loveland Open Space and City of Fort Collins Natural Areas Department. Fort Collins acquired the land and Loveland acquired the units of CBT for \$22,000 per unit, a price that was agreed upon at that time.

The \$22,000/unit price has remained the City's cap on offers it has made, and is lower than both the typical asking prices and the prices for actual confirmed sales. As we look ahead, three options on how to approach making future acquisitions may apply:

1. Move ahead with the idea of purchasing a few units over time to approximately match incoming payments of C-I-L, essentially applying the investment concept of dollar cost averaging. Successful implementation will require exceeding the current \$22,000/unit cap and following market prices as they fluctuate up and down.
  - a. The 2017 budget allocates \$524,500 for this purpose, enough to purchase about 19 units at current prices.
2. Stay with the current \$22,000/unit cap, or any other desired cap, buying low if opportunities become available, and wait until market prices fall to make a larger purchase.
  - a. Attachment B shows the history of the cost of a single CBT unit over the life of the CBT Project.
    - i. When will prices drop again, and under what circumstances?
    - ii. Will Loveland be in a position to purchase at that time?
3. Use the available funds to focus on other raw water projects such as the Windy Gap Firming Project and/or acquisition of downstream storage, and plan to make CBT purchases further in the future.
  - a. The number of CBT units available from agriculture is declining, which may drive prices up further in the future. Attachment C shows the changing ownership of CBT units from AG to M&I over time.

**RECOMMENDATION:**

- I. Recognize, by resolution, the current CBT market price of \$26,553/unit. This will result in a revised Cash-in-Lieu value, adding 5%, of \$27,880/AF.
- II. Direct staff to apply the concept of dollar cost averaging to future purchases of CBT, buying units periodically as C-I-L fees are collected, and direct that staff will negotiate prices as favorably as possible as market prices fluctuate up or down.

**ATTACHMENTS:**

- **Resolution R-01-2017U:** Resetting the market price per unit of CBT water
- **Attachment A:** Graph of CBT Units Sold per Transaction (May – Nov 2016)
- **Attachment B:** Graph of CBT Price per Unit Over Time
- **Attachment C:** Graph of CBT Ownership Changes Over Time

## LOVELAND UTILITIES COMMISSION

### RESOLUTION #R-1-2017U

#### RESOLUTION RECOGNIZING THE MARKET PRICE OF ONE COLORADO-BIG THOMPSON PROJECT UNIT AS AUTHORIZED BY LOVELAND MUNICIPAL CODE SECTION 19.04.041

**WHEREAS**, Section 19.04.041 of the Loveland Municipal Code authorizes the Loveland Utilities Commission to recognize by resolution the market price of one Colorado-Big Thompson Project ("C-BT") unit; and

**WHEREAS**, the Loveland Utilities Commission has reviewed relevant C-BT unit market data; and

**WHEREAS**, the current value of C-BT units per Section 19.04.018.C of the Loveland Municipal Code is one acre-foot per unit.

**WHEREAS**, following said review, the Loveland Utilities Commission applying the 1.05 quotient as required in Section 19.04.041 is of the opinion that the market price of one C-BT unit is \$26,553.

#### **NOW, THEREFORE, BE IT RESOLVED BY THE LOVELAND UTILITIES COMMISSION OF THE CITY OF LOVELAND, COLORADO:**

**Section 1.** That the Loveland Utilities Commission hereby recognizes that the market price of one C-BT unit is \$26,553.

**Section 2.** That Resolution #R-2-2014U of the Loveland Utilities Commission is hereby repealed and superseded in all respects by this Resolution.

**Section 3.** That this Resolution shall be effective as of the date of its adoption.

ADOPTED this 18<sup>th</sup> day of January, 2017.

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Chairman, Loveland Utilities Commission

ATTEST:

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Secretary, Loveland Utilities Commission

APPROVED AS TO FORM:

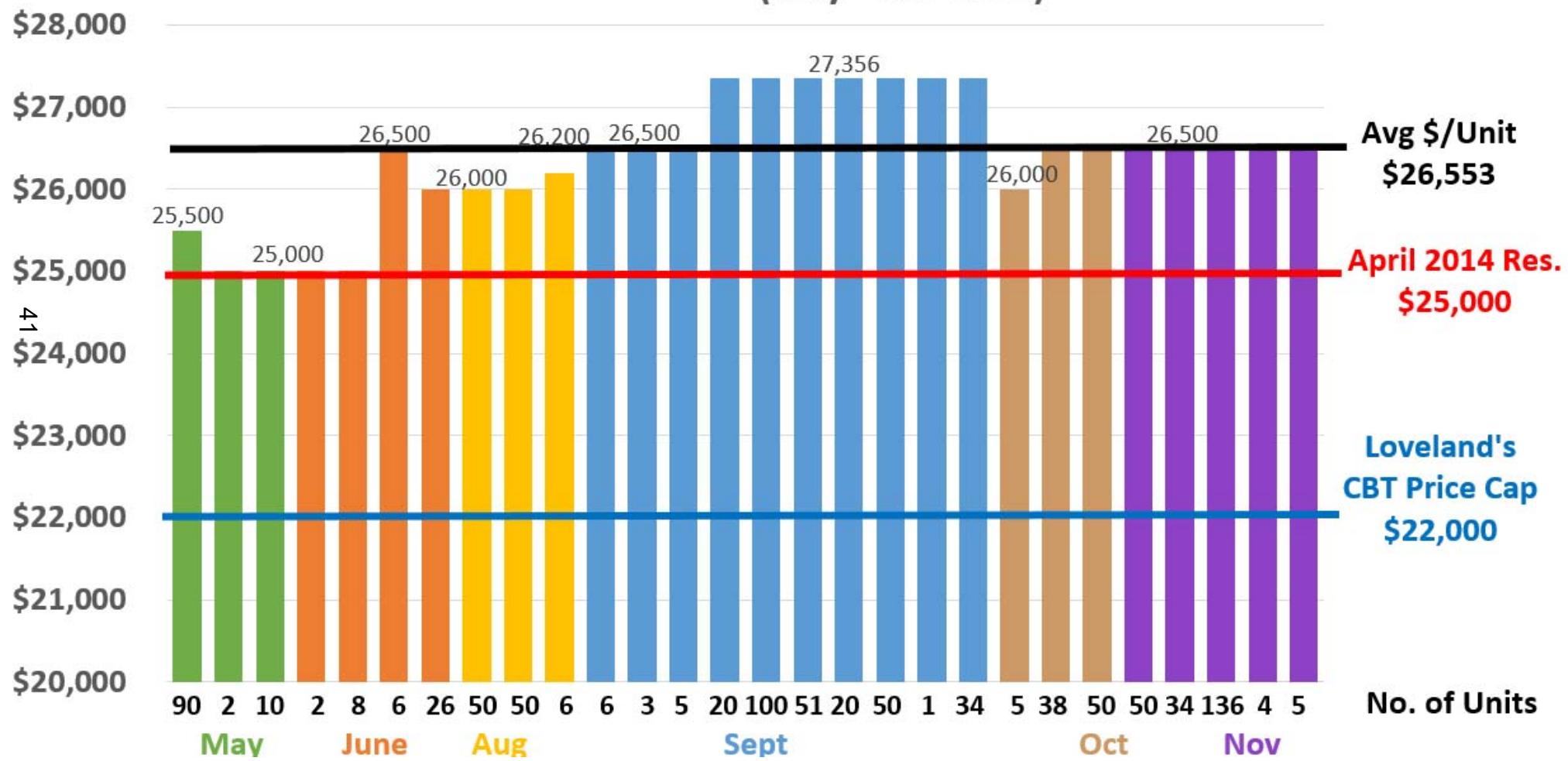


Assistant City Attorney



# Attachment A

Price of C-BT Units Sold per Transaction  
(May - Nov 2016)





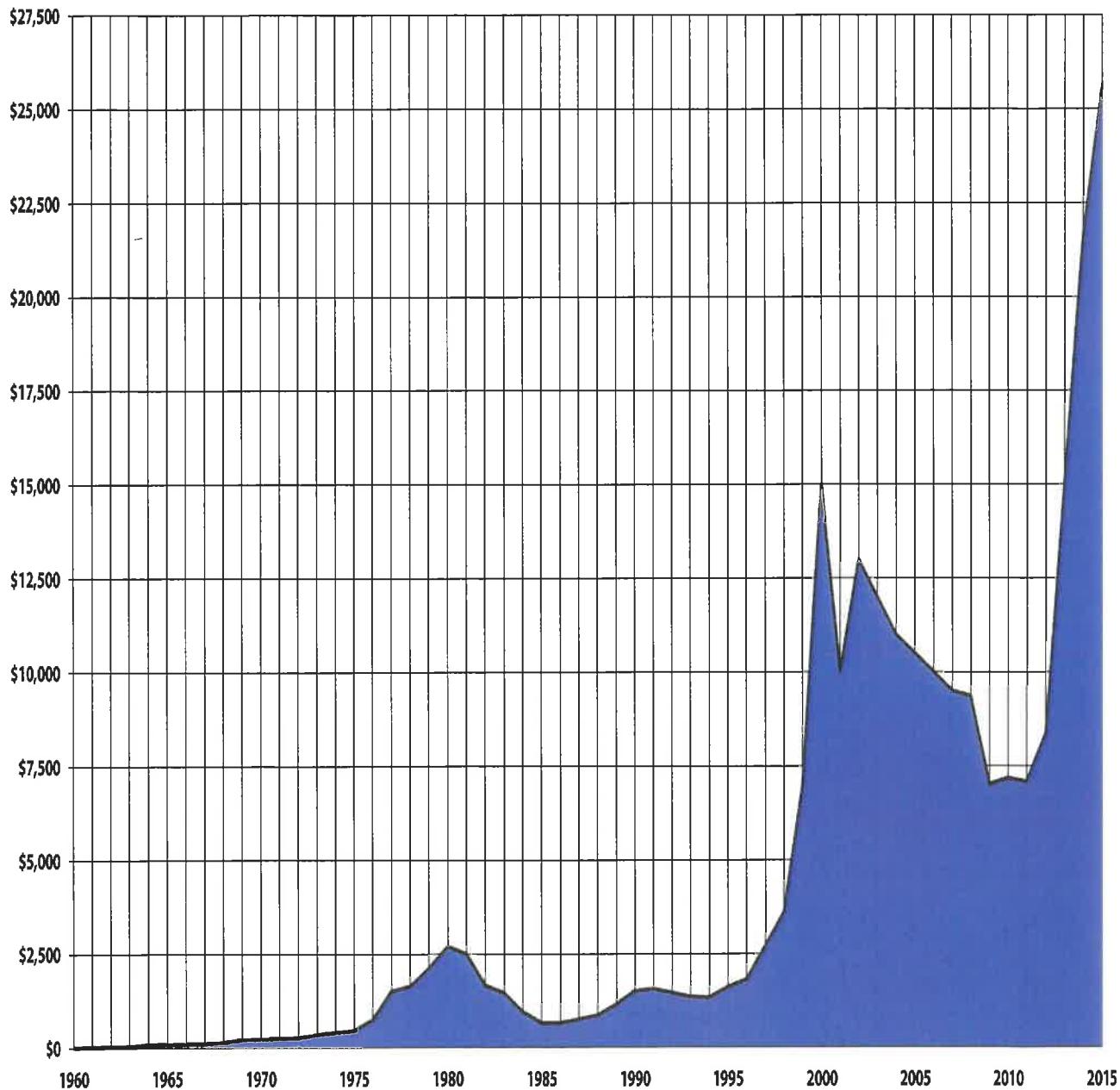
# Attachment B

## CBT Price per Unit Over Time

Historical Representative Market Prices Per Acre-Foot Unit<sup>(1)</sup>

District Enterprise

Years ended September 30,  
Unaudited

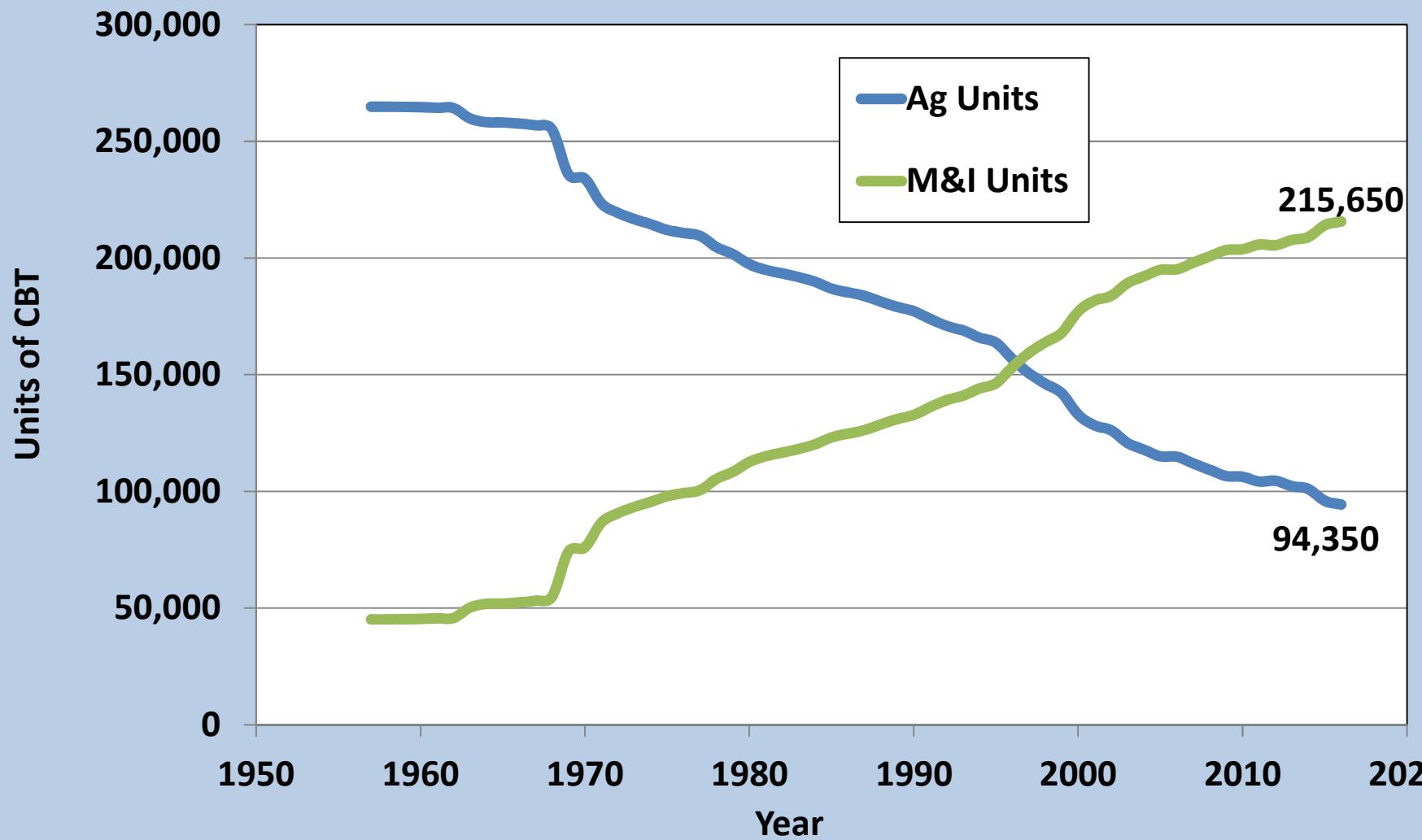


<sup>(1)</sup>District allottees of C-BT Project water may transfer and sell their respective acre-foot units to other parties within Northern Water boundaries. These transactions are subject to rules and regulations of the Board. The above table represents data gathered by voluntary action and serves as an indicator of how the price of C-BT Project water has fluctuated on the open market through the years. Actual transaction prices may vary.



# Attachment C

## Graph of CBT Ownership Changes Over Time







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**AGENDA ITEM:** 8

**MEETING DATE:** 1/18/2017

**SUBMITTED BY:** Mike Scholl, Economic Development Manager

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**TITLE:** Update on The Foundry Project

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**DESCRIPTION:**

This item is to provide the LUC with an overview of The Foundry Project.

**SUMMARY:**

Mike Scholl from Economic Development will provide the LUC with an overview and update on The Foundry Project.

**RECOMMENDATION:**

Staff report only. No action required.





**AGENDA ITEM:** **9**

**MEETING DATE:** 1/18/2017

**SUBMITTED BY:** Gretchen Stanford, Acting Director

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**TITLE:** Commission & Council Reports

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**SUMMARY:**

Discuss events that the Loveland Utility Commission Board members attended and any City Council items related to the Water and Power Department from the past month.

- **LUC Meeting Location:** Discuss whether to move future LUC meetings to the Willow Room in the Service Center.
- **Board Opening:** There is still an opening on the LUC Board, however, there are two individuals interested in applying for the position.
- **March LUC Meeting:** Discuss whether to move the LUC meeting due to Spring Break for both the Thompson and Poudre School Districts.

**RECOMMENDATION:**

Commission/Council report only.





## CITY OF LOVELAND

WATER & POWER DEPARTMENT

200 North Wilson • Loveland, Colorado 80537

(970) 962-3000 • FAX (970) 962-3400 • TDD (970) 962-2620

**AGENDA ITEM:** **10**

**MEETING DATE:** 1/18/2017

**SUBMITTED BY:** Gretchen Stanford, Acting Director

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**TITLE:** Director's Report

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## CORPORATE SERVICES

**Human Resources:** The position was posted for the Water and Power Director and will close on January 20, 2017. Interviews will likely be scheduled shortly thereafter and the City Manager will make the final decision.

Geographical Information Services (GIS) has been moved on the organization chart as their own division under the Director because technology has changed and continues to do so in our line of work. Mapping, software, service requests, work orders and asset management are critical components for our department. GIS serves the needs of all three utilities that we provide – water, wastewater and power. Our hope is to ask for a Utility Application Manager position in the 2018 budget to lead the new group we are now calling Utility Application Services.

LWP has posted for all approved positions in the 2017 budget. The various positions are in different phases of the hiring process at this time.

**I.T. Cybersecurity:** Staff is working with IT and keeping a close eye on the utility in Vermont who discovered a suspected Russian presence on its enterprise network. At this time, there is no evidence that any systems responsible for grid operations were impacted. Edison Electric Institute (EEI) has made the following statement, "On Thursday, December 29, 2016, senior government officials with the Departments of Energy and Homeland Security briefed the CEOs of the Electricity Subsector Coordinating Council (ESCC) and other energy sector representatives regarding Russian cyber incidents against U.S. interests. Critical infrastructure sectors—including the electric power sector—took immediate steps to review and to secure their systems based on this new intelligence."

## FINANCE

**2016 Budget Update:** Due to the December month-end close being much later in the month than a normal month-end close, Utility Finance is still wrapping up the December 2016 preliminary financials; therefore, no financial end-of-the-year wrap-up will be available until February 2017.

**2017 Budget Update:** Being that we are meeting before the end of the month, there will be no financial update for the month of January.

**2018 Proposed Budget:** Staff will soon be starting the process of assembling the 2018 budget. Our staff kickoff meeting has not yet been scheduled, but will most likely be during the last full week of February. We will be coming to the LUC in March to select liaisons for this year's process.

**Financing for the Wastewater Expansion Project:** We have financing for \$24.9 million total for the Wastewater Treatment Plant Expansion Project. Interest is due only on the portion of the loans that are drawn, which we estimate will save LWP approximate \$1.8 million in finance charges. The amount to finance is broken out into two different loans as follows:

- \$5 million, 5-year loan at 3.35%
- \$19.9 million, 20-year loan at 4.11% (This includes a base rate of 3.81% + 0.3% for a 10-year call.) After 10 years, we have the option to renegotiate, which could include refinancing the loan, paying the loan off or a combination of those two.

## CUSTOMER RELATIONS

**Marketing/Public Relations:** We recently launched an LWP Instagram account and have had positive response. We will continue to integrate this additional platform into our social media strategy.

Facebook Insights (December - 2016):

Reach - 5,926  
Engagement - 478  
Impressions - 18,766

**Website:** We are working on updating the renewables section of LWP's website. This includes bringing renewables up the hierarchy, adding the Foothills Solar Facility and more detailed information about Self-Generation, sources of electricity and projects.

### Media:

Reporter Herald – January 1, 2017; [Saving snakes: Students relocate snakes from Loveland solar site](#) – This story has been picked up several times nationally.

Staff received one media inquiry from the Reporter Herald regarding "What we do to prepare our pipes for frigid temperatures?" There was no mention of LWP in the reporter's article.

Reporter Herald – January 11, 2017; [Provide Power: Solar farm west of Mehaffey Park has been operational capturing clean energy for more than a month](#)

**Community Outreach:** Customer Relations has participated in the following two events so far this year:

1. Presentation to Leadership Loveland on January 10, 2017
2. Community Stewardship Lecture Series, "Introduction to Rain Barrels" on January 10, 2017

### **Energy Efficiency:**

Efficiency Works – Business: Customer participation in 2016 exceeded our expectations and our commitment of rebate funding was exhausted. Staff is working on reengaging with the 20 customers who are on the waitlist for 2017.

**Water Conservation:** We are finalizing our contracts with the Center for ReSource Conservation (program vendor) for the 2017 summer programs that include Garden In A Box and Slow the Flow.

## **EVENTS**

The following events are coming up in the near future that we would like you to be aware of and attend if you find the time in your schedules.

**Colorado Water Congress 2017 Annual Convention** — The Colorado Water Congress Annual Convention is the premier water industry event in the state, attracting 500+ attendees that convene for networking and collaboration on the important water issues of the day. Please contact Michelle Erickson if you would like to attend. For more information, please visit <http://www.cowatercongress.org/annual-convention.html>



Hyatt Regency Denver Tech Center  
7800 East Tufts Avenue Denver, CO 80237  
January 25-27, 2017

<b>LUC Members who have expressed an interest in attending the 2017 Colorado Water Congress</b>		
<b>Wednesday Workshops January 25</b>	<b>Annual Conference January 26</b>	<b>Annual Conference January 27</b>
Dave Schneider	Dave Schneider	Dave Schneider
Larry Roos	Larry Roos	Larry Roos
Gary Hausman	Gary Hausman	Gary Hausman
Gene Packer	Gene Packer	
John Butler		

**Boards & Commission Summit** - Staff would like to have a brief discussion about who will be attending the event. Generally, the attendees for the meeting include the LUC chairman, LUC vice chair and the Water and Power Director.

The deadline to submit a one-page document of finalized LUC 2016 Accomplishments and 2017 Goals is January 31, 2017 which will be included in the packet distributed at the summit.

Rialto Theater Center  
228 East 4<sup>th</sup> Street  
Thursday, March 9, 2017  
5:00 pm to 9:00 pm

**Spring Water Users Meeting** – Northern Water’s Spring Water Users Meeting will be on Tuesday, April 11, 2017 at The Ranch. More details will be provided as they become available.

**Tri-City Event 2017** — Mark your calendars for the 2017 Tri-City Event, to be held on Thursday, May 25, 2017 at the Lincoln Center in Fort Collins. More information about this event will be discussed in the coming months.

## OPERATIONS

**Windy Gap Firming Project Allocations:** On January 10, 2017, the Windy Gap Participants Committee met and discussed the plan to finalize the storage allocation for the WGFP to allocate the unallocated 3,820 acre-feet. All but three of the participants expressed their wish to take their portion of the available storage. One participant, Longmont, does not want their portion and it will be distributed proportionally among the other participants. One participant was unavailable to convey its position so Northern’s staff will contact them directly. Another had a pending Council meeting the evening of January 10, 2017 and wanted to wait until after the meeting to confirm their position. Staff’s estimate is that Loveland will have approximately 9,450 AF of subscribed storage space going into the engineering and design phases of the Project, or about 10.5% of the total project.

Also, the participants at the meeting were given a “Forward Calendar of Events” as of January 10, 2017, provided by the financial consultant, *FirstSouthwest, A Division of Hilltop Securities*. This projected timeline estimates approval of a Construction Fund Bill by the Colorado General Assembly in May 2017, including a CWCB \$90 million Subordinate Loan being introduced into the Colorado Legislature. Issuance of public debt for Participants using pooled financing is projected for September 2018.

**Foothills Solar and Substation:** This year ended just as we had hoped with the 19 acre, 3.5 MWs Foothills solar project coming to a close. The field has been generating approximately 2 MWs of power which is approximately 10% more power than we and Namaste anticipated at this time of the year. Namaste sent a drone to capture some amazing images of the solar field, see below.



**Water Treatment Plant Expansion:** The Water Treatment Plant (WTP) Expansion project is complete. Release of the 5% retainage has been processed and paid. The only outstanding or uncompleted test remaining is to run the WTP at the full 38 million gallon per day capacity. Because the project was completed after the 2016 irrigation season ended, we were unable to perform this test in 2016. We plan to perform this test in either April or May of 2017.

**Wastewater Treatment Plant Expansion:** The project design is 60% complete. Garney Construction, our selected Construction Manager-at-Risk (CMaR) Contractor, has also completed the 60% cost estimate. The Team is in the final stages of reviewing and commenting on the 60% design documents as well as completing the value engineering process to bring the cost estimate back in line with the City's approved budget. In order to take full advantage of the CMaR delivery method as well as the low-flow times at the plant, the Team has decided to break the construction phase into two packages – an early work package and the remaining work package. The early work package is comprised of selected construction elements in which the design can easily be completed in a short amount of time. While these elements are being constructed by the Contractor, the Design Engineers will complete the design for the remainder of the improvements.

## GENERAL & FOLLOW UP ITEMS

**Rebranding LUC Items** – Staff is working on rebranding LUC. Our goal is to have a professional look and feel that will revamp the packet, agenda items, attachments, power points, handouts and the marketing material that we use to market the commission. We look forward to launching this by the end of the first quarter in 2017.

**The Brands Project** – Attached is a one page summary of the public participation package for the “Brands at the Ranch” and “Brands West” project in northeast Loveland.

**2017 LUC Meeting Schedule** – Attached is the 2017 Calendar of LUC Meetings.

**2017 LUC Calendar of Events** – Attached is the 2017 Calendar of Events.

**Follow Up Items from Last Month’s Meeting** – The only item action item was a follow up report on boring and substructure contracts. Staff is currently in the process of

evaluating if City Work's reporting is an option. Our hope is to bring you an update at the end of each quarter.

## GENERATION, TRANSMISSION & NORTHERN COLORADO UTILITY REPORTS

**Platte River Power Authority (PRPA)**: The PRPA Board had a retreat on December 20, 2016 at the PRPA headquarters. All board members were in attendance and the meeting was facilitated by Hometown Connections CEO, Tim Blodgett. The two topics that were discussed at the meeting were communication and strategic planning.

PRPA's new website has been launched; please visit [www.prpa.org](http://www.prpa.org) for more information.

Staff is in the process of updating all intergovernmental agreements with PRPA including SCADA services, substation services, demand side management for 2017.

PRPA is part of a group of seven regional utilities that comprise the Mountain West Transmission Group (MWTG). This group has conducted a cost-benefit analysis around the possibility of joining a Regional Transmission Organization (RTO). The next step would be for the MWTG to sign a non-binding Letter of Understanding by early January, demonstrating MWTG's readiness to begin discussions and negotiations with the preferred regional market operator. The attached press release informs you of this information as well as a white paper that explains what the WWTG's history, process and timeline and how wholesale energy and transmission markets operate today.

The next board meeting will be held on February 23, 2017.

**Northern Water Conservancy District**: Northern Water is sponsoring Irrigation Association Education Classes this February that will cover landscape irrigation installation and maintenance, design and management and audits of systems. For fees and a class schedule please visit:  
<http://www.northernwater.org/docs/WaterConservation/2017%20IA%20Classes.pdf>

The next board meeting will be on February 9, 2017.

**Fort Collins Energy Board**: The board did not meet in December of 2016; therefore, there is nothing to report.

The next board meeting will be held on January 17, 2017 and they will be hearing three presentations on advance meter infrastructure, 2015 building code and local amendments and statement to national and state leaders affirming need for action to address climate change.



# City of Loveland Partnerships



## The Project:

Multi-use retail, residential, entertainment, office and hotel complex spanning Interstate 25 north of Crossroads Boulevard. Built space of 2.2 million square feet would include:

- 1 million square feet of retail space.
- 580 luxury apartment units (east).
- 160,000 square feet of Class A office.
- 200 room full-service hotel (east).
- Two limited-service hotels totaling 200 rooms (west).
- Light industrial space totaling 222,000 square feet (west).



## The Proposal: A partnership, City of Loveland and developer Eagle Crossing Inc.

**Significant commercial projects offer** benefits to the communities where they are located. Seldom do major projects come about without public investment in tandem with private venture. Terms of partnerships that bind local governments and private developers are openly negotiated in public meetings, with public participation encouraged. The Loveland City Council reviewed the proposal from Eagle Crossing Inc. for the combined "Brands at the Ranch" and "Brands West" project first in study sessions, then in a public hearing on the developer's proposal.

In voting unanimously to support the project through public participation, the City Council considered benefits and risks associated with the proposal, and also took into consideration the competitive landscape that guides how large-scale retail and mixed commercial developments can occur in Northern Colorado. Recent experience clearly shows that to remain "in the game" to generate sales tax revenue within the City's jurisdiction, the City must play a significant role in making such projects financially feasible. The agreement authorized by the City Council intends to maximize the City's revenue opportunities while minimizing its risk.

*Flip to read details*



## The Agreement: Retail-focused, performance-based

**Tools that cities can apply** to give project developers incentive to invest in major commercial ventures include waivers of development-related fees and taxes, rebates of sales taxes ordinarily paid to local governments and direct cash payments, usually contingent on job creation or some other economic performance measure.

**The agreement binding** the City of Loveland and the developer puts the first two of those into action over a decades-long period. Elements of the agreement are contingent on the developer's ability to obtain leases from retailers in a specific class, and on the long-term performance of those businesses in the marketplace.

### Development fee, use tax waivers:

**The "Brands" project developer** has stated a goal of attracting unique, first-in-market retail tenants. Those retailers that qualify as anchor tenants (50,000+ square feet of retail space, \$15 million+ annual sales) or junior anchor tenants (7,500+ square feet, \$10 million+ annual sales) would qualify for:

- A waiver of use taxes, typically paid on building materials and construction costs, through 2021.
- Waivers of building permit fees during the same term. The combined use tax/permit fee waivers will not exceed \$6.60 per square foot. Other fees, such as capital expansion fees, impact fees and fire, water and sewer fees, would apply to the development.
- The City's commitment to an expedited development review process covering the Brands project.



### City sales tax sharing:

**The "Brands" project developer** is entitled to use a portion of sales tax collected to attract high-quality tenants for a period of 25 years or until 2047, whichever comes first, under this formula:

- Anchor tenants may keep two of every three cents collected in City sales tax for a term of 25 years.
- Junior anchors qualify to keep two of every three cents collected for a period of 15 years after opening, and thereafter may retain 1.25 cents of each three cents collected for the next 10 years.
- Smaller, non-anchor retail businesses may keep 1.25 cents of each three cents collected for 25 years.



### Developer's commitments:

**The developer agrees** to pay costs of construction, operation and maintenance in part through:

- Imposing a 39-mill levy on all taxable property, to be collected through an existing metro district.
- Enacting a minimum 1.75 percent Public Improvement Fee (PIF) on all taxable sales.

# LUC Meeting Calendar

## 2017

JANUARY						
S	M	T	W	T	F	S
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8	9	10	11	12	13	14
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29	30	31				

FEBRUARY						
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MARCH						
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APRIL						
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30						

MAY						
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30	31					

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SEPTEMBER						
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OCTOBER						
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NOVEMBER						
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DECEMBER						
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31						



## **2017 Calendar of Events**

- **Colorado Water Congress - Annual Convention** • January 25-27, 2017  
Hyatt Regency DTC, Denver, CO  
[http://www.cowatercongress.org/cwc\\_events/Annual\\_Convention.aspx](http://www.cowatercongress.org/cwc_events/Annual_Convention.aspx)
- **Big Thompson Watershed Forum – Annual Watershed Meeting** • Thursday, September 14, 2017  
<http://www.btwatershed.org/>
- **Northern Water's - Spring Water Users Meeting** • Tuesday, April 11, 2017  
<http://www.northernwater.org>
- **Boards & Commissions Summit** • Dates TBD (Mid-March)
- **Tri-City Conference** • Thursday, May 25, 2017  
Lincoln Center, 417 W Magnolia St, Fort Collins, CO 80521
- **Colorado Water Congress - Summer Conference** • August 22-25, 2017  
Vail Cascade Resort  
[http://www.cowatercongress.org/cwc\\_events/Summer\\_Conference.aspx](http://www.cowatercongress.org/cwc_events/Summer_Conference.aspx)
- **2014 RMSAWWA/RMWEA Joint Annual Conference** • Dates TBD (About 2<sup>nd</sup> week of September)  
<http://www.rmwea.org>
- **City Council - 2018 City of Loveland Budget Study Session** • Tuesday, September 12, 2017
- **City Council - 2018 City of Loveland Budget Presentation 1<sup>st</sup> Reading** • Tuesday, October 3, 2017
- **City Council - 2018 City of Loveland Budget Presentation 2nd Reading** • Tuesday, October 17, 2017
- **Annual South Platte Forum** • Dates TBD (About the 3<sup>rd</sup> week in October)  
<http://southplatteforum.org/>
- **Northern Water's - Fall Water Users Meeting** • Dates TBD (About the 1<sup>st</sup> or 2<sup>nd</sup> week of November)  
<http://www.northernwater.org>

### **Monthly Meetings**

- **Colorado Water Conservation Board** • In odd numbered months, usually on two consecutive days with the locations rotating around the state  
<http://cwcb.state.co.us/public-information/board-meetings-agendas/Pages/main.aspx>
- **Northern Water Board of District & Subdistrict** • 2<sup>nd</sup> Thursday of the month beginning at 9 am  
220 Water Ave., Berthoud, CO 80513  
<http://www.northernwater.org/BoardOfDirectors/AgendasandMinutes.aspx>
- **Windy Gap Firming Project Meeting** • Tuesday before the 2<sup>nd</sup> Thursday of each month  
220 Water Ave., Berthoud, CO 80513  
<http://www.northernwater.org/BoardOfDirectors/AgendasandMinutes.aspx>
- **South Platte Basin Roundtable** • 2<sup>nd</sup> Tuesday of the month from 4 pm to 8 pm  
<http://cwcb.state.co.us/water-management/basin-roundtables/pages/southplattebasinroundtable.aspx>
- **Platte River Power Authority Board** • **Steve Adams** • Usually on the 4<sup>th</sup> Thursday of the month at 9 am (no meetings in January, June and November)  
2000 East Horsetooth Road, Fort Collins, Colorado 80525  
<http://www.prpa.org>

### **Tours**

- **National Renewable Energy Laboratory (NREL)**  
150313 Denver W Pkwy, Golden, CO 80401  
<http://www.nrel.gov/>
- **Northern Water's East Slope & West Slope Tours**  
220 Water Ave., Berthoud, CO 80513  
<http://www.northernwater.org>
- **CSU Engines & Energy Conversion Lab**  
430 North College Ave., Fort Collins, Colorado 80524  
<http://www.eecl.colostate.edu/lab/>

### **Newsletters**

- **Colorado Water Institute Newsletter:** The Colorado Water Institute (CWI), an affiliate of Colorado State University, exists for the express purpose of focusing the water expertise of higher education on the evolving water concerns and problems being faced by Colorado citizens.  
<http://www.cwi.colostate.edu/subscribe.asp>

# Draft Whitepaper to Platte River Board of Directors

Report on Organized Power Markets—RTOs and ISOs

Presented for the October 2016 Board Meeting

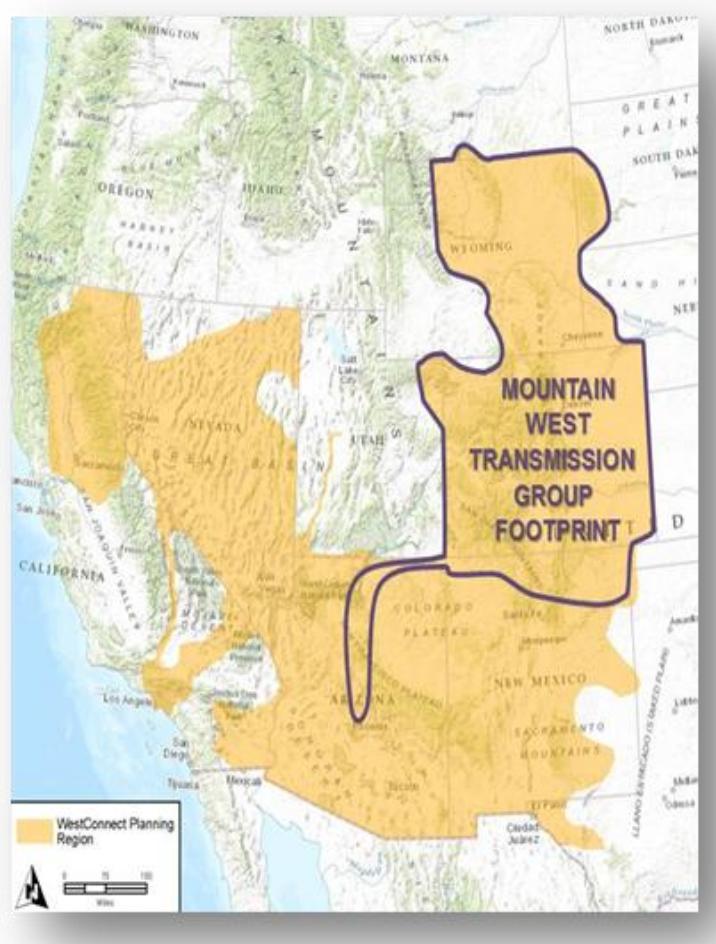
## Overview

This report on the potential formation of a regional power market in the Mountain West is based on currently available information. Discussions are ongoing about the market's structure and membership, so the contents of this document are subject to revision as the effort progresses.

Platte River is currently engaged in discussions with six other regional utilities to consider joining a regional wholesale market in the Rocky Mountain West under a common transmission tariff. The area under consideration would reach from South Dakota to Arizona. In addition to Platte River, the Mountain West Transmission Group (MWTG) includes Basin Electric Power Cooperative, Black Hills Power, Colorado Springs Utilities, Public Service Company of Colorado, Tri-State Generation and Transmission Assoc., and Western Area Power Administration.

MWTG has been evaluating potential options for an independent market operator, including PJM Interconnect (PJM), Midcontinent Independent System Operator, Inc. (MISO), California Independent System Operator (CAISO), and Southwest Power Pool (SPP). The Brattle Group was hired by MWTG to analyze the operating benefits of joining a regional power market.

*Figure 1 – Proposed MWTG Region*



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## History

Prior to joining the MWTG, Platte River participated in two previous attempts with other Rocky Mountain area utilities to develop a regional transmission tariff with the primary focus of eliminating pancaked transmission rates. First, in the mid-1990s, Platte River was involved in the Joint Transmission System (JTS) initiative. The JTS-involved utilities collaborated on a regional postage stamp rate design and MW-mile powerflow studies. The transmission cost shifts were large and the JTS effort ceased for lack of agreement on cost shift mitigation. Second, in the early 2000s, there was an effort in the southwest area of the Western Interconnection to form an RTO called Desert Star, which transformed into a larger footprint called WestConnectRTO. Platte River participated in WestConnectRTO which wanted to create a regional transmission tariff along with an RTO, a larger initiative than the JTS. In 2005 Platte River shared in a WestConnectRTO Cost-Benefit study which determined that the RTO costs exceeded its benefits. Consequently, “RTO” was dropped from the WestConnect name. Platte River continues to participate as a member in the WestConnect regional transmission planning processes.

Then, in April 2014 Platte River was invited to participate in the MWTG effort. Subsequently, MWTG participants have reached the following significant milestones:

- Retained an experienced consultant well known for transmission rate designs in various RTO/ISO regions and presenting before FERC on related tariff matters.
- Decided on an 8-Zone License Plate rate for serving load and a Postage Stamp rate for transmission service through or out of the MWTG footprint.
- Signed a Memorandum of Understanding acknowledging decisions reached, including the pivotal mitigation plan for addressing transmission cost shifts.
- Issued requests for information to four regional operators for an Independent Transmission Tariff Administrator and a Market Operator.

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## Process and Timeline

- The MWTG participants are reviewing results and recommendations from the production cost impact analysis performed by the Brattle Group
- The market study is separated into two phases with the final report due in mid-November
- The choice of a preferred market operator is expected by the end of 2016
- Development of a common regional tariff and market rules would follow the selection of an independent operator
- The goal for a market start-up is fourth quarter of 2018 or first quarter of 2019

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## How Wholesale Energy and Transmission Markets Operate Today

Currently, utilities in the Mountain States Rocky Mountain region operate under a traditional jurisdictional market model, known as a “bilateral trading market”. Wholesale power is typically sourced directly from owned generation facilities or procured through third-party contracts—bilateral agreements—where buyers and sellers negotiate with each other directly and execute a contract to trade power. Bilateral contracts are crucial to the effective operation of power systems, and can help utilities optimize generation and reliability services for their customers, as well as mitigate risks associated with fuel, construction, and other economic factors.

Similarly, these utilities operate their own transmission systems under individual tariffs, mostly independent of other utilities. The individual tariff format means that moving power could result in “pancaking” where multiple delivery charges are incurred as power is scheduled through multiple utility systems. Pancaking may inhibit access to more favorable generation when delivery charges become burdensome. In this situation, utilities will look to alternatives for connecting new generation to their system or building a line to extend their system to the new generation.

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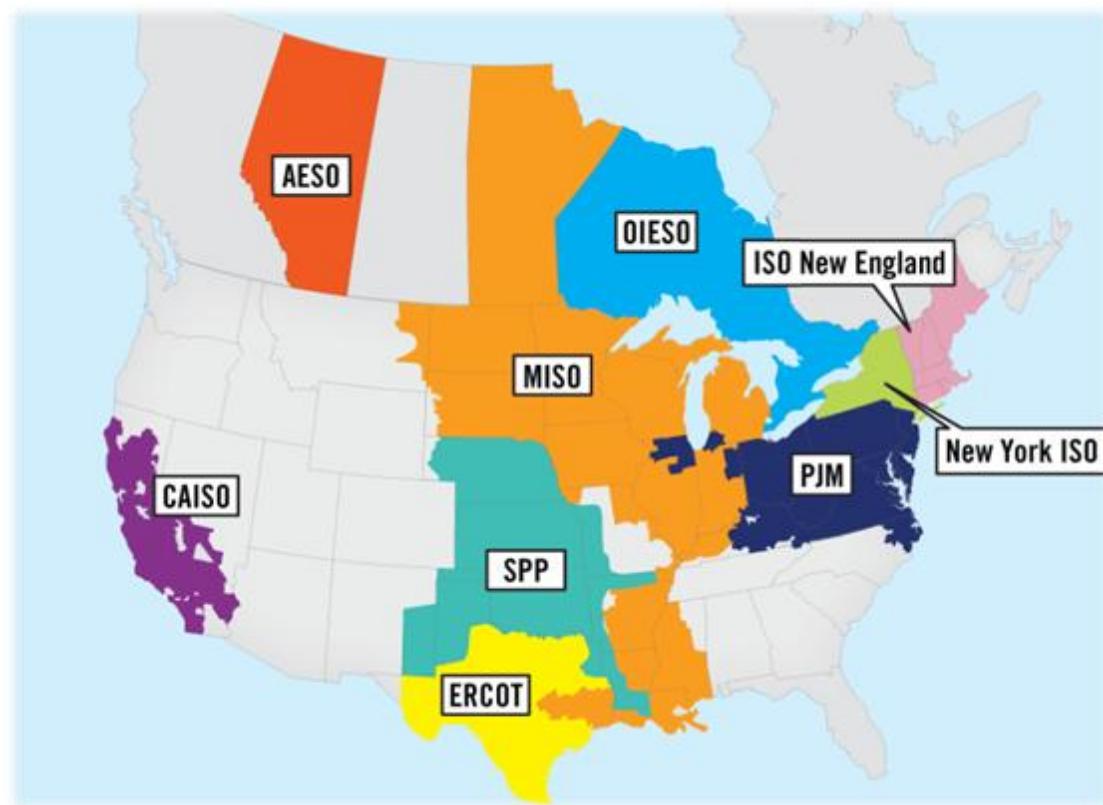
## Organized Markets—RTOs and ISOs

Created as part of electricity restructuring in the US in the 1990s, regional transmission organizations (RTOs) and independent system operators (ISOs) are generally not-for-profit organizations that serve as third-party operators of a pooled transmission system under a common tariff (sometimes referred to as “power pools”).

RTOs/ISOs were first proposed by FERC under Orders 888 and 889, to facilitate competition through non-discriminatory access to transmission systems. RTOs/ISOs consolidate transmission operations over wide areas, often spanning multiple states. Almost two-thirds of the US power network is operated under an RTO/ISO structure, with the exception of the Rocky Mountain region, the Pacific Northwest, and the Southeast. Current organized markets in the continental US include:

- ISO New England
- New York ISO
- PJM
- Micontinent ISO
- Southwest Power Pool
- ERCOT
- California ISO

**Figure 2 -- Organized Wholesale Power Markets in North America**



**Source:** [pjm.com](http://pjm.com)

RTOs/ISOs perform many of the same functions as vertically integrated utilities, but operate using different market incentives and cost recovery mechanisms. RTOs/ISO do not own physical assets, and do not sell electricity to retail customers. Their primary functions are to manage the flow of energy across the grid, manage the flow of market information and money between participants, and conduct regional system planning.

Generally, RTOs/ISOs can run three types of markets that enable them to manage the power grid:

**Energy Markets** are forward power markets operated by all RTOs/ISOs, and include day-ahead and real-time formats. Based on projections of loads provided by utilities, the day-ahead market is used to determine which generators will be scheduled to operate over the course of the next day. Real-time markets are managed by RTOs/ISOs to balance the operation of these scheduled generators on an hour-ahead basis, dependent on prevailing same-day demand conditions.

**Capacity Markets** help ensure that the power system has adequate resources to meet the needs of customers. These markets are intended to provide price signals that can induce new investment in generation, or ensure that existing generators are available when needed. Not all RTOs/ISOs sponsor capacity markets.

**Ancillary Services Markets** ensure the hour-to-hour reliability of the power system. They allow RTOs/ISOs to maintain a portfolio of backup generation in case of unexpectedly high demand or if contingencies, such as generator outages, arise on the system.

## What to Expect in an RTO/ISO

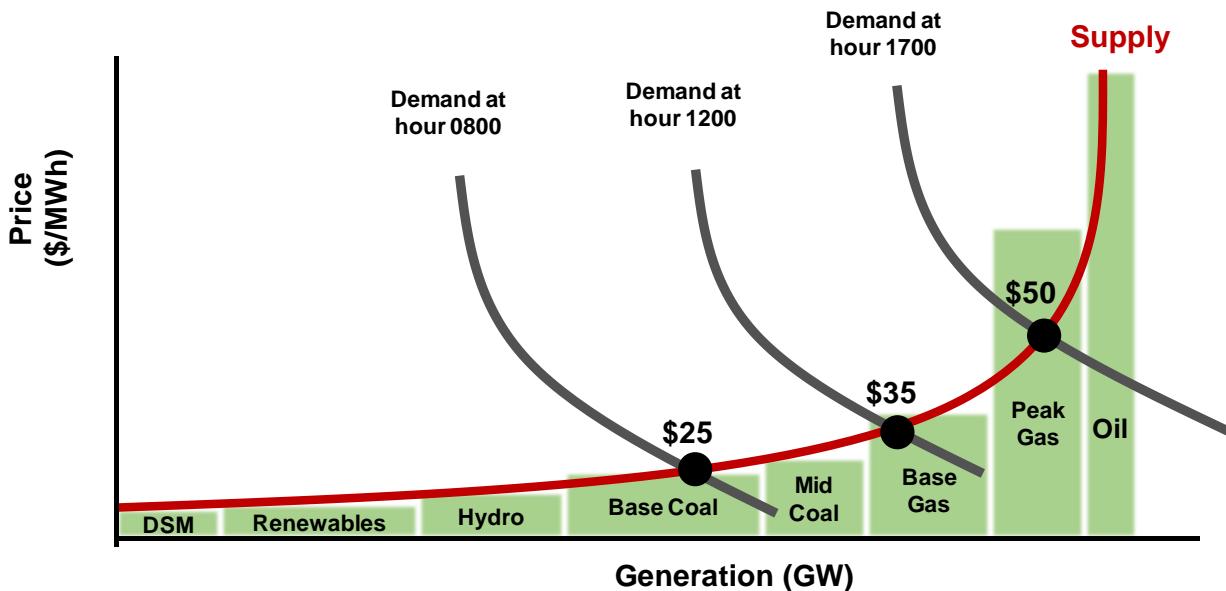
- Utilities will operate under a common transmission tariff administered by the RTO/ISO, eliminating “pancakes” – a potential source of added efficiency
- Transmission rate design in an RTO/ISO can follow “postage stamp” or “license plate” approaches, or both
- Available transmission capacity to deliver power is based on flows rather than physical contracts
- Loads and resources are scheduled/bid on a day-ahead basis into common markets
- RTO/ISO publishes market clearing prices for market participants (LSEs) at specific LMPs
- Markets are optimized through location-specific markets, with location-specific prices (LMPs)
- More complicated market settlements—will require enhanced systems and staff skill sets

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## Market Fundamentals—Locational Marginal Pricing (LMP)

RTO/ISO markets are operated using uniform price auctions, where the price and quantity of generation are bid on a day-ahead basis to the independent operator. In much the same fashion that utilities dispatch their own resources to meet load, the RTO/ISO will consolidate supply offers for generation and match them to predicted demand for power—in an incremental fashion—up to the point where total system-wide demand is satisfied. The cost of the last generator required to satisfy demand sets the incremental price or “**market clearing price**” of power. The chart below demonstrates market clearing prices at different hours during a calendar day.

**Figure 3 – Market Clearing Prices**

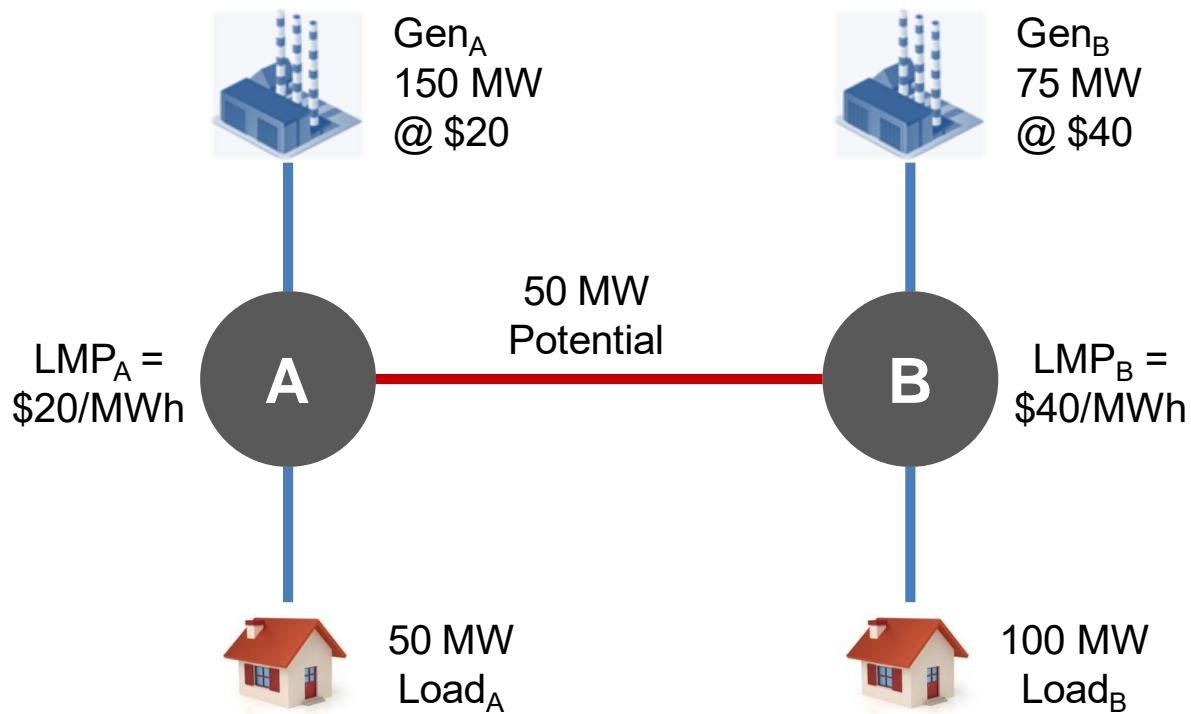


Within an RTO/ISO, there are many points (nodes) where market clearing prices exist. This gives rise to “**locational marginal prices**” (LMPs), which are the basis for wholesale market design. LMPs can vary across an entire RTO/ISO, primarily due to constraints presented by transmission limitations. These differences in LMPs act as price signals for participants in an RTO/ISO to procure generation for retail customers, as well as make decisions for future resource additions for generation and transmission.

Any price difference between LMPs is called “**congestion**”, and represents the value of transmission between two pricing nodes. Transmission lines have physical limits, and represent a potential constraint in an RTO/ISO. If demand for power exceeds the physical limits of a transmission line carrying low-cost power, another route must be used, with “out-of-merit”, higher cost generation driving up the LMP. The uncertainty associated with LMPs can lead power generators to look for methods that ensure their customers’ delivered price of power is representative of their cost to generate power.

In Figure 4, a simple example of LMPs is shown. Two generators and two loads reside on the hypothetical grid. Node<sub>A</sub> and Node<sub>B</sub> are connected by a transmission line with capacity limited to 50 MW (either due to physical limits or a system constraint). Gen<sub>A</sub> is able to supply all 50 MW of Node<sub>A</sub>’s load at \$20/MWh, so Node<sub>A</sub>’s LMP ultimately settles at \$20/MWh. While Gen<sub>A</sub> has sufficient capacity to also supply the demand at Node<sub>B</sub>, the transmission capacity limit between Node<sub>A</sub> and Node<sub>B</sub> prohibits the low-cost resource at Node<sub>A</sub> from satisfying the full amount of the load at Node<sub>B</sub>. Instead, the higher-priced generator at Node<sub>B</sub> operates to meet the remainder of the load needs, and Node<sub>B</sub>’s LMP is \$40. Had there been no transmission constraint between Node<sub>A</sub> and Node<sub>B</sub>, the whole system would settle at an LMP of \$20.

Figure 4 – Locational Marginal Pricing Example



Any participant bidding generation into the market at the LMP or lower will receive the full value of the LMP (provided their generation is scheduled for delivery). For low-cost generators, LMP structures imply greater short-run profits that can offset capital costs. Generators with costs consistently higher than LMPs may find themselves idle to an extent that they consider retirement in an RTO/ISO.

## Hedging and Financial Transmission Rights

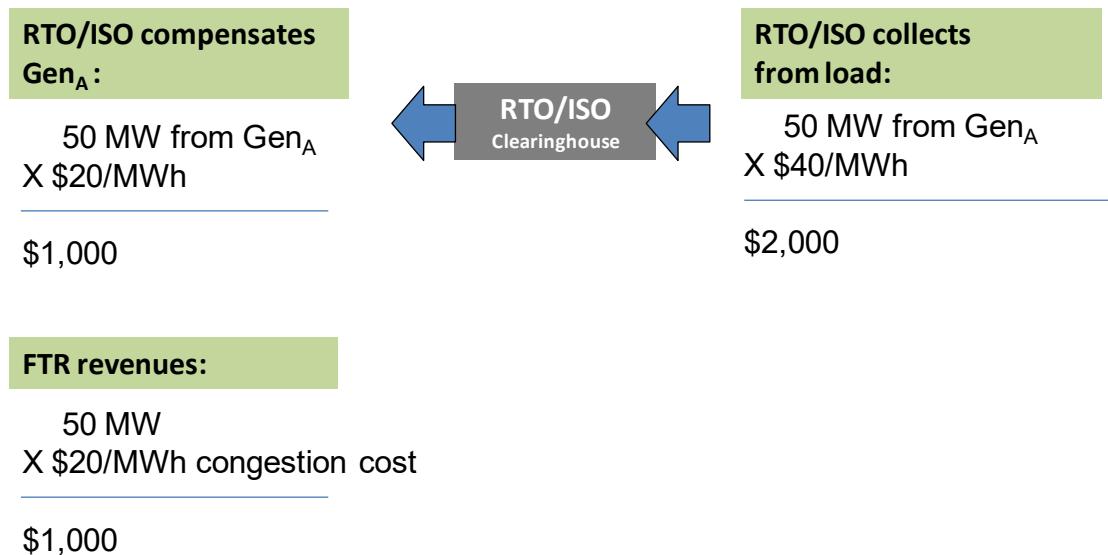
As mentioned earlier, new exposure to potential market volatility at LMPs may require further risk management methods that were unnecessary in a traditional jurisdictional market. To make the LMP structure viable, a method of **hedging** the transmission risk is necessary. Hedges are financial instruments or techniques (like insurance) that can protect against an adverse financial outcome.

To act as a hedge against volatile LMPs, RTOs/ISOs have adopted a structure generally known as "**financial transmission rights**" (**FTRs**), that is vital to ensuring that a transmission owner is indifferent between the traditional jurisdictional model and the RTO/ISO model. FTRs act to ensure that the cost at the generator matches the cost at the delivery point, alleviating the impact of transmission congestion. In RTOs/ISOs, transmission owners are typically allocated FTRs (or rights to FTRs) based on prior utilization of transmission paths that they owned.

Referring again to Figure 4, by virtue of the constrained transmission path, congestion exists between Node<sub>A</sub> and Node<sub>B</sub> equal to \$20/MWh (\$40 LMP<sub>A</sub> minus \$20 LMP<sub>B</sub>). Gen<sub>B</sub> is the last incremental unit responsible for satisfying the system load, and sets the LMP at Node<sub>B</sub> at \$40. However, Gen<sub>A</sub> has also contributed to the load needs at Node<sub>B</sub>, but at a cost of \$20/MW. As the middleman that facilitates transactions, the ISO/RTO bills the load at Node<sub>B</sub> \$40 for each MW supplied by Gen<sub>A</sub>, but compensates Gen<sub>A</sub> \$20 for each MW generated, a difference of \$1,000 in generation receipts.

This example illustrates the risk confronted by Gen<sub>A</sub> in an organized market, and the need for FTRs to make Gen<sub>A</sub> whole in the transaction. Assuming that Gen<sub>A</sub> was allocated a minimum of 50 MW on the transmission path between Node<sub>A</sub> and Note<sub>B</sub>, the revenue generated from holding those FTRs amounts to \$1,000 (\$20/MWh congestion times 50 MW), directly offsetting the cost of congestion between the two paths. An illustration of this computation is shown in Figure 5.

**Figure 5 – FTRs**



## Planning Considerations

Maintaining a reliable supply of energy requires: 1) the proper amount of generation capacity to meet the needs of customers, as well as provide backup, and 2) an adequate supply of transmission infrastructure. Planning around these two needs is a primary function of the RTOs/ISOs.

**Resource Adequacy** RTOs/ISOs may impose a generation resource adequacy requirement on its members to ensure a sufficient supply of generation to the grid. Resource adequacy is often

expressed in terms of reserve margin<sup>1</sup>, which is a common metric for utility generation planning. Reserve margin is the amount of excess generating capacity available beyond the requirements of projected peak demand.

There is no federal reliability standard for reserve margin, but 15 percent is a generally accepted level for individual utilities.<sup>2</sup> In an RTO/ISO, rigorous analyses are conducted (with participation from generation owners) to determine the optimal amount of reserves utilities need to carry under RTO/ISO membership. The sharing of reserves can allow generators to carry fewer total reserves, which can translate into long-run cost savings.

**Transmission expansion planning** is also led by the RTO/ISO under a top-down approach. Long-term economic and public policy transmission needs for the overall region are assessed with participation from members and stakeholders. The top-down approach seeks to determine the optimum system configuration where the overall system benefit is measured by the difference between the cost of grid additions and the associated reduction in transmission congestion costs. These processes are generally iterative to accommodate changing system needs (such as the interconnection of new generators).

Platte River and other MWTG transmission owners will continue to conduct reliability planning for their transmission systems under a bottom-up approach for any projects within a MWTG participant's zone needed to meet reliability criteria. These projects are generally ineligible for regional cost allocation. Transmission owners may also plan and build jointly owned reliability projects. The local transmission owner retains discretion to self-fund any local reliability project originating from its local planning processes.

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## Why Should Platte River Pursue Participation in RTOs/ISOs?

In the Mountain West, a regional approach to planning can help improve the reliability and coordination of a highly complex power network. An RTO/ISO can facilitate more efficient use of the transmission system and reduce the number of resources required to support power needs within a region. Some of the benefits of participation in an RTO/ISO include:

**Enhanced Reliability** By pooling resources, utilities can take advantage of improved system diversity. This can translate into better overall system reliability because of access to additional generation options, particularly during extreme events. Utilities typically plan for enough reserves to cover outage risks associated with their largest generator. Within an RTO, the outage risk tied to an individual generator can be reduced by spreading it among the participants, translating into potential cost savings to carry generation reserves.

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<sup>1</sup> Reserve margin = (Net total capacity – Net total load) / Net total load

<sup>2</sup> Platte River conducts planning according to a 15% reserve margin.

**Improved Flexibility and Efficiency** Wholesale power markets result in economies of scale that can improve operational efficiency. For example, access to a greater number of competitors can yield lower power production costs to participants, and improved utilization and profitability for low-cost generators. In times of surplus or deficit, membership in an RTO/ISO can provide better market depth in which to operate, and promote higher system efficiency for all participants.

**Better Price Transparency** The hallmark of RTOs/ISOs is the sharing of near-term market price information. In traditional markets, the lack of reliable, up-to-date market information can hinder long-term investment in the power grid, or contribute to suboptimal investment decisions. With readily-available market data, generation developers can make improved investment choices—promoting further system efficiency.

**Coordinated Planning** Joint planning within an RTO/ISO can encourage optimal transmission investments across a broad region. Rather than focusing primarily on the benefits from lower production costs, joint planning can also introduce enhanced goal-setting to mitigate interregional congestion, optimize reserve sharing, and satisfy environmental constraints. By broadening the planning construct, greater overall system efficiency and reliability can be achieved.

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## What are the Potential Risks of RTO/ISO Membership for Platte River?

While joining an RTO/ISO has many potential benefits, there are also risks and uncertainties that arise from membership. Some utilities may be reluctant to transfer planning and operational control to a third party. Market and cost uncertainties also exist, and participants can be subject to price volatility during adverse market events. Shown below are some risks associated with participation in an RTO/ISO:

### **Cost Allocation for Regional Transmission Projects**

Cost allocation pertains to MWTG transmission owners contributing to the cost of future transmission projects which have regional benefits. Although MWTG has not decided on its methodologies, terms and conditions for cost allocation, we are discussing the following methodologies which FERC has approved in other regions. A regional transmission project could be cost allocated to Platte River and all other MWTG transmission owners on a voltage and transmission line length basis, or on an adjusted production cost benefit basis. Cost allocation of a regional transmission project could include a combination of local and regional allocations. A potential risk for Platte River is sharing costs of a very large transmission project that the RTO plans through its top-down approach.

### **Challenges of new work processes**

Utilities may need to reinvent their operations processes to accommodate structures required within an RTO/ISO. This may require investment in additional staff and equipment to standup a new SCADA system and real-time power system contingency analysis tool, conduct market analysis, manage power transactions, and coordinate system management with the RTO/ISO. The

administration of new systems may also require more involvement from IT staff. Also, regulatory requirements could require additional legal support.

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## Glossary

<b>MWTG</b>	Mountain West Transmission Group
<b>RTO</b>	Regional Transmission Organization—RTOs were created under FERC Order 2000 to coordinate, control, and monitor an electricity transmission grid. Mostly synonymous with ISO.
<b>ISO</b>	Independent System Operator—an organization authorized by the Federal Energy Regulatory Commission (FERC) that coordinates, controls, and monitors the operation of the electrical power system, usually at the state-level, but sometimes spanning multiple states. Mostly synonymous with RTO.
<b>FERC</b>	Federal Energy Regulatory Commission
<b>SCADA</b>	Supervisory Control And Data Acquisition—is a system for remote power system monitoring and control that operates with coded signals over communication channels.
<b>LMP</b>	Locational Marginal Pricing—a pricing approach that addresses congestion costs, by reflecting the cost of re-dispatch for out-of-merit generation and the cost of delivering energy to the location.
<b>Node</b>	A specific locational marginal pricing point on a power network.
<b>Congestion</b>	A condition on a transmission network when all desired transactions cannot be accommodated due to a system constraint.
<b>FTR</b>	Financial Transmission Right—a financial contract entitling the FTR holder to a stream of revenues (or charges) based on the day-ahead hourly congestion price difference across an energy path.
<b>Hedge</b>	A financial instrument, like insurance, used to reduce risk for an uncertain event.





# Mountain West Transmission Group

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## Mountain West electricity providers explore RTO options

*Mountain West Transmission Group to open discussions on possible membership; expanded electricity market may improve reliability and create savings*

**DENVER** (January 6, 2017) – Ten electricity service providers representing nearly 6.4 million customers primarily in the U.S. Rocky Mountain Region announced plans today to explore potential participation with an existing regional transmission organization (RTO). These providers could expand their electricity market operations if benefits can be realized.

The informal group, known as the Mountain West Transmission Group, began discussions in 2013 to evaluate a suite of options ranging from a common transmission tariff to RTO participation. Today, the group intends to commence discussions with the Southwest Power Pool (SPP) as the next step in exploring potential membership with a particular RTO. In the event these discussions with SPP are unsuccessful, however, the participants may pursue similar discussions with either the Midcontinent Independent System Operator (MISO), PJM Interconnection, or both.

“We are leveraging our collective strength through this mutually beneficial collaboration to increase flexibility,” said Western Area Power Administration (WAPA) Administrator and CEO Mark A. Gabriel. “Participating in Mountain West is part of WAPA’s evolution of mission-critical customer service in the ever-changing energy industry.”

Stuart Wevik, Group VP of Electric Utilities at Black Hills Energy said: “The development of a wholesale energy market presents opportunities to reduce costs and increase reliability. We will continue to evaluate these two pillars in the next phase of analysis to ensure that we continue to deliver safe, reliable and cost effective energy to our customers.”

“Participation in a regional market can provide operational efficiencies through economies of scale and increased opportunities to bring lower cost renewables into our system,” said Jason Frisbie, General Manager and CEO, Platte River Power Authority. “These advantages would enable us to add additional value for our member owners by increasing our ability to deliver reliable, cost-effective and environmentally-responsible energy.”

“Colorado Springs Utilities is looking forward to evaluating whether participation in an RTO is a good fit for the future our community,” said John Romero, general manager of Energy Acquisition, Engineering and Planning.

“This agreement marks an important step forward in our mission to deliver reliable, low-cost power and services to our members,” said Paul Sukut, Basin Electric CEO and general manager. “Leveraging the assets and strength of others in the region will facilitate enhanced service and increased capabilities for our members. Like our decision to join SPP for our east-side power supply, this announcement reflects years of diligent work and analysis by our employees and the Mountain West team. We’re committed to working with the participants and look forward to continued analysis for the betterment of our membership.”

– more –

"As Tri-State evaluates how an organized market could benefit its member systems, working together to explore RTO membership is a positive step in assessing the association's needs and future direction," said Joel Bladow, Tri-State Generation and Transmission Association senior vice president of transmission.

"This is a crucial step in evaluating the potential benefits of a regional energy market for the Mountain West," said Steve Beuning, Xcel Energy director for Market Operations.

The decision to evaluate membership in an existing RTO follows substantial Mountain West analysis. Mountain West would bring a combined 15,700 miles of transmission line to an existing RTO. The group has performed a transmission cost study; a projected market benefits study; and an evaluation of proposals provided by four existing independent system operators, including SPP, MISO, the California Independent System Operator and PJM.

Subject to stakeholder input and appropriate approvals, Mountain West expects to make a decision in mid-2017 and, if applicable, reach market implementation by early 2019. While Mountain West is optimistic that an RTO may benefit its entire membership, each Mountain West participant will ultimately need to evaluate for itself whether potential membership makes sense.

#### **About the Mountain West Transmission Group**

Participants in the Mountain West Transmission Group include:

- Basin Electric Power Cooperative (BEPC), based in Bismarck, N.D.;
- Black Hills Energy's three electric utilities in Colorado, South Dakota and Wyoming, subsidiaries of the Rapid City-based Black Hills Corp
- Colorado Springs Utilities (CSU);
- Platte River Power Authority (PRPA), based in Fort Collins, Colo.;
- Public Service Co. of Colorado (PSCo), an operating company of Xcel Energy based in Denver;
- Tri-State Generation and Transmission Association (Tri-State), based in Westminster, Colo.; and
- Western Area Power Administration (WAPA)'s Loveland Area Projects (LAP) and Colorado River Storage (CRSP) Project.

The Mountain West participants are exploring if joining an RTO would result in the anticipated level of benefits. RTO benefits may include optimized use of existing generation and transmission assets through an expanded electricity market; improved grid access; continued improved grid reliability services; and improved generation and transmission planning across multiple states and systems. By exploring membership with an existing RTO, the Mountain West participants would have the advantage of an existing electricity market design.

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