County of Los Alamos

1000 Central Avenue
Los Alamos, NM 87544

Agenda - Final

Board of Public Utilities

Jeff Johnson, Chair; Carrie Walker, Vice-chair; Paul Frederickson, Stephen McLin and Kathleen Taylor, Members
Tim Glasco, Ex Officio Member
Harry Burgess, Ex Officio Member
Christine Chandler, Council Liaison

Wednesday, June 20, 2018 **5:30 PM** **1000 Central Avenue Council Chambers**

REGULAR SESSION

Complete Board of Public Utilities agenda packets, past agendas, videos, legislation and minutes can be found online at http://losalamos.legistar.com/Calenar.aspx. Learn more about the Board of Public Utilities at http://www.losalamosnm.us/gov/bcc/utilitiesboard.

PUBLIC COMMENTS:

Please submit written comments to the Board at bpu@lacnm.us. Oral public comment is accepted during the two periods identified on the agenda and after initial board discussion on a business item, prior to accepting a main motion on an item. Oral comments should be limited to four minutes per person. Requests to make comments exceeding four minutes should be submitted to the Board in writing prior to the meeting. Individuals representing or making a combined statement for a large group may be allowed additional time at the discretion of the Board. Those making comments are encouraged to submit them in writing either during or after the meeting to be included in the minutes as attachments. Otherwise, oral public comments will be summarized in the minutes to give a brief succinct account of the overall substance of the person's comments.

1. CALL TO ORDER

2. PUBLIC COMMENT

This section of the agenda is reserved for comments from the public on Consent Agenda items or items that are not otherwise included in this agenda.

3. APPROVAL OF AGENDA

4. BOARD BUSINESS

4.A. Chair's Report

4.B. Board Member Reports

4.C. Utilities Manager's Report

4.C.1 10911-18 Utilities Manager's Report

Presenters: Tim Glasco, Utilities Manager

PG. 1 - 4

4.D. County Manager's Report

4.E. Council Liaison's Report

4.F. Environmental Sustainability Board Liaison's Report

4.G. General Board Business

4.G.1 10692-18 Quarterly Conservation Program Update

Presenters: James Alarid, Deputy Utilities Manager - Engineering

PG. 5

4.H. Approval of Board Expenses

4.I. Preview of Upcoming Agenda Items

4.I.1 10914-18 Tickler File for the Next 3 Months

Presenters: Board of Public Utilities

PG. 6 - 9

5. PUBLIC HEARING(S)

5.A 10822-18 Public Hearing for Modification of Department of Public Utilities Rules & Regulations - Modifications to Rule GR-15: Deposits; and Deletion of Rule GR-16: Credit Rating

Presenters: Bob Westervelt, Deputy Utilities Manager - Finance/Admin

PG. 10 - 14

5.B 10821-18 Public Hearing for Modification of Department of Public Utilities Rules & Regulations - Fee Schedule & Preface

Presenters: James Alarid, Deputy Utilities Manager - Engineering

PG. 15 - 19

6. CONSENT AGENDA

The following items are presented for Board approval under a single motion unless any item is withdrawn by a member for further Board consideration in the "Business" section of the agenda.

CONSENT MOTION -

I move that the Board of Public Utilities approve the items on the Consent Agenda as presented and that the motions in the staff reports be included in the minutes for the record.
OR
I move that the Board of Public Utilities approve the items on the Consent Agenda as amended and that the motions contained in the staff reports, be included in the minutes for the record.

6.A 10913-18 Approval of Board of Public Utilities Meeting Minutes

Presenters: Department of Public Utilities

PG. 20 - 33

6.B 10905-18 Approval of Department of Energy (DOE) - Los Alamos County (LAC) Resource Pool Budget for Fiscal Years 2019/2020

Presenters: Bob Westervelt, Deputy Utilities Manager - Finance/Admin

PG. 34 - 45

7. BUSINESS

7.A 10758-18 Discussion of Proposed Revisions to Water Rule W-6 “Back Flow Prevention and Cross Connection Control” of the DPU Rules and Regulations and Proposed Implementation of New Fees and Enforcement Action Plans to Modernize the Back Flow Prevention - Cross Connection Control (BFP-CCC) Program in Water Distribution.

Presenters: Jack Richardson, Deputy Utilities Manager - GWS Services

PG. 46 - 110

7.B OR0815-18 **Approval of Incorporated County of Los Alamos Code Ordinance No. 683, An Ordinance to Authorize the Refinance and Reissuance of Amended Loan and Promissory Note Agreements with the New Mexico Environment Department to Reflect a Reduction of the Prior Loan Principal Balance, Lowered Interest Rate and Extension of the Payment Term**

Presenters: Bob Westervelt, Deputy Utilities Manager - Finance/Admin

PG. 111 - 127

8. STATUS REPORTS

8.A 10912-18 Status Reports

Presenters: Department of Public Utilities

PG. 128 - 140

9. PUBLIC COMMENT

This section of the agenda is reserved for comments from the public on any items.

10. ADJOURNMENT

If you are an individual with a disability who is in need of a reader, amplifier, qualified sign language interpreter, or any other form of auxiliary aid or service to attend or participate in the hearing or meeting, please contact the County Human Resources Division at 662-8040 at least one week prior to the meeting or as soon as possible. Public documents, including the agenda and minutes can be provided in various accessible formats. Please contact the personnel in the Department of Public Utilities (505) 662-8132 if a summary or other type of accessible format is needed.

Los Alamos, NM 87544
www.losalamosnm.us

County of Los Alamos

Staff Report

June 20, 2018

Agenda No.:	4.C.1
Index (Council Goals):	BCC - N/A
Presenters:	Tim Glasco, Utilities Manager
Legislative File:	**10911-18**

Title

Utilities Manager's Report

Body

As part of the standing Utilities Manager's report, Mr. Glasco will discuss the attached document related to the Clean Air Task Force.

Attachments

A - Letter from the Clean Air Task Force

CLEAN AIR TASK FORCE

Dear Sir or Madam:

I write to you today on behalf of the Clean Air Task Force (CATF), a non-profit environmental organization[1] founded in 1996 to advocate for policies to fight air pollution and climate change.

CATF supports your current participation in the Utah Associated Municipal Power Systems' (UAMPS') Carbon Free Power Project (CFPP) and urges for continued participation and clean energy leadership by associated and new parties. CATF believes that advanced nuclear energy sources, along with renewable energy and other low carbon sources, could be key to a low carbon energy future by mid-century, when the analysis of the Intergovernmental Panel on Climate Change suggests power grids will need to be at near-zero carbon emissions. The CFPP is an important step in that direction.

Here are the main points that underlie our support for this project:

- The world's climate is rapidly heating up and at present rates of change, by 2030, half the world's population alive today can expect to experience a very different climate.[2] While political debate continues, there is broad scientific consensus that these climate changes are driven by the heating of the earth's atmosphere from carbon dioxide released by the burning of fossil fuels.[3] Due to the century-scale persistence of carbon dioxide in the atmospheric system, achieving our climate targets will require zeroing out carbon from Earth's energy system early in the second half of this century, and even sooner for power grids, which will be relied on to electrify and decarbonize transportation and industry as well.
- Nearly all credible studies suggest that achieving a zero carbon electric power grid in this time frame is more likely if we have viable zero carbon on-demand power options in addition to variable renewable energies such as wind and solar.[4] This is likely true even

[1] www.catf.us. The CATF is entirely financed by donations from leading climate protection-oriented foundations and receives no funds from private sector companies or the U.S. government.
[2] Diffenbaugh, Noah S., et al. "Quantifying the influence of global warming on unprecedented extreme climate events." *Proceedings of the National Academy of Sciences* 114.19 (2017): 4881-4886
[3] Intergovernmenal Panel on Climate Change, *Understanding and Attributing Climate Change* (2007), http://www.ipcc.ch/publications_and_data/ar4/wg1/en/spmsspm-understanding-and.html
[4] Clack, Christopher TM, et al. "Evaluation of a proposal for reliable low-cost grid power with 100% wind, water, and solar." *Proceedings of the National Academy of Sciences* (2017): 201610381. See also, Intergovernmental Panel on Climate Change, Fifth Assessment (2014), Working Group III – Mitigation of Climate Change, http://www.ipcc.ch/report/ar5/wg3/, Presentation, http://www.slideshare.net/IPCCGeneva/fifth-assessment-report-working-group-iii slides 32-33; The White House (2016). *United States Mid-Century Strategy for Deep Decarbonization*. Washington, DC, https://unfccc.int/files/focus/long-term_strategies/application/pdf/us_mid_century_strategy.pdf:

if we have low cost battery storage, because the production gaps associated with wind and solar tend to be weekly and seasonal rather than just daily gaps (which could, unlike longer gaps, be addressed by short-duration battery storage)

- SMRs represent a particularly promising element of a zero-carbon energy portfolio. Assuming that variable wind and solar will play an increasingly large role in that portfolio due to a variety of state and federal policies, the smaller size of SMRs may be an especially appropriate scale to complement variable renewable energy production.
- SMRs offer new advantages in the form of improved scalability and constructability that will drive down construction costs and timelines. Additionally, SMRs, such as NuScale, offer reduced safety challenges due to reduced size and the incorporation of more passive safety systems. These factors combined suggest the CFPP could bring a less expensive, safer and more commercially viable nuclear power plant to the market for the first time – and demonstrate the possibilities for future nuclear scale up.
- Nuclear waste has been cited as a challenge or obstacle for new nuclear projects; however, spent nuclear fuel (SNF) from nuclear power plants remains one of smallest byproduct stream produced from any of our present energy sources. The volume of all discharged commercial US SNF, from the technology's inception, could fit on a football field stacked less than 20 feet high. Presently, this volume of waste remains safely stored in spent fuel pools and dry storage casks around the country and poses no risk to the general population. While it would be desirable to move these volumes to consolidated interim storage and eventually burial, there is no serious argument that this volume of waste cannot be managed safety.

In sum, CATF supports a diversified energy portfolio for the U.S. and the world centered around affordable and abundant clean energy sources. A diversified portfolio, including especially always-on zero carbon power, gives us the greatest chance of meeting our important climate objectives. The CFPP could serve as an important example of a viable

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Williams, James H., et al. "Pathways to deep decarbonization in the United States." *The US Report of the Deep Decarbonization Pathways Project of the Sustainable Development Solutions Network and the Institute for Sustainable Development and International Relations, Energy and Environmental Economics, San Francisco, CA, accessed Apr* 23 (2014): 2016; Jenkins, Jesse D., and Samuel Thernstrom. "Deep decarbonization of the electric power sector: Insights from recent literature." *Energy Innovation Reform Project, March*(2017)http://www.slideshare.net/IPCCGeneva/fifth-assessment-report-working-group-iii slides 32-33; The White House (2016). *United States Mid-Century Strategy for Deep Decarbonization*. Washington, DC, ; Williams, James H., et al. "Pathways to deep decarbonization in the United States." *The US Report of the Deep Decarbonization Pathways Project of the Sustainable Development Solutions Network and the Institute for Sustainable Development and International Relations, Energy and Environmental Economics, San Francisco, CA, accessed Apr* 23 (2014): 2016.; Jenkins, Jesse D., and Samuel Thernstrom. "Deep decarbonization of the electric power sector: Insights from recent literature." *Energy Innovation Reform Project, March* (2017).

nuclear energy option to meet that requirement. While nuclear energy brings with it risks, like any industrial activity, those risks must be weighed against the risks of overshooting our emissions targets and consequent climate disruption

Accordingly, CATF strongly recommends that [name of entity?] maintain support for the CFPP and we applaud your current and continued leadership in doing so.

Sincerely,

Armond Cohen

Executive Director

114 State Street, 6th Floor | Boston, MA 02109 | www.catf.us | 617.624.0234

Agenda No.:	4.G.1
Index (Council Goals):	BCC - N/A
Presenters:	James Alarid, Deputy Utilities Manager - Engineering
Legislative File:	**10692-18**

Title

Quarterly Conservation Program Update

Recommended Action

None

Staff Recommendation

None

Body

Summary of spring and summer conservation activities will be presented.

Alternatives

N/A

Fiscal and Staff Impact

None

Attachments

None

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County of Los Alamos

Staff Report

June 20, 2018

Agenda No.:	4.I.1
Index (Council Goals):	BCC - N/A
Presenters:	Board of Public Utilities
Legislative File:	**10914-18**

Title

Tickler File for the Next 3 Months

Attachments

A - Tickler File for the Next 3 Months

County of Los Alamos

Tickler

Los Alamos, NM 87544
www.losalamosnm.us

Criteria: Agenda Begin Date: 7/1/2018, Agenda End Date: 9/30/2018, Matter Bodies: Board of Public Utiliti

File Number	Title

Agenda Date: 07/18/2018

10417-18 **Briefing/Report (Dept, BCC) - No action requested** **04G General Board Business**

Quarterly Update on Utility System - (System TBD)

Department Name: DPU
Length of Presentation: Apx. 20 Min.
Drop Dead Date:
Sponsors: Tim Glasco, Utilities Manager

10695-18 **Briefing/Report (Dept, BCC) - No action requested** **04G General Board Business**

Annual Review and Revision of Board of Public Utilities Policies and Procedures Manual

Department Name: DPU
Length of Presentation: Apx. 10 Min.
Drop Dead Date:
Sponsors: Jeff Johnson, Chair of the Board of Public Utilities

10696-18 **Briefing/Report (Dept,BCC) - Action Requested** **04G General Board Business**

Annual Affirmation of the Board of Public Utilities Policies and Procedures Manual

Department Name: DPU
Length of Presentation: Apx. 5 Min.
Drop Dead Date:
Sponsors: Jeff Johnson, Chair of the Board of Public Utilities

10697-18 **Briefing/Report (Dept, BCC) - No action requested** **04G General Board Business**

Planning for Upcoming Board of Public Utilities Annual Boards & Commissions Presentation to Council on September 25th, 2018

Department Name: DPU
Length of Presentation: Apx. 20 Min.
Drop Dead Date:
Sponsors: Jeff Johnson, Chair of the Board of Public Utilities

10807-18 **Briefing/Report (Dept,BCC) - Action Requested** **05 Public Hearings**

(TENTATIVE) Public Hearing for Modification of Department of Public Utilities Rules & Regulations - Rule W-6 Backflow Prevention and Cross-Connections

Department Name: DPU
Length of Presentation: Apx. 20 Min.
Drop Dead Date:
Sponsors: Jack Richardson, Deputy Utilities Manager - GWS Services

10443-18 **Briefing/Report (Dept,BCC) - Action Requested** **06 Consent**

Approval of Task Order No. 2 Under Services Agreement No. AGR17-37 with Stantec Consulting Services, Inc. in the amount of $[amount], plus Applicable Gross Receipts Tax, for the Purpose of Year 2 Services for the Geographic Information System and Asset

File Number	Title	
	Management Upgrade	
	Department Name: DPU	**Length of Presentation:** N/A
	Drop Dead Date:	**Sponsors:** Jack Richardson, Deputy Utilities Manager - GWS Services
RE0378-18	**Resolution**	**06 Consent**
	Resolution Authorizing the Assignment of Authorized Officer(s) and Agent(s) for New Loan for the White Rock Wastewater Treatment Plant	
	Department Name: DPU	**Length of Presentation:** Apx. 5 Min.
	Drop Dead Date:	**Sponsors:** Bob Westervelt, Deputy Utilities Manager - Finance/Admin
AGR0576-18	**General Services Agreement**	**07 Business**
	Approval of Services Agreement No. AGR__-____ with [vendor] in the amount of $[amount], plus Applicable Gross Receipts Tax, for the Purpose of Advanced Metering Infrastructure	
	Department Name: DPU	**Length of Presentation:** N/A
	Drop Dead Date:	**Sponsors:** Bob Westervelt, Deputy Utilities Manager - Finance/Admin
OR0816-18	**Ordinance**	**073 Business**
	Approval of Incorporated County of Los Alamos Ordinance No. _____ Authorization of a New Loan for the White Rock Wastewater Treatment Plant	
	Department Name: DPU	**Length of Presentation:** Apx. 20 Min.
	Drop Dead Date:	**Sponsors:** Bob Westervelt, Deputy Utilities Manager - Finance/Admin
Agenda Date: 08/15/2018		
10374-18	**Calendar**	**04A Chair's Report**
	Reminder for Upcoming Boards & Commissions Luncheon	
	Department Name: DPU	**Length of Presentation:** Apx. 5 Min.
	Drop Dead Date:	**Sponsors:** Board of Public Utilities
10808-18	**Briefing/Report (Dept, BCC) - No action requested**	**04G General Board Business**
	Planning for Upcoming Board of Public Utilities Annual Boards & Commissions Presentation to Council on September 25th, 2018	
	Department Name: DPU	**Length of Presentation:** Apx. 20 Min.
	Drop Dead Date:	**Sponsors:** Jeff Johnson, Chair of the Board of Public Utilities
10915-18	**Budget Item**	**06 Consent**
	Approval of Budget Carryovers from FY2018 to FY2019	
	Department Name: DPU	**Length of Presentation:** N/A
	Drop Dead Date:	**Sponsors:** Bob Westervelt, Deputy Utilities Manager - Finance/Admin
Agenda Date: 09/19/2018		
10916-18	**Briefing/Report (Dept,BCC) - Action Requested**	**04G General Board Business**
	Approval of Department of Public Utilities Mission, Vision and Values, Goals and Objectives	
	Department Name: DPU	**Length of Presentation:** Apx. 20 Min.

Drop Dead Date:

Sponsors: Tim Glasco, Utilities Manager

County of Los Alamos

Staff Report

June 20, 2018

Agenda No.:	5.A
Index (Council Goals):	BCC - N/A
Presenters:	Bob Westervelt, Deputy Utilities Manager - Finance/Admin
Legislative File:	**10822-18**

Title

Public Hearing for Modification of Department of Public Utilities Rules & Regulations - Modifications to Rule GR-15: Deposits; and Deletion of Rule GR-16: Credit Rating

Recommended Action

I move the Board of Public Utilities approve revisions to Department of Public Utilities Rules & Regulations, Rule GR-15: Deposits, as presented; and approve deletion in its entirety of Department of Public Utilities Rules and Regulations, Rule GR-16: Credit Rating.

Staff Recommendation

Staff recommends approval of the rule changes as proposed.

Body

At the May 2018 regular meeting of the Board of Public Utilities this item was presented for approval by the Board. The Board requested certain clarifying language be crafted to add clarity to the rule. Those changes have been incorporated into the revision presented tonight and are summarized as follows:

1. Item A(1) changed “the utility” to “The Los Alamos County Utilities Department”
2. Items A(3) and B(2) clarified that improper connection to a *Los Alamos County* utility system is the event referenced in this item.
3. Items A(4) and B(3) added a defined time frame of seven years within which a bankruptcy action would result in a deposit being required.
4. Items A(5) and B(4) clarified that returned payments *to Los Alamos County for utilities services* is the event referenced in this item.
5. Items A(6) and B(5) deleted “late fees charged” from the collections events that would be considered in determining if a deposit would be required.

The remainder of this staff report is a simple re-presentation of the material that was presented at the initial hearing of this item in May, 2018:

Historically, a credit rating was calculated by the billing system according to defined parameters and was used as one criteria in the determination of whether a deposit would be required on a new or existing utilities account. Tyler Munis, the new Enterprise Resource Planning (ERP) system being implemented by the County, does not support automated calculation of a credit rating. The criteria used can be evaluated and applied by staff without the necessity of

establishing a formal credit score. The recommended revision to rule GR-15 deletes reference to the credit rating, but adds some of the criteria previously delineated in Rule GR-16. Some minor language cleanup is included as well. Rule GR-16 defined the credit score criteria and calculation but is no longer applicable in the new ERP, so is recommended for deletion in its entirety.

Alternatives

If this item is not approved staff would need to draft alternative language for Board consideration that would implement the changes necessitated by the new ERP system, or would need to track and apply the criteria and calculate a credit score manually. Again, the same criteria is already used by staff to determine if a deposit is required, so calculation of a formal credit score is unnecessary.

Fiscal and Staff Impact/Planned Item

There is no fiscal impact to this action.

Attachments

A- Rule GR-15 Deposits (redline version) revised for 6-20-18
B- Rule GR-16 Credit Rating (redline version)

RULES AND REGULATIONS
GENERAL PROVISIONRULES (GR)
RULE GR-15
DEPOSITS

GR-15.01 GENERAL

This rule describes the deposit and guarantee of payment requirements for the utility. No interest is paid on deposits required by the Utility. The deposit shall be calculated in accordance with the Fee Schedule.

GR-15.02 DEPOSIT REQUIREMENTS

A. Residential

Except as provided in paragraphs 1 – 6 below, no deposits are required from new customers ~~who own or are purchasing their homes or who can~~who can provide a letter from their most recent utility demonstrating to the Utility a history of ~~satisfactory~~ timely payments.

Deposits will be required from residential customers under the following conditions:

1) New customers who ~~are~~ unable to provide a letter from their most recent utility demonstrating to the ~~Utility~~ Los Alamos County Utilities Department a history of timely ~~satisfactory~~ payments.
~~2) Any customer who has a credit rating (see Rule GR-16) greater than 25 points.~~
~~3)~~2) Any customer being reconnected after a disconnection for non-payment.
~~4)~~3) Any customer who has interfered with ~~a Utility service~~ or improperly connected to any ~~the~~ Los Alamos County utility service or system.
~~5)~~4) Any customer who has filed or been made part of a bankruptcy action within the past seven years.
5) Any customer who has made payment of a Utility bill, to Los Alamos County, ~~of a Utility bill~~ that was returned for ~~with a~~ non-sufficient funds (NSF) or for insufficient credit available ~~check~~ more than once during the preceding ~~a~~ twelve-month period.
6) Any customer that has incurred three or more "collections events" with Los Alamos County Utilities in the preceding twenty- four-month period. Collections events include door tags, reminder letters, broken payment arrangements, or referral of an account to a collection agency.

B. Commercial

Customer deposits or irrevocable letters of credit will be required for all new commercial accounts where the location receiving service is not owned by the Customer.

Deposits will also be required from commercial customers under the following conditions:

~~1) Any customer who has a credit rating (See Rule GR-16) greater than 25 points.~~
~~2)~~1) Any customer being reconnected after a disconnection for non-payment.
~~3)~~2) Any customer who has interfered with or improperly connected to any Los Alamos County utility service or system. ~~a Utility service or improperly connected to the utility~~.
~~4)~~3) Any customer who has filed or been made part of a bankruptcy action within the past seven years.
4) Any customer who has made payment of a utility bill, to Los Alamos County, ~~of a utility bill with a~~that was returned for non-sufficient funds (NSF) or for insufficient credit available ~~check~~ more than once during the preceeding ~~a~~ twelve-month period.
5) Any customer that has incurred three or more "collections events" in the preceding twenty- four month period. Collections events include door tags, reminder letters, broken payment arrangements, or referral of an account to a collection agency.

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SECTION REVISIONS: ~~05/17/2006~~04/18/2018

GR-15.03 REFUND OF DEPOSITS

A. Upon disconnection of service, the Utility shall refund the customer's deposit or the balance in excess of ~~the~~ any unpaid bills for service.

B. Upon customer request, ~~D~~deposits ~~are~~ will be credited to customer accounts when there have been no delinquent payments for twelve consecutive billing cycles.

SECTION REVISIONS: ~~05/17/2006~~04/18/2018

RULES AND REGULATIONS
GENERAL RULES (GR)
RULE GR-16
CREDIT RATING

GR-16.01 GENERAL

Rule includes credit ratings, events and duration affecting credit ratings.

GR-16.02 CREDIT RATINGS

Excellent 0 Points

Good 10 Points

Fair 50 Points

Poor 100 Points

GR-16.03 CREDIT EVENTS, POINTS AND DURATION

Customer's credit rating will be calculated based on the following table:

Event	Points	Duration
New Customer	10	6 Months
Late Fee Charged	10	12 Months
Payment Arrangement Made	5	12 Months
Missed payment arrangement	25	12 Months
Reminder letter	10	12 Months
NSF Payment	25	12 Months
Door Tag	15	12 Months
Disconnect for nonpayment	50	12 Months
Meter tampering	50	12 Months
Collection agency	50	12 Months
Write-off	50	12 Months
Bankruptcy	50	24 Months

County of Los Alamos
Staff Report
June 20, 2018

Agenda No.:	5.B
Index (Council Goals):	BCC - N/A
Presenters:	James Alarid, Deputy Utilities Manager - Engineering
Legislative File:	**10821-18**

Title
Public Hearing for Modification of Department of Public Utilities Rules & Regulations - Fee Schedule & Preface

Recommended Action
I move the Board of Public Utilities approve the modifications to the Department of Public Utilities Rules and Regulations - Fee Schedule. I further move that the Board approve the revised Preface as presented.

Staff Recommendation
Staff recommends approval of the revisions as presented.

Body
The following modifications to the Department of Public Utilities Rules and Regulations - Fee Schedule are proposed.

~~- Deposits for residential meters is currently $60 per meter. Staff is proposing to allow the fees to be increased up to $120 per meter in cases where the customer has a poor payment history. Charging the increased deposit will be at the discretion of the Customer Care Supervisor.~~ After discussion at the Board meeting 5-16-18 staff is no longer recommending this item.

- Clarifying language has been added to the Water Hydrant Meter deposit. The name will be changed to Fire Hydrant Meter and language will be added to reinforce the deposit is refundable. The fee will not change.

Review of the Fee Schedule is performed annually. The new fees will be in effect immediately after approval of the Utility Board.

Preface Cleanup

In 2006, the DPU Rules and Regulations were updated in their entirety. The Preface currently states, “These rules have been updated through May 2006.” This statement needs to be modified to indicate how subsequent revisions are noted in the document. There is also a correction to the Code of Ordinances reference in paragraph 1 and a minor typo cleanup in paragraph 4.

Alternatives

If the modifications to the fee schedule are not approved some outdated fees will remain in effect.

Fiscal and Staff Impact/Planned Item

N/A

Attachments

A - Fee Schedule (Redline Version)
B - Preface (Redline Version)

RULES AND REGULATIONS
FEE SCHEDULE (FS)

Administrative Fees		
Account Initiation and Transfer Fee	$10	
Reconnection following disconnection for non- payment – normal hours	$60	Per trip to location, 8:00 AM to 4:00 PM M-F
Reconnection following disconnection for non- payment – after normal hours	$200	Per trip to location, after hours, weekends and holidays
Door Hanger Fee	$10	Per occurrence
Deposits		
Residential	$60 per meter	
Commercial	Variable	Two times the highest anticipated monthly bill
Fire ~~Water~~ hydrant meter	$1,500	Refundable upon meter return (All commodity charges shall be at the filed and approved rate schedule)
Service Fees		
Disconnection or reconnection of electric, gas or water – normal hours – No charge for first trip in a 24-hr period, thereafter each trip is $75	No Charge (first trip) $75 each additional	Per trip to location, 8:00 AM to 4:00 PM M-F
Emergency disconnection or reconnection of electric, gas or water – after normal hours	No Charge	Per trip to location, after hours, weekends and holidays
Non –Emergency disconnection or reconnection of electric, gas or water – after normal hours	$200	Per trip to location, after hours, weekends and holidays
Furnace check fees	$100	For up to two furnaces
Meter Test Fees (Requested by customer)		
Electric meters, all sizes	$125	
Water meters 5/8 inch through 1-1/2 inch	$150	
Water meters greater than 1-1/2 inch (in place test)	$150	
Construction Fees		
New Service Installations		
100 amp electric residential service installation less than 150 feet	$850	Prepaid
200 amp electric residential service installation less than 150 feet	$1008	Prepaid
Residential Net Meter application & inspection (2 trips), incremental cost of Net meter and labor to install Net meter	$260	Prepaid
Commercial Net Meter application & inspection (2 trips), incremental cost of Net meter and labor to install Net meter	$450	Prepaid

SECTION REVISIONS: 06/21/2017, 01/18/2017, 08/17/2015, 12/17/2014, 11/20/2014, 07/18/2012, 01/24/2007, 05/17/2006

All other electric service installations	Estimated cost	Prepaid
3/4 inch gas residential service installation less than 150 feet	$1090	Prepaid
3/4 inch service line up to 150 feet, tap to main, and meter, out of road	$1215	Prepaid
3/4 inch service line up to 150 feet, tap to main in paved road, and meter	$2897	Prepaid
Install 3/4" – 1" excess flow valve on existing polyethylene service line	$616	Prepaid
Install 3/4" – 1" excess flow valve on existing steel service line	$2422	Prepaid
Install gas valve on existing polyethylene service line	$662	Prepaid
Install gas valve on existing steel service line	$2710	Prepaid
All other gas service installations	Estimated cost	Prepaid
3/4 inch water meter	$416	Prepaid
3/4 inch water meter with box, install out of road	$1700	Prepaid
3/4 inch water meter with box, with tap in paved road	$3508	Prepaid
4 inch sewer tap and saddle with sewer main exposed by customer	$410	Prepaid
All other work including sewer installations, service relocations and replacement	Estimated cost	Prepaid
North Mesa Connection Charges		
$250 charge per undeveloped unit where the unit is located in a subdivision where the final plat has been formally accepted by the County, the charge shall be paid for by the individual customer or contractor at the time a water meter is requested	$250 per unit	
Where the unit is located in a subdivision where the final plat has not been accepted by the County, the charge shall be paid by the subdivision's developer at the time the final plat is filed with the County	$250 per unit	
Inspection Fees for Subdivisions/Commercial Utility Infrastructure		
Fees for inspection will be based on a percentage of the construction cost estimate for the public Utility infrastructure. Estimate shall be prepared by a Professional Engineer, registered in the state of New Mexico and signed and sealed by the New Mexico Professional Engineer and provided to County Utility Engineering Department for written approval.	5% of construction cost estimate for the public Utility infrastructure	1.If construction scope and or cost increases by 10 percent or more than original approved scope, inspection fee will be revised accordingly 2. Utility Department reserves right to modify fees if needed.

RULES AND REGULATIONS
~~REVISION 2006~~
LOS ALAMOS COUNTY
BOARD OF PUBLIC UTILITIES

PREFACE

The following rules and regulations for electric, gas, water, and sewer service have been adopted by the Los Alamos County Board of Public Utilities pursuant to the ~~Los Alamos Public Code~~Los Alamos County Code of Ordinances, ~~Section 14-8-1 and 14-1-11~~ Section 40-45. These rules were updated in their entirety in ~~have been updated through~~ May 2006. Subsequently, when rules are changed, their revision dates are noted in the footers of those sections.

These rules and regulations are to be used in conjunction with the Los Alamos County Code of Ordinances and Los Alamos County Utility Department Construction Standards.

The rules and regulations are divided into major sections to include the general Rules that apply to the entire utility and a section for each specific utility. The major sections include General Rule, Electric, Gas, Water, Sewer, Subdivision, and Fee Schedule. Appendix I is included for reference and are not a formal inclusion of the rules.

Each rule is numbered using the designation for that section. Each rule number consists of two parts separated by a dash. The figure before the dash refers to the Section, i.e., GR for General Rule Section. The figure after the dash refers to the position of the part within the rule. Thus, the second rule of the GR section is numbered GR-2 and the first part of that rule is numbered GR-2.01. Under this system, each rule is identified with its section and each part is identified within its rule. New rules and parts within rules can be inserted in their proper place by using the decimal system.

County of Los Alamos
Staff Report
June 20, 2018

Agenda No.:	6.A
Index (Council Goals):	
Presenters:	Department of Public Utilities
Legislative File:	**10913-18**

Title
Approval of Board of Public Utilities Meeting Minutes

Recommended Action
I move that the Board of Public Utilities approve the meeting minutes of May 16th, 2018 as presented.

Body
REQUESTED REVISIONS TO THE DRAFT MINUTES

Draft minutes are sent to members after each meeting for their review. Members may then send changes to be incorporated prior to final approval of the minutes at the next regular meeting. There were no changes.

Attachments
A - Draft BPU Regular Session Minutes - May 16th, 2018

DRAFT - These minutes have not yet been approved by the Board of Public Utilities.

County of Los Alamos

Minutes

Board of Public Utilities

1000 Central Avenue
Los Alamos, NM 87544

Jeff Johnson, Chair; Carrie Walker, Vice-chair; Paul Frederickson, Stephen McLin and Kathleen Taylor, Members
Tim Glasco, Ex Officio Member
Harry Burgess, Ex Officio Member
Christine Chandler, Council Liaison

Wednesday, May 16, 2018 **5:30 PM** **1000 Central Avenue Room 110**

REGULAR SESSION

1. CALL TO ORDER

The regular meeting of the Incorporated County of Los Alamos Board of Public Utilities was held on Wednesday, May 16th at 5:30 p.m. at 1000 Central Ave., Room 110. Board Chair Jeff Johnson called the meeting to order at 5:30 p.m.

Present 5 - Board Member Johnson, Vice-chair Walker, Board Member Frederickson, Board Member McLin and Board Member Taylor

Absent 2 - Board Member Glasco and Board Member Burgess

Deputy Utility Manager for Engineering Mr. James Alarid attended as the Acting Utilities Manager in the absence of Mr. Glasco

2. PUBLIC COMMENT

Mr. Johnson opened the floor for public comment on items on the Consent Agenda and for those not otherwise included on the agenda. There were no comments.

3. APPROVAL OF AGENDA

Item 6.D. was pulled from the Consent agenda to be taken up at the end of the Business agenda.

****

Ms. Walker moved that the agenda be approved as amended. The motion passed by the following vote:

****

Yes: 5 - Board Member Johnson, Vice-chair Walker, Board Member Frederickson, Board Member McLin and Board Member Taylor

4. BOARD BUSINESS

4.A. Chair's Report

Mr. Jeff Johnson reported on the following items:

1) Mr. Johnson appreciates that the there is an item on the June tickler to discuss backflow prevention.

2) Mr. Johnson reminded the Board that in July, the Board will be reaffirming its Policies and Procedures Manual. He encouraged members to take some time to review it in advance. If any members would like to propose changes, the June meeting would be the time to make those recommendations.

4.B. Board Member Reports

There were no reports.

4.C. Utilities Manager's Report

Mr. Glasco was not in attendance. Mr. James Alarid provided a written report, which is included in the minutes as an attachment.

4.D. County Manager's Report

Mr. Harry Burgess was not present. No report was given.

4.E. Council Liaison's Report

Ms. Christine Chandler arrived late. No report was given.

4.F. Environmental Sustainability Board Liaison's Report

Ms. Susan Barns provided a written report, which is included in the minutes as an attachment.

4.G. General Board Business

There was no general Board business.

4.H. Approval of Board Expenses

There were no expenses.

4.I. Preview of Upcoming Agenda Items

10809-18 Tickler File for the Next 3 Months

Presenters: Board of Public Utilities

No additional items were identified for the tickler.

5. PUBLIC HEARING(S)

5.A 10726-18 Public Hearing for Modification of Department of Public Utilities Rules & Regulations - Modifications to Rule GR-15: Deposits; and Deletion of Rule GR-16: Credit Rating

Presenters: Bob Westervelt

Deputy Utility Manager of Finance and Administration Mr. Bob Westervelt presented this item. The following is the substance of the item being considered.

Historically, a credit rating was calculated by the billing system according to defined parameters and was used as one criteria in the determination of whether a deposit would

be required on a new or existing utilities account. Tyler Munis, the new Enterprise Resource Planning (ERP) system being implemented by the County, does not support automated calculation of a credit rating. The criteria used can be evaluated and applied by staff without the necessity of establishing a formal credit score. The recommended revision to rule GR-15 deletes reference to the credit rating, but adds some of the criteria previously delineated in Rule GR-16. Some minor language cleanup was included as well. Rule GR-16 defined the credit score criteria and calculation but is no longer applicable in the new ERP, so is recommended for deletion in its entirety.

The Board discussed this item and requested clarification where necessary.

The following actions were identified for follow-up:

1) During discussion, Board members suggested changes to the proposed modifications. Staff will return to the June regular meeting with revised proposed modifications for Board consideration.

****

Ms. Taylor moved to table this item [until the June regular meeting]. The motion passed by the following vote:

****

Yes: 5 - Board Member Johnson, Vice-chair Walker, Board Member Frederickson, Board Member McLin and Board Member Taylor

5.B 10725-18 Public Hearing for Modification of Department of Public Utilities Rules & Regulations - Fee Schedule & Preface

Presenters: James Alarid

Deputy Utility Manager of Engineering Mr. James Alarid presented this item. The following is the substance of the item being considered.

The deposit for residential meters is currently $60 per meter. Staff is proposing to allow the fees to be increased up to $120 per meter in cases where the customer has a poor payment history. Clarifying language was added to the Water Hydrant Meter deposit. The name will be changed to Fire Hydrant Meter and language will be added to reinforce the deposit is refundable. Minor editing cleanups were also recommended for the Preface.

The Board discussed this item and requested clarification where necessary.

1) During discussion, Board members suggested changes to the proposed modifications. Staff will return to the June regular meeting with revised proposed modifications for Board consideration.

****

Ms. Taylor moved to table this item until next month. The motion passed by the following vote:

****

Yes: 5 - Board Member Johnson, Vice-chair Walker, Board Member Frederickson, Board Member McLin and Board Member Taylor

6. CONSENT AGENDA

****

Ms. Walker moved that the Board of Public Utilities approve the items on the Consent Agenda as amended and that the motions contained in the staff reports be included in the minutes for the record. The motion passed by the following vote:

****

Yes: 5 - Board Member Johnson, Vice-chair Walker, Board Member Frederickson, Board Member McLin and Board Member Taylor

6.A 10805-18 Approval of Board of Public Utilities Meeting Minutes

Presenters: Board of Public Utilities

I move that the Board of Public Utilities approve the meeting minutes of April 18th, 2018 as presented.

6.B RE0370-18 Approval of Incorporated County of Los Alamos Resolution No. 18-10: A Resolution Removing Uncollectible Utility Accounts from the Incorporated County of Los Alamos' Accounts Receivable List for Fiscal Year 1999 Through Fiscal Year 2013

Presenters: Bob Westervelt

I move that the Board of Public Utilities approve Incorporated County of Los Alamos Resolution No. 18-10: A Resolution Removing Uncollectible Utility Accounts from the Incorporated County of Los Alamos' Accounts Receivable List for Fiscal Year 1999 Through Fiscal Year 2013 and forward to the Council with a recommendation for approval.

6.C 10720-18 Approval of Contract No. 18-WC-40-694 with the United States Bureau of Reclamation for Lease of the 2018 Allocation of San Juan/Chama Project Water

Presenters: Jack Richardson

I move that the Board of Public Utilities approve Contract No. 18-WC-40-694 between the Incorporated County of Los Alamos and the United States Bureau of Reclamation for lease of the County's 2018 allocation of San Juan/Chama Project water.

7. BUSINESS

7.A 10693-18 Recommendations and Possible Action Regarding Los Alamos County's Participation in the San Juan Generating Station Post 2022

Presenters: Steve Cummins

Deputy Utility Manager of Power Supply Mr. Steve Cummins presented this item. The following is the substance of the item being considered.

Per the New Exit Date Amendment Amending and Restating the Amended and Restated San Juan Project Participation Agreement (PPA), section 40B.1 requires all of the project participants to notify PNM (Plant Operator) in writing whether they wish to extend the Coal Sales Agreement and term of the PPA beyond July 1, 2022. On January 20, 2016, the Board of Public Utilities adopted several strategic initiatives for electrical energy

resources. One of the recommendations was to "plan to exit San Juan Generating Station (SJGS) ownership share in the mid-2020's, under the most opportune circumstances." The Integrated Resource Plan (IRP) completed by Pace Global in August 2017 identified a preferred strategy for satisfying the County's electric power requirements over the 2017 - 2036 timeframe, while also meeting DPU's goal of being a carbon neutral electrical energy provider by 2040. The IRP concluded the County need not rush to commit to new resources until several uncertainties regarding small modular nuclear reactors, solar and storage are resolved. A staged approach to add smaller and incremental capacity resources on a need basis provides overall cost benefits for the Los Alamos Power Pool (LAPP) and maintains flexibility in the face of future uncertainties. Based on the projected market prices over the planning horizon, the IRP recommends exiting the SJGS at the expiration of the current PPA on June 30, 2022. The Operating Committee for the Electric Coordination Agreement (ECA) has agreed to exit the SJGS on June 30, 2022 and purchase the replacement power from the market for the remaining three years of the current ECA. In addition to the IRP findings, the most significant finding of PNM's IRP is that retiring PNM's 497-MW share of SJGS in 2022 would provide long-term cost savings for PNM's customers. As part of its longer-term portfolio diversification strategy, Tucson Electric Power Company's also plans to exit San Juan at the end of June 2022.

The Board discussed this item and requested clarification where necessary.

Mr. Johnson opened the floor for public comments. Members of the public gave the following summarized comments:

1) Ms. Sue Barns, 3406 Ridgeway Drive - With regards to plans to solicit bids to supply block power to serve the load of the LAPP after exiting the SJGS, she believes this is a good opportunity for the County to jump start the shift to carbon neutral power. She encouraged the County to emphasis renewable energy resources as much as possible when seeking bids and would like to see the shift to carbon neutrality occur sooner rather than later.

****

Mr. Frederickson moved that the Board of Public Utilities authorize the Utilities Manager to notify the San Juan Project Participants in writing of the County's intentions to exit the station at the end of the current Project Participation Agreement, June 30, 2022 and forward to County Council for approval. The motion passed by the following vote:

****

Yes: 4 - Board Member Johnson, Vice-chair Walker, Board Member Frederickson and Board Member Taylor

No: 1 - Board Member McLin

7.B **10740-18** Wastewater Loan Discussion

Presenters: James Alarid

Deputy Utility Manager of Engineering Mr. James Alarid presented this item. The following is the substance of the item being considered.

In April, staff presented options to refinance the existing debt on the Los Alamos wastewater treatment plant and for a new construction loan for the design and construction of a new White Rock wastewater treatment plant. In April, staff recommended refinancing the existing debt for the same length of time (total of 20 years)

as the original loan. Staff recommended a 25-year term for the new construction loan for the White Rock wastewater treatment plant. The general consensus of the Board was to finance both loans for longer terms to lower the annual debt service payments. Supplemental information considering the time value of money was provided at this meeting to assist in the determination of which loan terms provide DPU the most value. The evaluation provided in the agenda packet focused on terms longer than those recommended by staff in April.

The Board discussed this item and requested clarification where necessary.

Mr. Johnson opened the floor for public comments. Members of the public gave the following summarized comments:

1) Mr. Cornell Wright, 700 Totavi - Mr. Wright noted that inflation rates have varied greatly. He asked if the Board had considered the present value effects at different inflation rates.

The following actions were identified for follow-up:

1) Though no formal action was taken, the general consensus of the members was that scenario C2 from the agenda packet documentation with a 25-year refinance / 30-year construction loan would probably be the most prudent way to proceed. Staff will move forward with the refinancing and loan process with this in mind and will return to the Board at a future date for approvals.

7.C **10742-18** Approval of Budget Revision No. 2018-14 for the Purpose of Otowi Well No. 2

Presenters: James Alarid

Deputy Utility Manager of Engineering Mr. James Alarid presented this item. The following is the substance of the item being considered.

The purpose of this item is to consider a budget revision relating to the drilling of the Otowi Well No 2. The budget revision increases the expenditure budget by $350,000 for possible change orders to the construction contract for Otowi Well No 2 (Contract No. AGR17-30). No amendment is necessary because the agreement allows for change orders (for unforeseen conditions in drilling the well) to increase funding up to the total amount budgeted. The drilling subcontractor mobilized and began drilling in January 2018. A layer of basalt was encountered about 50' below ground, which has caused multiple complications in the drilling operation due to the presence of fractures in the basalt. The solution recommended by the driller was to change the drilling method to an air rotary drilling method. The change in drilling method involved significant modification to the drilling rig and additional support equipment to operate. The fractured basalt creating the problem was an unforeseen condition, and a change order of $345,660.70 was negotiated to make the change in drilling methods. The additional $350,000 of contingency will only be used if a justified change in conditions is encountered. If a future change order is necessary, it will be negotiated and executed as stipulated in the contract. Given the nature of well drilling and the unknown geological conditions, additional cementing of the borehole is expected to require future change orders.

The Board discussed this item and requested clarification where necessary.

****

Ms. Taylor moved that the Board of Public Utilities approve Budget Revision 2018-14 as summarized on attachment A and that the attachment be made a part of the minutes of the meeting. She further moved the Budget Revision be forward to Council for approval. The motion passed by the following vote:

****

Yes: 5 - Board Member Johnson, Vice-chair Walker, Board Member Frederickson, Board Member McLin and Board Member Taylor

ITEM 6.D WAS PULLED FROM CONSENT AND MOVED TO BUSINESS

6.D 10741-18 Award of IFB 18-21 for the Purpose of A Replacement Uninterruptable Power Supply for SCADA Systems with Nationwide Power Solutions in the Amount of $62,289.00, plus Applicable Gross Receipts Tax.

Presenters: James Alarid

Deputy Utility Manager of Engineering Mr. James Alarid presented this item. The following is the substance of the item being considered.

An uninterruptable power supply (UPS) is a fundamental component of the water and electric SCADA systems. The UPS contains an integral battery back-up that keeps the systems powered in the event of a power failure. The existing UPS has been in service almost 20 years and is at the end of it's useful life. Four bids were received and Nationwide Power Solutions submitted the lowest responsive bid.

The Board discussed this item and requested clarification where necessary.

****

Mr. McLin moved that the Board of Public Utilities approve the Award of IFB 18-21 for the Purpose of a Replacement Uninterruptable Power Supply for SCADA Systems with Nationwide Power Solutions in the Amount of $62,289.00 and a contingency in the amount of $10,000.00, for a total of $72,289.00 plus Applicable Gross Receipts Tax. The motion passed by the following vote:

****

Yes: 5 - Board Member Johnson, Vice-chair Walker, Board Member Frederickson, Board Member McLin and Board Member Taylor

8. STATUS REPORTS

8.A 10806-18 Status Reports

Presenters: Board of Public Utilities

The following informational status reports were provided to the Board in the agenda packet:

1) Electric Reliability Update
2) Accounts Receivables Report
3) Safety Report

9. PUBLIC COMMENT

Mr. Johnson opened the floor for public comment on any items. There were no

comments.

10. ADJOURNMENT

The meeting adjourned at 8:28 p.m.

****

APPROVAL

_____

Board of Public Utilities Chair Name

_____

Board of Public Utilities Chair Signature

_____

Date Approved by the Board

ATTACHMENT
OFFICER REPORTS
SUBMITTED AT THE MEETING

Manager's Report

May 16, 2018

1. DPU's biennial Employee Engagement Survey is ongoing. It will close on May 31, 2018.

2. Repairs to the oil leaks on the runner blade trunnion seals are scheduled for June 25, 2018. Work will take about two weeks. DPU has hired the turbine manufacturer to perform the repairs. DPU maintains that the repairs are covered by the contractor's warranty.

3. Implementation of the new PRISM system, the County's new enterprise resource planning (ERP) system, is on schedule to go live on July 1, 2018. Training of all County staff has begun. Several 4-hour training sessions on the various aspects of the new system will be ongoing throughout May and June.

4. A new Utility Board member will be selected by the Council in its May 22, 2018 meeting in White Rock. There are three candidates.

Environmental Sustainability Board (ESB) liaison report

Susan Barns, ESB Liaison 5/16/2018

Recent activities of the ESB include:

- Finalization of the collection schedule for yard trimmings and recycle roll carts. Beginning in July, recycling and yard trimmings will be collected on an alternating week schedule (each cart collected once every two weeks). If you would like a yard trimming roll cart, please sign up online. If you will need a larger recycling cart, or a second cart, as a result of this schedule change, please contact the Eco Station.
- Los Alamos Recycler of the Year nominations are closed, and public voting will run May 21 to June 1. We encourage you to support sustainability efforts by local businesses, non-profits and schools by voting!
- Once again, the Recycle Fashion show was a creative and trend-setting success, with participation by children and adults.

Tomorrow night's meeting will include discussion of Environmental Services 3rd Quarter FY18 finances, review of recent outreach events and planning for upcoming booths at summer community events.

ATTACHMENT
ITEM 7.C. BUDGET REVISION

Budget Revision 2018-14 Otowi Well

Board of Public Utilities Meeting Date: May 16, 2018 **Council Meeting Date: May 22, 2018**

	Fund/Dept	Brass Org	Revenue (decrease)	Expenditures (decrease)	Transfers In(Out)	Fund Balance (decrease)
1	Water Production Fund	WP7xxx - 8369		$ 350,000		$ (350,000)

Description: The purpose of this budget revision is to increase the expenditure budget by $350,000 for possible change orders to the construction contract for Otowi Well No 2 (Contract: AGR17-30). No amendment necessary because the agreement allows for change orders (for unforseen conditions in drilling the well) to increase funding up to the total amount budgeted.

Fiscal Impact: The net fiscal impact to the Water Production Fund is an increase to expenditures and a decrease to fund balance in the amount of $350,000.

County of Los Alamos
Staff Report
June 20, 2018

Agenda No.:	6.B
Index (Council Goals):	BCC - N/A
Presenters:	Bob Westervelt, Deputy Utilities Manager - Finance/Admin
Legislative File:	**10905-18**

Title
Approval of Department of Energy (DOE) - Los Alamos County (LAC) Resource Pool Budget for Fiscal Years 2019/2020

Recommended Action
I move that the Board of Public Utilities approve the 2019-2020 Resource Pool budget as presented and forward to the County Council for its approval.

Staff Recommendation
Staff recommends approval of this 2019-2020 Resource Pool Budget

Body
The Electric Energy and Power Coordination Agreement (ECA) between the County of Los Alamos and the Department of Energy requires that a 24-month budget be approved each year. The budget process begins with both parties preparing a load projection by month for the budget period. From these load projections the Power Supply division prepares a Resource Supply Projection that matches the available resources to the projected loads, and also estimates the variable costs for both our owned resources and for purchased power. Finally, costs for projected generation, purchases, and transmission are allocated based on the terms of the ECA. This is normally accomplished in April or May of the preceding year.

This budget projects total costs per MWh of $53.91 and $50.37 for fiscal years 2019 and 2020, respectively. Actual costs for fiscal year 2018 through April were $49.19 per MWh compared to a budgeted cost of $49.29 per MWh.

The ten-year historical average cost per MWh for the fiscal years 2008 through 2017 was $67.25. Beginning in FY2017 we are seeing the benefit of the lower coal price and a lower capital budget at San Juan, and retirement of the debt at LRS, which was passed through to the Pool through LRS direct charges. Note, the last round of environmental upgrades anticipated for San Juan were completed in FY16 with the SNCR project. Similar upgrades at Laramie River are underway and are included in the budget presented here.

Costs to the participants vary due to each party's load factors. The projected costs to the County per MWh are $55.59 and $51.95 for fiscal years 2019 and 2020, respectively.

This 24 month budget was approved by the Operating Committee on June 7, 2018.

Alternatives

If this budget is not approved by the Board and Council we will have to continue under the last approved budget while we continue to negotiate a budget. Certain costs are billed to the participants as budgeted (fixed charges associated with the various resources) and reconciled in the next budget cycle. Delay in approving a budget will result in adjustments being needed to reconcile actual billings with the budget after the fact when the budget is approved.

Fiscal and Staff Impact

None. DPU's expenditure authority for purchase power costs is incorporated into the budget approved by the Utilities Board and County Council during the normal budget cycle. Approval of this Resource Pool budget is a contractual requirement of the ECA. The Resource Pool budget may differ somewhat from the purchase power expenditure authority requested by DPU during the normal County budget cycle due to timing differences in the budget cycles.

Attachments

A - Resource Pool 24-month Budget Package
B - Loads and Resources worksheet fiscal year 2019
C - Loads and Resources worksheet fiscal year 2020

Department of Energy / Los Alamos County Resource Pool
Including Solar Resource
Fiscal Year 2019
Budget

	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Total	Total MWh	Cost per MWh
Los Alamos County Resources															
Generation															
San Juan Demand Charge	472,356	472,356	472,356	472,356	472,356	472,356	472,356	472,356	472,356	472,356	472,356	472,356	5,668,272		
San Juan Energy Charge	776,961	776,961	751,898	776,961	751,898	776,961	776,961	701,771	-	375,949	776,961	751,898	7,995,179	259,079	$ 52.74
El Vado Demand Charge	(32,255)	(32,255)	(32,255)	(32,255)	(32,255)	(32,255)	(32,255)	(32,255)	(32,255)	(32,255)	(32,255)	(32,255)	(387,065)		
El Vado Energy Charge	42,859	42,859	42,859	42,859	42,859	42,859	42,859	42,859	42,859	42,859	42,859	42,859	514,307	16,789	$ 7.58
Abiquiu Demand Charge	68,862	68,862	68,862	68,862	68,862	68,862	68,862	68,862	68,862	68,862	68,862	68,862	826,345		
Abiquiu Energy Charge	43,421	43,421	43,421	43,421	43,421	43,421	43,421	43,421	43,421	43,421	43,421	43,421	521,051	44,614	$ 30.20
Laramie River Station Demand	172,401	172,401	172,401	172,401	172,401	172,401	172,401	172,401	172,401	172,401	172,401	172,401	2,068,816		
Laramie River Station Energy	75,782	58,670	63,559	41,558	73,338	75,782	75,782	68,449	75,782	39,114	75,782	73,338	796,938	74,328	$ 38.56
Western Demand	5,544	5,544	5,544	8,239	8,239	8,239	8,239	8,239	8,239	5,544	5,544	5,544	82,699		
Western Energy	4,826	4,583	4,569	6,503	6,773	7,882	7,003	6,232	6,503	4,732	4,637	4,596	68,839	5,092	$ 29.76
CFPP Deman															
CFPP Energy													-		#DIV/0!
Renewable Energy Purchases	4,454	4,454	4,454	4,454	4,454	4,454	4,454	4,454	4,454	4,454	4,454	4,454	53,452	2,102	$ 25.42
Other Purchased Power	468,000	495,000	454,800	496,500	530,400	574,900	160,500	121,800	626,700	193,200	-	312,000	4,433,800	177,352	$ 25.00
Spinning Reserve Purchase	-	-	-	-	-	-	-	-	-	-	-	-			
Economy Sales	(5,625)	(3,750)	(3,750)	-	(5,625)	(3,750)	-	(3,750)	(3,750)	(5,625)	(5,625)	(1,875)	(43,125)	(2,300)	$ 18.75
Transmission															
Western (LRS)	24,253	24,253	24,253	24,253	24,253	24,253	24,253	24,253	24,253	24,253	24,253	24,253	291,036		
PNM Wheeling	241,628	241,628	241,628	241,628	241,628	241,628	241,628	241,628	241,628	241,628	241,628	241,628	2,899,531		
LASP allocation to batteries	2,970	2,970	2,970	2,970	2,970	2,970	2,970	2,970	2,970	2,970	2,970	2,970	35,635		
OASIS Trans./ Ancil. Services	-	-	-	-	-	-	-	-	-	-	-	-	-		
NORA	4,827	4,827	4,827	4,827	4,827	4,827	4,827	4,827	4,827	4,827	4,827	4,827	57,923		
Jemez	12,362	10,948	8,056	8,906	1,617	1,455	1,789	1,219	10,513	25,982	36,636	21,745	141,228		
Tri-State	2,376	2,105	1,549	1,712	311	280	344	234	2,021	4,995	7,043	4,180	27,149		
Other Costs															
Norton-STA debt service													-		
Dispatch Center	152,635	152,635	152,635	152,635	152,635	152,635	152,635	152,635	152,635	152,635	152,635	152,635	1,831,620		
Less Kirtland Credit	(65,079)	(65,835)	(62,482)	(60,079)	(57,873)	(57,772)	(68,305)	(70,638)	(71,837)	(72,838)	(64,406)	(63,245)	(780,389)		
Administrative Costs	90,952	90,952	90,952	90,952	90,952	90,952	90,952	90,952	90,952	90,952	90,952	90,952	1,091,421		
Legal Expenses	-	-	-	-	-	-	-	-	-	-	-	-	-		
Summary															
Demand Charges	1,117,225	1,114,784	1,114,688	1,120,799	1,114,315	1,114,224	1,104,088	1,101,075	1,110,956	1,125,704	1,146,838	1,130,245	13,414,941		
Energy Charges	1,447,286	1,458,805	1,398,417	1,448,863	1,484,124	1,559,116	1,147,587	1,021,843	832,576	734,710	979,096	1,267,298	14,779,720		
Norton-STA Demand	-	-	-	-	-	-	-	-	-	-	-	-	-		
Customer Charges															
Los Alamos Resource Total	2,564,510	2,573,589	2,513,106	2,569,662	2,598,440	2,673,340	2,251,675	2,122,918	1,943,532	1,860,414	2,125,934	2,397,543	28,194,662	577,057	$48.86

Department of Energy / Los Alamos County Resource Pool
Including Solar Resource
Fiscal Year 2019
Budget

	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Total	Total MWh	Cost per MWh
Department of Energy Resources															
Generation															
501 TA-3 Fuel													-		
503 TA-3 Steam O&M													-		
505 TA-3 Electric Expense	-	-	-	-	-	-	-	-	-	-	-	-	-		
513 TA-3 Maint of Elecric Plant	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#DIV/0!
TA-3 Fixed Charges	-	-	-	-	-	-	-	-	-	-	-	-	-		
Combustion Turbine	15,838	15,838	15,838	15,838	15,838	15,838	15,838	15,838	15,838	15,838	15,838	15,838	190,059	4,800	$ 39.60
Western Demand	90,344	90,344	90,344	90,344	102,331	102,331	90,344	96,338	96,338	90,344	90,344	90,344	1,120,092		
Western Energy	77,917	81,415	69,064	69,064	83,882	83,882	86,039	82,469	82,936	78,184	119,061	119,061	1,032,976	69,979	$ 30.77
Western Peaking Capacity/TX	19,200	19,200	19,200	19,200	25,290	25,290	19,200	22,245	22,245	22,245	22,245	22,245	257,805		
Transmission															
562/571 115KV O&M	80,302	80,875	72,020	72,610	86,187	97,404	84,416	85,007	99,175	79,694	103,897	81,465	1,023,051		
Fixed Charges	23,096	23,096	23,096	23,096	23,096	23,096	23,096	23,096	23,096	23,096	23,096	23,096	277,155		
SVC Transmission Credit	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	72,000		
													1,372,206		
Other Costs															
Load Dispatching	-	-	-	-	-	-	-	-	-	-	-	-	-		
Special Projects	157,454	157,454	157,454	157,454	192,454	157,454	157,454	157,454	157,454	157,454	157,454	157,454	1,924,448		
Summary															
Demand Charges	376,396	376,969	368,114	368,705	435,359	411,575	380,511	390,140	404,308	378,834	403,037	380,604	4,674,551		
Energy Charges	93,755	97,254	84,903	84,903	99,720	99,720	101,877	98,308	98,774	94,023	134,899	134,899	1,223,034		
Customer Charges															
Department of Energy Total	470,152	474,223	453,017	453,607	535,079	511,295	482,389	488,447	503,082	472,856	537,936	515,504	5,897,585	74,779	78.87

Department of Energy / Los Alamos County Resource Pool
Including Solar Resource
Fiscal Year 2019
Budget

	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Total	Total MWh	Cost per MWh
Resource Cost															
													Total Transmission Cost		$4,824,707.29
Demand															
Los Alamos	1,117,225	1,114,784	1,114,688	1,120,799	1,114,315	1,114,224	1,104,088	1,101,075	1,110,956	1,125,704	1,146,838	1,130,245	13,414,941		
Department of Energy	376,396	376,969	368,114	368,705	435,359	411,575	380,511	390,140	404,308	378,834	403,037	380,604	4,674,551		
Total	1,493,621	1,491,753	1,482,803	1,489,504	1,549,674	1,525,799	1,484,599	1,491,214	1,515,264	1,504,537	1,549,875	1,510,850	18,089,492		
Energy															
Los Alamos	1,447,286	1,458,805	1,398,417	1,448,863	1,484,124	1,559,116	1,147,587	1,021,843	832,576	734,710	979,096	1,267,298	14,779,720		
Department of Energy	93,755	97,254	84,903	84,903	99,720	99,720	101,877	98,308	98,774	94,023	134,899	134,899	1,223,034		
Total	1,541,041	1,556,059	1,483,320	1,533,765	1,583,844	1,658,836	1,249,465	1,120,150	931,350	828,732	1,113,995	1,402,197	16,002,755		
Norton-WTA															
Los Alamos	-	-	-	-	-	-	-	-	-	-	-	-	-		
MW Demand															
LAC Actual Demand	17	16	15	13	16	19	13	15	17	16	13	20			
DOE Actual Demand	71	71	69	70	70	68	50	47	50	51	65	72			
Total Actual Demand	87	86	84	83	86	87	64	63	67	67	79	92			
MW Billing Demand															
LAC Billing Demand	17	16	15	13	16	19	13	15	17	16	13	20			
DOE Billing Demand	71	71	69	70	70	68	50	47	50	51	65	72			
Total Billing Demand	87	86	84	83	86	87	64	63	67	67	79	92			
Norton-WTA Demand															
LAC Billing Demand	17	16	15	15	16	19	15	15	17	16	15	20			
DOE Billing Demand	71	71	69	70	70	68	65	65	65	65	65	72			
Total Billing Demand	87	86	84	85	86	87	80	80	82	81	80	92			
Total Resource Cost	3,034,662	3,047,811	2,966,123	3,023,269	3,133,518	3,184,635	2,734,063	2,611,365	2,446,614	2,333,270	2,663,870	2,913,047	34,092,247	632,346	$ 53.91
Los Alamos Demand %	18.91%	18.00%	17.72%	16.21%	18.93%	22.09%	21.16%	24.63%	25.82%	23.65%	16.94%	21.23%			
Los Alamos Energy %	19.07%	17.85%	17.17%	16.15%	16.52%	19.20%	25.35%	23.53%	22.87%	22.76%	16.74%	18.57%			
Los Alamos Norton-STA %															
Department of Energy Demand %	81.09%	82.00%	82.28%	83.79%	81.07%	77.91%	78.84%	75.37%	74.18%	76.35%	83.06%	78.77%			
Department of Energy Energy %	80.93%	82.15%	82.83%	83.85%	83.48%	80.80%	74.65%	76.47%	77.13%	77.24%	83.26%	81.43%			
DOE Norton-STA %															
Los Alamos Power Cost															
Demand	282,469	268,490	262,753	241,456	293,401	337,122	314,214	367,255	391,295	355,843	262,472	320,828			
Energy	293,880	277,707	254,720	247,766	261,654	318,431	316,680	263,527	213,018	188,617	186,433	260,376			
Norton-STA	-	-	-	-	-	-	-	-	-	-	-	-			
Customer															
Total	576,348	546,197	517,473	489,222	555,055	655,553	630,894	630,782	604,313	544,459	448,905	581,204	6,780,405	121,969	$ 55.59
Deparment of Energy Power Cost															
Demand	1,211,152	1,223,263	1,220,050	1,248,048	1,256,273	1,188,676	1,170,385	1,123,960	1,123,969	1,148,695	1,287,403	1,190,021			
Energy	1,247,161	1,278,351	1,228,600	1,286,000	1,322,190	1,340,405	932,784	856,623	718,332	640,116	927,562	1,141,821			
Norton-STA	-	-	-	-	-	-	-	-	-	-	-	-			
Customer															
Total	2,458,314	2,501,614	2,448,650	2,534,047	2,578,463	2,529,082	2,103,169	1,980,583	1,842,301	1,788,811	2,214,966	2,331,842	27,311,842	510,377	$ 53.51
Net Due to Los Alamos	1,988,162	2,027,391	1,995,633	2,080,440	2,043,384	2,017,787	1,620,780	1,492,136	1,339,220	1,315,954	1,677,029	1,816,339	21,414,256		
Distribution Expense	(2,046)	(2,046)	(2,046)	(2,046)	(2,046)	(2,046)	(2,046)	(2,046)	(2,046)	(2,046)	(2,046)	(2,046)	(24,552)		
Debt Service Savings Split													-		
PV Site Preperation													-		
Service Charge	-	-	-	-	-	-	-	-	-	-	-	-		**DOE TOTAL**	$ 53.46
Net Adjusted due Los Alamos	1,986,116	2,025,345	1,993,587	2,078,394	2,041,338	2,015,741	1,618,734	1,490,090	1,337,174	1,313,908	1,674,983	1,814,293	21,389,704		

Department of Energy / Los Alamos County Resource Pool
Including Solar Resource
Fiscal Year 2020
Budget

	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Total	Total MWh	Cost per MWh
Los Alamos County Resources															
Generation															
San Juan Demand Charge	387,790	387,790	387,790	387,790	387,790	387,790	387,790	387,790	387,790	387,790	387,790	387,790	4,653,475		
San Juan Energy Charge	671,721	671,721	650,053	671,721	650,053	671,721	671,721	628,384	671,721	650,053	671,721	650,053	7,930,645	297,251	$ 42.34
El Vado Demand Charge	21,940	21,940	21,940	21,940	21,940	21,940	21,940	21,940	21,940	21,940	21,940	21,940	263,275		
El Vado Energy Charge	37,776	37,776	37,776	37,776	37,776	37,776	37,776	37,776	37,776	37,776	37,776	37,776	453,308	28,091	$ 25.51
Abiquiu Demand Charge	68,862	68,862	68,862	68,862	68,862	68,862	68,862	68,862	68,862	68,862	68,862	68,862	826,345		
Abiquiu Energy Charge	32,817	32,817	32,817	32,817	32,817	32,817	32,817	32,817	32,817	32,817	32,817	32,817	393,802	44,633	$ 27.34
Laramie River Station Demand	125,926	125,926	125,926	125,926	125,926	125,926	125,926	125,926	125,926	125,926	125,926	125,926	1,511,116		
Laramie River Station Energy	83,396	83,396	78,016	41,698	57,839	83,396	83,396	80,802	79,361	40,353	69,945	80,706	862,302	73,082	$ 32.48
Western Demand	5,544	5,544	5,544	8,239	8,239	8,239	8,239	8,239	8,239	5,544	5,544	5,544	82,699		
Western Energy	5,183	4,922	4,907	6,984	7,274	8,465	7,521	6,693	6,984	5,082	4,980	4,936	73,931	5,092	$ 30.76
CFPP Deman															
CFPP Energy															
Renewable Energy Purchases	13,976	13,976	13,659	13,976	13,659	13,976	13,976	13,343	13,976	13,659	13,976	13,659	165,814	4,216	$ 39.33
Other Purchased Power	407,004	380,068	394,368	490,464	605,280	607,308	180,180	121,992	19,344	126,048	66,768	426,816	3,825,640	147,450	$ 25.95
Spinning Reserve Purchase	-	-	-	-	-	-	-	-	-	-	-	-			
Economy Sales	(1,950)	(3,900)	-	(5,850)	(3,900)	(5,850)	(5,850)	(3,900)	-	(165,750)	(11,700)	(7,800)	(216,450)	(11,100)	$ 19.50
Transmission															
Western (LRS)	25,052	25,052	25,052	25,052	25,052	25,052	25,052	25,052	25,052	25,052	25,052	25,052	300,621		
PNM Wheeling	253,667	253,667	253,667	253,667	253,667	253,667	253,667	253,667	253,667	253,667	253,667	253,667	3,044,007		
LASP allocation to batteries	2,770	2,770	2,770	2,770	2,770	2,770	2,770	2,770	2,770	2,770	2,770	2,770	33,243		
OASIS Trans./ Ancil. Services	-	-	-	-	-	-	-	-	-	-	-	-	-		
NORA	8,170	8,170	8,170	8,170	8,170	8,170	8,170	8,170	8,170	8,170	8,170	8,170	98,037		
Jemez	17,075	17,111	11,902	11,540	1,407	1,266	1,556	1,098	9,143	22,595	31,861	18,910	145,464		
Tri-State	3,769	3,777	2,627	2,547	310	279	343	242	2,018	4,988	7,033	4,174	32,111		
Other Costs															
Norton-STA debt service													-		
Dispatch Center	120,500	120,500	120,500	120,500	120,500	120,500	120,500	120,500	120,500	120,500	120,500	120,500	1,445,998		
Less Kirtland Credit	(51,458)	(52,055)	(49,399)	(47,504)	(45,777)	(45,685)	(53,941)	(55,139)	(56,435)	(57,124)	(50,462)	(48,453)	(613,431)		
Administrative Costs	89,287	89,287	89,287	89,287	89,287	89,287	89,287	89,287	89,287	89,287	89,287	89,287	1,071,441		
Legal Expenses	-	-	-	-	-	-	-	-	-	-	-	-	-		
Summary															
Demand Charges	988,093	987,539	983,837	987,984	977,340	977,260	969,359	967,602	976,126	989,166	1,007,138	993,339	11,804,782		
Energy Charges	1,340,725	1,311,577	1,302,397	1,380,387	1,491,600	1,540,410	1,112,338	1,008,708	952,780	830,839	977,085	1,329,765	14,578,611		
Norton-STA Demand	-	-	-	-	-	-	-	-	-	-	-	-	-		
Customer Charges															
Los Alamos Resource Total	2,328,817	2,299,116	2,286,234	2,368,371	2,468,940	2,517,670	2,081,697	1,976,310	1,928,906	1,820,004	1,984,223	2,323,104	26,383,393	588,715	$44.82

Department of Energy / Los Alamos County Resource Pool
Including Solar Resource
Fiscal Year 2020
Budget

	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Total	Total MWh	Cost per MWh
Department of Energy Resources															
Generation															
501 TA-3 Fuel															
503 TA-3 Steam O&M													-		
505 TA-3 Electric Expense	-	-	-	-	-	-	-	-	-	-	-	-	-		
513 TA-3 Maint of Elecric Plant	-	-	-	-	-	-	-	-	-	-	-	-	-	-	#DIV/0!
TA-3 Fixed Charges	-	-	-	-	-	-	-	-	-	-	-	-	-		
Combustion Turbine	16,155	16,155	16,155	16,155	16,155	16,155	16,155	16,155	16,155	16,155	16,155	16,155	193,860	4,800	$ 40.39
Western Demand	95,208	95,208	95,208	95,208	95,208	95,208	95,208	95,208	95,208	95,208	95,208	95,208	1,142,494		
Western Energy	87,803	87,803	87,803	87,803	87,803	87,803	87,803	87,803	87,803	87,803	87,803	87,803	1,053,635	69,979	$ 31.38
Western Peaking Capacity/TX	21,913	21,913	21,913	21,913	21,913	21,913	21,913	21,913	21,913	21,913	21,913	21,913	262,961		
Transmission															
562/571 115KV O&M	86,959	86,959	86,959	86,959	86,959	86,959	86,959	86,959	86,959	86,959	86,959	86,959	1,043,512		
Fixed Charges	23,558	23,558	23,558	23,558	23,558	23,558	23,558	23,558	23,558	23,558	23,558	23,558	282,698		
SVC Transmission Credit	6,300	6,300	6,300	6,300	6,300	6,300	6,300	6,300	6,300	6,300	6,300	6,300	75,600		
													1,401,810		
Other Costs															
Load Dispatching	-	-	-	-	-	-	-	-	-	-	-	-	-		
Special Projects	163,578	163,578	163,578	163,578	163,578	163,578	163,578	163,578	163,578	163,578	163,578	163,578	1,962,937		
Summary															
Demand Charges	397,517	397,517	397,517	397,517	397,517	397,517	397,517	397,517	397,517	397,517	397,517	397,517	4,770,202		
Energy Charges	103,958	103,958	103,958	103,958	103,958	103,958	103,958	103,958	103,958	103,958	103,958	103,958	1,247,495		
Customer Charges															
Department of Energy Total	501,475	501,475	501,475	501,475	501,475	501,475	501,475	501,475	501,475	501,475	501,475	501,475	6,017,697	74,779	80.47

Department of Energy / Los Alamos County Resource Pool
Including Solar Resource
Fiscal Year 2020
Budget

	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Total	Total MWh	Cost per MWh
Resource Cost															
													Total Transmission Cost		$5,055,293.06
Demand															
Los Alamos	988,093	987,539	983,837	987,984	977,340	977,260	969,359	967,602	976,126	989,166	1,007,138	993,339	11,804,782		
Department of Energy	397,517	397,517	397,517	397,517	397,517	397,517	397,517	397,517	397,517	397,517	397,517	397,517	4,770,202		
Total	1,385,609	1,385,056	1,381,353	1,385,501	1,374,857	1,374,777	1,366,876	1,365,118	1,373,643	1,386,682	1,404,655	1,390,856	16,574,983		
Energy															
Los Alamos	1,340,725	1,311,577	1,302,397	1,380,387	1,491,600	1,540,410	1,112,338	1,008,708	952,780	830,839	977,085	1,329,765	14,578,611		
Department of Energy	103,958	103,958	103,958	103,958	103,958	103,958	103,958	103,958	103,958	103,958	103,958	103,958	1,247,495		
Total	1,444,683	1,415,535	1,406,355	1,484,345	1,595,557	1,644,368	1,216,296	1,112,666	1,056,738	934,797	1,081,043	1,433,723	15,826,106		
Norton-WTA															
Los Alamos	-	-	-	-	-	-	-	-	-	-	-	-	-		
MW Demand															
LAC Actual Demand	17	16	15	14	16	19	14	16	17	16	13	20			
DOE Actual Demand	71	71	70	70	70	68	51	48	51	52	67	78			
Total Actual Demand	88	87	85	84	86	87	64	64	68	68	80	97			
MW Billing Demand															
LAC Billing Demand	17	16	15	14	16	19	14	16	17	16	13	20			
DOE Billing Demand	71	71	70	70	70	68	51	48	51	52	67	78			
Total Billing Demand	88	87	85	84	86	87	64	64	68	68	80	97			
Norton-WTA Demand															
LAC Billing Demand	17	16	15	15	16	19	15	16	17	16	15	20			
DOE Billing Demand	71	71	70	70	70	68	65	65	65	65	67	78			
Total Billing Demand	88	87	85	85	86	87	80	81	82	81	82	97			
Total Resource Cost	2,830,292	2,800,591	2,787,709	2,869,846	2,970,415	3,019,145	2,583,172	2,477,785	2,430,381	2,321,479	2,485,697	2,824,579	32,401,090	643,288	$ 50.37
Los Alamos Demand %	18.98%	18.00%	17.78%	16.26%	18.99%	22.15%	21.20%	24.42%	25.64%	23.44%	16.74%	20.27%			
Los Alamos Energy %	19.15%	17.92%	17.24%	16.22%	16.60%	19.27%	25.39%	23.07%	22.70%	22.51%	16.55%	17.67%			
Los Alamos Norton-STA %															
Department of Energy Demand %	81.02%	82.00%	82.22%	83.74%	81.01%	77.85%	78.80%	75.58%	74.36%	76.56%	83.26%	79.73%			
Department of Energy Energy %	80.85%	82.08%	82.76%	83.78%	83.40%	80.73%	74.61%	76.93%	77.30%	77.49%	83.45%	82.33%			
DOE Norton-STA %															
Los Alamos Power Cost															
Demand	262,959	249,330	245,582	225,337	261,096	304,517	289,714	333,420	352,150	325,098	235,149	281,894			
Energy	276,620	253,685	242,483	240,788	264,832	316,920	308,845	256,741	239,835	210,430	178,866	253,406			
Norton-STA	-	-	-	-	-	-	-	-	-	-	-	-			
Customer															
Total	539,579	503,014	488,066	466,125	525,928	621,437	598,559	590,161	591,985	535,528	414,015	535,300	6,409,696	123,371	$ 51.95
Deparment of Energy Power Cost															
Demand	1,122,650	1,135,726	1,135,771	1,160,164	1,113,761	1,070,260	1,077,162	1,031,698	1,021,493	1,061,584	1,169,506	1,108,962			
Energy	1,168,063	1,161,851	1,163,872	1,243,557	1,330,726	1,327,448	907,451	855,925	816,903	724,367	902,177	1,180,317			
Norton-STA	-	-	-	-	-	-	-	-	-	-	-	-			
Customer															
Total	2,290,713	2,297,577	2,299,643	2,403,721	2,444,487	2,397,708	1,984,613	1,887,623	1,838,396	1,785,951	2,071,683	2,289,279	25,991,393	519,916	$ 49.99
Net Due to Los Alamos	1,789,239	1,796,102	1,798,168	1,902,246	1,943,012	1,896,233	1,483,138	1,386,148	1,336,921	1,284,476	1,570,208	1,787,804	19,973,696		
Distribution Expense	(2,046)	(2,046)	(2,046)	(2,046)	(2,046)	(2,046)	(2,046)	(2,046)	(2,046)	(2,046)	(2,046)	(2,046)	(24,552)		
Debt Service Savings Split													-		
PV Site Preperation													-		
Service Charge	-	-	-	-	-	-	-	-	-	-	-	-		**DOE TOTAL**	$ 49.94
Service Charge															
Net Adjusted due Los Alamos	1,787,193	1,794,056	1,796,122	1,900,200	1,940,966	1,894,187	1,481,092	1,384,102	1,334,875	1,282,430	1,568,162	1,785,758	19,949,144		

UPDATED: 04/03/2017

LOADS and RESOURCES, FY2019

	Energy, MWh	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	FY2019 Totals	WAPA Summer	Winter	CF %	% of Total Schedule Total
1	San Juan	25,177	25,177	24,365	25,177	24,365	25,177	25,177	22,740	0	12,182	25,177	24,365	259,079			79.93	39.75
2	Laramie	7,068	5,472	5,928	3,876	6,840	7,068	7,068	6,384	7,068	3,648	7,068	6,840	74,328			84.85	11.40
3	El Vado	0	0	0	0	0	0	0	0	1,897	4,896	6,324	3,672	16,789			23.96	2.58
4	Abiquiu	5,059	4,427	3,060	3,162	0	0	0	0	1,897	5,508	8,854	5,508	37,475			30.56	5.75
5	Abiquiu LFTG	315	333	443	710	703	633	778	530	776	892	751	274	7,139			2.72	1.10
6	TA-3 Steam	0	0	0	0	0	0	0	0	0	0	0	0	0			0.00	-
7	LANL CT, 25 MW	400	400	400	400	400	400	400	400	400	400	400	400	4,800			2.74	0.74
8	WAPA DOE, Firm	4,963	5,039	4,905	5,079	5,631	5,410	6,183	6,404	6,735	6,316	6,518	6,796	69,979	34,537	35,442	31.95	10.74
9	WAPA LAC, Firm	357	339	338	481	501	583	518	461	481	350	343	340	5,092	2,067	3,025	37.05	0.78
10	WAPA Peaking	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0.00
11	**WAPA WRP and CDP**	7,560	8,640	7,392	12,420	11,616	11,340	2,700	1,512	12,420	528	0	5,280	**81,408**				**12.49**
12	PV Landfill	179	179	173	179	173	179	179	161	179	173	179	173	2,102				0.32
13	Future Resource (PPA)	11,160	11,160	10,800	7,440	7,200	7,440	3,720	3,360	7,440	7,200	0	7,200	84,120				12.91
14	Economy Purchases	0	0	0	0	2,400	4,216	0	0	5,208	0	0	0	11,824				1.81
15	Economy Sales	(300)	(200)	(200)		(300)	(200)		(200)	(200)	(300)	(300)	(100)	(2,300)				(0.35)
16	Outage Assistance	0	0	0	0	0	0	0	0	0	0	0	0	0				0.00
17	**Load + Losses**	**61,932**	**60,893**	**57,563**	**58,854**	**59,485**	**62,192**	**46,640**	**41,697**	**44,238**	**41,787**	**55,291**	**60,743**	**651,316**			**Total**	**100.00**
																		Transmission
18	MWh Avail	61,938	60,966	57,603	58,924	59,529	62,245	46,722	41,753	44,301	41,794	55,313	60,748	651,836				Energy cost
19	MWh Scheduled	61,938	60,966	57,603	58,924	59,529	62,245	46,722	41,753	44,301	41,794	55,313	60,748	651,836				
20	MWh +Excess/-Deficit	6	72	40	70	44	53	82	56	64	6	22	4	519				
21	Peaking PB>Pool	0	0	0	0	0	0	0	0	0	0	0	0	0				
22	Peaking PB>Purch	0	0	0	0	0	0	0	0	0	0	0	0	0	PB Total= 0			
23	LANSCE	0	0	0	0	0	0	0	0	0	0	0	0	0				
24	LANL-LANSCE	0	0	0	0	0	0	0	0	0	0	0	0	0				
25	LEDA	0	0	0	0	0	0	0	0	0	0	0	0	0				
26	DOE Total	48,662	48,569	46,289	47,910	48,212	48,790	33,805	30,958	33,126	31,337	44,697	48,023	510,377				
27	LAC	11,467	10,551	9,597	9,230	9,541	11,591	11,477	9,524	9,823	9,234	8,984	10,951	121,969				19
28	Total Load	60,128	59,120	55,886	57,140	57,752	60,381	45,281	40,482	42,949	40,570	53,681	58,974	632,346				
29	Losses	1,804	1,774	1,677	1,714	1,733	1,811	1,358	1,214	1,288	1,217	1,610	1,769	18,970				
30	DOE %	0.80930	0.82153	0.82828	0.83846	0.83480	0.80804	0.74655	0.76474	0.77128	0.77240	0.83264	0.81431	0.80712				
31	LAC %	0.19070	0.17847	0.17172	0.16154	0.16520	0.19196	0.25345	0.23526	0.22872	0.22760	0.16736	0.18569	0.19288				
32	Purchase , MWh	18,899	19,979	18,365	20,039	21,389	23,175	6,599	5,033	25,247	7,901	179	12,653	179,454				
33	% of Total	31	33	32	34	36	37	14	12	57	19	0	21	28				3.23
33a	SJ Unit-1 Day Avail																8184	2400.00
33s	SJ Unit-4 Day Avail	31	31	30	31	30	31	31	28		15	31	30					

UPDATED: 04/03/2017 **LOADS and RESOURCES, FY2019**

	Capacity, MW	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Totals		
33b	LRS Unit-day @100%	62	48	52	34	60	62	62	56	62	32	62	60			
34	San Juan Unit 1													0		
	San Juan Unit 4	36	36	36	36	36	36	36	36	0	18	36	36			
35	Laramie	10	8	9	5	10	10	10	10	10	5	10	10	107		
36	El Vado	0	0	0	0	0	0	0	0	3	8	10	6	27		
27	Abiquiu	8	7	5	5	0	0	0	0	3	9	14	9	60		
38	Abiquiu LFTG	0.50	0.53	0.72	1.12	1.15	1.00	1.23	0.93	1.23	1.46	1.19	0.45	12		
39	TA-3 Steam	0	0	0	0	0	0	0	0	0	0	0	0	0		
40	LANL CT, 20 MW	25	25	25	25	25	25	25	25	25	25	25	25	300	CROD	
41	WAPA DOE, Firm	10	10	8	10	10	12	12	11	10	8	8	9	118	32,441	33,598
42	WAPA LAC, Firm	1	1	1	1	1	1	1	1	1	1	1	1	12	982	1,459
43	WAPA Peaking	0	0	0	0	0	0	0	0	0	0	0	0	0	15,000	15,000
44	PV Landfill	1	1	1	1	1	1	1	1	1	1	1	1	12		
45	**WAPA WRP and CDP**	**14**	**16**	**14**	**23**	**22**	**21**	**5**	**3**	**23**	**1**	**0**	**10**	**152**		
46	Outage Assistance	0	0	0	0	0	0	0	0	0	0	0	0	0		
47	Future Resource (PPA)	15	15	15	10	10	10	5	5	10	10	0	10	115		
48	Economy Purchases					10	17			21				48		
49	Spinning Reserve Purch	5	5	5	5	5	5	5	5	5	5	5	5	60		
50	LANSCE, MW		0	0	0	0	0	0	0	0	0	0	0	0		
51	LANL-LANSCE, MW	0	0	0	0	0	0	0	0	0	0	0	0	0		
52	LEDA, MW													0		
53	DOE Total, MW	70.9	70.7	69.4	69.7	69.5	67.5	50.2	47.3	49.7	51.2	65.3	72.4	754		
54	LAC, MW	17	16	15	13	16	19	13	15	17	16	13	20	191		
54a																
55	**Total Load, MW**	**87**	**86**	**84**	**83**	**86**	**87**	**64**	**63**	**67**	**67**	**79**	**92**	**944**	**Max Mw=**	**92**
56	Required Reserve	8	8	8	8	8	8	6	6	6	6	8	8	88		
57	Losses, MW	3	3	3	3	3	3	2	2	2	2	3	3	32		
58	Total Required, MW	98	97	95	94	97	98	72	71	75	75	90	103	1,064		
59	MW Avail	125	124	119	123	131	139	101	98	113	93	111	122	1,401		
60	Excess/-Deficit, MW	27	27	24	28	34	41	12	27	38	18	22	20	319		
61	DOE %	0.81088	0.82002	0.82280	0.83789	0.81067	0.77905	0.78835	0.75372	0.74176	0.76349	0.83065	0.78765	0.79802		
62	LAC %	0.18912	0.17998	0.17720	0.16211	0.18933	0.22095	0.21165	0.24628	0.25824	0.23651	0.16935	0.21235	0.20198		
63	Load	87	86	84	83	86	87	64	63	67	67	79	92			
64	WAPA Trans Use	25	27	23	34	33	34	18	15	34	10	9	20			
65	Imports	91	90	85	89	97	105	68	65	80	60	77	88			
66	Purchase, MW	35	37	35	39	48	54	16	14	60	17	6	26	387		
67	% of Total	36	38	37	41	50	55	22	20	80	23	7	25	36		

UPDATED: 04/03/2017

LOADS and RESOURCES, FY2020

	Energy, MWh	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	FY2020 Totals	WAPA Summer	Winter	CF %	% of Total Schedule Total	Total Cost $/ Mwh
1	San Juan	25,177	25,177	24,365	25,177	24,365	25,177	25,177	23,553	25,177	24,365	25,177	24,365	297,251			91.71	44.82	
2	Laramie	7,068	7,068	6,612	3,534	4,902	7,068	7,068	6,848	6,726	3,420	5,928	6,840	73,082			83.43	11.02	
3	El Vado	3,162	3,794	2,448	1,897	0	0	0	0	1,897	4,896	6,324	3,672	28,091			40.08	4.24	
4	Abiquiu	5,059	4,427	3,060	3,162	0	0	0	0	1,897	5,508	8,854	5,508	37,475			30.56	5.65	
5	Abiquiu LFTG	315	333	443	710	703	633	778	549	776	892	751	274	7,158			2.72	1.08	
6	TA-3 Steam	0	0	0	0	0	0	0	0	0	0	0	0	0			0.00	-	
7	LANL CT, 25 MW	400	400	400	400	400	400	400	400	400	400	400	400	4,800			2.74	0.72	
8	WAPA DOE, Firm	4,963	5,039	4,905	5,079	5,631	5,410	6,183	6,404	6,735	6,316	6,518	6,796	69,979	34,537	35,442	31.95	10.55	
9	WAPA LAC, Firm	357	339	338	481	501	583	518	461	481	350	343	340	5,092	2,067	3,025	37.05	0.77	
10	WAPA Peaking	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0.00	
11	**WAPA WRP and CDP**	4,494	3,210	4,368	7,704	12,480	12,198	3,210	1,212	0	1,248	2,568	5,616	**58,308**				**8.79**	
12	PV Landfill	357	357	346	357	346	357	357	334	357	346	357	346	4,216				0.64	
13	Future Resource (PPA)	11,160	11,160	10,800	11,160	10,800	11,160	3,720	3,480	744	3,600	0	10,800	88,584				13.36	
14	Economy Purchases	0	248	0	0	0	0	0	0	0	0	0	0	558				0.08	
15	Economy Sales	(100)	(200)		(300)	(200)	(300)	(300)	(200)		(8,500)	(600)	(400)	(11,100)				(1.67)	
16	Outage Assistance	0	0	0	0	0	0	0	0	0	0	0	0	0				0.00	
17	**Load + Losses**	**62,381**	**61,334**	**57,994**	**59,291**	**59,893**	**62,645**	**47,081**	**43,006**	**45,096**	**42,742**	**56,580**	**64,544**	**662,586**			**Total**	**100.05**	
18	MWh Avail	62,413	61,353	58,084	59,362	59,928	62,686	47,111	43,041	45,191	42,841	56,620	64,557	663,184				Transmission Energy cost	**$0.00**
19	MWh Scheduled	62,413	61,353	58,084	59,362	59,928	62,686	47,111	43,041	45,191	42,841	56,620	64,557	663,184					
20	MWh +Excess/-Deficit	32	19	90	70	35	41	30	35	95	99	40	12	597					
21	Peaking PB>Pool	0	0	0	0	0	0	0	0	0	0	0	0	0					
22	Peaking PB>Purch	0	0	0	0	0	0	0	0	0	0	0	0	0	PB Total= 0				
23	LANSCE	0	0	0	0	0	0	0	0	0	0	0	0	0					
24	LANL-LANSCE	0	0	0	0	0	0	0	0	0	0	0	0	0					
25	LEDA	0	0	0	0	0	0	0	0	0	0	0	0	0					
26	DOE Total	48,968	48,876	46,597	48,226	48,497	49,098	34,103	32,119	33,846	32,155	45,843	51,589	519,916					
27	LAC	11,596	10,672	9,708	9,338	9,651	11,722	11,607	9,634	9,937	9,341	9,089	11,076	123,371					
28	Total Load	60,564	59,547	56,305	57,564	58,148	60,820	45,710	41,753	43,783	41,497	54,932	62,664	643,288					
29	Losses	1,817	1,786	1,689	1,727	1,744	1,825	1,371	1,253	1,313	1,245	1,648	1,880	19,299					
30	DOE %	0.80853	0.82079	0.82758	0.83778	0.83402	0.80727	0.74608	0.76926	0.77304	0.77489	0.83454	0.82325	0.80822					
31	LAC %	0.19147	0.17921	0.17242	0.16222	0.16598	0.19273	0.25392	0.23074	0.22696	0.22511	0.16546	0.17675	0.19178					
32	Purchase , MWh	16,011	14,975	15,514	19,221	23,626	23,715	7,287	5,026	1,101	5,194	2,925	16,762	151,356					
33	% of Total	26	24	27	32	39	38	15	12	2	12	5	26	23					
33a	SJ Unit-1 Day Avail																		
33s	SJ Unit-4 Day Avail	31	31	30	31	30	31	31	28	31	30	31	30						

	Capacity, MW	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Totals			
33b	LRS Unit-day @100%	62	62	58	31	43	62	62	58	59	30	52	60				
34	San Juan Unit 1													0			
	San Juan Unit 4	36	36	36	36	36	36	36	36	36	36	36	36				
35	Laramie	10	10	10	5	7	10	10	10	10	5	8	10	105			
36	El Vado	5	6	4	3	0	0	0	0	3	8	10	6	45			
27	Abiquiu	8	7	5	5	0	0	0	0	3	9	14	9	60			
38	Abiquiu LFTG	0.50	0.53	0.72	1.12	1.15	1.00	1.23	0.93	1.23	1.46	1.19	0.45	12			
39	TA-3 Steam	0	0	0	0	0	0	0	0	0	0	0	0	0			
40	LANL CT, 20 MW	25	25	25	25	25	25	25	25	25	25	25	25	300	CROD		
41	WAPA DOE, Firm	10	10	8	10	10	12	12	11	10	8	8	9	118	32,441	33,598	
42	WAPA LAC, Firm	1	1	1	1	1	1	1	1	1	1	1	1	12	982	1,459	
43	WAPA Peaking	0	0	0	0	0	0	0	0	0	0	0	0	0	15,000	15,000	
44	PV Landfill	2	2	2	2	2	2	2	2	2	2	2	2	24			
45	**WAPA WRP and CDP**	**7**	**5**	**7**	**12**	**20**	**19**	**5**	**2**	**0**	**2**	**4**	**9**	**92**			
46	Outage Assistance	0	0	0	0	0	0	0	0	0	0	0	0	0			
47	Future Resource (PPA)	15	15	15	15	15	15	5	5	1	5		15	121			
48	Economy Purchases		1											1			
49	Spinning Reserve Purch	5	5	5	5	5	5	5	5	5	5	5	5	60			
50	LANSCE, MW		0	0	0	0	0	0	0	0	0	0	0	0			
51	LANL-LANSCE, MW	0	0	0	0	0	0	0	0	0	0	0	0	0			
52	LEDA, MW													0			
53	DOE Total, MW	71.3	71.4	69.8	70.2	70.0	68.0	50.6	48.3	50.7	52.3	66.9	77.5	767			
54	LAC, MW	17	16	15	14	16	19	14	16	17	16	13	20	193			
54a																	
55	**Total Load, MW**	**88**	**87**	**85**	**84**	**86**	**87**	**64**	**64**	**68**	**68**	**80**	**97**	**960**		**Max Mw=**	**97**
56	Required Reserve	8	8	8	8	8	8	6	6	6	6	8	8	88			
57	Losses, MW	3	3	3	3	3	3	2	2	2	2	3	4	33			
58	Total Required, MW	99	98	96	95	97	98	72	72	76	76	91	109	1,081			
59	MW Avail	124	124	118	120	122	126	102	98	97	107	115	127	1,382			
60	Excess/-Deficit, MW	25	25	22	25	25	28	12	26	21	31	23	18	283			
61	DOE %	0.81022	0.81999	0.82222	0.83736	0.81009	0.77850	0.78805	0.75576	0.74364	0.76556	0.83259	0.79732	0.79918			
62	LAC %	0.18978	0.18001	0.17778	0.16264	0.18991	0.22150	0.21195	0.24424	0.25636	0.23444	0.16741	0.20268	0.20082			
63	Load	88	87	85	84	86	87	64	64	68	68	80	97				
64	WAPA Trans Use	18	16	16	23	31	32	18	14	11	11	13	19				
65	Imports	89	89	83	85	87	91	68	64	63	73	80	91				
66	Purchase, MW	29	28	29	34	42	41	17	14	8	14	11	31	298			
67	% of Total	29	29	30	36	43	42	24	19	10	18	12	28	28			

County of Los Alamos
Staff Report
June 20, 2018

Agenda No.:	7.A
Index (Council Goals):	BCC - N/A
Presenters:	Jack Richardson, Deputy Utilities Manager - GWS Services
Legislative File:	**10758-18**

Title
Discussion of Proposed Revisions to Water Rule W-6 “Back Flow Prevention and Cross Connection Control” of the DPU Rules and Regulations and Proposed Implementation of New Fees and Enforcement Action Plans to Modernize the Back Flow Prevention - Cross Connection Control (BFP-CCC) Program in Water Distribution.

Recommended Action
No formal action is to be taken. Discussion and informal agreement as to the selected path forward regarding final revisions to the rules and regulations and proposed fee structure and enforcement action plans is requested.

Staff Recommendation
Staff recommends that the BPU approve the proposed revisions to Water Rule W-6 and the proposed DPU Fee Structure as presented and directs staff to develop final approval and implementation documentation at the next available Board of Public Utilities meeting.

Body
Having an adequate Back Flow Prevention - Cross Connection Control (BFP-CCC) Program is required and essential to every public water supply system and yet many public systems struggle to consistently provide this protection on an annual basis. The Los Alamos County Department of Public Utilities Water Distribution system is not an exception to this statement.

The DPU’s responsibilities under its current BFP-CCC Program have historically been met using in-house staff being reactive to notifications from various sources about known deficiencies. The proposed revisions to the existing Rules and Regulations - Water Rule W-6 for “Back Flow Prevention and Cross Connection Control” is an attempt to modernize the existing program by being more consistent with current best industry practices completing the following actions:

- Complete a County wide survey-investigation-inspection to ensure that the DPU is aware of all Utility water supply system customers who meet the requirements for having a functioning BFP device.
- Revise Water Rule W-6 in order to ensure it is up to date, meets current regulations and requirements and provides for any fee implementation and enforcement actions required determined as necessary and appropriate.
- Develop a cloud-based web enabled computer database to house the DPU BFP-CCC Program data: customers with required BFP devices; certified test and/or repairpersons; annual inspection reports; BFP device repair reports; BFP test equipment calibration reports; other

relevant BFP-CCC information.
- Develop a system to certify and track approved BFP test persons and test equipment.
- Provide for a robust and consistent annual contact and BFP device inspection submittal program.
-Provide for a County wide inspection sweep every ten years to ensure all Utility water supply system customers are fully compliant and the system is fully protected.

BFP-CCC Program Data
- Number of Private Customers Requiring BFP Devices = 350 (est'd)
- Total Number of BFP Devices = 400 (est'd)
- Number of LA Public School Customer BFP Devices = 7
- Number of County Customer BFP Devices = 20 (est'd)
- Maximum Number of BFP Devices at One Customer Site = 3 (est'd)
- Average Number of BFP Devices per Private Customer Site = 1

BFP-CCC Program Schedule
- Agreement AGR17-41 was initiated in July 2017 with Viking II out of Albuquerque.
- The database template for DPU was completely developed in February 2018.
- Proposed revisions to Water Rule W-6 and fee proposals are being submitted for initial discussion in June 2018.
- The County wide survey-investigation-inspection was begun in April 2018 and will be completed by August 2018. Some preliminary results of the survey were used in finalizing the estimates in the listed BFP-CCC Program Statistics data set.
- Data from the County wide survey-investigation-inspection is input in September 2018.
- Proposed BFP-CCC Program discussion by the BPU June 2018. Including discussion of any fees and fee implementation schedule.
- Approval of final version of BFP-CCC Program; including fees and enforcement processes in July 2018.
- Educational materials passed out during April - August 2018 sweep inspection.
- Utility bill inserts regarding BFP-CCC Program changes in the November - December 2018 period.
- Reminder emails or letters to all customers in April 2019 about upcoming 1 July 2019 deadline. Letters regarding having both an acceptable installation and acceptable test result documentation submitted to DPU by 1 July 2019.
- Initiation of the fee schedule 1 July 2019 - included in customer correspondence.
- Continue the annual inspection review notification emails or letters to all affected customers every April each year.
- Plan for and execute the next 10-year County wide sweep inspection in FY 2028.

Alternatives

Alt One - Implement new BFP-CCC Program with fees and enforcement actions as proposed.

- Inspection Fee = $50.00 per Inspection. All customers required to have a containment BFP assembly inspection completed by DPU. Assessed only to those customers whose premises are not in compliance with Water Rule W-6 at the time of inspection.
- Annual Administrative Fee = $30.00. Annual fee per testable containment BFP assembly for all customers required to have one or more testable containment BFP assemblies per Water Rule W-6. {Need to determine single annual charge or monthly add-on}.

- Administrative Late Fee = $30.00. Fee to recover costs related to administering the customer not meeting notification schedule for submittal of annual report or repair per testable BFP device or other minor deficiency.
- Administrative Willful Damage/Bypass Fee = $300.00. Fee to recover costs related to administering the customer willfully not installing or damaging or bypassing or tampering with a required BFP assembly.
- Registration Fee = $55.00. To cover initial registration and cost of first year notifications expenses for new customers after 1 July 2019.
- Work Schedule = $35.00 per hour for inspection or testing which are required to be witnesses by the DPU scheduled outside of normal working hours (Monday - Friday 7:00 am - 4:30 pm) and Saturdays.
- Work Schedule = $70.00 per hour. Inspections which are required to be witnesses by the DPU scheduled Sundays and holidays.
- Tester and Repairperson Certification and Registration = $100.00. Tester and Repairperson certification/registration costs. Plus $100.00 for renewal every three (3) years.

Proposed fees for typical existing customer with 1 containment BFP assembly = $30.00 annually starting 1 July 2019. All other fees and charges are waived for existing customers prior to 1 July 2019.

Proposed fees for typical new customer with 1 containment BFP assembly = $55.00 one-time program registration fee per containment BFP assembly plus $30.00 annually per containment BFP assembly ($85.00 initial year then $30.00 annually thereafter) starting 1 July 2019 after installation. Assuming initial inspection meets Water Rule W-6 requirements and inspection takes place during normal working hours then the containment inspection fee of $50.00 would be waived.

Private sector tester and/or repairpersons will be to submit a $100.00 initial registration fee with a $100.00 renewal fee every three (3) years.

Alt Two - Continue to incorporate all BFP-CCC Program costs into the Water Distribution O&M budget without assessing any fees to customers, testers or repairpersons. Continue the existing single enforcement mechanism of water service termination for any deficiency or violation of Water Rule W-6.

Fiscal and Staff Impact

The initial BFP-CCC Program development and set up have a contracted cost for the first year (FY2018) of: Firm Costs = $15,500 (consultant) & Estimated Costs = $2,000 (In house staff) and $50,000 (400 survey contacts @ $125.00 per contact) and $7,250 (50 County owned inspections and 10 County owned repairs). Estimated costs will vary depending on the actual final number of contacts required to complete the survey or final number of assemblies requiring inspection and repair or final in house staff hours expended. The initial costs for the first year (FY18 = $72,500 + in house staff time) are proposed to be funded through the O&M budget in Water Distribution.

Proposed future subsequent year County wide sweep survey-investigation-inspection activities are proposed to be contracted with a consultant and funded through the proposed BFP-CCC

Program fees. Estimated cost (FY18 dollars) = $50,000 would be anticipated no more than once every 10 years.

The following annual yearly costs (FY19 and beyond) listed here are for the consultant to provide Database Management and Program Assistance = $3,000 and an estimated in house staff cost = $2,000. These consultant costs are firm and contracted through FY2020; with possible annual extensions for up to three years through FY2023. Services included in these costs are for the consultant to develop annual notification emails and letters and any necessary follow-up reminder letters, delivery (postal service or email), receipt of submittals consolidated by DPU staff, data input and database management, data security and backup, report development and management, assistance to DPU staff as required and any other miscellaneous services required to operate and maintain a functioning cloud-based web enabled management and reporting system.

Normal DPU staff time for initial BFP-CCC Program start up and for future years' workload would be funded through the Water Distribution O&M budget as they are now currently funded.

The annual costs for the consultant ($3,000/year) if paid for through the Water Distribution O&M budget would not be passed on to DPU customers in the BFP-CCC Program.

The annual costs for the consultant ($3,000/year) if paid for through the implementation of the proposed fees would be passed on to DPU customers in the BFP-CCC Program.

Refer to the "..Alternatives" section above for further discussion.

Attachments

A - Water Rule W-6 with proposed revisions
B - Proposed DPU Fee Schedule Revised to Include BFP-CCC Program Fees
C - Proposed DPU BFP-CCC Field Inspection Form
D - Example of BFP Test Kit Calibration Report Form
E - Proposed Water Rule W-6 with Highlighted and Annotated Revision Markup
F - Existing Water Rule W-6 with Highlighted and Annotated Revision Markup
G - Summary of Fees and Compliance Periods of Nearby Cities
H - Copy of the Agreement (AGR17-41) with Viking II, Inc.

RULES AND REGULATIONS WATER
Water (W)
Rule W-6
BACKFLOW PREVENTION AND CROSS CONNECTION CONTROL

W-6.01 GENERAL

This Rule provides backflow prevention and cross-connection requirements for water service. State and Federal regulations governing water supplies and piping systems stipulate that no connection shall be permitted between the public water supply system and any other water source not regulated by those regulations unless the public water system is protected by a backflow prevention assembly or physical separation approved by the Utility.

W-6.02 REFERENCE

A. New Mexico Environment Department, Title 20, Chapter 7, Part 10, NMAC (Revised October 28, 2010).

B. United States Environmental Agency, Cross Connection Control Manual (Revised 1989).

C. Cross Connection Control, Foundation for Cross Connection Control and Hydraulic Research, the University of Southern California (FCCCHR), latest edition.

D. Manual of Water Supply Practices M14, Backflow Prevention and Cross Connection Control, American Water Works Association Standards, latest edition.

E. Uniform Plumbing Code, Illustrated Training Manual (UPC), latest edition.

W-6.03 PURPOSE

The purpose of this rule is:

A. To protect the Utility water supply system and prevent the backflow of contaminants and pollutants into the Utility water supply system.

B. To provide a continuing Program of Cross Connection Control which will systematically and effectively prevent the contamination or pollution of the Utility water supply system.

W-6.04 DEFINITIONS

Air Gap

A physical separation between the free flowing discharge end of a potable water supply pipeline and an open or non-pressure receiving vessel.

Approved Backflow Prevention Assembly (BFP)

An assembly that is manufactured in full conformance with the standards established by the American Water Works Association entitled AWWA*/ANSI C510-92, Standard for Double Check Valve Backflow Prevention Assemblies* and *AWWA/ANSI C511-92, Standard for Reduced Pressure Principle Backflow Prevention Assemblies or any successor standards*; is currently listed by the FCCCHR; accepted by the Utility and shall be limited to the following four types:

1. Reduced Pressure Principle Backflow Prevention Assembly (RP)
2. Double Check Valve Backflow Prevention Assembly (DC)

   New installations of DCs are prohibited. Existing installations may remain in place if they are currently approved by the FCCCHR and are properly installed and maintained in the configuration and orientation in which they were evaluated and approved by the FCCCHR. Existing Double Check Valve Assemblies that do not meet these requirements must be replaced with a properly installed approved reduced pressure assembly.
3. Pressure Vacuum Breaker Assembly (PVB)
4. Spill-Resistant Pressure Vacuum Breaker Assembly (SVB)

Backflow

The undesirable reversal of the flow of water or mixtures of water and other liquids, gases, or other substances into the distribution pipes of the potable supply of water from any source or sources.

Backsiphonage

A form of backflow due to a reduction in water supply pressure, which causes a sub-atmospheric pressure to exist in the water system.

Backpressure

A form of backflow due to an increase of system pressure that is greater than water supply pressure.

Backflow Prevention Assembly Enclosures

Backflow prevention assemblies shall be protected from freezing and vandalism by a method acceptable to the Utility. Protective enclosure design,

installation and maintenance shall comply with OSHA 29 CFR, Part 1910.146 — "Confined Spaces."

Backflow Assembly Field Test Gauge

The field test gauge, commonly called “test kit”, must appear on the FCCCHR list of acceptable gauges. The test kit includes gauges (electronic or mechanical instruments), hoses, valves, and fittings as required to field test the operational performance of an approved backflow prevention assembly installed on lines for potable water.

A non-potable test kit is required for testing in non-potable, reclaimed or recycled water systems — Example: wastewater-treatment-plant effluent that has been treated. The field test gauge used to test assemblies on these systems shall have in addition to purple hoses and case a purple decal, affixed to the dial inside the lens cover, with “NON-POTABLE USE ONLY” printed in white lettering. The non-potable test kit shall not be used to test backflow prevention assemblies on lines for potable water.

Certified Backflow Prevention Assembly Tester

A person who is, or is employed by an institution, holding a current Los Alamos County business license and is currently certified by the Utility to test backflow prevention assemblies.

Certified Backflow Prevention Assembly Repair Person

A person who is, or is employed by an institution, holding a current Los Alamos County business license and is currently certified by the Utility to test backflow prevention assemblies and is licensed by the appropriate mechanical classification in accordance with the New Mexico Construction Industries Licensing Act.

Cross Connection

Any actual or potential connection or structural arrangement between a public water system and a customer’s water system and any other water source or system through which it is possible to introduce into any part of the potable water system any used water, industrial fluid, gas, or substance other than the intended potable water with which the system is supplied. Bypass arrangements, jumper connections, removable sections, swivel or change-over devices, and other temporary or permanent devices because of which backflow can or may occur are considered to be cross connections.

Cross Connection Control – Containment

The protection of the Utility water supply system by the installation of an

approved backflow prevention assembly properly installed at each service connection, or other agreed upon location, to a customer's water system as outlined and enforced by the Los Alamos County Department of Public Utilities. The size, type and location of any backflow prevention assembly installed shall be determined by the Utility. Containment cross connection control does not provide protection to the occupants of the premises but does provide protection of the Utility water supply system. This shall not negate the use of backflow prevention for protection of and within the customer's water system.

Cross Connection Control – Isolation

The protection of the customer's water system by the installation of approved backflow prevention assembly(s) properly installed at each cross connection within the customer's water system as outlined and enforced by the State of New Mexico Environment Department and Construction Industries Division and the Los Alamos County Community Development Department. This shall not negate the use of backflow prevention at the customer's service connection when required by the Utility.

Customer

Any entity of any water utility user class (residential, commercial, industrial, government, etc.) connected to the Utility water supply system.

Customer's Water System

The customer's water system begins at the service connection and extends throughout the entire length of the water system within the premises.

Hazard (Contamination)

The introduction into a potable water system of any substance that may cause death, illness, injury, or the spread of disease.

Hazard (Pollution)

An impairment of the quality of the water to a degree which does not create a hazard to the public health but which does adversely and unreasonably affect the aesthetic qualities of such waters for domestic use.

Hazard (System)

An actual or potential threat of damage to the physical properties of the public or the customer's water system or of a pollution or contamination which would have a protracted effect on the quality of the potable water in either system.

Thermal Expansion Control

The resulting effect when water in a closed system, such as piping downstream of a backflow prevention assembly heats up, is thermal expansion. In effect the heat causes the water volume to expand; but since the system is closed the system pressure increases and this thermal expansion must be controlled to avoid potential adverse effects.

Utility Water Supply System (Utility)

Physically, the Utility Water Supply System (Utility) shall consist of the facilities of the Los Alamos County Department of Public Utilities public water system; including all the components of production, treatment, storage and the distribution system including the network of conduits used for the delivery of potable water up to the customer's service connection.

Administratively, the Utility shall consist of the Board of Public Utilities (BPU), Utilities Manager (Manager) and utilities staff. The BPU, with County Council oversight approval, sets policy and is the final arbiter of disagreement between the Utility and a customer regarding this Rule. The Manager, or designated representative, implements and administers policy; including Water Rule W-6. Staff provides for the daily administration, operation and maintenance of the Utility Water Supply System; including the Backflow Prevention – Cross Connection Control (BFP-CCC) Program.

Service Connection

The service connection is the terminal end of the Utility water supply system, (i.e. where the Utility may lose jurisdiction or sanitary control of the water at its point of delivery to the customer's water system).

The service connection for metered services shall mean the outlet of the water meter. The service connection for non-metered services is located at the property boundary or the utility easement boundary.

W-6.05 RESPONSIBILITIES

Utility

The Utility shall be responsible for the protection of the Utility water supply system from contamination or pollution due to the backflow of contaminants or pollutants through the water service connection. If, in the sole judgment of the Utility, an approved backflow prevention assembly is required at the customer's water service connection for the safety of the Utility water supply system the Manager, or designated representative, shall give notice to the customer to install an approved backflow prevention assembly(s) at a specific location(s) on the customer's premises.

The Utility, and its authorized representatives, shall not assume liability for any damage, or loss of revenue or income, that shall accrue to persons or property as a result of any act or by reason of any omission in the discharge of the duties and responsibilities afforded by this Rule.

This Rule shall not be construed to relieve or lessen the responsibility of any customer for any damages to persons or property caused by defects or cross connections nor shall the Utility, or their authorized representatives, be deemed to have assumed such liability by reason of the performance of the inspections or testing authorized by this Rule.

The Utility shall annually notify every customer that requires a containment backflow prevention assembly at the service connection that an annual inspection and test report is required to be submitted to the Utility. This annual notification will include a reminder to the customer that any isolation backflow prevention assembly installed within the customer's water system should also be tested; however, the Utility will not implement enforcement for isolation backflow prevention assemblies within a customer's water system. The Utility will implement enforcement regarding containment backflow prevention assemblies.

The Utility may inspect the work in progress for any backflow prevention assembly installation. When the work is completed, the customer must notify the Utility by submitting the appropriate documentation and Utility test report form certifying the installation. The Utility may then complete a final installation containment inspection.

The Utility will not initiate water service to any new customer, whether new construction or tenant improvement, until the Utility, at its sole discretion, has determined full compliance with all requirements of this Rule. It is the responsibility of the Utility to enforce the provisions of this Rule to ensure the safety of the Utility Water Supply System.

Customer

All customers shall be responsible for the prevention of contaminants or pollutants originating on the customer's premises from entering the Utility water supply system (containment) as well as the customer's water system (isolation). The customer's responsibility begins at the service connection and extends throughout the entire length of the customer's water system. The customer is responsible for all expenses incurred for the proper installation, maintenance and testing of any backflow prevention assembly required by the Utility; including fees and work schedule costs.

Customers must provide, maintain and test approved isolation backflow prevention assemblies as required by the latest adopted Plumbing Code at any usage point in the customer's water system when the potable water

supplied by the Utility may be subject to contamination, pollution or other deterioration in sanitary quality from conditions within the customer's water system.

Customers must provide, maintain and test approved containment backflow prevention assemblies as required by the Utility at the service connection when the Utility determines, at its sole discretion, that the Utility water supply system may be subject to contamination, pollution or other deterioration in sanitary quality from conditions within the customer's water system or because the type of activity or materials stored or used on the customer's premises poses an actual or potential hazard if introduced into the Utility water supply system. Testing must be annually; however, the Utility may, due to significant hazard potential, require more frequent testing.

If the Utility determines that a backflow prevention assembly more restrictive than that initially required by this Rule is needed to provide adequate protection of the Utility water supply system the Utility may, at its sole discretion, require the customer to install a more restrictive backflow prevention assembly; including any required modifications to the customer's water supply piping.

The customer shall be responsible for the cost of design, installation and maintenance of protective enclosures to prevent the backflow prevention assemblies from freezing and vandalism. The protective enclosure shall provide for adequate drainage from testing, flushing or relief valve discharging. Protective enclosures must be installed and maintained so that backflow prevention assemblies are safely and readily accessible for testing, maintenance, and repairs.

In the event a customer disagrees with any decision of the Utility regarding the necessity of installing, maintaining or testing a backflow prevention assembly, or more restrictive backflow prevention assembly, the customer has the right to request a hearing with the Utility; first with the Utilities Manager and, if the issue is not resolved, secondly with the Board of Public Utilities. The Board of Public Utilities is the final arbiter for all customer disagreements of this Rule.

Certified Backflow Prevention Assembly Tester and/or Repairperson

The Certified Backflow Prevention Assembly Tester's and/or Repairperson's primary responsibility is to safeguard the Utility water supply system.

The Certified Backflow Prevention Assembly Testers and/or Repairperson shall become registered with the Utility prior to testing or repairing any backflow prevention assemblies. Each tester and/or repair person will be issued a unique identification number that must appear on all backflow prevention assembly test report forms and test tags.

The Certified Backflow Prevention Assembly Tester and/or Repairperson are permitted to inspect and test backflow prevention assemblies. They shall complete and provide accurate test reports immediately to the customer and to the Utility within seven calendar days of the test. Test results shall be submitted on the approved Utility test report form available upon request or on the Los Alamos County web site at the Government - Department of Public Utilities page. The “Backflow Prevention Assembly Test Report” form is located on the left side of the web page in a downloadable Adobe pdf format.

The Certified Backflow Prevention Assembly Tester and/or Repairperson shall inform the customer and/or the Utility if an existing backflow prevention assembly is not installed commensurate with the degree of hazard and pressure conditions or if the assembly is not installed in its required orientation pursuant to FCCHR (usclist.com). It is the responsibility of the Utility to enforce the provisions of this Rule to bring the assembly into compliance. The Certified Backflow Prevention Assembly Tester and/or Repairperson does not have the authority to discontinue the customer's water service or to alter the design or operation of approved backflow prevention assemblies.

The Certified Backflow Prevention Assembly Repairperson shall use only original manufacturer’s authorized replacement parts and include any repairs on test report forms. U.S.D.A. H-1 lubricants should only be used to assist with the reassembly of components.

It is the responsibility of each backflow prevention assembly testing company to forward to the Utility annually a valid calibration report for each test kit under their control. The annual test kit calibration report shall include satisfactory leakage test and accuracy verification in accordance with FCCCHR. The calibration report shall indicate decreasing readings of 12.0 psid, 8.0 psid, 5.0 psid, 2.0 psid, 1.0 psid, not to exceed an accuracy of +/- 0.2 psid. The report also shall indicate the field test gauge maintained a minimum pressure of 175 psi for ten minutes. Field test gauges shall only be calibrated or repaired by an organization authorized as a service center by the manufacturer of the field test gauge.

Backflow prevention assembly test reports shall be rejected if the field test gauge used is not within its current calibration period.

W-6.06 REQUIREMENTS

Mandatory Cross Connection Control – Containment

All new and existing customers, determined at the sole discretion of the Utility to require a backflow prevention assembly, must have an approved backflow prevention assembly installed after each service connection in an accessible location approved by the Utility. Regardless of the location of the

containment backflow prevention assembly, the customer's responsibility begins at the service connection and extends throughout the entire length of the customer's water system within the premises. No tees, branches or possible connection fittings or openings are allowed between the service connection and the containment backflow prevention assembly.

A. Premises where conditions or activities exist or occur, or on which individual fluids or other contaminants are handled in such a fashion as to create an actual or potential hazard to the Utility water supply system, are deemed to present a sufficient backflow contamination hazard that cross connection control for containment by installing an approved air gap or reduced pressure principle backflow prevention assembly (RP) is mandatory are listed in Appendix One of this Rule. The Appendix One list is not to negate the Utility from requiring containment cross connection control for any other condition or activity deemed by the Utility to constitute similar hazards to those listed.

B. All temporary service connections must have an approved containment RP installed at each temporary service connection to the site.

C. All non-residential irrigation water systems connected to the Utility water supply system must have an approved PVB, SVB or RP installed after the service connection as determined by the Utility. The master valves or control valves of an irrigation system must be located in the outlet piping of the irrigation system backflow prevention assembly.

D. All fire hydrants used for filling tanks and tank trucks and for temporary irrigation systems must have an approved air gap or RP installed at the hydrant. The RP must be tested upon installation. Air gap installations must be inspected by the Utility prior to receiving authorization to use the hydrant.

E. Fire protection systems are systems of pipes and equipment used exclusively to supply water for extinguishing fire. All potable water supplies to new fire protection systems, including but not limited to standpipes and automatic sprinkler systems, shall be protected with an approved RP. For fire protection systems served through an existing double check valve assembly (DC); the DC assembly may remain in service provided the existing DC meets the requirements of the "Double Check Valve Backflow Prevention Assembly" section of this Rule. After January 2019, if the DC is found to be not serviceable or repairable after the most recent annual test then the DC shall be replaced with a reduced pressure principle backflow prevention assembly (RP).

   Whenever a backflow prevention assembly is installed on the potable water system to a new or existing fire protection system the hydraulic design of the system shall account for the pressure drop through the assembly.

F. Backflow prevention assembly(s) shall not be removed without prior approval from the Utility.

G. Any customer having existing private wells or other auxiliary water supply and who desire to connect to the Utility water supply system shall have two options as follows:

1. Customers shall permanently abandon the use of private wells or auxiliary water supply by plugging the wells or abandoning the auxiliary supply as accepted by the Utility prior to connecting to the Utility water supply system; or

2. Customers who choose to maintain their private wells shall completely sever the private well from the premises' potable plumbing system and shall install an approved RP after the Utility water supply service connection.

Inspections

The customer's water system shall be open for inspection at all reasonable times to authorized representatives of the Utility or other jurisdictions to determine whether un-protected cross connections or other hazards, including violations of this Rule or any applicable local, state or federal law, exist. This will also include the right to test any installed backflow prevention assembly.

When a condition that is a potential hazard to the Utility water supply system (containment) becomes known, the Utility shall institute enforcement actions commensurate with the hazard until the customer has corrected the condition(s) in conformance with this Rule and all regulations and statutes relating to backflow prevention and cross connection control protection.

When a condition that is a potential hazard to the users within the customer's water system (isolation) becomes known, the responsible jurisdictional agency shall provide written notification to the customer requiring corrective action be initiated by the customer to correct the condition(s) in conformance with all regulations and statutes relating to plumbing and water supplies; but the Utility will not begin an enforcement action.

The Utility shall complete a county wide sweep inspection of all premises with a Los Alamos County Business License and/or operating as a non-residential (commercial, industrial, government, etc.) entity every ten (10) years to field verify customer's compliance with this Rule.

New Water Service Connections

The Utility shall review all requests for new water service connections, or renewed water service connections to renovated existing premises, to determine if containment cross connection control is needed. If it is determined that a containment backflow prevention assembly is required the assembly must be installed, inspected and tested for proper operation, and all fees remitted to the Utility, before water service is granted.

Installation of Approved Backflow Prevention Assemblies

Contractors licensed by the appropriate mechanical classification in accordance with the New Mexico Construction Industries Licensing Act may install backflow prevention assemblies in accordance with the Uniform Plumbing Code (UPC) and this Rule. The contractor shall be responsible for obtaining all required approvals; such as approved plans, permits and inspections. The contractor shall not change the design, material or operational characteristics of a backflow prevention assembly. Backflow prevention assemblies must be properly installed and maintained in the configuration(s) and orientation(s) in which they were evaluated and approved by the FCCCHR (usclist.com).

Replacement of Backflow Prevention Assemblies

Backflow prevention assemblies that cannot be repaired must be replaced with prior approval from the Utility to ensure adequate protection. Permanent removal of a backflow prevention assembly without prior Utility approval may result in termination of water service and/or revocation of Certified Backflow Prevention Assembly Tester and/or Repairperson’s certification.

Parallel Installations

Parallel installations of two or more backflow prevention assemblies of the same type is an effective means insuring that uninterrupted water service is maintained during testing or repair of assemblies and is acceptable when the customer desires such continuity. Each assembly shall operate normally. The decision opting for a parallel installation and its design rests solely with the customer. The customer shall submit a design and plan of implementation to the Utility for approval before the installation of the assemblies.

Thermal Expansion Control

Thermal expansion is caused by the installation of "non-return devices" such as BFPs, check valves, dual check valves, pressure reducing or regulating valves between the water service connection and the customer’s domestic water heater preventing dissipation of the customer’s water back into the Utility water supply system.

An adequately sized thermal expansion tank must be installed in the water piping between the “non-return device” and no less than 18” of the cold water inlet to the water heater to protect against thermal expansion. The pressure in the tank must be adjusted to match the system pressure. A temperature and pressure relief valve is not considered a thermal expansion device. It is the responsibility of the customer to control thermal expansion created by the installation of any device that prevents pressure relief through the building supply.

Tests and Maintenance of Backflow Prevention Assemblies

Customers shall have their BFPs field tested for proper operation upon installation and on an annual test schedule thereafter, or more often as required by the Utility, by a certified backflow prevention assembly tester or repairperson. Test results shall be submitted on the approved Utility test report form available upon request or on the Los Alamos County web site at the Government - Department of Public Utilities page. The “Backflow Prevention Assembly Test Report” form is located on the left side of the web page in a downloadable Adobe pdf format.

BFPs that have not been tested within the past 12 months shall be deemed not functional by the Utility. BFPs that fail a test shall be repaired or replaced by a certified backflow prevention assembly repairperson, and immediately retested by a certified backflow prevention assembly tester or repairperson. Tests and repairs shall be at the expense of the customer.

The certified backflow prevention assembly tester or repairperson shall use separate tools and gauges for testing backflow prevention assemblies on potable water systems, such tools and gauges are never to be used on non-potable water, including alternate water sources. They shall submit all test reports to the Utility and customer within seven (7) calendar days of the test or the test becomes void and retesting of assembly will be required.

Tests performed with a test gauge that do not have a current yearly calibration report are void. Accurate records of all inspections, tests, repairs, and replacement of backflow prevention assemblies shall be maintained by the customer for a period of two (2) years.

Upon the completion of a satisfactory test, the certified backflow prevention assembly tester or repairperson shall attach a durable tag to the backflow prevention assembly indicating the test results, date of test and the tester’s Utility certification/identification number. The tag also shall contain the following information of the backflow prevention assembly: manufacturer, model, size, serial number, specific location of the assembly, type of service, and all testing requirement results for the specific backflow prevention assembly listed in this Rule.

Certification of Backflow Prevention Assembly Testers and Repairpersons

To be certified as a backflow prevention assembly tester, a person shall attend a training course that has been approved by the Utility and successfully complete the written and practical examinations administered as part of the approved training course and paid the Utility tester & repairperson registration fee.

A person who is licensed by the appropriate mechanical classification in accordance with the New Mexico Construction Industries Licensing Act and attends and successfully completes the approved training course may be eligible to be certified as a backflow prevention assembly repairperson.

Re-certification of Backflow Prevention Assembly Testers and Repairpersons.

A certified tester or repairperson who wishes to remain active as a backflow assembly tester or repairperson with the Utility shall renew their certification every three (3) years. To re-certify prior to existing certification expiring, testers and repairpersons must complete an approved eight (8) hour training course and accrue 16 hours of approved continuing education credits and paid the Utility tester & repair person registration fee. Otherwise, the certified tester or repairperson must complete an approved 40-hour training course. Testers or repairpersons with non-expired certifications shall provide proof of training credits earned and training course(s) attended prior to re-certification.

Approved Training Courses

The Utility shall approve training courses. The approved course shall be conducted by an instructor who is a certified tester and repairperson; duration of the course shall be at least 40 hours; and the minimum material covered shall be based on the University of Southern California's Foundation for Cross Connection Control and Hydraulic Research training course.

The approved re-certification training course shall be conducted by an instructor who is a certified tester and repairperson; duration of the course shall be at least eight (8) hours, and the course shall include the Utility Water Rule W-6, other applicable rules and regulations, practical training and practical examinations.

The instructor conducting the certification and re-certification courses shall administer both written and practical examinations. A performance of over 70% on the written examination, and satisfactory completion of the practical examination, constitutes successful completion of the course.

Administrator of the approved training course or approved re-certification training course shall submit the course syllabus once every three (3) years, or upon any changes to the syllabus for approval by the Utility.

Reduced Pressure Principle Backflow Prevention Assembly (RP)

A RP consists of two independently acting internally loaded check valves, a hydraulically operating, mechanically independently pressure differential relief valve located between the check valves and below the first check valve. The assembly shall be equipped with two properly located resilient seated test ports, and two resilient seated isolation valves at each end of the assembly.

Installation Requirements

1. The RP must be installed between 12" and 36" above grade from the lowest part of the assembly for outdoor containment installations, and between 12" and 60" above floor or grade from the lowest part of the assembly for indoor containment installations. The assembly shall not be subjected to flooding.
2. Drainage requirements for the RP must be hydraulically calculated to accommodate the maximum relief valve discharge rate. Most manufacturers' air-gap drains are designed to only handle occasional spitting from the relief valve and will not accommodate a full discharge. An approved air-gap separation at the relief valve is required.
3. RPs must be installed in locations where intermittent and continuous discharge from the relief valve will not be objectionable.
4. In cold climates, RPs must be protected from freezing. Whenever the RP is insulated, precautions must be taken to prevent blockage of the relief valve opening and access to components. The insulation must be easy to remove and restore in order to facilitate testing and repair.
5. RPs must be installed horizontal and plumb unless specifically noted in the "List of Approved Backflow Prevention Assemblies" published by the FCCCHR or usclist.com
6. Thermal expansion control measures must be used on domestic water services.
7. A resilient seated check valve installed in the inlet piping of the RP is recommended to maintain constant pressure of the zone during water supply pressure fluctuations.
8. Assemblies 2-1/2" and larger must be adequately supported.
9. Immediately after installation and before the assembly is tested or service is restored, the assembly must be thoroughly flushed.
10. The size of the RP shall not be less than the size of the customer's water supply piping.

11. The RP shall be installed in accordance with the assembly's operating pressure and temperature rating.
12. The RP shall be installed with adequate access and clearance for testing, maintenance and repairs and located outside any enclosure or hooded area containing fumes that are toxic, poisonous, or corrosive.
13. A permanent platform is necessary whenever the assembly is installed more than five feet above floor or grade. The platform must be within five feet of the lowest part of the assembly and must meet all applicable safety standards and codes.
14. The RP shall be installed in accordance with the manufacturer's flow rate specifications. The flow rates and pressure loss due to increasing or decreasing flow rates will vary from one manufacturer to another.

Testing Requirements

The following criteria must be used when testing the RP:

a. Determine the apparent static pressure drop across check valve No.1 in the direction of flow.
b. Test that the differential pressure relief valve operates to maintain the zone between the two check valves at least 2.0 psi less than supply pressure.
c. Determine that check valve No. 2 closes tight in reverse flow.
d. Determine that the confirmed static pressure drop across check valve No.1 is at least 3.0 psi greater than the relief valve opening point.
e. Determine that the static pressure drop across check valve No. 2 is a minimum of 1.0 psid.
f. Determine that the comparison of the two readings (steps a and d) of check valve No.1 is within1.0 psid.

Double Check Valve Backflow Prevention Assembly (DC)

New installations of DCs are prohibited. Existing installations may remain in place if they are currently approved by the FCCCHR and are properly installed and maintained in the configuration and orientation in which they were evaluated and approved by the FCCCHR. Existing DCs that do not meet these requirements, or have been tested to be non-functional, must be replaced with a properly installed approved reduced pressure principle backflow prevention assembly.

A DC consists of two independently acting internally loaded check valves, four properly located resilient seated test ports, and two resilient seated isolation valves at each end of the assembly.

Installation Requirements

The installation requirements for the DC are the same as the requirements for the RP.

Testing Requirements

The following criteria shall be used when testing the DC:

a. Determine that the static pressure drop across check valve No. 1 is a minimum of 1.0 psid.

b. Determine that the static pressure drop across check valve No. 2 is a minimum of 1.0 psid.

Pressure Vacuum Breaker Assembly (PVB)

A PVB consists of an independently operating internally loaded check valve, an independently operating loaded air inlet valve on the discharge side of the check valve. The assembly shall be equipped with two properly located resilient seated test ports and two resilient seated isolation valves at each end of the assembly.

Installation Requirements

1. The PVB shall be used only for lawn irrigation systems.
2. The PVB shall be installed at a minimum of 12" above the highest point of any of the assembly's outlet piping as well as between 12" and 60" above grade, floor, or platform.
3. There shall be adequate drainage provisions to accommodate water discharge from flushing and testing.
4. In cold climates, PVBs must be protected from freezing. Whenever the PVB is insulated, the insulation must be easy to remove and restore in order to facilitate testing and repair.
5. PVBs must be installed horizontal and plumb.
6. Immediately after installation and before the assembly is tested or service is restored, the assembly must be thoroughly flushed.
7. The size of the PVB shall not be less than the size of the customer’s water supply piping.
8. The PVB shall be installed in accordance with the assembly's operating pressure and temperature rating.
9. The PVB shall be installed in accordance with the manufacturer's flow rate specifications.
10. The PVB shall be used only for lawn irrigation systems.

Testing Requirements

The following criteria shall be used when testing the PVB:

a. Determine that the pressure in the body when the air inlet valve opens is a minimum of 1.0 psi.

b. Determine that the static pressure drop across the check valve is a minimum of 1.0 psid.

Note: There is no relationship between the values of the check valve and air

Spill-Resistant Pressure Vacuum Breaker Assembly (SVB)

A SVB consists of an independently operating internally loaded check valve, an independently operating loaded air inlet valve on the discharge side of the check valve. The assembly shall be equipped with one properly located resilient seated test port and vent valve and two resilient seated isolation valves at each end of the assembly.

Installation Requirements

The installation requirements for the SVB are the same as the requirements for the PVB.

Testing Requirements

The following criteria shall be used when testing the SVB:

a. Determine the pressure in the body when the air inlet valve opens. The air inlet valve shall open when the pressure in the body is a minimum of 1.0 psi.

b. Determine the differential pressure of the check valve in the direction of flow shall be at a minimum of 1.0 psid.

Note: For the SVB to operate correctly, the check valve must have a greater value than the air inlet valve.

Enforcement, Fees and Grounds for Termination of Water Service

Determination of the need for a backflow prevention assembly, the degree of risk or hazard and the level of enforcement for any requirement of Water Rule W-6 is at the sole discretion of the Utility.

For any customer required to have an approved backflow prevention assembly for containment at the service connection and who is overdue in submitting an approvable annual test report or who has a known non-functional BFP or who has a BFP with an incorrect installation the enforcement action shall be a multi-step progressively stricter approach.

1. Step One – After the discovery of the deficiency the Utility shall send a written notification to the address of record (email or postal service) requesting the customer submit within 45 days proof the deficiency has been rectified through a valid test report submittal or through repair or replacement of the BFP with valid test report or through re-plumbing of

an approved BFP that meets required installation guidelines; including submittal of all required documentation. The initial notification shall state that if this 45 day deadline is not met then further action including an administrative fine will be forthcoming. Receipt of documentation that the backflow assembly is now in full compliance will end the issue.

2. Step Two – If no documentation is received or, in the sole opinion of the Utility, the deficiency has not been fully rectified by the end of the 45 day period then the Utility will send a second written notification (certified postal service) demanding the deficiency be fully rectified and any associated documentation submitted within 7 days; and declaring that an administrative late fee must be remitted to the Utility before this issue will be ended by the Utility. If an inspection by the Utility is necessary to ensure compliance then a follow-up containment inspection fee shall also be assessed. Payment of the late fee, and any potential inspection fee, and receipt of documentation that the backflow prevention assembly is in full compliance will end the issue.
3. Step Three – If no documentation is received by the end of the 7 day period and/or the administrative late fee, or potential inspection fee, has not been remitted to the Utility then the Utility shall deliver by hand or door hanger a 3 day notice of water service termination. If the issue is not resolved by the end of the 3 day waiting period then the Utility shall discontinue water service to the customer until such time as the issue is ended. All applicable water service shut off and turn on fees elaborated elsewhere in the Department of Public Utilities Rules and Regulations and Fee Schedule shall apply and must be paid in full before water service is restored to the customer.

For any customer discovered to have willfully damaged, bypassed, impaired or rendered ineffective any required backflow prevention assembly or physical separation installed at the service connection to any premise or within a premise or any customer who is willful in the failure or refusal to install, maintain or test any required backflow prevention assembly(s), after notification by the Utility, the Utility shall implement the following enforcement action.

1. Step One – After discovery of the situation the Utility will send a written notification to the address of record (certified postal service) demanding the situation be fully rectified in accordance to this Rule within 7 days along with the submittal of any associated documentation; and declaring that an administrative late fee must be remitted to the Utility before this issue will be ended by the Utility. If an inspection by the Utility is necessary to ensure compliance then a follow-up containment inspection fee shall also be assessed. Payment of the late fee and any potential inspection fee and receipt of documentation that the backflow prevention assembly is in full compliance will end the issue.

2. Step Two – If no documentation is received by the end of the 7 day period and/or the administrative late fee or potential inspection fee has not been remitted to the Utility then the Utility shall deliver by hand or door hanger a 3 day notice of water service termination. If the issue is not resolved by the end of the 3 day waiting period then the Utility shall discontinue water service to the customer until such time as the issue is ended. In addition, and prior to the Utility re-starting water service, the Utility shall require the customer to remit an administrative willful damage/bypass fee. All applicable water service shut off and turn on fees elaborated elsewhere in the Department of Public Utilities Rules and Regulations and Fee Schedule shall apply and must be paid in full before water service is restored to the customer.

Based upon the degree of potential hazard, if the Utility determines that the Utility water supply system is in immediate danger from an actual or potential pollution and/or contamination hazard then the Utility will immediately discontinue water service to that customer. A 3 day notice of water service termination is not required.

W-6.12 FEES

Fees are assessed in accordance with the Department of Public Utilities Fee Schedule and as outlined in Water Rule W-6 herein.

W-6.13 TRANSITION PERIOD

In the May – August 2018 period, the backflow prevention & cross connection control (BFP-CCC) program for the Los Alamos County Department of Public Utilities was upgraded to conform to the current best practices of the water protection industry in the State of New Mexico and the United States. Water Rule W-6 (BFP-CCC) (this Rule) was revised. Computerized database administration was implemented. Progressive enforcement activities were defined and implemented. A county wide sweep of business licensees and commercial customers was completed to verify compliance or non-compliance with the upgraded BFP-CCC program requirements. It was determined appropriate that those Utility customers who fall under the requirements of the upgraded BFP-CCC program, and whose existing facilities do not meet the updated BFP-CCC program requirements, be provided a transition period to give those affected customers time to bring their premises to a condition that meets the requirements of the upgraded BFP-CCC program.

The annual Administrative Fee and all enforcement actions, including any other Administrative Fees, will be begin 1 July 2019. The Initial Installation Registration Fee for new construction and tenant improvements requiring BFP-CCC containment will begin 1 July 2019. The Tester and Repairperson Registration Fee, Containment Inspection Fee and Work Schedule costs will begin

immediately upon passage of the upgraded BFP-CCC Water Rule W-6.

The upgraded BFP-CCC program includes the registration of certified backflow prevention assembly testers and repairpersons. Registration for testers and repairpersons will begin immediately after the approval of the upgrades to the BFP-CCC program by the Board of Public Utilities and County Council.

Based on the results of the county wide sweep conducted during the May – August 2018 period, any customer not meeting the requirements of this Rule shall have until 1 July 2019 to become fully compliant with this Rule. In the event the customer does not become fully compliant, the Utility will begin enforcement action after 1 July 2019.

Based on the results of the county wide sweep conducted during the May – August 2018 period, all customers affected by this Rule will receive an initial notification regarding the status of their compliance with the BFP-CCC Program. These notifications will be scheduled for sending during the September – October 2018 period.

Fire protection system double check valve backflow prevention assemblies (DC) existing in place as of 18 July 2018, or any new fire protection system DC for a premise currently undergoing the permitting process through the Los Alamos County Community Development department as of 18 July 2018, may remain in place if they are currently approved by the FCCCHR and are properly installed and maintained in the configuration and orientation in which they were evaluated and approved by the FCCCHR. After 1 January 2019, any DC found to be not serviceable or repairable by reason of the annual inspection must be replaced with a new reduced pressure principle backflow prevention assembly (RP).

Educational materials will be sent out to all local and regional contractors, plumbers and plumbing supply stores regarding the BFP-CCC program upgrade regarding the criteria for certification and registration and for approved backflow prevention assemblies, testing equipment and repair materials immediately after the approval of the Revised Water Rule W-6. Educational materials were hand delivered to customers during the May – August county wide inspection sweep to help them prepare for the revisions to the BFP-CCC program. Education materials regarding the upgraded BFP-CCC program for all customers will be developed and delivered through a Department of Public Utilities bill insert scheduled for the November – December 2018 period.

RULES AND REGULATIONS
FEE SCHEDULE (FS)

Administrative Fees		
Account Initiation and Transfer Fee	$10	
Reconnection following disconnection for non-payment – normal hours	$60	Per trip to location, 8:00 AM to 4:00 PM M-F
Reconnection following disconnection for non-payment – after normal hours	$200	Per trip to location, after hours, weekends and holidays
Door Hanger Fee	$10	Per occurrence
Deposits		
Residential	$60 per meter	
Commercial	Variable	Two times the highest anticipated monthly bill
Water hydrant meter	$1,500	All commodity charges shall be additional and at the approved rate schedule
Reduced Pressure Principle Backflow Prevention Assembly for Hydrant Use	$750	Paid prior to installation and testing by DPU – includes post installation testing by DPU
Service Fees		
Disconnection or reconnection of electric, gas or water – normal hours – No charge for first trip in a 24-hr period, thereafter each trip is $75	No Charge (first trip) $75 each additional trip	Per trip to location, 8:00 AM to 4:00 PM M-F
Emergency disconnection or reconnection of electric, gas or water – after normal hours	No Charge	Per trip to location, after hours, weekends and holidays
Non –Emergency_ disconnection or reconnection of electric, gas or water – after normal hours	$200	Per trip to location, after hours, weekends and holidays
Furnace check fees	$100	For up to two furnaces
Meter Test Fees (Requested by customer)		
Electric meters, all sizes	$125	
Water meters 5/8 inch through 1-1/2 inch	$150	
Water meters greater than 1-1/2 inch (in place test)	$150	
Construction Fees		
New Service Installations		
100 amp electric residential service installation less than 150 feet	$850	Prepaid
200 amp electric residential service installation less than 150 feet	$1008	Prepaid
Residential Net Meter application & inspection (2	$260	Prepaid

	trips), incremental cost of Net meter and labor to install Net meter		
	Commercial Net Meter application & inspection (2 trips), incremental cost of Net meter and labor to install Net meter	$450	Prepaid
	All other electric service installations	Estimated cost	Prepaid
	¾ inch gas residential service installation less than 150 feet	$1090	Prepaid
	¾ inch service line up to 150 feet, tap to main, and meter, out of road	$1215	Prepaid
	¾ inch service line up to 150 feet, tap to main in paved road, and meter	$2897	Prepaid
	Install ¾" – 1" excess flow valve on existing polyethylene service line	$616	Prepaid
	Install ¾" – 1" excess flow valve on existing steel service line	$2422	Prepaid
	Install gas valve on existing polyethylene service line	$662	Prepaid
	Install gas valve on existing steel service line	$2710	Prepaid
	All other gas service installations	Estimated cost	Prepaid
	¾ inch water meter	$416	Prepaid
	¾ inch water meter with box, install out of road	$1700	Prepaid
	¾ inch water meter with box, with tap in paved road	$3508	Prepaid
	4 inch sewer tap and saddle with sewer main exposed by customer	$410	Prepaid
	All other work including sewer installations, service relocations and replacement	Estimated cost	Prepaid
North Mesa Connection Charges			
	$250 charge per undeveloped unit where the unit is located in a subdivision where the final plat has been formally accepted by the County, the charge shall be paid for by the individual customer or contractor at the time a water meter is requested	$250 per unit	
	Where the unit is located in a subdivision where the final plat has not been accepted by the County, the charge shall be paid by the subdivision's developer at the time the final plat is filed with the County	$250 per unit	
Inspection Fees for Subdivisions/Commercial Utility Infrastructure			
	Fees for inspection will be based on a percentage of the construction cost estimate for the public Utility infrastructure. Estimate shall be prepared by a Professional Engineer, registered in the state of New Mexico and signed and sealed by the New Mexico Professional Engineer and provided to County Utility	5% of construction cost estimate for the public Utility infrastructure	1.If construction scope and or cost increases by 10 percent or more than original approved scope, inspection fee will be revised accordingly 2. Utility Department

Engineering Department for written approval.		reserves right to modify fees if needed.
Backflow Prevention – Cross Connection Control		
Containment Inspection Fee – Initial Installation	No Charge (first trip) $50 each additional trip	Per trip to location during normal working hours, 8:00 AM to 4:00 PM M-F
Initial Installation Registration Fee	$55.00	Per customer, unlimited number of BFP assemblies
Annual Administrative Fee	$30.00	Per BFP assembly for containment, starting year two after initial installation
Administrative Late Fee	$30.00	Per customer, Initial fine – potential for up to ten times ($300) for tampering, bypass, etc
Administrative Willful Damage/Bypass Fee	$300.00	Per device per incident for willful damage, tampering, bypass, etc
Tester & Repairperson Registration Fee	$100.00	Per person, initial certification – then every 3 years recertification. Waived for County personnel
Work Schedule – after normal hours	$35.00/hour	Inspection or testing by the Utility required outside of normal working hours (M-F 4:00 PM to 8:00 AM) and Saturdays
Work Schedule – after normal hours	$70.00/hour	Inspection or testing by the Utility required Sundays and Holidays

LOS ALAMOS

Department of Public Utilities

Main Phone: (505) 662-8141
Second Phone: 9505) 662-8149
Fax: (505) 662-8215
Email: backflow@lacnm.us

Backflow Prevention Assembly Test Report

Test Date _____

Test Time _____

Results: ☐ Pass ☐ Fail

Customer Information

Business Name _____ POC _____

Physical Address _____ Phone _____

City _____ State _____ Zip _____ Email _____

Current Assembly Information

Mfr _____ Size _____ Type _____

Model _____ S/N _____

Type of Service

☐ Domestic ☐ Fire Protection ☐ Lawn Irrigation

Thermal Exp. Control (Domestic only) ☐ Yes ☐ No ☐ N/A ☐ UNK

BFP Location _____

Removed Assembly Information

Mfr _____ Size _____ Type _____

Model _____ S/N _____

Gauge Information

Mfr _____ Size _____ S/N _____

Calibration Expiration Date _____

Test Type

☐ Initial ☐ Annual ☐ Repair

Repairs

☐ CV1 ☐ CV2 ☐ RV ☐ SO1 ☐ SO2 ☐ TPs

Comments / Other Repairs _____

Test Results

PVB		SVB	RP	
	AIV		CV1 AR	
	CV		RV	
			CV2 Tight?	☐ Yes ☐ No
	DC		CV2	
CV1			CV1 CR	
CV2			Buffer	

I certify that I tested the above assembly in accordance with the Los Alamos County Rules and Regulations and that the information is true and accurate.

Tech County ID _____

Tech Name _____ Employer Name _____

Tech Phone _____ Employer Phone _____

Tech Email _____ Employer Email _____

Revised: 7/18/2018

Viking II, Inc.

3300 Princeton No. 29 NE
Albuquerque NM 87107
Tel: 505-883-3159 Fax: 505-883-3218
E-mail: calibration@viking2.com

Mid-West Instrument
Factory Authorized Calibration/Service Center

Test Kit Calibration Report

Customer Info:
Los Alamos County
P.O. Box 30
101 Camino Entrada Bldg 5
Los Alamos, NM 87544

Contact Info:
Paul Gonzales
Work: (505) 662-8141
Cell:
jb.montoya@lacnm.us

Manufacturer: Midwest
Model: 845-5
Serial Number: 07100029
Body Leak Test: Pass
Calibrated By: Bart Starr
Results: Pass
Calibration Date: 1/17/2017
Next Calibration Date: 1/17/2018

Reference	Initial	Final
14.0	13.7	13.8
12.0	11.8	11.9
8.0	8.0	8.0
7.0	7.0	7.0
5.0	5.0	5.0
2.0	2.2	2.1
1.0	1.1	1.1
0.0	0.0	0.0

Comments: Leak tested and calibrated.

Test Kit Range: 0-15 PSID

This Test Kit is calibrated to an Accuracy of ± 0.2 PSID descending.

All test instruments used in the calibration of this instrument are traceable to N.I.S.T.

This report meets the requirements of the Manual of Cross-Connection Control Tenth Edition published by the Foundation for Cross-Connection Control and Hydraulic Research at the University of California and ASSE Standard #1064-2006 (R2011).

RULES AND REGULATIONS WATER
Water (W)
Rule W-6
BACKFLOW PREVENTION AND CROSS CONNECTION CONTROL

W-6.01 GENERAL

This Rule provides backflow prevention and cross-connection requirements for water service. State and Federal regulations governing water supplies and piping systems stipulate that no connection shall be permitted between the public water supply system and any other water source not regulated by those regulations unless the public water system is protected by a backflow prevention assembly or physical separation approved by the Utility.

W-6.02 REFERENCE

NEW

A. New Mexico Environment Department, Title 20, Chapter 7, Part 10, NMAC (Revised October 28, 2010).

B. United States Environmental Agency, Cross Connection Control Manual (Revised 1989).

C. Cross Connection Control, Foundation for Cross Connection Control and Hydraulic Research, the University of Southern California (FCCCHR), latest edition.

D. Manual of Water Supply Practices M14, Backflow Prevention and Cross Connection Control, American Water Works Association Standards, latest edition.

E. Uniform Plumbing Code, Illustrated Training Manual (UPC), latest edition.

W-6.03 PURPOSE

The purpose of this rule is:

A. To protect the Utility water supply system and prevent the backflow of contaminants and pollutants into the Utility water supply system.

B. To provide a continuing Program of Cross Connection Control which will systematically and effectively prevent the contamination or pollution of the Utility water supply system.

W-6.04 DEFINITIONS [NEW REWRITE THIS SECTION]

Air Gap

A physical separation between the free flowing discharge end of a potable water supply pipeline and an open or non-pressure receiving vessel.

Approved Backflow Prevention Assembly (BFP)

An assembly that is manufactured in full conformance with the standards established by the American Water Works Association entitled AWWA/ANSI *C510-92, Standard for Double Check Valve Backflow Prevention Assemblies* and *AWWA/ANSI C511-92, Standard for Reduced Pressure Principle Backflow Prevention Assemblies or any successor standards*; is currently listed by the FCCCHR; accepted by the Utility and shall be limited to the following four types:

1. Reduced Pressure Principle Backflow Prevention Assembly (RP)
2. Double Check Valve Backflow Prevention Assembly (DC)

   New installations of DCs are prohibited. Existing installations may remain in place if they are currently approved by the FCCCHR and are properly installed and maintained in the configuration and orientation in which they were evaluated and approved by the FCCCHR. Existing Double Check Valve Assemblies that do not meet these requirements must be replaced with a properly installed approved reduced pressure assembly.
3. Pressure Vacuum Breaker Assembly (PVB)
4. Spill-Resistant Pressure Vacuum Breaker Assembly (SVB)

Backflow

The undesirable reversal of the flow of water or mixtures of water and other liquids, gases, or other substances into the distribution pipes of the potable supply of water from any source or sources.

Backsiphonage

A form of backflow due to a reduction in water supply pressure, which causes a sub-atmospheric pressure to exist in the water system.

Backpressure

A form of backflow due to an increase of system pressure that is greater than water supply pressure.

Backflow Prevention Assembly Enclosures

Backflow prevention assemblies shall be protected from freezing and vandalism by a method acceptable to the Utility. Protective enclosure design,

installation and maintenance shall comply with OSHA 29 CFR, Part 1910.146 — "Confined Spaces."

Backflow Assembly Field Test Gauge

The field test gauge, commonly called "test kit", must appear on the FCCCHR list of acceptable gauges. The test kit includes gauges (electronic or mechanical instruments), hoses, valves, and fittings as required to field test the operational performance of an approved backflow prevention assembly installed on lines for potable water.

A non-potable test kit is required for testing in non-potable, reclaimed or recycled water systems — Example: wastewater-treatment-plant effluent that has been treated. The field test gauge used to test assemblies on these systems shall have in addition to purple hoses and case a purple decal, affixed to the dial inside the lens cover, with "NON-POTABLE USE ONLY" printed in white lettering. The non-potable test kit shall not be used to test backflow prevention assemblies on lines for potable water.

NEW DETAIL

Certified Backflow Prevention Assembly Tester

A person who is, or is employed by an institution, holding a current Los Alamos County business license and is currently certified by the Utility to test backflow prevention assemblies.

Certified Backflow Prevention Assembly Repair Person

A person who is, or is employed by an institution, holding a current Los Alamos County business license and is currently certified by the Utility to test backflow prevention assemblies and is licensed by the appropriate mechanical classification in accordance with the New Mexico Construction Industries Licensing Act.

Cross Connection

Any actual or potential connection or structural arrangement between a public water system and a customer's water system and any other water source or system through which it is possible to introduce into any part of the potable water system any used water, industrial fluid, gas, or substance other than the intended potable water with which the system is supplied. Bypass arrangements, jumper connections, removable sections, swivel or change-over devices, and other temporary or permanent devices because of which backflow can or may occur are considered to be cross connections.

Cross Connection Control – Containment

The protection of the Utility water supply system by the installation of an

approved backflow prevention assembly properly installed at each service connection, or other agreed upon location, to a customer's water system as outlined and enforced by the Los Alamos County Department of Public Utilities. The size, type and location of any backflow prevention assembly installed shall be determined by the Utility. Containment cross connection control does not provide protection to the occupants of the premises but does provide protection of the Utility water supply system. This shall not negate the use of backflow prevention for protection of and within the customer's water system.

NEW DETAIL

Cross Connection Control – Isolation

The protection of the customer's water system by the installation of approved backflow prevention assembly(s) properly installed at each cross connection within the customer's water system as outlined and enforced by the State of New Mexico Environment Department and Construction Industries Division and the Los Alamos County Community Development Department. This shall not negate the use of backflow prevention at the customer's service connection when required by the Utility.

Customer

Any entity of any water utility user class (residential, commercial, industrial, government, etc.) connected to the Utility water supply system.

Customer's Water System

The customer's water system begins at the service connection and extends throughout the entire length of the water system within the premises.

Hazard (Contamination)

The introduction into a potable water system of any substance that may cause death, illness, injury, or the spread of disease.

Hazard (Pollution)

An impairment of the quality of the water to a degree which does not create a hazard to the public health but which does adversely and unreasonably affect the aesthetic qualities of such waters for domestic use.

Hazard (System)

An actual or potential threat of damage to the physical properties of the public or the customer's water system or of a pollution or contamination which would have a protracted effect on the quality of the potable water in either system.

Thermal Expansion Control

The resulting effect when water in a closed system, such as piping downstream of a backflow prevention assembly heats up, is thermal expansion. In effect the heat causes the water volume to expand; but since the system is closed the system pressure increases and this thermal expansion must be controlled to avoid potential adverse effects.

Utility Water Supply System (Utility)

Physically, the Utility Water Supply System (Utility) shall consist of the facilities of the Los Alamos County Department of Public Utilities public water system; including all the components of production, treatment, storage and the distribution system including the network of conduits used for the delivery of potable water up to the customer's service connection.

NEW DETAIL

Administratively, the Utility shall consist of the Board of Public Utilities (BPU), Utilities Manager (Manager) and utilities staff. The BPU, with County Council oversight approval, sets policy and is the final arbiter of disagreement between the Utility and a customer regarding this Rule. The Manager, or designated representative, implements and administers policy; including Water Rule W-6. Staff provides for the daily administration, operation and maintenance of the Utility Water Supply System; including the Backflow Prevention – Cross Connection Control (BFP-CCC) Program.

Service Connection

The service connection is the terminal end of the Utility water supply system, (i.e. where the Utility may lose jurisdiction or sanitary control of the water at its point of delivery to the customer's water system).

The service connection for metered services shall mean the outlet of the water meter. The service connection for non-metered services is located at the property boundary or the utility easement boundary.

W-6.05 RESPONSIBILITIES [NEW REWRITE THIS SECTION]

Utility

The Utility shall be responsible for the protection of the Utility water supply system from contamination or pollution due to the backflow of contaminants or pollutants through the water service connection. If, in the sole judgment of the Utility, an approved backflow prevention assembly is required at the customer's water service connection for the safety of the Utility water supply system the Manager, or designated representative, shall give notice to the customer to install an approved backflow prevention assembly(s) at a specific location(s) on the customer's premises.

The Utility, and its authorized representatives, shall not assume liability for any damage, or loss of revenue or income, that shall accrue to persons or property as a result of any act or by reason of any omission in the discharge of the duties and responsibilities afforded by this Rule.

This Rule shall not be construed to relieve or lessen the responsibility of any customer for any damages to persons or property caused by defects or cross connections nor shall the Utility, or their authorized representatives, be deemed to have assumed such liability by reason of the performance of the inspections or testing authorized by this Rule.

NEW DETAIL

The Utility shall annually notify every customer that requires a containment backflow prevention assembly at the service connection that an annual inspection and test report is required to be submitted to the Utility. This annual notification will include a reminder to the customer that any isolation backflow prevention assembly installed within the customer's water system should also be tested; however, the Utility will not implement enforcement for isolation backflow prevention assemblies within a customer's water system. The Utility will implement enforcement regarding containment backflow prevention assemblies.

The Utility may inspect the work in progress for any backflow prevention assembly installation. When the work is completed, the customer must notify the Utility by submitting the appropriate documentation and Utility test report form certifying the installation. The Utility may then complete a final installation containment inspection.

The Utility will not initiate water service to any new customer, whether new construction or tenant improvement, until the Utility, at its sole discretion, has determined full compliance with all requirements of this Rule. It is the responsibility of the Utility to enforce the provisions of this Rule to ensure the safety of the Utility Water Supply System.

Customer

All customers shall be responsible for the prevention of contaminants or pollutants originating on the customer's premises from entering the Utility water supply system (containment) as well as the customer's water system (isolation). The customer's responsibility begins at the service connection and extends throughout the entire length of the customer's water system. The customer is responsible for all expenses incurred for the proper installation, maintenance and testing of any backflow prevention assembly required by the Utility; including fees and work schedule costs.

NEW DETAIL

Customers must provide, maintain and test approved isolation backflow prevention assemblies as required by the latest adopted Plumbing Code at any usage point in the customer's water system when the potable water

supplied by the Utility may be subject to contamination, pollution or other deterioration in sanitary quality from conditions within the customer's water system.

Customers must provide, maintain and test approved containment backflow prevention assemblies as required by the Utility at the service connection when the Utility determines, at its sole discretion, that the Utility water supply system may be subject to contamination, pollution or other deterioration in sanitary quality from conditions within the customer's water system or because the type of activity or materials stored or used on the customer's premises poses an actual or potential hazard if introduced into the Utility water supply system. Testing must be annually; however, the Utility may, due to significant hazard potential, require more frequent testing.

If the Utility determines that a backflow prevention assembly more restrictive than that initially required by this Rule is needed to provide adequate protection of the Utility water supply system the Utility may, at its sole discretion, require the customer to install a more restrictive backflow prevention assembly; including any required modifications to the customer's water supply piping.

The customer shall be responsible for the cost of design, installation and maintenance of protective enclosures to prevent the backflow prevention assemblies from freezing and vandalism. The protective enclosure shall provide for adequate drainage from testing, flushing or relief valve discharging. Protective enclosures must be installed and maintained so that backflow prevention assemblies are safely and readily accessible for testing, maintenance, and repairs.

NEW DETAIL

In the event a customer disagrees with any decision of the Utility regarding the necessity of installing, maintaining or testing a backflow prevention assembly, or more restrictive backflow prevention assembly, the customer has the right to request a hearing with the Utility; first with the Utilities Manager and, if the issue is not resolved, secondly with the Board of Public Utilities. The Board of Public Utilities is the final arbiter for all customer disagreements of this Rule.

Certified Backflow Prevention Assembly Tester and/or Repairperson

The Certified Backflow Prevention Assembly Tester's and/or Repairperson's primary responsibility is to safeguard the Utility water supply system.

The Certified Backflow Prevention Assembly Testers and/or Repairperson shall become registered with the Utility prior to testing or repairing any backflow prevention assemblies. Each tester and/or repair person will be issued a unique identification number that must appear on all backflow prevention assembly test report forms and test tags.

The Certified Backflow Prevention Assembly Tester and/or Repairperson are permitted to inspect and test backflow prevention assemblies. They shall complete and provide accurate test reports immediately to the customer and to the Utility within seven calendar days of the test. Test results shall be submitted on the approved Utility test report form available upon request or on the Los Alamos County web site at the Government - Department of Public Utilities page. The "Backflow Prevention Assembly Test Report" form is located on the left side of the web page in a downloadable Adobe pdf format.

The Certified Backflow Prevention Assembly Tester and/or Repairperson shall inform the customer and/or the Utility if an existing backflow prevention assembly is not installed commensurate with the degree of hazard and pressure conditions or if the assembly is not installed in its required orientation pursuant to FCCHR (usclist.com). It is the responsibility of the Utility to enforce the provisions of this Rule to bring the assembly into compliance. The Certified Backflow Prevention Assembly Tester and/or Repairperson does not have the authority to discontinue the customer's water service or to alter the design or operation of approved backflow prevention assemblies.

NEW DETAIL

The Certified Backflow Prevention Assembly Repairperson shall use only original manufacturer's authorized replacement parts and include any repairs on test report forms. U.S.D.A. H-1 lubricants should only be used to assist with the reassembly of components.

It is the responsibility of each backflow prevention assembly testing company to forward to the Utility annually a valid calibration report for each test kit under their control. The annual test kit calibration report shall include satisfactory leakage test and accuracy verification in accordance with FCCCHR. The calibration report shall indicate decreasing readings of 12.0 psid, 8.0 psid, 5.0 psid, 2.0 psid, 1.0 psid, not to exceed an accuracy of +/- 0.2 psid. The report also shall indicate the field test gauge maintained a minimum pressure of 175 psi for ten minutes. Field test gauges shall only be calibrated or repaired by an organization authorized as a service center by the manufacturer of the field test gauge.

Backflow prevention assembly test reports shall be rejected if the field test gauge used is not within its current calibration period.

W-6.06 REQUIREMENTS [NEW REWRITE THIS SECTION]

Mandatory Cross Connection Control – Containment

All new and existing customers, determined at the sole discretion of the Utility to require a backflow prevention assembly, must have an approved backflow prevention assembly installed after each service connection in an accessible location approved by the Utility. Regardless of the location of the

containment backflow prevention assembly, the customer's responsibility begins at the service connection and extends throughout the entire length of the customer's water system within the premises. No tees, branches or possible connection fittings or openings are allowed between the service connection and the containment backflow prevention assembly.

NEW DETAIL

A. Premises where conditions or activities exist or occur, or on which individual fluids or other contaminants are handled in such a fashion as to create an actual or potential hazard to the Utility water supply system, are deemed to present a sufficient backflow contamination hazard that cross connection control for containment by installing an approved air gap or reduced pressure principle backflow prevention assembly (RP) is mandatory are listed in Appendix One of this Rule. The Appendix One list is not to negate the Utility from requiring containment cross connection control for any other condition or activity deemed by the Utility to constitute similar hazards to those listed.

B. All temporary service connections must have an approved containment RP installed at each temporary service connection to the site.

C. All non-residential irrigation water systems connected to the Utility water supply system must have an approved PVB, SVB or RP installed after the service connection as determined by the Utility. The master valves or control valves of an irrigation system must be located in the outlet piping of the irrigation system backflow prevention assembly.

D. All fire hydrants used for filling tanks and tank trucks and for temporary irrigation systems must have an approved air gap or RP installed at the hydrant. The RP must be tested upon installation. Air gap installations must be inspected by the Utility prior to receiving authorization to use the hydrant.

E. Fire protection systems are systems of pipes and equipment used exclusively to supply water for extinguishing fire. All potable water supplies to new fire protection systems, including but not limited to standpipes and automatic sprinkler systems, shall be protected with an approved RP. For fire protection systems served through an existing double check valve assembly (DC); the DC assembly may remain in service provided the existing DC meets the requirements of the "Double Check Valve Backflow Prevention Assembly" section of this Rule. After January 2019, if the DC is found to be not serviceable or repairable after the most recent annual test then the DC shall be replaced with a reduced pressure principle backflow prevention assembly (RP).

Whenever a backflow prevention assembly is installed on the potable water system to a new or existing fire protection system the hydraulic design of the system shall account for the pressure drop through the assembly.

F. Backflow prevention assembly(s) shall not be removed without prior approval from the Utility.

G. Any customer having existing private wells or other auxiliary water supply and who desire to connect to the Utility water supply system shall have two options as follows:

1. Customers shall permanently abandon the use of private wells or auxiliary water supply by plugging the wells or abandoning the auxiliary supply as accepted by the Utility prior to connecting to the Utility water supply system; or

2. Customers who choose to maintain their private wells shall completely sever the private well from the premises' potable plumbing system and shall install an approved RP after the Utility water supply service connection.

Inspections

The customer's water system shall be open for inspection at all reasonable times to authorized representatives of the Utility or other jurisdictions to determine whether un-protected cross connections or other hazards, including violations of this Rule or any applicable local, state or federal law, exist. This will also include the right to test any installed backflow prevention assembly.

When a condition that is a potential hazard to the Utility water supply system (containment) becomes known, the Utility shall institute enforcement actions commensurate with the hazard until the customer has corrected the condition(s) in conformance with this Rule and all regulations and statutes relating to backflow prevention and cross connection control protection.

When a condition that is a potential hazard to the users within the customer's water system (isolation) becomes known, the responsible jurisdictional agency shall provide written notification to the customer requiring corrective action be initiated by the customer to correct the condition(s) in conformance with all regulations and statutes relating to plumbing and water supplies; but the Utility will not begin an enforcement action.

NEW DETAIL

The Utility shall complete a county wide sweep inspection of all premises with a Los Alamos County Business License and/or operating as a non-residential (commercial, industrial, government, etc.) entity every ten (10) years to field verify customer's compliance with this Rule.

New Water Service Connections

The Utility shall review all requests for new water service connections, or renewed water service connections to renovated existing premises, to determine if containment cross connection control is needed. If it is determined that a containment backflow prevention assembly is required the assembly must be installed, inspected and tested for proper operation, and all fees remitted to the Utility, before water service is granted.

Installation of Approved Backflow Prevention Assemblies

Contractors licensed by the appropriate mechanical classification in accordance with the New Mexico Construction Industries Licensing Act may install backflow prevention assemblies in accordance with the Uniform Plumbing Code (UPC) and this Rule. The contractor shall be responsible for obtaining all required approvals; such as approved plans, permits and inspections. The contractor shall not change the design, material or operational characteristics of a backflow prevention assembly. Backflow prevention assemblies must be properly installed and maintained in the configuration(s) and orientation(s) in which they were evaluated and approved by the FCCCHR (usclist.com).

Replacement of Backflow Prevention Assemblies

Backflow prevention assemblies that cannot be repaired must be replaced with prior approval from the Utility to ensure adequate protection. Permanent removal of a backflow prevention assembly without prior Utility approval may result in termination of water service and/or revocation of Certified Backflow Prevention Assembly Tester and/or Repairperson's certification.

Parallel Installations

Parallel installations of two or more backflow prevention assemblies of the same type is an effective means insuring that uninterrupted water service is maintained during testing or repair of assemblies and is acceptable when the customer desires such continuity. Each assembly shall operate normally. The decision opting for a parallel installation and its design rests solely with the customer. The customer shall submit a design and plan of implementation to the Utility for approval before the installation of the assemblies.

Thermal Expansion Control

Thermal expansion is caused by the installation of "non-return devices" such as BFPs, check valves, dual check valves, pressure reducing or regulating valves between the water service connection and the customer's domestic water heater preventing dissipation of the customer's water back into the Utility water supply system.

NEW DETAIL

An adequately sized thermal expansion tank must be installed in the water piping between the "non-return device" and no less than 18" of the cold water inlet to the water heater to protect against thermal expansion. The pressure in the tank must be adjusted to match the system pressure. A temperature and pressure relief valve is not considered a thermal expansion device. It is the responsibility of the customer to control thermal expansion created by the installation of any device that prevents pressure relief through the building supply.

Tests and Maintenance of Backflow Prevention Assemblies

Customers shall have their BFPs field tested for proper operation upon installation and on an annual test schedule thereafter, or more often as required by the Utility, by a certified backflow prevention assembly tester or repairperson. Test results shall be submitted on the approved Utility test report form available upon request or on the Los Alamos County web site at the Government - Department of Public Utilities page. The "Backflow Prevention Assembly Test Report" form is located on the left side of the web page in a downloadable Adobe pdf format.

BFPs that have not been tested within the past 12 months shall be deemed not functional by the Utility. BFPs that fail a test shall be repaired or replaced by a certified backflow prevention assembly repairperson, and immediately retested by a certified backflow prevention assembly tester or repairperson. Tests and repairs shall be at the expense of the customer.

NEW DETAIL

The certified backflow prevention assembly tester or repairperson shall use separate tools and gauges for testing backflow prevention assemblies on potable water systems, such tools and gauges are never to be used on non-potable water, including alternate water sources. They shall submit all test reports to the Utility and customer within seven (7) calendar days of the test or the test becomes void and retesting of assembly will be required.

Tests performed with a test gauge that do not have a current yearly calibration report are void. Accurate records of all inspections, tests, repairs, and replacement of backflow prevention assemblies shall be maintained by the customer for a period of two (2) years.

Upon the completion of a satisfactory test, the certified backflow prevention assembly tester or repairperson shall attach a durable tag to the backflow prevention assembly indicating the test results, date of test and the tester's Utility certification/identification number. The tag also shall contain the following information of the backflow prevention assembly: manufacturer, model, size, serial number, specific location of the assembly, type of service, and all testing requirement results for the specific backflow prevention assembly listed in this Rule.

Certification of Backflow Prevention Assembly Testers and Repairpersons

To be certified as a backflow prevention assembly tester, a person shall attend a training course that has been approved by the Utility and successfully complete the written and practical examinations administered as part of the approved training course and paid the Utility tester & repairperson registration fee.

A person who is licensed by the appropriate mechanical classification in accordance with the New Mexico Construction Industries Licensing Act and attends and successfully completes the approved training course may be eligible to be certified as a backflow prevention assembly repairperson.

Re-certification of Backflow Prevention Assembly Testers and Repairpersons.

NEW DETAIL

A certified tester or repairperson who wishes to remain active as a backflow assembly tester or repairperson with the Utility shall renew their certification every three (3) years. To re-certify prior to existing certification expiring, testers and repairpersons must complete an approved eight (8) hour training course and accrue 16 hours of approved continuing education credits and paid the Utility tester & repair person registration fee. Otherwise, the certified tester or repairperson must complete an approved 40-hour training course. Testers or repairpersons with non-expired certifications shall provide proof of training credits earned and training course(s) attended prior to re-certification.

Approved Training Courses

The Utility shall approve training courses. The approved course shall be conducted by an instructor who is a certified tester and repairperson; duration of the course shall be at least 40 hours; and the minimum material covered shall be based on the University of Southern California's Foundation for Cross Connection Control and Hydraulic Research training course.

The approved re-certification training course shall be conducted by an instructor who is a certified tester and repairperson; duration of the course shall be at least eight (8) hours, and the course shall include the Utility Water Rule W-6, other applicable rules and regulations, practical training and practical examinations.

The instructor conducting the certification and re-certification courses shall administer both written and practical examinations. A performance of over 70% on the written examination, and satisfactory completion of the practical examination, constitutes successful completion of the course.

Administrator of the approved training course or approved re-certification training course shall submit the course syllabus once every three (3) years, or upon any changes to the syllabus for approval by the Utility.

Reduced Pressure Principle Backflow Prevention Assembly (RP) [EXPANDED DETAIL]

A RP consists of two independently acting internally loaded check valves, a hydraulically operating, mechanically independently pressure differential relief valve located between the check valves and below the first check valve. The assembly shall be equipped with two properly located resilient seated test ports, and two resilient seated isolation valves at each end of the assembly.

Installation Requirements

1. The RP must be installed between 12" and 36" above grade from the lowest part of the assembly for outdoor containment installations, and between 12" and 60" above floor or grade from the lowest part of the assembly for indoor containment installations. The assembly shall not be subjected to flooding.
2. Drainage requirements for the RP must be hydraulically calculated to accommodate the maximum relief valve discharge rate. Most manufacturers' air-gap drains are designed to only handle occasional spitting from the relief valve and will not accommodate a full discharge. An approved air-gap separation at the relief valve is required.
3. RPs must be installed in locations where intermittent and continuous discharge from the relief valve will not be objectionable.
4. In cold climates, RPs must be protected from freezing. Whenever the RP is insulated, precautions must be taken to prevent blockage of the relief valve opening and access to components. The insulation must be easy to remove and restore in order to facilitate testing and repair.
5. RPs must be installed horizontal and plumb unless specifically noted in the "List of Approved Backflow Prevention Assemblies" published by the FCCCHR or usclist.com
6. Thermal expansion control measures must be used on domestic water services.
7. A resilient seated check valve installed in the inlet piping of the RP is recommended to maintain constant pressure of the zone during water supply pressure fluctuations.
8. Assemblies 2-1/2" and larger must be adequately supported.
9. Immediately after installation and before the assembly is tested or service is restored, the assembly must be thoroughly flushed.
10. The size of the RP shall not be less than the size of the customer's water supply piping.

11. The RP shall be installed in accordance with the assembly's operating pressure and temperature rating.
12. The RP shall be installed with adequate access and clearance for testing, maintenance and repairs and located outside any enclosure or hooded area containing fumes that are toxic, poisonous, or corrosive.
13. A permanent platform is necessary whenever the assembly is installed more than five feet above floor or grade. The platform must be within five feet of the lowest part of the assembly and must meet all applicable safety standards and codes.
14. The RP shall be installed in accordance with the manufacturer's flow rate specifications. The flow rates and pressure loss due to increasing or decreasing flow rates will vary from one manufacturer to another.

Testing Requirements

The following criteria must be used when testing the RP:

a. Determine the apparent static pressure drop across check valve No.1 in the direction of flow.
b. Test that the differential pressure relief valve operates to maintain the zone between the two check valves at least 2.0 psi less than supply pressure.
c. Determine that check valve No. 2 closes tight in reverse flow.
d. Determine that the confirmed static pressure drop across check valve No.1 is at least 3.0 psi greater than the relief valve opening point.
e. Determine that the static pressure drop across check valve No. 2 is a minimum of 1.0 psid.
f. Determine that the comparison of the two readings (steps a and d) of check valve No.1 is within1.0 psid.

Double Check Valve Backflow Prevention Assembly (DC) [EXPANDED DETAIL]

New installations of DCs are prohibited. Existing installations may remain in place if they are currently approved by the FCCCHR and are properly installed and maintained in the configuration and orientation in which they were evaluated and approved by the FCCCHR. Existing DCs that do not meet these requirements, or have been tested to be non-functional, must be replaced with a properly installed approved reduced pressure principle backflow prevention assembly.

A DC consists of two independently acting internally loaded check valves, four properly located resilient seated test ports, and two resilient seated isolation valves at each end of the assembly.

Installation Requirements

The installation requirements for the DC are the same as the requirements for the RP.

Testing Requirements

The following criteria shall be used when testing the DC:

a. Determine that the static pressure drop across check valve No. 1 is a minimum of 1.0 psid.

b. Determine that the static pressure drop across check valve No. 2 is a minimum of 1.0 psid.

Pressure Vacuum Breaker Assembly (PVB) [EXPANDED DETAIL]

A PVB consists of an independently operating internally loaded check valve, an independently operating loaded air inlet valve on the discharge side of the check valve. The assembly shall be equipped with two properly located resilient seated test ports and two resilient seated isolation valves at each end of the assembly.

Installation Requirements

1. The PVB shall be used only for lawn irrigation systems.
2. The PVB shall be installed at a minimum of 12" above the highest point of any of the assembly's outlet piping as well as between 12" and 60" above grade, floor, or platform.
3. There shall be adequate drainage provisions to accommodate water discharge from flushing and testing.
4. In cold climates, PVBs must be protected from freezing. Whenever the PVB is insulated, the insulation must be easy to remove and restore in order to facilitate testing and repair.
5. PVBs must be installed horizontal and plumb.
6. Immediately after installation and before the assembly is tested or service is restored, the assembly must be thoroughly flushed.
7. The size of the PVB shall not be less than the size of the customer's water supply piping.
8. The PVB shall be installed in accordance with the assembly's operating pressure and temperature rating.
9. The PVB shall be installed in accordance with the manufacturer's flow rate specifications.
10. The PVB shall be used only for lawn irrigation systems.

Testing Requirements

The following criteria shall be used when testing the PVB:

a. Determine that the pressure in the body when the air inlet valve opens is a minimum of 1.0 psi.

b. Determine that the static pressure drop across the check valve is a minimum of 1.0 psid.

Note: There is no relationship between the values of the check valve and air

Spill-Resistant Pressure Vacuum Breaker Assembly (SVB) [EXPANDED DETAIL]

A SVB consists of an independently operating internally loaded check valve, an independently operating loaded air inlet valve on the discharge side of the check valve. The assembly shall be equipped with one properly located resilient seated test port and vent valve and two resilient seated isolation valves at each end of the assembly.

Installation Requirements

The installation requirements for the SVB are the same as the requirements for the PVB.

Testing Requirements

The following criteria shall be used when testing the SVB:

a. Determine the pressure in the body when the air inlet valve opens. The air inlet valve shall open when the pressure in the body is a minimum of 1.0 psi.

b. Determine the differential pressure of the check valve in the direction of flow shall be at a minimum of 1.0 psid.

Note: For the SVB to operate correctly, the check valve must have a greater value than the air inlet valve.

Enforcement, Fees and Grounds for Termination of Water Service

Determination of the need for a backflow prevention assembly, the degree of risk or hazard and the level of enforcement for any requirement of Water Rule W-6 is at the sole discretion of the Utility.

NEW DETAIL

For any customer required to have an approved backflow prevention assembly for containment at the service connection and who is overdue in submitting an approvable annual test report or who has a known non-functional BFP or who has a BFP with an incorrect installation the enforcement action shall be a multi-step progressively stricter approach.

1. Step One – After the discovery of the deficiency the Utility shall send a written notification to the address of record (email or postal service) requesting the customer submit within 45 days proof the deficiency has been rectified through a valid test report submittal or through repair or replacement of the BFP with valid test report or through re-plumbing of

an approved BFP that meets required installation guidelines; including submittal of all required documentation. The initial notification shall state that if this 45 day deadline is not met then further action including an administrative fine will be forthcoming. Receipt of documentation that the backflow assembly is now in full compliance will end the issue.

2. Step Two – If no documentation is received or, in the sole opinion of the Utility, the deficiency has not been fully rectified by the end of the 45 day period then the Utility will send a second written notification (certified postal service) demanding the deficiency be fully rectified and any associated documentation submitted within 7 days; and declaring that an administrative late fee must be remitted to the Utility before this issue will be ended by the Utility. If an inspection by the Utility is necessary to ensure compliance then a follow-up containment inspection fee shall also be assessed. Payment of the late fee, and any potential inspection fee, and receipt of documentation that the backflow prevention assembly is in full compliance will end the issue.
3. Step Three – If no documentation is received by the end of the 7 day period and/or the administrative late fee, or potential inspection fee, has not been remitted to the Utility then the Utility shall deliver by hand or door hanger a 3 day notice of water service termination. If the issue is not resolved by the end of the 3 day waiting period then the Utility shall discontinue water service to the customer until such time as the issue is ended. All applicable water service shut off and turn on fees elaborated elsewhere in the Department of Public Utilities Rules and Regulations and Fee Schedule shall apply and must be paid in full before water service is restored to the customer.

NEW DETAIL

For any customer discovered to have willfully damaged, bypassed, impaired or rendered ineffective any required backflow prevention assembly or physical separation installed at the service connection to any premise or within a premise or any customer who is willful in the failure or refusal to install, maintain or test any required backflow prevention assembly(s), after notification by the Utility, the Utility shall implement the following enforcement action.

1. Step One – After discovery of the situation the Utility will send a written notification to the address of record (certified postal service) demanding the situation be fully rectified in accordance to this Rule within 7 days along with the submittal of any associated documentation; and declaring that an administrative late fee must be remitted to the Utility before this issue will be ended by the Utility. If an inspection by the Utility is necessary to ensure compliance then a follow-up containment inspection fee shall also be assessed. Payment of the late fee and any potential inspection fee and receipt of documentation that the backflow prevention assembly is in full compliance will end the issue.

NEW DETAIL

2. Step Two – If no documentation is received by the end of the 7 day period and/or the administrative late fee or potential inspection fee has not been remitted to the Utility then the Utility shall deliver by hand or door hanger a 3 day notice of water service termination. If the issue is not resolved by the end of the 3 day waiting period then the Utility shall discontinue water service to the customer until such time as the issue is ended. In addition, and prior to the Utility re-starting water service, the Utility shall require the customer to remit an administrative willful damage/bypass fee. All applicable water service shut off and turn on fees elaborated elsewhere in the Department of Public Utilities Rules and Regulations and Fee Schedule shall apply and must be paid in full before water service is restored to the customer.

Based upon the degree of potential hazard, if the Utility determines that the Utility water supply system is in immediate danger from an actual or potential pollution and/or contamination hazard then the Utility will immediately discontinue water service to that customer. A 3 day notice of water service termination is not required.

W-6.12 FEES

Fees are assessed in accordance with the Department of Public Utilities Fee Schedule and as outlined in Water Rule W-6 herein.

W-6.13 TRANSITION PERIOD

NEW DETAIL

In the May – August 2018 period, the backflow prevention & cross connection control (BFP-CCC) program for the Los Alamos County Department of Public Utilities was upgraded to conform to the current best practices of the water protection industry in the State of New Mexico and the United States. Water Rule W-6 (BFP-CCC) (this Rule) was revised. Computerized database administration was implemented. Progressive enforcement activities were defined and implemented. A county wide sweep of business licensees and commercial customers was completed to verify compliance or non-compliance with the upgraded BFP-CCC program requirements. It was determined appropriate that those Utility customers who fall under the requirements of the upgraded BFP-CCC program, and whose existing facilities do not meet the updated BFP-CCC program requirements, be provided a transition period to give those affected customers time to bring their premises to a condition that meets the requirements of the upgraded BFP-CCC program.

The annual Administrative Fee and all enforcement actions, including any other Administrative Fees, will be begin 1 July 2019. The Initial Installation Registration Fee for new construction and tenant improvements requiring BFP-CCC containment will begin 1 July 2019. The Tester and Repairperson Registration Fee, Containment Inspection Fee and Work Schedule costs will begin

immediately upon passage of the upgraded BFP-CCC Water Rule W-6.

The upgraded BFP-CCC program includes the registration of certified backflow prevention assembly testers and repairpersons. Registration for testers and repairpersons will begin immediately after the approval of the upgrades to the BFP-CCC program by the Board of Public Utilities and County Council.

Based on the results of the county wide sweep conducted during the May – August 2018 period, any customer not meeting the requirements of this Rule shall have until 1 July 2019 to become fully compliant with this Rule. In the event the customer does not become fully compliant, the Utility will begin enforcement action after 1 July 2019.

Based on the results of the county wide sweep conducted during the May – August 2018 period, all customers affected by this Rule will receive an initial notification regarding the status of their compliance with the BFP-CCC Program. These notifications will be scheduled for sending during the September – October 2018 period.

NEW DETAIL

Fire protection system double check valve backflow prevention assemblies (DC) existing in place as of 18 July 2018, or any new fire protection system DC for a premise currently undergoing the permitting process through the Los Alamos County Community Development department as of 18 July 2018, may remain in place if they are currently approved by the FCCCHR and are properly installed and maintained in the configuration and orientation in which they were evaluated and approved by the FCCCHR. After 1 January 2019, any DC found to be not serviceable or repairable by reason of the annual inspection must be replaced with a new reduced pressure principle backflow prevention assembly (RP).

Educational materials will be sent out to all local and regional contractors, plumbers and plumbing supply stores regarding the BFP-CCC program upgrade regarding the criteria for certification and registration and for approved backflow prevention assemblies, testing equipment and repair materials immediately after the approval of the Revised Water Rule W-6. Educational materials were hand delivered to customers during the May – August county wide inspection sweep to help them prepare for the revisions to the BFP-CCC program. Education materials regarding the upgraded BFP-CCC program for all customers will be developed and delivered through a Department of Public Utilities bill insert scheduled for the November – December 2018 period.

RULES AND REGULATIONS WATER

Water (W)

Ruled W-6

BACKFLOW PREVENTION AND CROSS CONNECTION CONTROL

APPENDIX A – MANDATORY BFP-CCC CONTAINMENT

[NEW DETAIL]

Premises where the following conditions or activities exist or occur, or on which individual fluids or other contaminants are handled in such a fashion as to create an actual or potential hazard to the Utility water supply system, are deemed to present a sufficient backflow contamination hazard such that cross connection control for containment by installing an approved air gap or reduced pressure principle backflow prevention assembly (RP) is mandatory:

Hospitals, Morgues, Mortuaries and Autopsy Facilities.

Medical and Dental Clinics.

Pharmacies.

Veterinary Offices and Clinics and Animal Grooming Facilities.

Kennels, Pet Stores, Stables and Zoos.

Taxidermy Shops.

Laboratories and Research Facilities.

Schools and Colleges with Laboratories.

Salons and Health Spas.

Restaurants and Breweries.

Food and Beverage Processing Plants.

Dairy Product Processing.

Hotels and Motels.

Golf Courses.

Swimming Pools.

Greenhouses.

Laundries, Dry Cleaners and Laundromats.

Car and Truck Wash Facilities.

Radiator Shops and Vehicle Battery Shops.

Warehouses.

Leased Space – Commercial & Industrial (shopping centers, warehouses).

Multistory Buildings in Excess of Thirty (30) feet. (Any Occupancy).

Fire Protection Systems and Fire Supply Lines.

Printing Shops and Screen Printing Shops.

Photographic Film Processing Facilities.

Jewelry Manufacturers and Garment Finishers.

Sewage Treatment and Non-Potable Plants and Pumping Stations.

Power Plants, Steam Generating Plants, Chemical Plants and Petroleum Refineries.

Radioactive Material Processing Plants.

Hydraulic Testing Facilities.

Concrete, Sand and Gravel Facilities.

Metal Plating and Electroplating Industries.

Electric and Electronic Component Manufacturers.

Metal Folding and Forming.

Plastic Injection.

Auxiliary Water Supply.

Construction Water Service Points.

Drawing Water from Public Hydrants for Filling Trucks.

Recreational Vehicle Dump Stations.

Premises Where Inspection is Restricted.

Premises using Extremely Toxic Substances.

Premises with Uncontrolled Cross Connections.

Premises with Complex Piping Systems.

Premises with private Wells or Other Auxiliary Water Sources.

Landscape Irrigation Systems Connected Directly to Utility Water Supply System.

RULES AND REGULATIONS
WATER (W)
RULE W-6
BACKFLOW PREVENTION AND CROSS-CONNECTIONS

W-6.01 GENERAL

Rule provides backflow prevention and cross-connection requirements for water service. State and Federal regulations governing water supplies and piping systems stipulate that no connection shall be permitted between the public water supply system and any other water source not regulated by those regulations unless the public water system is protected by a backflow prevention assembly or physical separation approved by the Utility.

W-6.02 REFERENCE

A. Manual of Cross-Connection Control, latest edition, Foundation for Cross-Connection Control and Hydraulic Research of the University of Southern California.
B. American Water Works Association Standards, latest edition.
C. Uniform Plumbing Code, latest edition.

W-6.03 PURPOSE

A. The purpose of this rule is to:

1) To protect the potable water supply and prevent the backflow of contaminants and pollutants into the Utility water supply system.
2) To promote the elimination or control of existing cross-connections, actual or potential, with a customer's internal potable water system, plumbing fixtures and industrial piping systems.
3) To provide a continuing Program of Cross-Connection Control which will systematically and effectively prevent the contamination or pollution of all potable water systems.

DELETE

W-6.04 RESPONSIBILITY [COMPLETE REWRITE THIS SECTION]

A. The Utility shall be responsible for the protection of the public potable water distribution system from contamination or pollution due to the backflow of contaminants or pollutants through the water service connection. If, in the sole judgment of the Utility an approved backflow prevention assembly is required (at the customer's water service connection or within the customer's private water system) for the safety of the water system, the Utilities Manager or his designated agent shall give notice in writing to the customer to install such an approved backflow prevention assembly(s) at a specific location (s) on customer premises. The customer shall immediately install such an approved backflow prevention assembly at the customer's own expense; and failure, refusal, or inability on the part of the customer to install, test, and maintain the assembly(s) shall constitute grounds for discontinuing water service to the premises until such requirements have been satisfactorily met.

B. The customer shall modify his system by proper installation of a backflow prevention assembly at the customer's sole expense, according to the requirements of these rules. The Utility shall inspect the work in progress. When the work is completed, the customer shall notify the Utility for inspection of the system. If the modifications required have been correctly made, in the sole determination of the Utility, the procedures specified in this rule shall be followed. If the assembly has not been correctly installed or completed the Utility shall notify the customer in writing, listing the deficiencies found. The Utility shall discontinue water service from the public water supply if the Utility requirements are not met.

C. The Utility and its authorized representatives, shall not assume liability for any damage, or loss of revenue or income, that shall accrue to persons or property as a result of any act, or by reason of any omission in the discharge of the duties and responsibilities afforded by this rule.

D. This rule shall not be construed to relieve or lessen the responsibility of any customer for any damages to persons or property caused by defects or cross-connections, nor shall the Utility or their authorized representative be deemed to have assumed such liability by reason of the performance of the inspections or testing authorized by this rule.

E. The Utility shall suspend water service if it is discovered that any person willfully damaged, bypassed, impaired or rendered ineffective any required backflow prevention assembly or physical separation installed at the service connection to any premise or within a premise.

W-6.05 DEFINITIONS [COMPLETE REWRITE THIS SECTION]

A. Approved – This term as herein used in reference to an air gap, a double check valve assembly, a reduced pressure principle backflow prevention assembly or other backflow prevention assemblies or methods shall mean an approval by the Utility.

B. Backflow- This term shall mean the reversal of the flow of water or mixtures of water and other liquids, gases, or other substances into the distribution pipes of the potable supply of water from any source or sources.

C. Backpressure- This term shall mean the elevation of pressure in the downstream piping system (by pump, elevation of piping, or steam and or air pressure) above the supply pressure at the point of consideration, which would cause, or tend to cause a reversal, of the normal direction of flow.

D. Backsiphonage- This term shall mean a form of backflow due to a reduction in system pressure, which causes a subatmospheric pressure to exist at a site in the water system.

E. Backflow Preventer- An assembly or means designed to prevent backflow

1) Air gap- This term shall mean a physical separation between the free flowing discharge end of a potable water supply pipeline and an open or non-pressure receiving vessel.
2) Reduced Pressure Principle Backflow Prevention Assembly (RPA)- This term shall mean an assembly containing two independently acting approved check valves together with a hydraulically operating, mechanically independent pressure differential relief valve located between the check valves and at the same time below the first check valve. The unit shall include properly located resilient seated test cocks and tightly closing resilient seated shutoff valves at each end of the assembly. The assembly is designed to protect against a non-health (i.e. pollutant) or health hazard (i.e. contaminant). This assembly shall not be used for back flow protection of sewage or reclaimed water.
3) Double Check Valve Backflow Prevention Assembly (DCVA)- This shall mean an assembly composed of two independently acting, approved check valves, including tightly closing resilient seated shutoff valves attached at each end of the assembly and fitted with properly located resilient seated test cocks. This assembly shall only be used to protect against a non-health hazard (i.e. pollutant).
4) Pressure Vacuum Breaker Assembly (PVB): This term shall mean an assembly containing an independently operating, loaded check valve and an independently operating, loaded air inlet valve located on the discharge side of the check valve. The assembly shall be equipped with properly located test cocks and tightly closing shutoff valves located at each end of the assembly.

F. Approved Backflow Prevention Assembly: This term shall mean an assembly that has been manufactured in full conformance with the standards established by the American Water Works Association entitled AWWA/*ANSI C510-92, Standard for Double Check Valve Backflow Prevention*

Assemblies and *AWWA/ANSI C511-92, Standard for Reduced Pressure Principle Backflow Prevention Assemblies or any successor standards.*

G. Cross- Connection- This term shall mean any unprotected actual or potential connection or structural arrangement between a public or consumer's potable water system and any other source or system through which it is possible to introduce into any part of the potable water system any used water, industrial fluid, gas, or substance other than the intended potable water with which the system is supplied. Bypass arrangements, jumper connections, removable sections, swivel or change-over devices, and other temporary or permanent devices because of which backflow can or may occur are considered to be cross-connections.

1) The term "direct cross-connection" shall mean a cross-connection which is subject to both back siphonage and backpressure.
2) The term "indirect cross-connection" shall mean a cross-connection which is subject to back siphonage only.

H. Hazard means the risk created by contamination or pollution resulting from a cross-connection or the absence or lack of a backflow prevention assembly.

1) Hazard- Contamination- means a threat of contamination, to the public potable water system or the customer's water system to a degree, which creates a hazard to public health.
1) Hazard- Pollutional- means a threat of pollution to the public or customer potable water system, which would not create a hazard to public health, but renders the potable water aesthetically unacceptable.
2) Hazard- System- means a threat of severe damage to the physical properties of the municipal water system or the customer's potable water system, or a threat of pollution or contamination, which would have a protracted effect upon the potable quality of the water in either system.

W-6.06 REQUIREMENTS [COMPLETE REWRITE THIS SECTION]

A. The water system shall be made up of two parts:

1) Utility's System- This shall consist of the source facilities including all the components of production, treatment, storage and the distribution system including the network of conduits used for the delivery of water from the source to the customer's system which are under control of the Utility, up to the location at which the Customer's system begins.
2) Customer's System- This shall include all other parts of the facilities beyond the termination of the Utility's distribution system that are utilized in conveying potable water.

B. Policy

1) No water service to any premise shall be installed or maintained by the Utility unless the water supply is protected as required by local, state and federal laws and regulations and as required by these Utility Rules and Regulations. Service of water to any premise shall be discontinued by the Utility if a backflow prevention assembly required by these Rules is not installed, tested, and maintained, or if an unprotected cross-connection exists on the premises. Service will not be restored until such conditions or defects are corrected.
2) The customer's system shall be open for inspection at all reasonable times to authorized representatives of the Utility or other jurisdictions to determine whether un-protected cross-connections or other hazards, including violations of these rules, or any applicable local, state or federal law, exist. This will also include the right to test any installed approved Backflow Prevention assembly. When such a condition becomes known, the Utility shall deny or immediately discontinue service to the premises by providing for a physical break in the service line until the consumer has corrected the condition(s) in conformance with all regulations and statutes relating to plumbing and water supplies.
3) An approved backflow prevention method in accordance with the latest edition of the Manual of

Cross- Connection Control shall be utilized or installed at every service connection to a customer's water system or at any usage point in the water system when the Utility determines in its sole discretion that the potable water supplied by the public potable water system may be subject to contamination, pollution or other deterioration in sanitary quality from conditions within the customer's water system. If the Utility determines, after inspection of the customer's system, that a backflow prevention assembly more restrictive than that required by these rules is needed to provide adequate protection of the public potable water supply from the degree of hazard potential by the customer's water system, the Utility may, at its sole discretion, require the customer's system be modified as needed at the Customer's expense.

4) The backflow prevention method to be utilized or installed shall be determined by the Utility. The method required by the Utility shall be sufficient to protect against the potential degree of hazard to the public potable water supply from the customer's water system.

5) Any backflow prevention assembly required herein shall be a make, model and size approved by the Utility. Any backflow prevention assembly must have met the laboratory and field performance specifications by the Foundation for Cross-Connection Control and Hydraulic Research of the University of Southern California established in Specifications of Backflow Prevention Assemblies- Section 10 of the *Manual of Cross-Connection Control*. Backflow prevention assemblies must have a manufacturer's parts and service center located within a 150-mile radius. Testing laboratories shall be qualified by the Utility.

DELETE

6) Backflow preventers which may be subjected to backpressure or backsiphonage that have been fully tested and have been granted a Certificate of Approval by a qualified laboratory and are listed on the laboratory's current list of approved back flow prevention assemblies may be used without further qualification.

7) It shall be the duty of the customer at any premise where backflow prevention assemblies are installed to have a field test performed by a certified backflow prevention assembly tester upon installation and at least once per year thereafter. In those instances where the Utility deems the hazard to be great enough the Customer may be required to have field tests at more frequent intervals. These tests shall be at the sole expense of the Customer and shall be performed by Utility personnel or by a certified tester approved by the Utility. The customer shall notify the Utility in advance when the tests are to be undertaken so that a Utility representative may witness the field tests if so desired. These assemblies shall be repaired, overhauled or replaced at the expense of the customer whenever the assemblies are found to be defective. Records of such tests, repairs and overhaul shall be kept by the Customer and provided to the Utility.

8) All presently installed backflow prevention assemblies which do not meet the requirements of this section but were approved devices for the purposes described herein at the time of installation and which have been properly maintained, shall, except for the testing and maintenance requirements, be excluded from the requirements of the rules provided that the Utility is assured with documentation provided by Customer that they will satisfactorily protect the Utility's system. Whenever the existing device is moved from the present location or requires more than minimum maintenance or when the Utility finds that the maintenance constitutes a hazard to health, the unit shall be replaced by an approved backflow prevention assembly meeting the requirements of this section.

DELETE EXCEPT FOR FIRE PROTECTION SYSTEMS

9) The Utility reserves the right to take any and all authorized enforcement actions, including the pursuit of its legal remedies and disconnection of service.

W-6.07 BACKFLOW PREVENTION METHODS REQUIRED [EXPANDED DETAIL]

A. Whenever activities which the Utility determines constitute a potential hazard are conducted on premises served by the public potable water system, back flow prevention methods or assemblies of the type recommended by the *Manual of Cross-Connection Control* published by the Foundation for Cross-Connection Control and Hydraulic Research of the University of Southern California must be utilized or installed at each service connection for that premises.

B. IRRIGATION SYSTEMS

1) All irrigation sprinkler systems connected to the Utility lines shall be connected in accordance with these rules. Such connections with necessary equipment to prevent back flow shall guarantee that in the event of reduced pressure, irrigation water shall not enter the water system.
2) The customer shall maintain all vacuum breakers and back flow prevention equipment in good working condition.

C. When two (2) or more activities with a potential hazard are conducted on premises served by the public potable water system and served by the same service connection, the most restrictive backflow prevention method required for any of the activities conducted on the premises shall be utilized or installed at the service connection. The order of most restrictive to least restrictive backflow prevention methods shall be as follows:

1) Air gap (most restrictive).
2) Reduced Pressure principle assembly (RPA).
3) Double check valve assembly (DCVA).
4) Pressure vacuum breaker assembly (PVB) (least restrictive).

W-6.08 BACKFLOW ASSEMBLY INSTALLATION REQUIREMENTS [EXPANDED DETAIL]

A. Backflow prevention assemblies shall be installed by the customer, at the customer's sole expense and in compliance with the standards and specifications adopted by the Utility.

B. The backflow assembly shall be in an accessible location approved by the Utility and installed in accordance with manufacturer recommendations.

C. When a customer desires a continuous water supply, two (2) backflow prevention assemblies shall be installed parallel to one another at the service connection to allow a continuous water supply during testing of the backflow prevention assemblies. When backflow prevention assemblies are installed parallel to one another, the sum of the cross-sectional areas of the assemblies shall be at least equal to the cross-sectional area of the service connection.

D. No customer shall alter, modify, bypass or remove a backflow prevention method without the written approval of the Utility.

W-6.09 INSTALLATION OF BACKFLOW PREVENTION ASSEMBLIES FOR FIRE SYSTEMS [EXPANDED DETAIL]

All fire protection systems require back flow prevention devices per the Manual of Cross Connection and American Water Works Association Manual M14, most current editions.

W-6.10 TEST, MAINTENANCE, RECORDS [INCLUDED IN OTHER SECTIONS]

A. The customer shall test and service backflow prevention assemblies at least once a year. If in the opinion of the Utility, the testing reveals the assembly to be defective or in unsatisfactory operating condition, the customer shall promptly perform any necessary repairs, including replacement or overhaul of the assembly, if necessary, which will return the assembly to satisfactory operating condition. The customer shall be responsible for all costs incurred to repair the backflow assemblies.

B. If the Utility or a customer learns or discovers, during the interim period between tests, that an assembly is defective or in unsatisfactory operating condition, the customer shall promptly perform any necessary repairs, including replacement or overhaul of the assembly, if necessary, which will return the assembly to satisfactory operating condition. The customer shall be responsible for all costs incurred to repair the backflow assembly.

C. Testing shall be performed by an individual approved by the Utility. Approval issued to a backflow prevention assembly tester may be revoked or suspended for improper testing, maintenance, reporting or other improper practices.

D. The Customer shall maintain records, on forms approved by the Utility, of the results of all tests and all servicing, repairs, overhauls or replacements of the backflow prevention assembly. A copy of the records shall be promptly submitted to the Utility after completion of the activity for which the record is made. The Customer must maintain such records for a period not less than five (5) years.

E. Fire systems shall not be out of service for more than eight (8) consecutive hours due to testing, maintenance or repairs. The fire department shall be notified immediately of any changes in fire service status.

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W-6.11 MANUAL OF PROCEDURES

Copies of the Los Alamos County Utility "Manual of Procedures" for back flow prevention compliance and testing may be obtained from the Utility. The manual provides general definitions of conditions relevant to Backflow and cross-connections, guidelines for the location and installation of approved backflow prevention assemblies or the use of an air gap, and includes precise, step-by-step instructions for those assemblies requiring systematic and periodic testing to insure that they operate satisfactorily. This manual is incorporated by reference.

W-6.12 FEES

Fees are assessed in accordance with Fee Schedule.

Cross-Connection Control
Fees and Compliance Periods of Nearby Cities

Albuquerque

- Annual fee of $30.00 per BFP per year starting with initial test of BFP.
- One time fee of $55.00 initial BFP inspection and test by utility personnel – this fee discontinued years ago and no longer applied.
- 15 days to install and test new BFP from inspection date.
- Penalty – termination of water service.
- http://www.abcwua.org/uploads/FileLinks/b30e534f2f52481ca9bf0d3a817995fb/Section_8.pdf (Page 9, 8-1-7 REQUIREMENTS B, 2, b)

Rio Rancho

- One time fee of $100.00 registration fee per BFP.
- 90 days to install and test new BFP from inspection date.
- Penalty – termination of water service.
- https://rrnm.gov/754/Backflow-Prevention-Program (Page 35, Section VI,A)

Las Cruces

- 90 days to install and test new BFP from inspection date.
- Penalty – termination of water service.
- EPA Manual of Cross-Connection Control 2003. (Page 35, VI, A, 2)

Alamogordo

- Containment inspection fee of $50.00.
- Initial BFP installation registration fee of $55.00 per BFP.
- Annual BFP administration fee of $30.00 per BFP per year.
- Backflow tester and repairman certification administration fee of $15.00. Accessed for certification and renewal.
- Certification replacement card fee of $5.00 each occurrence.
- 120 days to install and test new BFP from inspection date.
- Penalty – termination of water service.
- http://ci.alamogordo.nm.us/coa/eng/Community_Development_Forms/Backflow_Prevention_Devices.htm (Section 8-08-150 FEES)

Denver

- 60 days to install and test new BFP from inspection date.
- Penalty – termination of water service.
- https://www.denverwater.org/contractors/construction-information/backflow-prevention-program/cross-connection-control-survey (What happens if I do not pass the inspection?)

Phoenix

- 45 days to install and test new BFP from inspection date.
- Penalty – not to exceed one thousand percent per billing period on the charges for all water used beginning from the date the corrective action was required and until the corrective action has been completed by the customer. □
- Termination of water service.
- https://www.phoenix.gov/pddsite/Documents/TRT/dsd_trt_pdf_00635.pdf (Section 37-146 REMEDIES)

Cross-Connection Control
Fees and Compliance Periods of Nearby Cities

El Paso

- 45 days to install and test new BFP from inspection date.
- One time premises inspection fee of $50.00
- Penalty – termination of water service.
- http://www.epwu.org/water/pdf/manual_procedures.pdf (Page 7, I, C, 2) (Page 32, I, Fees)

AGR17-41

LOS ALAMOS

INCORPORATED COUNTY OF LOS ALAMOS
PROFESSIONAL SERVICES AGREEMENT

This **PROFESSIONAL SERVICES AGREEMENT** (this "Agreement") is entered into by and between the **Incorporated County of Los Alamos**, an incorporated county of the State of New Mexico ("County"), and **Viking II Inc.**, a New Mexico corporation ("Contractor"), to be effective for all purposes July 26, 2017.

WHEREAS, the County Purchasing Agent determined in writing that the use of competitive sealed bidding was either not practical or not advantageous to County for procurement of the Services and County issued Request for Qualifications No. 17-41 (the "RFQ") on March 05, 2017, requesting Statements of Qualifications for Professional Services for Water Distribution Back Flow Prevention ("BFP") / Cross Connection Control ("CCC") Program Development and Maintenance, as described in the RFQ; and

WHEREAS, Contractor timely responded to the RFQ by submitting a response dated March 21, 2017 ("Contractor's Response"); and

WHEREAS, based on the evaluation factors set out in the RFQ, Contractor was deemed to be the most highly qualified to perform the required services; and

WHEREAS, the Board of Public Utilities approved this Agreement at a public meeting held on July 19, 2017; and

WHEREAS, the County Council approved this Agreement at a public meeting held on July 25, 2017; and

WHEREAS, Contractor shall provide the Services, as described below, to County.

NOW, THEREFORE, for and in consideration of the premises and the covenants contained herein, County and Contractor agree as follows:

SECTION A. SERVICES: Contractor shall provide Professional Services for Water Distribution Back Flow Prevention ("BFP"), Cross Connection Control ("CCC") Program Development and Program Maintenance (the "Program"). Professional services shall include:

Task 1. Contractor shall assess all County customers who have or are in need of installing back flow prevention devices. Contractor shall also assess County's own need for back flow prevention devices that are County-owned. Assessment work shall consist of:

a. An office review of all County supplied documents, as necessary.
b. Review and discussion with County personnel regarding known County customers or potential County customers who may or may not require entry into the BFP/CCC Program based on County personnel knowledge and Contractor's knowledge of best industry practices.

Task 2. Contractor shall provide assistance in the review and preparation of rules and regulations as the first step in the performance of the Agreement. Contractor shall review all existing County documentation regarding the BFP/CCC Program and provide input and suggestions as to how best to modify the Program. Suggestions are to include fees and funding, citizen contact, forms and correspondence based on Contractor's knowledge of best industry practices.

The fee for Tasks 1 and 2 shall be a one-time fee of FIVE THOUSAND DOLLARS ($5,000.00). Year One Only.

Task 3. Database Development. Contractor shall:

a. Import Los Alamos County Customers data into a database. County shall provide to contractor a list of customers which Contractor shall import into the database. Initial estimate of County customers is two hundred ninety (290), however, Contractor shall input all County supplied data as necessary.
b. Web Enable (Chrome). Contractor shall ensure that the database is web enabled and can be accessed at all times using Google Chrome by County personnel.
c. Use of FileMaker Pro. Contractor shall provide hosting for County's access to the database on servers provided and maintained by the Contractor. The database will be in the latest version of FileMaker Pro and in a format customized by Contractor as desired by and agreed upon by County.
d. Database setup. Contractor shall create a database which contains information regarding type, location, and ownership of all back flow prevention devices. The database will also include such data points as inspection dates, inspection results, fees and charges associated with each individual account and other data points as deemed appropriate and agreed upon between Contractor and County.
e. Forms setup. Contractor shall develop a set of forms, as agreed upon in consultation with County, for field inspections, customer notifications (initial, test result, fees and charges, etc.) and other Program administrative needs.
f. Email setup for notifications. Contractor shall develop an email notification system to enable efficient contact of County customers required to be in the BFP/CCC Program. Email notifications may be in-lieu of hardcopy regular postal service delivery mail of correspondence necessary for the administration of the Program as agreed upon between Contractor and County.
g. Test tags. Contractor shall develop a test tag system, approved by County, for field placement of tags on BFP equipment indicating date, time, inspector and inspection result of each individual BFP assembly inspected by Contractor.
h. All items within this Task 3, subparagraphs a. through g. shall have a one-time total fee of SEVEN THOUSAND FIVE HUNDRED DOLLARS ($7,500.00). Year One Only.

Task 4. Database Management. Contractor shall:

a. Provide all Survey & Testing Data Entry services; both initial and routine ongoing maintenance.
b. Provide Hosting for the database management.
c. Perform all Backups of the database at least weekly. Backup data shall be stored on a redundant server or other hardware located in at least one site separate from the main servers.
d. Perform all Program information updates of the database at least monthly.
e. Perform all modifications of the database as necessary and agreed upon between Contractor and County. A Program review of the database structure and functioning shall be completed annually by Contractor and County to assess the efficiency and effectiveness of County's BFP/CCC Program.

f. Provide data security by encrypting all data using SSL encryption technology or encryption technology agreed upon by County.

g. All items within this Task 4, subparagraphs a. through f., shall be invoiced monthly at a flat fee of ONE THOUSAND FIVE HUNDRED DOLLARS ($1,500.00). Multiple Year Continuous.

Task 5. Contractor shall perform a one-time sweep throughout the County of all customer premises to survey and inspect all County customer-owned BFP assemblies and all County-owned BFP assemblies as necessary.

a. Contractor shall make all reasonable efforts to complete a personal contact with all County customers. Personal contact efforts shall not be considered complete until each case is reviewed by County and agreed upon that the customer personal contact is not available.

b. Contractor shall notify County if, in the course of their work in the field, a County customer is observed to have water using facilities that may require initiation into the BFP/CCC Program for that customer. Upon agreement by County, Contractor shall include that customer in the Program sweep survey and inspection.

c. Contractor fee for each customer, and County, BFP assembly (contact, inspection, reporting, etc.) shall be ONE HUNDRED TWENTY FIVE DOLLARS ($125.00) for each occurrence.

Task 6. Contractor shall perform all backflow prevention assembly testing and repair for County-owned BFPs as directed by County. Contractor shall perform all inspections and repairs as necessary. Fees shall be per each BFP assembly; Multiple Year Continuous.

a. Testing shall be charged at NINETY FIVE DOLLARS ($95.00) per BFP assembly tested.

b. Repairs shall be charged time and materials basis. A written estimate approved by County prior to the work being accomplished shall be submitted by Contractor for any repair exceeding TWO HUNDRED FIFTY DOLLARS ($250.00).

Task 7. Program Assistance. Contractor shall:

a. Provide assistance to County personnel for problems such as troubleshooting accessing the data over the internet or formatting or printing reports whenever requested by County, with no limit as to hours of assistance required.

b. Provide a complete copy of the database to County, upon request, in a format acceptable to County such as MS Excel, MS Access, SQL Server, etc.

c. In the event that County decides to transition away from Contractor hosting and administering the BFP/CCC Program at the end of Year Three, Contractor shall provide all paper and electronic files, databases, programming notes, etc. to County. Contractor shall assist in the transition to a County administered Program up to a limit of 120 hours provided by Contractor.

d. An annual fee of ONE THOUSAND FIVE HUNDRED DOLLARS ($1,500.00) will be charged on the last monthly invoice of County's fiscal year. Multiple Year Continuous.

SECTION B. TERM: The term of this Agreement shall commence July 26, 2017 and shall continue through July 25, 2020, unless sooner terminated, as provided herein. At County's sole option the Agreement may be renewed for up to three (3) consecutive one-year periods, unless sooner terminated, as provided therein.

SECTION C. COMPENSATION:

1. **Amount of Compensation**. County shall pay compensation for performance of the Services in an amount not to exceed TWO HUNDRED AND FIFTY THOUSAND DOLLARS ($250,000.00), which amount does not include applicable New Mexico gross receipts taxes ("NMGRT"). Compensation shall be paid in accordance with the fees set out in Section "A," and shall remain as stated for the duration of the initial three-year contract period. In the event that this contract is extended beyond the initial three-year period all Contractor fees shall increase five percent (5%) for that first extended year (fourth contract year) and remain flat for any additional years' extension,
2. **Monthly Invoices**. Contractor shall submit itemized monthly invoices to County's Project Manager showing amount of compensation due, amount of any NMGRT, and total amount payable. Payment of undisputed amounts shall be due and payable thirty (30) days after County's receipt of the invoice.

SECTION D. TAXES: Contractor shall be solely responsible for timely and correctly billing, collecting and remitting all NMGRT levied on the amounts payable under this Agreement.

SECTION E. STATUS OF CONTRACTOR, STAFF, AND PERSONNEL: This Agreement calls for the performance of services by Contractor as an independent contractor. Contractor is not an agent or employee of County and will not be considered an employee of County for any purpose. Contractor, its agents or employees shall make no representation that they are County employees, nor shall they create the appearance of being employees by using a job or position title on a name plate, business cards, or in any other manner, bearing County's name or logo. Neither Contractor nor any employee of Contractor shall be entitled to any benefits or compensation other than the compensation specified herein. Contractor shall have no authority to bind County to any agreement, contract, duty or obligation. Contractor shall make no representations that are intended to, or create the appearance of, binding County to any agreement, contract, duty, or obligation. Contractor shall have full power to continue any outside employment or business, to employ and discharge its employees or associates as it deems appropriate without interference from County; provided, however, that Contractor shall at all times during the term of this Agreement maintain the ability to perform the obligations in a professional, timely and reliable manner.

SECTION F. STANDARD OF PERFORMANCE: Contractor agrees and represents that it has and will maintain the personnel, experience and knowledge necessary to qualify it for the particular duties to be performed under this Agreement. Contractor shall perform the Services described herein in accordance with a standard that exceeds the industry standard of care for performance of the Services.

SECTION G. DELIVERABLES AND USE OF DOCUMENTS: All deliverables required under this Agreement, including material, products, reports, policies, procedures, software improvements, databases, and any other products and processes, whether in written or electronic form, shall remain the exclusive property of and shall inure to the benefit of County as works for hire; Contractor shall not use, sell, disclose, or obtain any other compensation for such works for hire. In addition, Contractor may not, with regard to all work, work product, deliverables or works for hire required by this Agreement, apply for, in its name or otherwise, any copyright, patent or other property right and acknowledges that any such property right created or developed remains the exclusive right of County. Contractor shall not use deliverables in any manner for any other purpose without the express written consent of County.

without limitation attorneys' fees, of any kind or nature, arising from Contractor's performance hereunder or breach hereof and the performance of Contractor's employees, agents, representatives and subcontractors.

SECTION N. FORCE MAJEURE: Neither County nor Contractor shall be liable for any delay in the performance of this Agreement, nor for any other breach, nor for any loss or damage arising from uncontrollable forces such as fire, theft, storm, war, or any other force majeure that could not have been reasonably avoided by exercise of due diligence.

SECTION O. NON-ASSIGNMENT: Contractor may not assign this Agreement or any privileges or obligations herein without the prior written consent of County.

SECTION P. LICENSES: Contractor shall maintain all required licenses including, without limitation, all necessary professional and business licenses, throughout the term of this Agreement. Contractor shall require and shall assure that all of Contractor's employees and subcontractors maintain all required licenses including, without limitation, all necessary professional and business licenses.

SECTION Q. PROHIBITED INTERESTS: Contractor agrees that it presently has no interest and shall not acquire any interest, direct or indirect, which would conflict in any manner or degree with the performance of its services hereunder. Contractor further agrees that it will not employ any person having such an interest to perform services under this Agreement. No County Council member or other elected official of County, or manager or employee of County shall solicit, demand, accept or agree to accept a gratuity or offer of employment contrary to Section 31-282 of the Los Alamos County Code.

SECTION R. TERMINATION:

1. **Generally**. County may terminate this Agreement with or without cause upon ten (10) days prior written notice to Contractor. Upon such termination, Contractor shall be paid for Services actually completed to the satisfaction of County at the rate set out in Section C. Contractor shall render a final report of the Services performed to the date of termination and shall turn over to County originals of all materials prepared pursuant to this Agreement.
2. **Funding**. This Agreement shall terminate without further action by County on the first day of any County fiscal year for which funds to pay compensation hereunder are not appropriated by County Council. County shall make reasonable efforts to give Contractor at least ninety (90) days advance notice that funds have not been and are not expected to be appropriated for that purpose.

SECTION S. NOTICE: Any notices required under this Agreement shall be made in writing, postage prepaid to the following addresses, and shall be deemed given upon hand delivery, verified delivery by telecopy (followed by copy sent by United States Mail), or three (3) days after deposit in the United States Mail:

County:
Sammy Maestas, Project Manager
Incorporated County of Los Alamos
1000 Central Avenue, Suite 130
Los Alamos, New Mexico 87544

Contractor:
Nancy Starr, President
Viking II, Inc.
3300 Princeton, #29 NE
Albuquerque, New Mexico 87107

SECTION T. INVALIDITY OF PRIOR AGREEMENTS: This Agreement supersedes all prior contracts or agreements, either oral or written, that may exist between the parties with reference to the services described herein and expresses the entire agreement and understanding between the parties with reference to said services. It cannot be modified or changed by any oral promise made by any person, officer, or employee, nor shall any written modification of it be binding on County until approved in writing by both County and Contractor.

SECTION U. CAMPAIGN CONTRIBUTION DISCLOSURE FORM: A Campaign Contribution Disclosure Form was submitted as part of the Contractor's Response and is incorporated herein by reference for all purposes. This Section acknowledges compliance with Chapter 81 of the Laws of 2006 of the State of New Mexico.

IN WITNESS WHEREOF, the parties have executed this Agreement on the date(s) set forth opposite the signatures of their authorized representatives to be effective for all purposes on the date first written above.

ATTEST

NAOMI D. MAESTAS
COUNTY CLERK

INCORPORATED COUNTY OF LOS ALAMOS

BY: Timothy A. Glasco 7-26-17
TIMOTHY A. GLASCO, PE — DATE
UTILITIES MANAGER

Approved as to form:

J. ALVIN LEAPHART
COUNTY ATTORNEY

VIKING II INC., A NEW MEXICO CORPORATION

BY: Nancy Starr 7/26/17
NAME: NANCY STARR — DATE
TITLE: President

County of Los Alamos
Staff Report
June 20, 2018

Agenda No.:	7.B
Index (Council Goals):	BCC - N/A
Presenters:	Bob Westervelt, Deputy Utilities Manager - Finance/Admin
Legislative File:	**OR0815-18**

Title
Approval of Incorporated County of Los Alamos Code Ordinance No. 683, An Ordinance to Authorize the Refinance and Reissuance of Amended Loan and Promissory Note Agreements with the New Mexico Environment Department to Reflect a Reduction of the Prior Loan Principal Balance, Lowered Interest Rate and Extension of the Payment Term

Recommended Action
I move that the Board of Public Utilities approve Incorporated County of Los Alamos Code Ordinance No. 683, An Ordinance to Authorize the Refinance and Reissuance of Amended Loan and Promissory Note Agreements with the New Mexico Environment Department to Reflect a Reduction of the Prior Loan Principal Balance, Lowered Interest Rate and Extension of the Payment Term, as presented and forward to Council for adoption.

Staff Recommendation
Staff recommends the motion be passed as presented.

Body
In January/February 2018 the BPU and Council enacted an ordinance and resolution authorizing transfer of excess cash reserves from the Gas fund to the Wastewater fund. $2.5 million was transferred and in February those funds were used to pay down the balance of the outstanding loan that was used for construction of the Los Alamos Wastewater Treatment Plant. Without refinancing, that action would simply serve to shorten the life of the loan, but would not do anything to lower annual debt service payments. By refinancing, we can return the loan to its original term or extend for a slightly longer term, and by doing so reduce annual debt service requirements, improving cash flow and establishing some flexibility for future capital planning or rate actions.

In addition, in 2017 NMED adopted new, lower rates for loans of this type, and we have the opportunity to refinance the existing debt, which is at a rate of 3% annual interest & administrative fees, to a revised combined rate of 2 3/8%, providing for further cost savings to the utility and rate payors.

Over the past several months the Board has considered several refinance options, including refinancing at the lower rate for the new shorter term established by the $2.5M paydown, extending the term back out to the original twenty-year term, or extending further to 25 or 30

years total repayment period. While total cost of the longer term is slightly higher, annual cash flow is significantly improved by extending. After considering the various alternatives, the Board elected to pursue the twenty-five-year repayment schedule for the loan. This ordinance authorizes and effects that refinancing option.

Alternatives

Several alternative financial scenarios were presented and discussed by the Board at the May, 2018 regular meeting. Any of those scenarios could be reconsidered as an alternative to the proposal presented here.

Fiscal and Staff Impact

The net effect of this refinance is to lower the annual payments from $964,888.54 to $507,403.58, an annual reduction in debt service of $457,484.96. The total cost of financing (total of all payments) increases from $18,272,608.89 to $18,844,969.19, or by $572,360.30. In addition, there is a 2% refinance fee which amounts to $140,590.09.

Attachments

A - Incorporated County of Los Alamos Ordinance No. 683
B - LAC Amended Refinance Loan Agreement
C - LAC Amended Refinanced Promissory Note
D - Final Promissory Note, dated February 28, 2011

INCORPORATED COUNTY OF LOS ALAMOS ORDINANCE NO. 683

AN ORDINANCE TO AUTHORIZE THE REFINANCE AND REISSUANCE OF AMENDED LOAN AND PROMISSORY NOTE AGREEMENTS WITH THE NEW MEXICO ENVIRONMENT DEPARTMENT TO REFLECT A REDUCTION OF THE PRIOR LOAN PRINCIPAL BALANCE, LOWERED INTEREST RATE, AND EXTENSION OF THE PAYMENT TERM

(NMED CWSRF LOAN NO. CWSRF 1438143R)

WHEREAS, the Incorporated County of Los Alamos ("County") on October 4, 2005, pursuant to NMSA 1978, Chapter 3, Article 31 and Chapter 4, Article 62, adopted County Ordinance No. 518 which authorized the County and Department of Public Utilities ("DPU") to incur indebtedness via a promissory note and loan ("Loan") with the State of New Mexico Environment Department ("NMED") through the State's Clean Water State Revolving Fund ("CWSRF"); and

WHEREAS, the Loan amount of CWSRF No. 1438143R, with a rate of interest of Two Point Five Six Four Four Percent (2.5644%) and an administrative fee of Zero Point Four Three Five Six Percent (0.4356%) per annum, was Fourteen Million Three Hundred Fifty-Five Thousand One Hundred Four Dollars and Ninety-Nine Cents ($14,355,104.99); and

WHEREAS, such loan was necessary for the construction and upgrade of the Los Alamos Wastewater Treatment Plant and facilities; and

WHEREAS, County completed the construction and upgrade of the Los Alamos Wastewater Treatment Plan in February 2011; and

WHEREAS, County, through the DPU, has timely made all payments on the Loan to date; and

WHEREAS, the Board has recommended and the County Council has approved, pursuant to County Ordinance, transfer of approximately Two Million Five Hundred Thousand Dollars and No Cents ($2,500,000) from County's Gas Fund account to County's Sewer Utility Fund account to pay down the Loan's principal balance; and that action was accomplished February 7, 2018.

WHEREAS, after discussing the refinance of the remaining principal with the NMED, NMED proposed that County could refinance the remainder of the Loan with the lowered balance and a lower current interest rate and an increased term of the Loan; and

WHEREAS, while extending the term of the Loan, this refinancing will lower the original Loan's monthly payment by $457,485 which will improve overall cash flow for the utility and will allow for flexibility for future capital improvements and necessary rate actions for the utility; and

WHEREAS, the prior Loan and current Refinance Documents require that the DPU Sewer Revenues have sufficient income to cover repayment of the loan through net revenues; and

WHEREAS, County's Chief Financial Officer has reviewed and affirmed that all debt coverage requirements of the refinanced Loan for any DPU outstanding revenue bonds or indebtedness against the revenue of the Sewer system are or will be adequately met; and

WHEREAS, all other terms, conditions, and requirements of the Loan and Ordinance 518, remain intact and unchanged except as provided herein; and

WHEREAS, the Board, at a regularly scheduled and properly noticed meeting, after hearing and consideration has recommended to the County Council that the Loan be refinanced; and

WHEREAS, the County Council has determined that it is necessary and in the best interest of the County to accept and enter into the Refinance Loan Agreement and Refinance Promissory Note and to execute and to deliver both to the NMED.

NOW THEREFORE, BE IT ORDAINED BY THE GOVERNING BODY OF THE INCORPORATED COUNTY OF LOS ALAMOS, as follows:

Section 1. Findings. The County Council hereby finds and declares that it has considered all necessary and relevant information to date, and hereby makes the following findings:

Necessity. After numerous discussions and review by the County Council, County's Board of Public Utilities ("Board"), the Department of Public Utilities' staff, and the public, it has been determined that refinance of the 2005 NMED Clean Water State Revolving Fund Loan No. 1438143R ("Loan"), is necessary to ensure that future funding of County's White Rock Wastewater Treatment Plant ("WWTP") receives the best loan terms and rates of interest for new construction. As noted in the recitals, County, in conjunction with the refinancing of the Loan, has paid down the Loan balance by $2,500,000, reducing the principal to be refinanced to Seven Million Twenty-Nine Thousand Five Hundred Four Dollars and Thirty-Seven Cents ($7,029,504.37) with a new financing interest rate of Two Point Zero Two Four Percent (2.024%) and an administrative fee of Zero Point Three Five One Percent (0.351%) for a total rate of Two Point Three Seven Five Percent (2.375%)

a. Amendment and Refinancing of the Loan. Attached to this Ordinance as Attachments A and B are the proposed Refinance Loan and Refinance Promissory Note documents ("Refinance Documents"). The Refinance Documents replace the prior authorized Loan documents including the Loan and Promissory Note for NMED Loan No. CWSRF 1438143R.

Section 2. Authorization of Refinance Loan Agreement and Refinance Promissory Note.

a. Authorization and Basic Terms of Loan and Loan Agreement. For the purpose of protecting the public health, conserving the property, protecting the general welfare and prosperity of the citizens of the County, it is hereby declared necessary that County execute and deliver, and County's Utilities Manager, in consultation with the County Attorney's Office, is hereby authorized to execute and deliver the Refinance Documents together with this Ordinance to the NMED.

b. It is understood and authorized that the final Refinance Documents loan amount and terms may be adjusted to compensate and be adjusted for the accruing interest on principal until the execution of the Refinance Documents, but shall be in substantial conformity to Attachments A and B attached hereto.

c. All other terms, conditions, covenants, and requirements as provided in Ordinance 518 and the final Loan authorized therein, attached hereto as Attachment C, remain unaltered

and unchanged, except as provided herein (*i.e.*, term, interest rate, refinance administrative fee, and principal).

Section 3. Special Limited Obligations. The Refinance Documents and all payments of principal and interest thereon, and as originally provided in Ordinance 518, shall be special limited, and not general, obligations of County and shall be payable and collectible solely from Net Revenues of the Sewer System as defined in Ordinance 518 which are irrevocably pledged (but not exclusively pledged) as set forth in Section 12 of Ordinance 518. The NMED, as Lender, may not look to any general or other County fund for the payment of the principal of or interest on the Refinance Documents except the designated special funds pledged therefor. The Refinance Documents shall not constitute indebtedness or debts within the meaning of any constitutional, charter or statutory provision or limitation, nor shall they be considered or be held to be general obligations of County and shall recite that they are payable and collectible solely out of the Net Revenues of the Sewer System, the income from which is so pledged, and that the holders of the Loan Agreement and the Note may not look to any general or other County fund for the payment of the principal of and interest on the Loan Agreement or the Note.

Section 4. Ordinance Irrepealable. After the Refinance Documents have been executed and delivered, this Ordinance shall be and remain irrepealable until the Refinance Loan has been fully paid, canceled and discharged or there has been defeasance of the Refinance Documents as provided in this Ordinance or Ordinance 518.

Section 5. Effective Date. This Ordinance shall become effective upon its final passage and approval by at least 3/4ths of all members of the Los Alamos County Council and shall be recorded with the Los Alamos County Clerk and published in accordance with the Charter of the Incorporated County of Los Alamos.

Section 6. Severability. Should any section, paragraph, clause or provision of this Ordinance, for any reason, be held to be invalid or unenforceable, the invalidity or unenforceability of such section, paragraph, clause or provision shall not affect any of the remaining provisions of this Ordinance.

Section 7. Repealer. All ordinances or resolutions, or parts thereof, inconsistent herewith are hereby repealed only to the extent of such inconsistency. This repealer shall not be construed to revive any ordinance or resolution, or part thereof, heretofore repealed.

ADOPTED this 31st day of July, 2018.

COUNCIL OF THE INCORPORATED COUNTY OF LOS ALAMOS

David Izraelevitz, Council Chair

ATTEST: (Seal)

_____

Naomi D. Maestas,
Los Alamos County Clerk

Attachments:
A. Refinance Loan Agreement (Draft)
B. Refinance Promissory Note (Draft)
C. Final Promissory Note, dated February 28, 2011

REFINANCE LOAN AGREEMENT
NEW MEXICO ENVIRONMENT DEPARTMENT
CONSTRUCTION PROGRAMS BUREAU
CLEAN WATER STATE REVOLVING LOAN FUND-ALSO KNOWN AS-
THE WASTEWATER FACILITY CONSTRUCTION LOAN PROGRAM

CWSRF REFINANCE LOAN NO. 1438143R

I. Refinance Loan Agreement. This refinance loan agreement ("Agreement") is made and entered into this the _____ day of_____, 2018 by and between the **State of New Mexico Environment Department** (NMED) and the **Incorporated County of Los Alamos**, ("Borrower"), effective on the date of last signature below. The Borrower enacted Ordinance No.518 (Ordinance) on October 25, 2005 which authorized the Borrower to incur indebtedness with NMED for improvements to its sanitary sewer system, a.k.a., wastewater treatment and collection system, and has also enacted Ordinance No. 683, on _____, 2018, authorizing this Refinance Loan Agreement ("Agreement"). This Agreement amends ("refinances") the prior NMED Final Loan Agreement as entered by the parties hereto as dated February 28, 2011 (**NMED CWSRF Loan No. 1438143R**), by lowering the interest rates and charges assessed on the remaining principal balance and increasing the term of the loan and levies a **2.00%** refinance administrative fee on the remaining principal balance. All terms and conditions as agreed to and provided in Borrowers' Ordinance 518, dated October 4, 2005 remain effective, except as provided in Borrower's Ordinance No. 683, adopted _____, 2018 and effective _____, 2018, this Agreement, and the Refinance Promissory Note.

II. Party Contacts. The following are the agreed upon Party contacts for this Agreement.

Borrower: Incorporated County of Los Alamos, Department of Public Utilities 1000 Central Avenue, Suite 130 Los Alamos, NM 87544	**NMED:** New Mexico Environment Department Clean Water State Revolving Fund Program P.O. Box 5469 Santa Fe, NM 87502-5469
Borrower's Contact Information: James Alarid Deputy Utility Manager-Engineering Office: 505-663-3420 Email: james.alarid@lacnm.us	**NMED Contact Information:** Andrea Telmo, Project Manager Office: (505) 222-9512 Email: andrea.telmo@state.nm.us

Robert K. Westervelt Deputy Utility Manager- F&A Office 505-662-8001 / Cell 505-695-8448 Email: robert.westervelt@lacnm.us	CWSRF Construction Programs Bureau Office: (505) 827-2806 Email: cpbinfo@state.nm.us
Cathy D'Anna Business Operations Manager Office: 505-662-8198 Email: catherine.danna@lacnm.us	Gail Craven, Loan Manager Office: (505) 827-9691 Email: gail.craven@state.nm.us

Incorporated as part of this Agreement, as though fully set forth herein, are the following:

1. Refinance Loan Ordinance (Ordinance No. 683);
2. Refinance Promissory Note; and
3. Refinance Loan Amortization Schedule.

II. AMOUNT:

This Agreement will amend and refinance NMED Loan No. CWSRF 1438143R, which at the effective date, has a principal balance of ***$7,029,504.37*** at a new financing rate of **2.375%** which consists of annual interest rate of **2.0240%** plus an annual administrative fee of **0.3510%**, upon the terms and conditions set forth in this Agreement and the Refinance Promissory Note.

III. DISCLOSURE STATEMENT

A. FINANCE COSTS:

ANNUAL PERCENTAGE RATE: *Interest rate plus administrative fee.*	**AMOUNT FINANCED:**	**INTEREST CHARGES:** *The total the credit will cost.*	**ADMINISTRATIVE FEE PAYMENTS:** *The total administrative fee dollar amount.*	**TOTAL OF PAYMENTS:** *The amount you will have paid after all payments have been made as scheduled.*
2.375%	***$7,029,504.37***	***$1,360,431.81***	***$235,924,67***	***$8,625,860,87***

B. REPAYMENT SCHEDULE

Principal and interest payments to be made by Borrower shall be made as follows:

NUMBER OF PAYMENTS	**AMOUNT OF PAYMENT**	**WHEN PAYMENTS ARE DUE**

17 equal annual Installments	***$507,403.58***	Beginning ***April 7, 2019*** and each ***April 7***, thereafter through ***2035***.

C. REFINANCE COST:

A one-time **2.00%** refinancing fee of **$140,590.09** is assessed on the principal balance outstanding of **$7,029,504.37**. This payment is due at the time the Borrower submits a signed copy of this Agreement.

The parties have executed this Agreement on the dates set forth by their respective names.

REFINANCE LOAN Issued and administered by:

New Mexico Environment Department
Wastewater Facility Construction Loan Program
Clean Water State Revolving Loan Fund

By:_____
(Signature of NMED Official)

Title:_____

Date:_____

By executing this Agreement, the undersigned Borrower represents that he/she is duly authorized to act on behalf of the Borrower.

By:_____
(Signature of Authorized Borrower Official)

Title:_____

Date:_____

ATTEST:

By:_____
(Signature of Witness)

Title:_____

Date:_____

REFINANCE PROMISSORY NOTE TO NEW MEXICO ENVIRONMENT DEPARTMENT
CLEAN WATER STATE REVOLVING LOAN FUND -also known as-
WASTEWATER FACILITY CONSTRUCTION LOAN PROGRAM

Date: _____

This Refinance Promissory Note amends and replaces the Final Promissory Note dated February 28, 2011. This refinance and amendment to the original Final Promissory Note is intended to lower the annual interest rate and finance charges on the outstanding principal balance and shall be effective on the date of last signature below.

FOR VALUE RECEIVED, the **Incorporated County of Los Alamos**, through its Department of Public Utilities ("Borrower") hereby promises to pay pursuant to the Refinance Loan Agreement to the order of the **State of New Mexico, Environment Department**, in connection with the State's Clean Water State Revolving Fund Loan Program (NMED) at NMED's office located at:

New Mexico Environment Department
Construction Programs Bureau
P.O. Box 5469
1190 S. St. Francis Drive
Santa Fe, New Mexico 87502-5469

or at such other place as NMED may hereafter designate in writing, the principal amount of **Seven Million Twenty-Nine Thousand Five Hundred Four Dollars and Thirty-Seven Cents** (**$7,029,504.37**) pursuant to the terms of the Refinance Loan Agreement, Loan No. CWSRF 1438143R ("Refinance Loan"), between NMED and the Borrower dated_____, 2018, plus **2.375%** for annual finance and administrative fees and charges until paid in full.

REPAYMENT RATE AND SCHEDULE

This principal amount as provided in the Refinance Loan Agreement bears an effective annual finance charges of 2.375% amortized over a seventeen (17) year term, with seventeen (17) equal annual payment installments of **Five Hundred Seven Thousand Four Hundred Three Dollars and Fifty-Eight Cents** (**$507,403.58**). The first payment by Borrower to NMED shall be due **April 7, 2019** and annually thereafter each **April 7**th through 2035, or until the Refinance Loan is paid in full. Payment in full shall constitute full satisfaction of this Refinance Promissory Note.

PLEDGED REVENUES

The Borrower, for value received, gives a security interest in the Net Revenues of the Sewer Utility System. Net Revenues are as defined in Borrowers Ordinance No. 518, and Ordinance No. 683, passed and approved by the Borrower's County Council on ____, 2018.

ASSIGNMENT OF PAYMENTS

No assignment by NMED or the right to receive payments under this Refinance Promissory Note shall affect the Borrower's obligations or rights under this Refinance Promissory Note other than to make payments under this Refinance Note at the address(es) provided above. NMED shall provide, in advance, notice of any change or assignment of the right to receive payments, and shall timely provide the name, address, or location where payments shall be provided by Borrower.

DEBT SERVICE COVERAGE REQUIREMENT

The Borrower, pursuant to the Final Promissory Note and Ordinance 518, Refinance Loan Agreement, and this Refinance Promissory Note shall maintain a debt service coverage ratio of not less than 1.2 times the revenues of the Sewer Fund or the Borrower must maintain an identifiable debt reserve account.

COLLECTION AND DEFAULT

Collection and Default terms set forth in the Final Promissory Note remain binding on the parties.

PREPAYMENT

The Borrower may prepay all or any part of the principal on this Note without penalty. Refunds and extra payments, as defined in the regulations of NMED shall, after payment of interest due, be applied to the reduction of principal. After any prepayment of principal, the Borrower shall continue to pay the amounts listed in the Loan and Refinance Loan agreements and Final Promissory Note, and this note, until the entire principal and accrued interest are paid in full.

AUTHORITY

This Final Loan Agreement, Final Promissory Note, Refinance Loan Agreement, Refinance Promissory Note are authorized by the Wastewater Facility Construction Loan Act,

NMSA 1978, § 74-6A-1 *et seq*., as may be amended, the New Mexico Water Quality Control Commission Regulations, 20.7.5 NMAC, and the New Mexico Environment Department Regulations, 20.7.6-20.7.7 NMAC, and the Ordinance(s) of the Borrower.

This Note shall not constitute indebtedness or debt within the meaning of any constitutional, charter or statutory provision, or limitation, nor shall this Note be considered or held to be a general obligation of the Borrower. The obligations of the Borrower under the Agreement and Note are payable and collectible solely out of the Net Revenues as defined in the Borrower's Ordinance Number 518 and NMED or any other holders of the Agreement or Note may not look to any general or municipal fund for the payment of the principal or interest on the Agreement or Note.

IN WITNESS, WHEREOF, the Borrower has caused this Note to be duly executed and effective as of the date listed below by the Borrower.

INCORPORATED COUNTY OF LOS ALAMOS

_____

Timothy A. Glasco, P.E., Utilities Manager

_____

Date

ATTEST: (Seal)

_____

Naomi D. Maestas
Los Alamos County Clerk

ATTACHMENT B

FINAL PROMISSORY NOTE

TO NEW MEXICO ENVIRONMENT DEPARTMENT
CLEAN WATER STATE REVOLVING LOAN FUND -also known as-
WASTEWATER FACILITY CONSTRUCTION LOAN PROGRAM

DATE February 28, 2011

This FINAL Note replaces INTERIM Promissory Note dated December 12, 2005.

FOR VALUE RECEIVED, the **INCORPORATED COUNTY OF LOS ALAMOS** ("Borrower") promises to pay to the order of the New Mexico Environment Department in connection with the State's Clean Water State Revolving Fund Loan Program ("NMED") at NMED's office located at:

New Mexico Environment Department
Construction Programs Bureau
P.O. Box 5469
1190 S. St. Francis Drive
Santa Fe, New Mexico 87502-5469

or at such other place as NMED may hereafter designate in writing, the principal amount of

Fourteen Million Three Hundred Fifty Five Thousand One Hundred Four Dollars and Ninety Nine Cents ($14,355,104.99)

pursuant to the terms of the Final Loan Agreement, Loan Number 1438143 between NMED and the Borrower dated March 4, 2011 plus 2.5644% for interest and 0.4356% for administrative fee per annum until paid.

REPAYMENT RATE AND SCHEDULE

The principal, interest and administrative fees due and payable on this Note shall be payable as follows: Principal actually loaned and the subsequent interest and administrative fees shall be due and paid according to a Final Promissory Note as described herein.

The Final Promissory Note bears interest at 2.5644% and administrative fees at 0.4356% per annum and shall be amortized over a Twenty year term, with Twenty equal annual installments of Nine Hundred Sixty Four Thousand Eight Hundred Eighty Eight Dollars and Fifty Four Cents ($964,888.54) beginning April 07, 2011 and each April 7th thereafter through April 07, 2030.

NET REVENUES

The Borrower is giving a security interest by dedicating Net Revenues from the operation of just the sanitary sewer system which is a part of the utility system. Net Revenues of the sanitary sewer system is defined as:

Gross Revenues of the Sewer System after deducting Operation and Maintenance Expenses of the Sewer System.

The system revenues from the operation of the sanitary sewer system have not been pledged to the payment of any outstanding obligations and no other obligations are payable from the Net Revenues of the sanitary sewer system on the date of the Ordinance; and the loan will be payable and collectible solely from the Net Revenues to be derived from the operation of the sanitary sewer system.

ASSIGNMENT

No assignment by NMED or the right to receive payments under this Note shall effect the Borrower's obligations or rights under this Note other than to make payments under this Note at the address designated by NMED to the Borrower in writing.

DEBT SERVICE RESERVE

The Borrower agrees to a Debt Service Reserve Requirement equal to one annual payment of principal, interest and administrative fees. This Debt Service Reserve shall be placed in a separate Debt Service Reserve Account. The Borrower shall deposit no less than one-sixth of the amount of one annual repayment of principal, interest and administrative fee, or $160,814.76, into this account in each 12-month period beginning at final loan closing and continuing until the full amount of the Debt Service Reserve Requirement of $964,888.54 is on deposit in the Debt Service Reserve Account. In the event that funds from the Debt Service Reserve Account are used to service the Loan Agreement and the Note, the Borrower shall replenish the Debt Service Reserve Account as soon as possible by depositing funds in the manner described above until the full amount of the Debt Service Reserve Requirement is on deposit in the Debt Service Reserve Account. So long as the Loan Agreement and the Note are outstanding, whether as to principal, interest, or the administrative fee the Borrower shall fund the Debt Service Reserve Account and identify this in the Annual Audit.

REPLACEMENT RESERVE

The Borrower agrees to a Replacement Reserve Requirement equal to five percent (5%) of the Principal amount loaned. The Replacement Reserve shall be placed in a separate Replacement Reserve Account. This Replacement Reserve shall be funded in no less than one-sixth annual increments of 5% of the sum of the final principal amount loaned, or $119,625.88 in each 12-month period beginning at final loan closing and continuing until the full amount of the Replacement Reserve of $717,755.25 is on deposit in the Replacement Reserve Account. The Replacement Reserve Account shall accumulate funds to pay for replacement of parts to ensure the Project is fully operational during the term of the Loan Agreement and Note. In the event that funds from the Replacement Reserve Account are used to pay for replacement of parts, the Borrower shall replenish the Replacement Reserve Account as soon as possible by depositing funds in the manner described above until the full amount of the Replacement Reserve Requirement is on deposit in the Replacement Reserve Account. So long as the Loan Agreement and the Note are outstanding, whether as to principal, interest, or the administrative fee, the Borrower shall fund the Replacement Reserve Account and identify this in the Annual Audit.

ANNUAL LOAN REPAYMENT ACCOUNT

An Annual Loan Repayment Account shall be funded from the Net Revenues in the amount necessary for payment of the principal, interest and the administrative fee in the amount of $964,888.54 due annually under the Loan Agreement and Note. So long as the Loan Agreement and the Note are

outstanding, whether as to principal, interest, or the administrative fee, the Borrower shall fund the Annual Loan Repayment Account and identify this in the Annual Audit.

COLLECTION AND DEFAULT

At the option of NMED, any amount paid by NMED to collect amounts due under this Note or to preserve or protect NMED's rights under the Agreement shall become a part of, and bear interest at the interest and administrative fee rate as set forth in the previous REPAYMENT RATE AND SCHEDULE Section and shall become immediately due and payable by Borrower to NMED upon demand by NMED. Events of default and remedies upon an event of default as described in the Agreement, in Section VIII. Covenants, Paragraphs G. and H., are incorporated herein by reference.

PREPAYMENT

The Borrower may prepay all or any part of the principal on this Note without penalty. Refunds and extra payments, as defined in the regulations of NMED shall, after payment of interest and administrative fees due, be applied to the reduction of principal. After any prepayment of principal, the Borrower shall continue to pay the amounts listed in the Agreement and Final Promissory Note until the entire principal, accrued interest and administrative fees are paid in full.

AUTHORITY

This Note is authorized by the Wastewater Facility Construction Loan Act, NMSA 1978, § 74-6A-1 et seq., as amended, the New Mexico Water Quality Control Commission Regulations, 20.7.5 NMAC, and the New Mexico Environment Department Regulations, 20.7.6 – 20.7.7 NMAC and Ordinance No. 518 for the Incorporated County of Los Alamos.

This Note shall not constitute indebtedness or debt within the meaning of any constitutional, charter or statutory provision, or limitation, nor shall this Note be considered or held to be a general obligation of the Borrower. The obligations of the Borrower under the Agreement and Note are payable and collectible solely out of the Net Revenues as defined in the Agreement and NMED or any other holders of the Agreement or Note may not look to any general or municipal fund for the payment of the principal, interest or administrative fees on the Agreement or Note.

Remainder of page intentionally blank

IN WITNESS WHEREOF, the Borrower has caused this Note to be executed on its behalf by its Mayor and attested by its Secretary (Notary).

Sharon Stover
(Borrower's authorized signature)

County Council Chair
(Title)

February 28, 2011
(Date)

State of New Mexico

County of Los Alamos

Signed or attested before me on 2-28-2011 (date) by Sharon Stover (name of person)

Melissa A Salmon
(Signature of notary officer)

(Seal, if any)

OFFICIAL SEAL
MELISSA A. SALMON
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires 1-7-2014

My commission expires: 1-7-2014

Agenda No.:	8.A
Index (Council Goals):	
Presenters:	Department of Public Utilities
Legislative File:	**10912-18**

Title

Status Reports

Body

Each month the Board receives in the agenda packet informational reports on various items. No presentation is given, but the Board may discuss any of the reports provided.

Attachments

A - Electric Reliability Report
B - Accounts Receivables Report
C - Safety Report

STATUS REPORTS

ELECTRIC RELIABILITY

LOS ALAMOS

Department of Public Utilities

Electric, Gas, Water, and Wastewater Services

Electric Distribution Reliability

June 20, 2018

Stephen Marez
Senior Engineer

Electric Distribution Reliability Study
Twelve Month Outage History

Prepared by Stephen Marez
Senior Engineer L.A.C.U.

Date	Call Rcd.	Circuit	Cause	Start Time	End Time	Duration	Customers Affected (Meters)	Combined Customer Outage Durations	Total Outage H:M:S	Running SAIDI
6/18/2017	Utilities	14	URD Failure	15:15	15:30	0:15	539	134:45:00	134:45:00	0:00:54
6/27/2017	Utilities	17	URD Failure	11:30	12:30	1:00	4	4:00:00	138:45:00	0:00:55
7/26/2017	Utilities	WR1	URD Failure	6:50	10:30	3:40	10	36:40:00	175:25:00	0:01:10
8/12/2017	Utilities	EA4	OH Failure	14:30	15:00	0:30	5	2:30:00	177:55:00	0:01:11
9/10/2017	Utilities	16	URD Failure	17:00	18:50	1:50	40	73:20:00	251:15:00	0:01:40
9/19/2017	Utilities	14	URD Failure	2:45	3:35	0:50	18	15:00:00	266:15:00	0:01:46
9/19/2017	Utilities	14	URD Failure	7:45	9:00	1:15	80	100:00:00	366:15:00	0:02:26
9/19/2017	Utilities	14	URD Failure	7:45	14:15	6:30	45	292:30:00	658:45:00	0:04:22
10/5/2017	Utilities	15	Tree	16:00	16:15	0:15	10	2:30:00	661:15:00	0:04:23
10/27/2017	Utilities	18	Planned	8:30	9:30	1:00	1	1:00:00	662:15:00	0:04:24
11/24/2017	Dispatch	TC2	Supply line Failure	2:54	6:03	3:09	2264	7131:36:00	7793:51:00	0:51:42
11/24/2017	Dispatch	TC1	System Failure	3:53	5:59	2:06	4069	8544:54:00	16338:45:00	1:48:23
11/30/2017	Utilities	WR1	Planned	19:00	23:00	4:00	1	4:00:00	16342:45:00	1:48:25
11/30/2017	Utilities	WR1	Planned	19:00	0:30	5:30	5	27:30:00	16370:15:00	1:48:36
12/22/2017	Utilities	13	URD Failure	12:30	15:50	3:20	15	50:00:00	16420:15:00	1:48:55
12/27/2017	Utilities	13	URD Failure	18:30	21:07	2:37	1	2:37:00	16422:52:00	1:48:56
1/16/2018	Utilities	18	HUMAN	8:30	8:34	0:04	213	14:12:00	16437:04:00	1:49:02
2/3/2018	Utilities	13	Animal	1:30	2:30	1:00	8	8:00:00	16445:04:00	1:49:05
2/14/2018	Utilities	14	Planned	9:00	10:30	1:30	7	10:30:00	16455:34:00	1:49:09
3/8/2018	Utilities	WR2	Planned	9:30	11:00	1:30	7	10:30:00	16466:04:00	1:49:14
3/9/2018	Utilities	15	Unknown	13:00	14:00	1:00	6	6:00:00	16220:49:00	1:47:36
3/9/2018	Utilities	15	Animal	9:30	10:30	1:00	1	1:00:00	16473:04:00	1:49:16
3/10/2018	Utilities	WR2	Unknown	14:11	15:11	1:00	1	1:00:00	16474:04:00	1:49:17
3/16/2017	Utilities	WR1	Weather	16:30	17:30	1:00	5	5:00:00	16479:04:00	1:49:19
3/18/2017	Utilities	WR1	Weather	14:00	16:00	2:00	1	2:00:00	16481:04:00	1:49:20
3/12/2018	Utilities	13	OH Failure	12:30	15:07	2:37	22	57:34:00	16538:38:00	1:49:43
4/17/2018	Utilities	16	URD Failure	17:00	20:00	3:00	2	6:00:00	16544:38:00	1:49:45
4/26/2018	Utilities	WR1	Planned	9:50	12:20	2:30	7	17:30:00	16562:08:00	1:49:52
5/27/2018	Utilities	16	URD Failure	12:00	13:30	1:30	30	45:00:00	16607:08:00	1:50:10
5/30/2018	Utilities	WR2	Planned	9:05	11:05	2:00	8	16:00:00	16623:08:00	1:50:16

CIRCUIT SAIDI IS CALCULATED ACCORDING TO THE NUMBER OF CUSTOMERS IN EACH CIRCUIT RESPECTIVELY

Running SAIDI Circuit 13	Running SAIDI Circuit 14	Running SAIDI Circuit 15	Running SAIDI Circuit 16	Running SAIDI Circuit 17	Running SAIDI Circuit 18	SAIDI Circuit EA4 & Royal Crest	Running SAIDI Circuit WR1	Running SAIDI Circuit WR2	Monthly SAIDI		Monthly Customer Minutes out of service	WEATHER SAIDI
	0:15:00											
				0:01:09					JUNE	0:00:55	138:45:00	
							0:01:23		JULY	0:00:15	36:40:00	
						0:00:05			AUGUST	0:00:01	2:30:00	
			0:02:23									
	0:16:40											
	0:27:48											
	1:00:22								SEPTEMBER	0:03:11	480:50:00	
		0:00:05										
					0:00:17				OCTOBER	0:00:01	396:00:00	
4:18:33	14:14:14	3:48:47										
			4:38:20	40:54:14	40:07:18							
							0:01:32					
							0:02:35		NOVEMBER	1:44:12	15708:00:00	
4:20:22												
4:20:27									DECEMBER	0:00:21	84:07:00	
					0:04:00				JANUARY	0:00:06	94:19:00	
4:20:45												
	14:15:24								FEBRUARY	0:00:07	35:19:00	
								0:00:39				
		3:48:58										
		3:49:00										
								0:00:43				
							0:02:46					
							0:02:51		MARCH	0:00:10	25:30:00	0:00:03
0:02:05												
			0:00:12									
							0:00:40		APRIL	0:00:32	81:04:00	
			0:01:40									
								0:01:43	MAY	0:00:24	61:00:00	
Circ 13	**Circ 14**	**Circ 15**	**Circ 16**	**Circ 17**	**Circ 18**	**Circ EA4**	**Circ WR1**	**Circ WR2**	**Total**	**1:50:16**		**0:00:03**
1655	**539**	**1875**	**1842**	**209**	**213**	**165**	**1586**	**961**	**9045**			

Twelve Month History	May 2018	
Total # Accounts	9045	
Total # Interruptions	30	
Sum Customer Interruption Durations	16623:08:00	hours:min:sec
# Customers Interrupted	7425	
SAIFI(APPA AVG. = 1.0)	.82	int./cust.
SAIDI (APPA AVG. = 1:00)	1:50	hours:min
CAIDI	2:14	hours:min/INT
ASAI	99.9991%	% available

- **SAIFI - System Average Interruption Frequency Index**
  A measure of interruptions per customer (Per Year)

  SAIFI= (Total number of customer interruptions)
  (Total number of customers served)

- **SAIDI – System Average Interruption Duration Index**
  A measure of outage time per customer if all customers were out at the same time (hours per year)

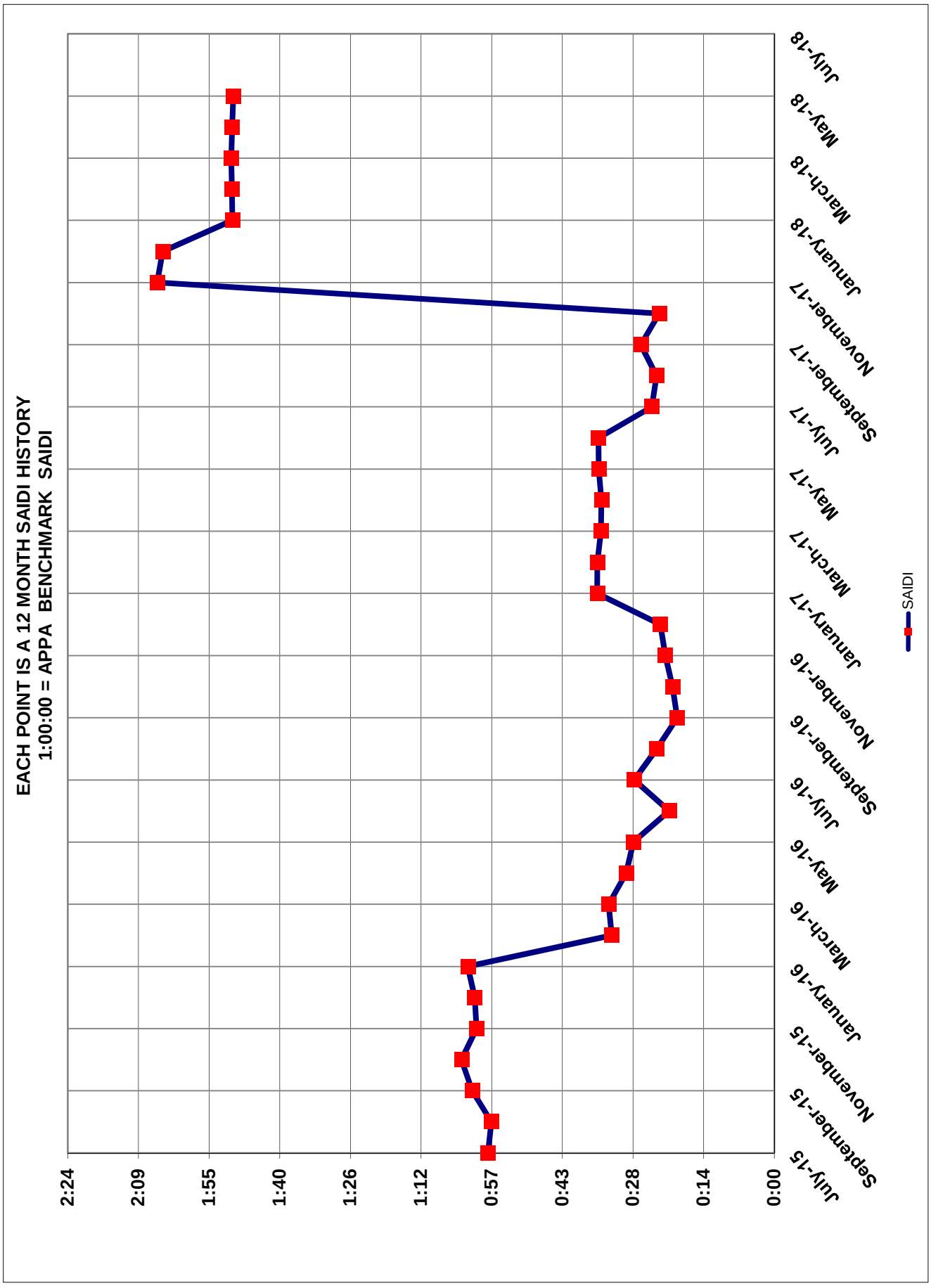
  SAIDI=(Sum of all customer outage durations)
  (Total number of customers served)

- **CAIDI – Customer Average Interruption Duration Index**
  A measure of the average outage duration per customer (hours per interruption)

  CAIDI=(Sum of all customer outage durations) = SAIDI
  (Total number of customer interruptions) SAIFI

- **ASAI – Average System Availability Index**
  A measure of the average service availability (Per unit)

  ASAI= (Service hours available) = 8760-SAIDI
  (Customer demand hours) 8760


EACH POINT IS A 12 MONTH SAIDI HISTORY
1:00:00 = APPA BENCHMARK SAIDI
2:24
2:09
1:55
1:40
1:26
1:12
0:57
0:43
0:28
0:14
0:00
July-15
September-15
November-15
January-16
March-16
May-16
July-16
September-16
November-16
January-17
March-17
May-17
July-17
September-17
November-17
January-18
March-18
May-18
July-18
SAIDI

STATUS REPORTS

ACCOUNTS RECEIVABLES

Los Alamos County Utilities Department
Active Receivables Over 90 Days Past Due
June 1, 2018

Account	*Acct Type*	*Comments*	*90 - 119*	*120 +*
2097818	RES	Old account, move in without collecting balance due.	-	118.98
2030608	RES	Paid $400 on 6/4	110.72	-
2109808	RES	All services off, final account, deposit applied to over 90 days	136.15	2.29
2012357	RES	Paid $500 on 6/5	152.81	-
2013117	RES	All services off, property liened	204.85	317.98
2131208	RES	Paid $424.71 on 6/1	222.97	-
2128548	RES	All services off, property liened	225.20	214.89
2009914	RES	Paid $547.68 on 6/7	226.92	-
2007777	RES	Customer had water leak Dec-Feb, payment arrangement	1,291.87	-
			2,571.49	654.14
			TOTAL	**$ 3,225.63**

Los Alamos County Utilities Department
Receivables More than 60 Days Inactive
June 1, 2018

YEAR	*OUTSTANDING 6/1*	*# OF ACCOUNTS*	*OUTSTANDING 5/1*	*# OF ACCOUNTS*
FY14	28,080.82	89	27,282.32	96
FY15	25,397.27	86	24,479.58	94
FY16	20,711.25	79	20,370.63	97
FY17	27,823.57	71	27,763.06	81
FY18	9,672.23	55	8,199.64	76
TOTAL	**$ 111,685.14**	**380**	**$ 108,095.23**	**444**

STATUS REPORTS

SAFETY

DATE	TYPE	DEPT	EE #	PROP	CAUSE
05/07/18	PD	GWS/TRAN	7626	1202	GWS truck and bus clipped mirrors
There were no Tort claims or Workers' Compensation claims involving Utilities in May.					

	Hours Worked	Hours Worked	Hours Worked	Hours Worked	Hours Worked	Hours Worked
	ADMIN	EL DIST	EL PROD	GWS	WA PROD	WWTP
MONTH						
Jan - 2018	2773.0	1161.0	1572.0	2972.0	1014.0	976.0
Feb - 2018	3339.0	1437.0	3114.0	3482.0	1235.0	1239.0
Mar - 2018	4766.0	1531.0	2612.0	4201.0	1687.0	1788.0
Apr - 2018	3229.0	1323.0	1682.0	3225.0	1165.0	1344.0
May - 2018	3980.0	1279.0	1814.0	3331.0	1284.0	1093.0
June - 2017	3444.0	2976.0	1760.0	2987.0	1663.0	1334.0
July - 2017	4071.0	1462.0	1558.0	3732.0	1453.0	1345.0
Aug - 2017	5757.0	1641.0	2680.0	4286.0	2895.0	3097.0
Sept - 2017	3385.0	1329.0	1659.0	3439.0	1355.0	1122.0
Oct - 2017	3029.0	1424.0	1468.0	3522.0	1188.0	1238.0
Nov - 2017	3476.0	1416.0	1506.0	3398.0	1182.0	1201.0
Dec - 2017	3204.0	1251.0	1372.0	3047.0	2427.0	946.0
Total Hrs Worked ->	44453.0	18230.0	22797.0	41622.0	18548.0	16723.0
Number of Recordable Injury and Illness Cases	0	1	0	3	0	1
OSHA Recordable Injury & Illness Incidence Rate	0.00	10.97	0.00	14.42	0.00	11.96
Number of OSHA Days Away Days Restricted (DART) cases	0	0	0	3	0	0
OSHA Days Away Days Restricted (DART) Rate	0.00	0.00	0.00	14.42	0.00	0.00