



AUDIT RESULTS

Tacoma Public Utilities

Public Utility Board Presentation

June 21, 2017

MOSS ADAMS_{LLP}

Certified Public Accountants | Business Consultants

Acumen. Agility. Answers.

June 21, 2017

To the Chair and Members of the Public Utility Board
Tacoma Public Utilities - Power, Water, and Rail Divisions

Dear Board Members:

Thank you again for your continued engagement of Moss Adams. We are pleased to meet with you to discuss the results of our audits of the Utilities' financial statements for the year ended December 31, 2016.

The accompanying report, intended solely for the use of the Board and management, presents important information regarding the Utility's' financial statements that we believe will be of interest to you.

We conducted our audits with the objectivity and independence you expect. We received the full support and assistance from the Utilities' personnel. We are pleased to serve and be associated with the Utilities, and we look forward to our continued relationship.

Sincerely,

A handwritten signature in dark ink, appearing to read "Moss Adams LLP" in a cursive, stylized script.

Olga A. Darlington, Partner
Moss Adams LLP

AUDITOR'S REPORT ON THE FINANCIAL STATEMENTS

Unmodified Opinions

- Financial statements are presented fairly and in accordance with US GAAP
 - Power Division
 - Water Division
 - Rail Division

AREAS OF AUDIT EMPHASIS

- Internal control environment
 - Cash receipts/revenues, cash disbursements/payables, payroll, power trading, treasury, financial close and reporting;
 - General computer controls, IT environment;
- Management estimates
 - Unbilled revenue;
 - Recovery periods for cost of plant;
 - Allowance for doubtful accounts;
 - Actuarial valuations for pension and OPEB amounts;
- Treasury
 - Coordination with SAO testing of cash and investment balances for existence, valuation, restrictions; implementation of GASB 72

AREAS OF AUDIT EMPHASIS (CONTINUED)

- Capital assets
 - Consideration of capitalization policies, as well as testing of additions, retirements, overhead application, capitalized interest, depreciation
- Net pension liability
 - Recognition of share of the liability for employees' future pension obligations as part of the Tacoma Employees Retirement System (TERS);
 - Employer liability and related deferred inflows/outflows including selections of new hires from the census and contributions made by the Utilities to TERS
- Debt activity
 - Debt repayments, arbitrage liability, capitalized interest, discounts and premiums, compliance with covenants
- Net position
 - Classification of balances in each category

REQUIRED COMMUNICATIONS

- Auditor and Management responsibilities for financial statements under Generally Accepted Auditing Standards
 - To form and express an opinion about whether the financial statements are fairly presented; to plan and perform the audit in accordance with generally accepted auditing standards
 - Our audit does not relieve management and the Board of Directors of its responsibilities
- Audit was performed according to the planned scope
- Significant accounting policies are summarized in Note 1 to the financial statements
- Financial statement disclosures were consistent, clear and understandable
- Representations were requested and received from management
- There were no proposed or passed audit adjustments

REQUIRED COMMUNICATIONS (CONTINUED)

- New accounting pronouncements applied during 2016 – GASB Statement No. 72, *Fair Value Measurement and Application*
- There were no disagreements with management
- Consultation with other independent auditors (none of which we are aware)
- Difficulties encountered during the audit (none)
- Illegal acts (none noted)
- Ability to continue as a going concern (no disclosure necessary)
- Consideration of fraud in a financial statement audit
 - Procedures performed included journal entry testing and interviews of personnel
- Moss Adams is independent with respect to the Utilities

UPCOMING ACCOUNTING PRONOUNCEMENTS

- *GASB 74 – Financial Reporting for Postemployment Benefit Plans Other than Pension Plans (effective in 2017) and GASB 75 – Accounting and Financial Reporting for Postemployment Benefits Other than Pensions (effective in 2018):* Addresses accounting and financial reporting issues related to other postemployment benefit plans.
- *GASB 82 – Pension Issues –amendment of GASB Statements No. 67, No. 68, and No. 73 (effective in 2018):* Addresses accounting and financial reporting clarifications related to issues identified in statements Nos. 67, 68, and 73.
- *GASB 83 – Certain Asset Retirement Obligations (effective in 2019):* Addresses accounting and financial reporting for certain asset retirement obligations.

UPCOMING ACCOUNTING PRONOUNCEMENTS (CONTINUED)

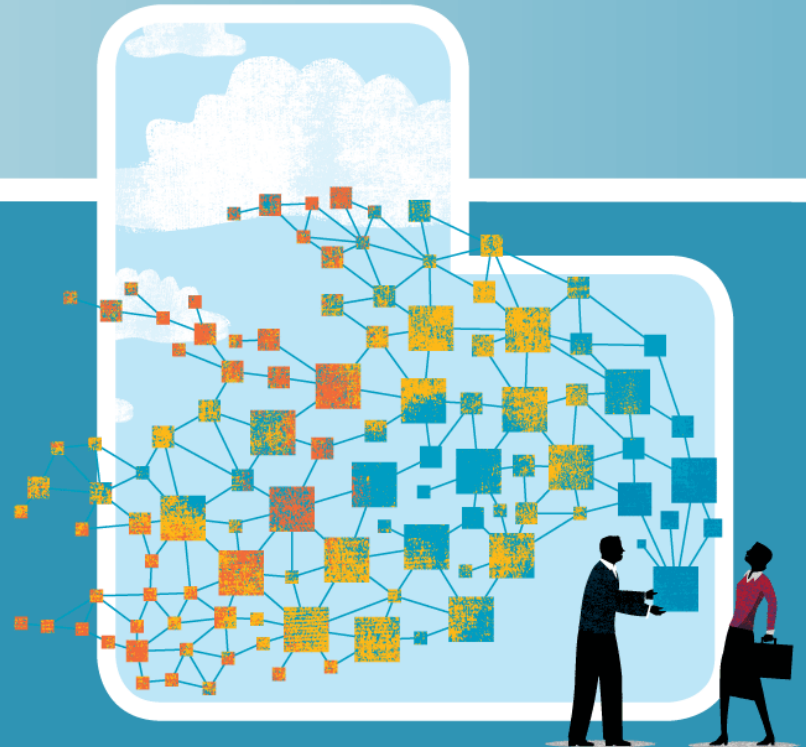
- *GASB 84 – Fiduciary Activities (effective in 2019)*: Addresses the improvement of guidance regarding the identification of fiduciary activities for accounting and financial reporting purposes and how those activities should be reported.
- *GASB 85 – Omnibus 2017 (effective in 2018)*: Addresses practice issues that have been identified during implementation and application of certain GASB Statements.
- *Lease Accounting* – Exposure draft approved in January 2016. Public comment deadline was 2016 but has been extended. There is not yet a release date for this new standard.

We will work with management to plan for the implementation of these standards.

OTHER COMMUNICATIONS

- Weekly meetings were held and updates were shared between Moss Adams and management and staff throughout the audit term
- The audits progressed on time and in an orderly fashion; all requested schedules and draft financial statements were received on a timely basis
- All Utilities' personnel across all departments were courteous, responsive and fulfilled all of our requests in a timely manner
- 'Tone at the Top' and attitude from management was one of helpfulness, candor, and openness in response to audit requests and discussion points

QUESTIONS?



Olga A. Darlington, Partner
olga.darlington@mossadams.com
(425) 551-5712

MOSS-ADAMS LLP
Certified Public Accountants | Business Consultants

Acumen. Agility. Answers.

Electric System Revenue Bonds, Series 2017

Tacoma Public Utility Board



Bill Berry
Travis Metcalfe
Frank Perdue
June 21, 2017

Recommended Financing Plan

- 1. Approve use of up to \$28 million in cash reserves to levelize future debt service payments**
- 2. Approve issuance of \$80.5 million Tacoma Power Electric System Revenue Bonds to pay down Wells Fargo drawdown facility**

Current Schedule

Schedule

Today	Utility Board Study Session
7/12	Public Utility Board – Consideration of Bond Resolutions
7/19	Government Performance & Finance Committee (GPFC)
7/25	City Council Meeting – 1st Reading
7/26	Ratings Received
8/1	City Council Meeting – 2nd Reading
8/15	Price Bonds and Sign Bond Purchase Agreement
8/31	Closing

Financing Team

Bond Underwriters

Goldman Sachs

Citigroup

Financial Advisor

Montague DeRose & Associates

Bond Counsel

Orrick, Herrington & Sutcliffe

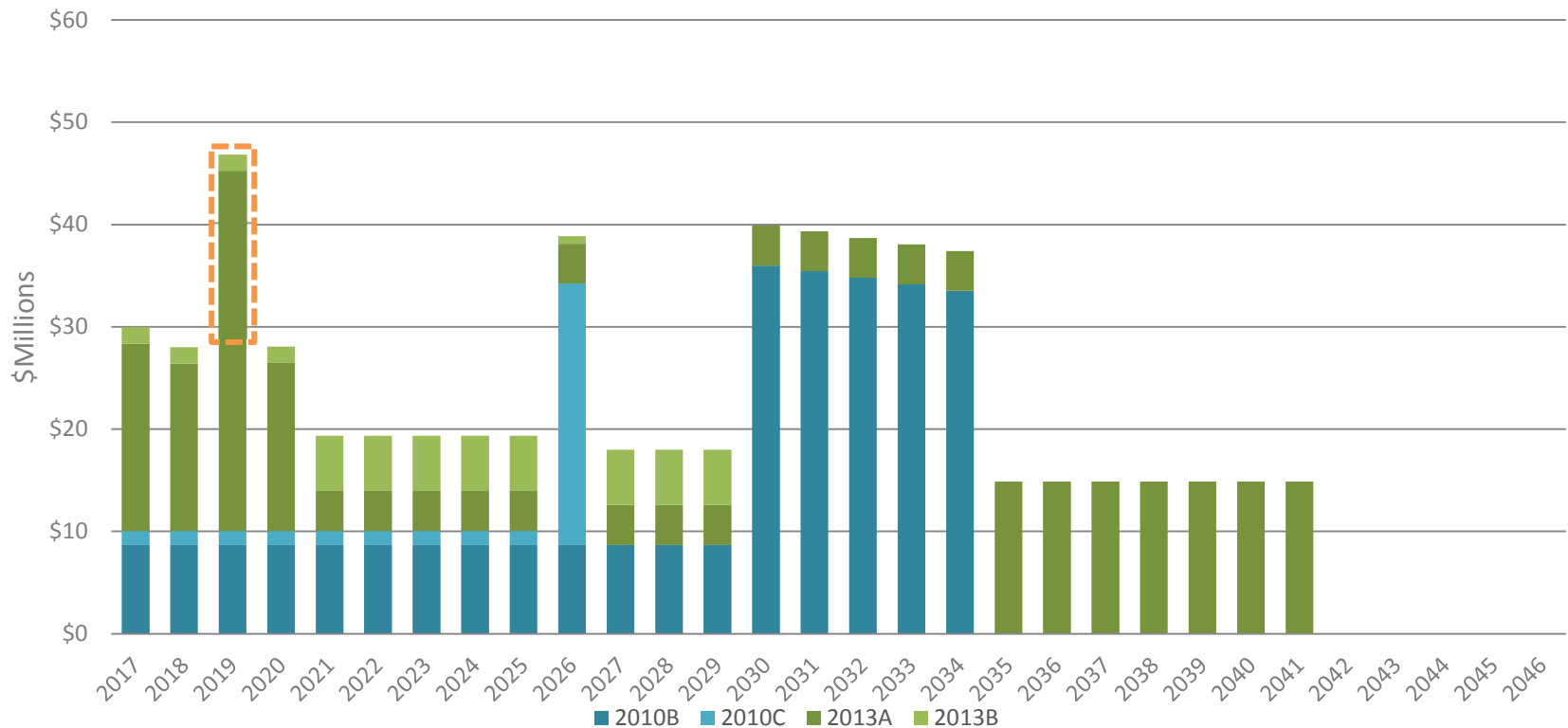
Underwriters Counsel

Pacifica Law Group

1. Levelize Debt Service

Large Principal Payment On January 1, 2020

- Use cash to defease up to \$28 million in principal payments due 2018 through 2020
- Results in levelizing upcoming debt service payments
- Defeasance planned for early September



2. Issue Bonds to Pay Down Drawdown Facility

Wells Fargo Drawdown Facility

Agreement amount: \$100,000,000

Amount drawn to finance 2015/2016 capital projects: \$80,250,000

General Purpose

Interim financing of capital projects

Term: May 2015 – May 2018

Rate: Fixed rate on unused portion and variable formula rate based on LIBOR index for portion used



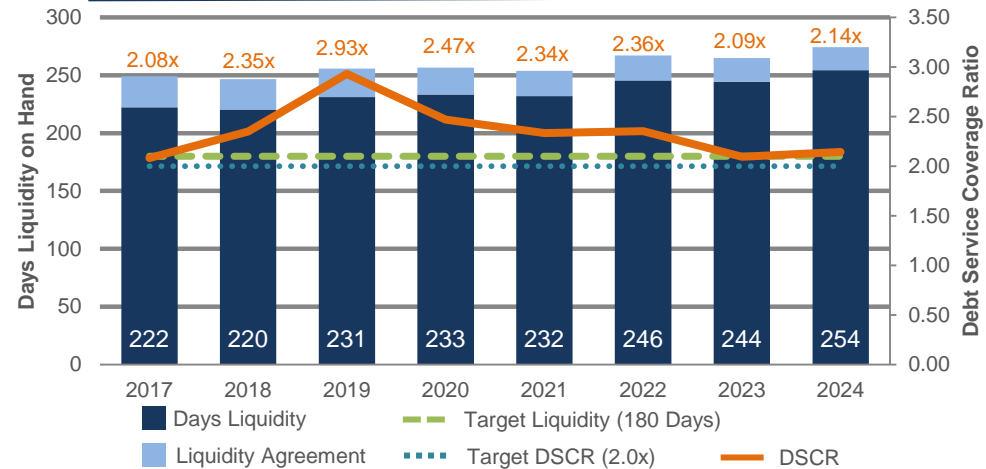
2. Issue Bonds to Pay Down Drawdown Facility

Financing the capital needs of utility

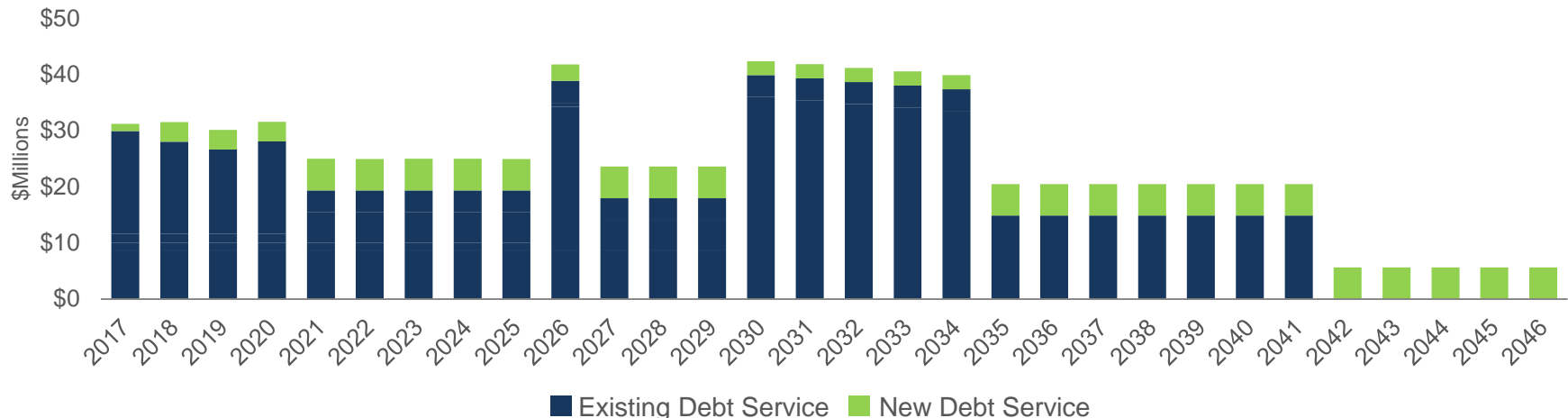
Financing Statistics

- **Bond Statistics**
 - **Bond Proceeds:** \$80,500,000
 - **All-In TIC:** 3.82%
- **Aggregate Portfolio Statistics**
 - **Max. Annual Debt Service:** \$57,562,674 in 2030
 - **Average Life:** 19 years

Debt Service Coverage & Liquidity



Aggregate Debt Service Overview



Interest Rates as of 6/20/17

Tenor	Maturity Date	Coupon	Yield
1	1/1/18	3.00%	0.89
2	1/1/19	4.00%	1.06
3	1/1/20	4.00%	1.18
4	1/1/21	5.00%	1.31
5	1/1/22	5.00%	1.46
6	1/1/23	5.00%	1.61
7	1/1/24	5.00%	1.74
8	1/1/25	5.00%	1.91
9	1/1/26	5.00%	2.09
10	1/1/27	5.00%	2.21
11	1/1/28	5.00%	2.34
12	1/1/29	5.00%	2.46
13	1/1/30	5.00%	2.56
14	1/1/31	5.00%	2.64
15	1/1/32	5.00%	2.71
16	1/1/33	5.00%	2.78
17	1/1/34	5.00%	2.84
18	1/1/35	5.00%	2.89
19	1/1/36	5.00%	2.93
20	1/1/37	5.00%	2.96
25	1/1/42	5.00%	3.04
30	1/1/47	5.00%	3.10

Use of Funds

Sources of Funds*	
New Bond Proceeds	\$80,500,000
Cash	\$28,000,000
TOTAL SOURCES	\$108,500,000
Use of Funds*	
Repay Wells Fargo NPA for 2015/2016 Capital Projects	\$80,000,000
Issuance/Underwriter's Cost	\$500,000
Cash Defeasance of Debt Service	\$28,000,000
TOTAL USES	\$108,500,000

* Preliminary estimates; subject to change.

Alternative Scenario for Capital Financing

Financing Statistics

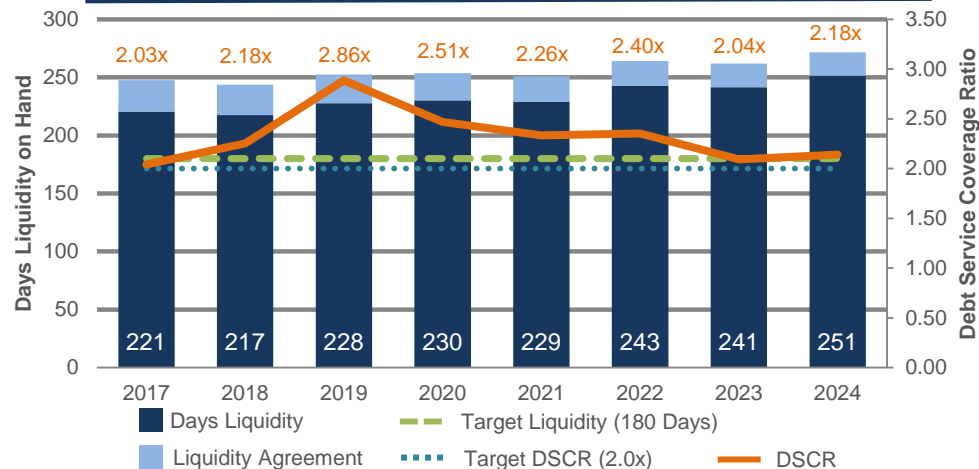
Bond Statistics

- **Bond Proceeds:** \$135,000,000
- **All-In TIC:** 3.82%

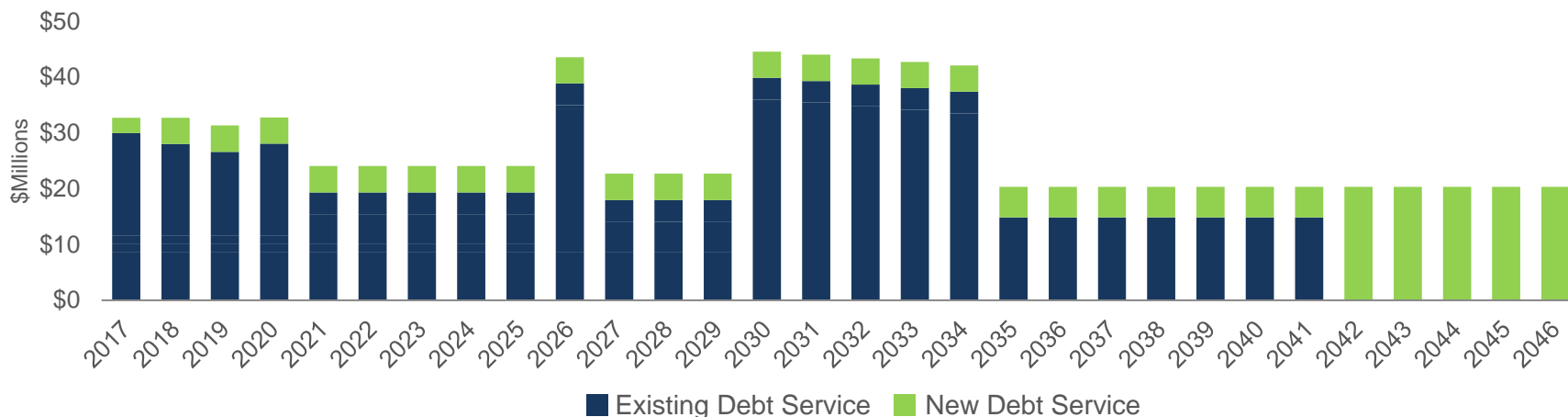
Aggregate Portfolio Statistics

- **Max. Annual Debt Service:** \$59,686,924 in 2030
- **Average Life:** 19.5 years

Debt Service Coverage & Liquidity



Aggregate Debt Service Overview



Other Considerations – Expiring Short-term Agreements

Replace Short-term Agreements

Agreements expire in May 2018

- *Agreements have been a significant part of our financial success*

Begin negotiations to extend existing agreements in Fall of 2017

- *Both banks have indicated willingness to negotiate extensions*



Liquidity Agreement

KeyBanc Revolving Credit Facility

Agreement value: \$25,000,000

Amount drawn: \$0

General Purpose

Source of general liquidity for an emergency

Term: May 2015 – May 2018

Ability to increase to \$50,000,000 with 90 days notice

Rate: Fixed rate on unused portion and variable formula rate based on LIBOR index for portion used



Other Considerations - DSRF

Debt Service Reserve Fund (DSRF)

Fund established to ensure payment of principal and interest if Revenue Funds are insufficient

- *Balance as of December 31, 2016*
 - Cash: \$5,017,524*
 - Surety Policy: \$24,279,910*
- *Surety Expiration: January 1, 2020*

Attempt to replace expiring policy now

- *Acquire replacement policy If market opportunity is available*
- *If not continue to evaluate options and develop strategy prior to 2020*

Issue 2017 and future long-term debt without DSRF

- *Bond Ordinance provides flexibility to issue debt without a DSRF*
- *Sufficient cash reserves and strong credit fundamentals allow utility to reduce reliance on DSRF*
- *Many highly rated utilities issue debt without DSRF*

Tacoma Power is Financially Strong

	Moody's	S&P	Fitch
<i>Investment Grade</i>	Aaa	AAA	AAA
	Aa1	AA+	AA+
	Aa2	AA	AA
	Aa3	AA-	AA-
	A1	A+	A+
	A2	A	A
	A3	A-	A-
	Baa1	BBB+	BBB+
	Baa2	BBB	BBB
	Baa3	BBB-	BBB-
<i>Non-Investment Grade Speculative</i>	Ba1	BB+	BB+
	Ba2	BB	BB
	Ba3	BB-	BB-
	B1	B+	B+
	B2	B	B
	B3	B-	B-
	Caa1	CCC+	
	Caa2	CCC	
	Caa3	CCC-	CCC
	Ca	CCC	
	C		DDD
		D	DD
			D

AA credit ratings

- S&P confirmed AA rating in October 2016

Healthy financial metrics

- Greater than 2.0x Debt Service Coverage Target
- Greater than 180 Days Liquidity Target

Adequate reserve fund levels

Strong management team

Flexibility to manage future debt service

Target

Current Tacoma Power Rating

Other Considerations – Issuing with Two Ratings

Three ratings are unnecessary

- *A third rating is not needed for successful marketing*
- *There are several municipal utilities with only two ratings*

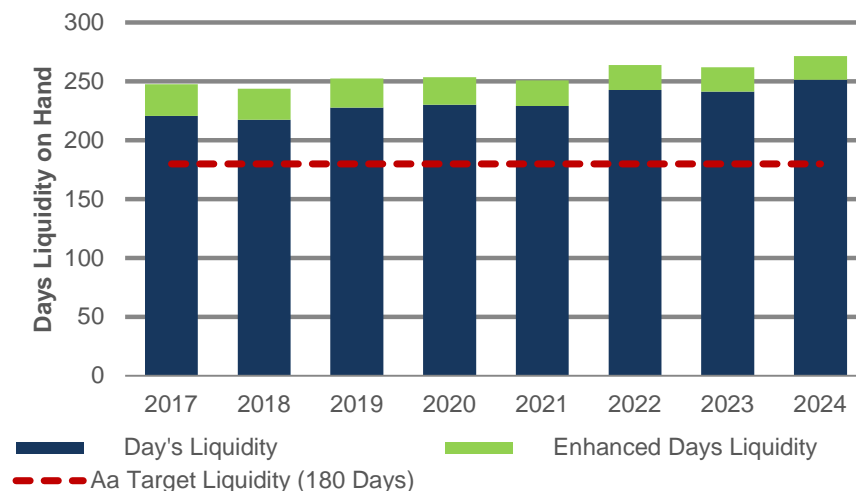
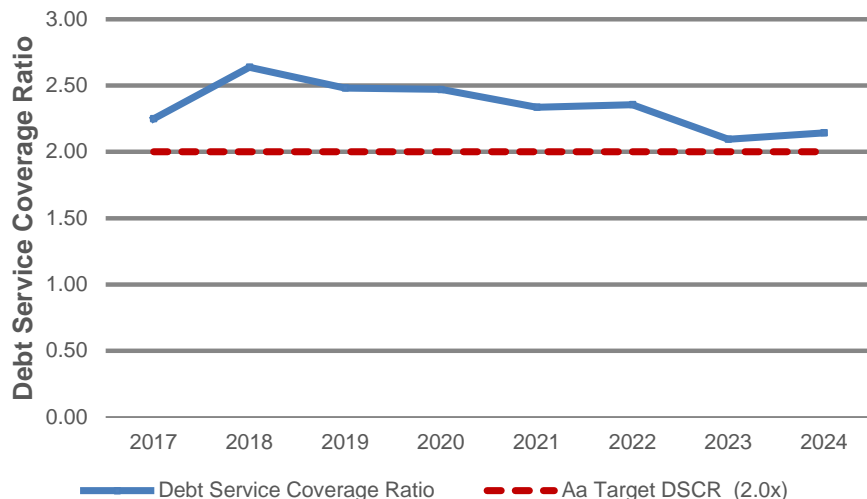
Cost savings

- *One agency is more expensive of the three rating agencies (Moody's)*

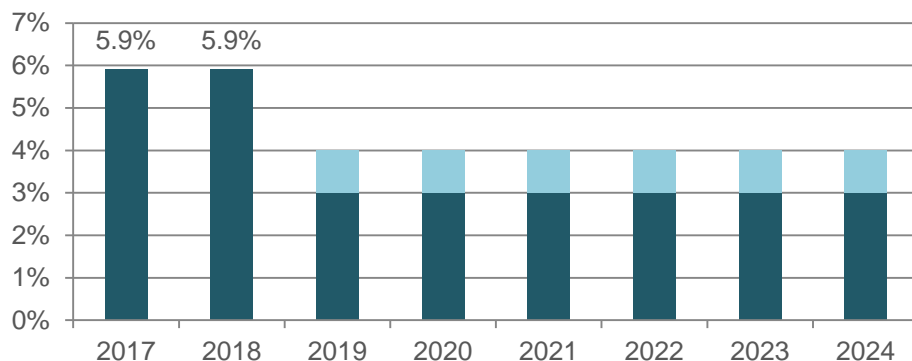
Small issue size

- *Smaller size of this transaction compared to past issuances*

Debt Service Coverage, Liquidity & Rate Forecasts



Range of Projected Rate Increases

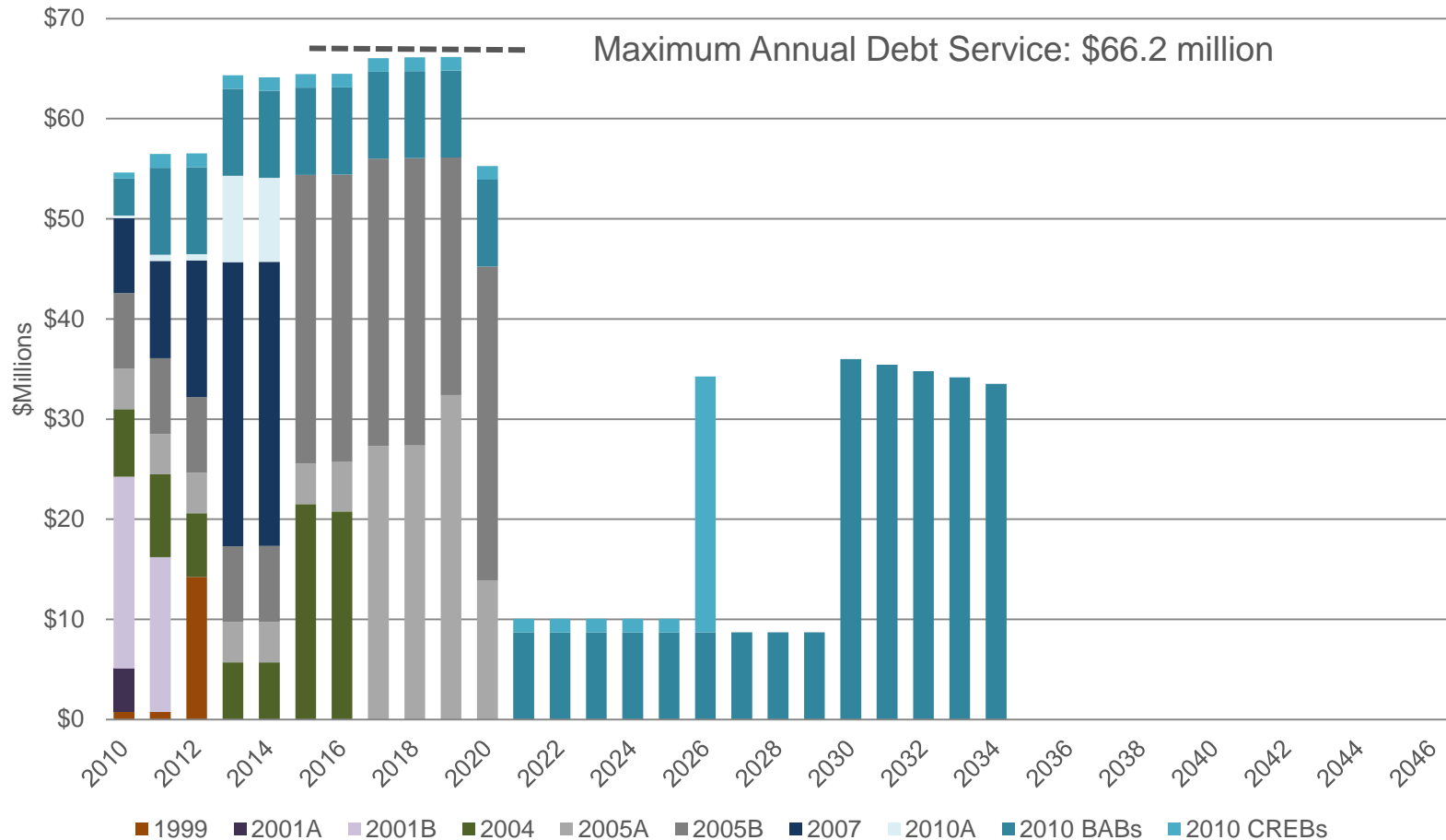


Factors That Could Change Forecast

- Load forecast
- Water conditions
- Power prices
- Spending differences compared to budget
- Lower Increases in 2019/2020 would likely translate into higher increases in future years

How We Arrived At Our Current Debt Structure

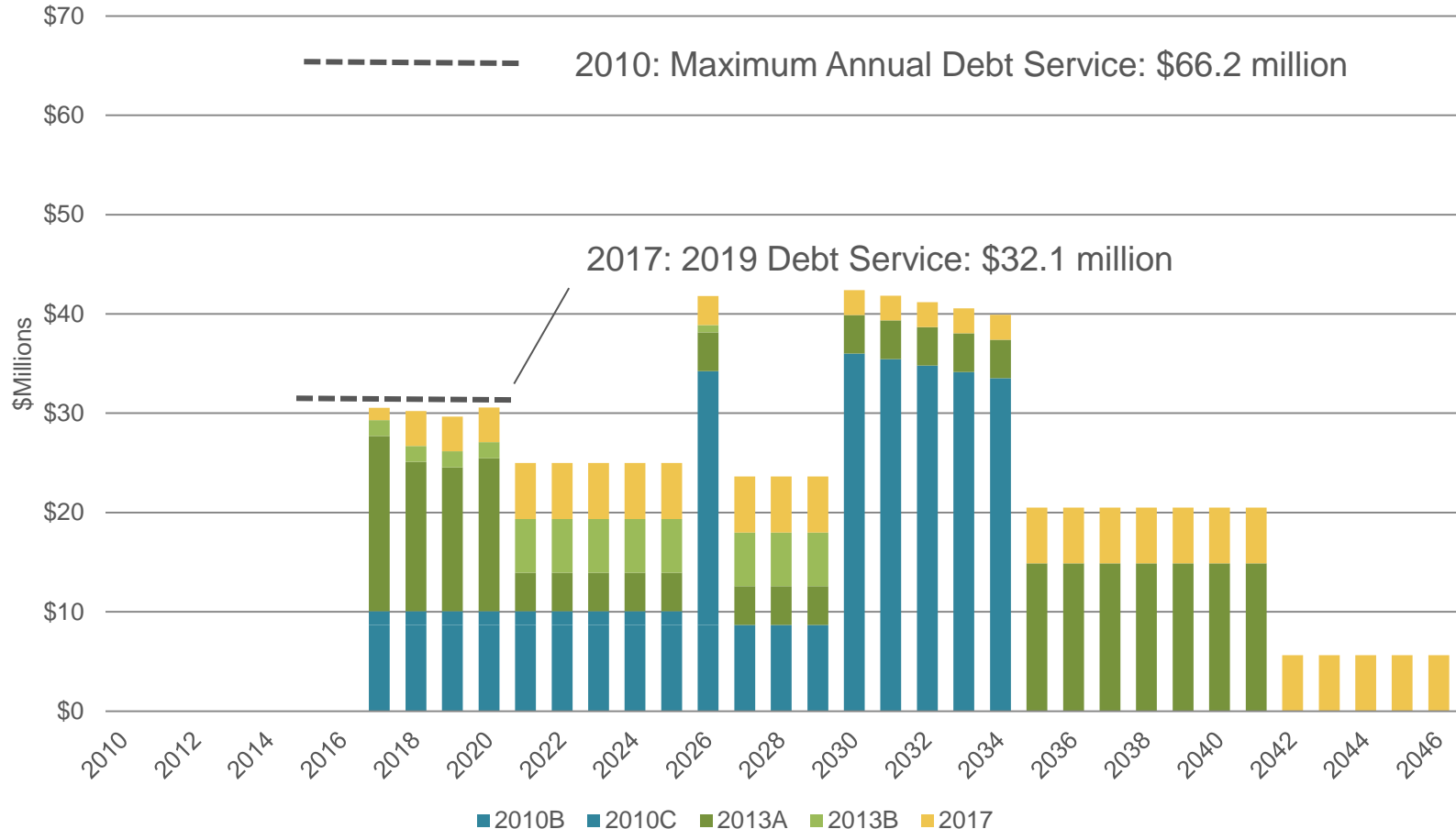
July 2010: Issuance of the 2010 Bond Series



In 2010 new bonds were issued in three series: A, B (Build America Bonds - BABs) and C (Clean Renewable Energy Bonds - CREBs). The latter two are subsidized by the Federal Government.

How We Arrived At Our Current Debt Structure

July 2015: Call of 2005B Bonds



Tacoma Power used \$122 million in cash to call the 2005B Bonds. This increased the Debt Service Coverage Ratio and reduced the Days Liquidity Ratio to balance the financial metrics in the AA range.

What Questions Do You Have?

SMALL/MEDIUM BUSINESS WATER CONSERVATION REBATE



Natalie Jones
Water Conservation Program Manager
PUB STUDY SESSION
JUNE 21, 2017

Water System Plan Update/Integrated Resource Plan

- **New conservation plan and goal**
- **Look at opportunities for improvement and reaching additional customer groups**



Goal: Augment our current program to better serve small and medium businesses

- Current program mostly benefits larger customers, the addition would add options for small and medium
- No new funds needed
- Low administrative costs to TPU
- Partnership with regional utilities
- Simple for businesses to utilize



Rebates

Based on:

- **Expected water conservation (standard fixture use – conserving fixture use)**
- **Offset in cost to provide water**
- **Cost reduction associated with putting off long-term supply augmentation**
- **\$0.42/ccf saved (consistent with current rebate program)**



Example – Energy Star Ice Maker (1000+ lbs class)

New model = 0.33 gal/lb of ice

Old model = 0.44 gal/lb of ice

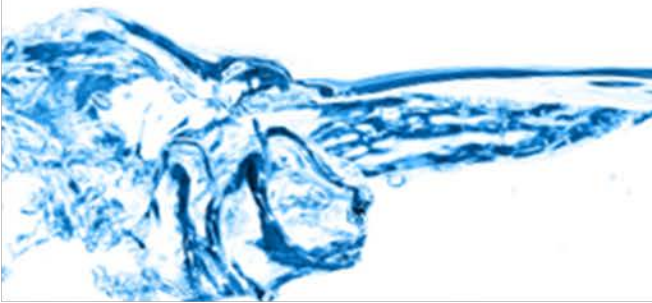
2,000 lbs/day * 365 days/year

7 year average lifespan

Savings over lifetime = 562,100 gal = 751 ccf

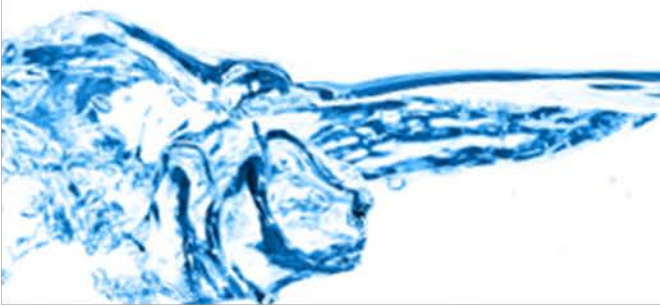
751 ccf * \$0.42/ccf = \$316

\$300 offered rebate



Integration with new conservation plan

- **Savings integrated into upcoming new conservation packages**
- **Fits with the larger update to the conservation program**



Next steps

- **Resolution vote at July 12th meeting**
- **Implementation in July/August if approved**



Questions?



ADVANCED METERING INFRASTRUCTURE (AMI)

PUBLIC UTILITY BOARD

STUDY SESSION

JUNE 21, 2017

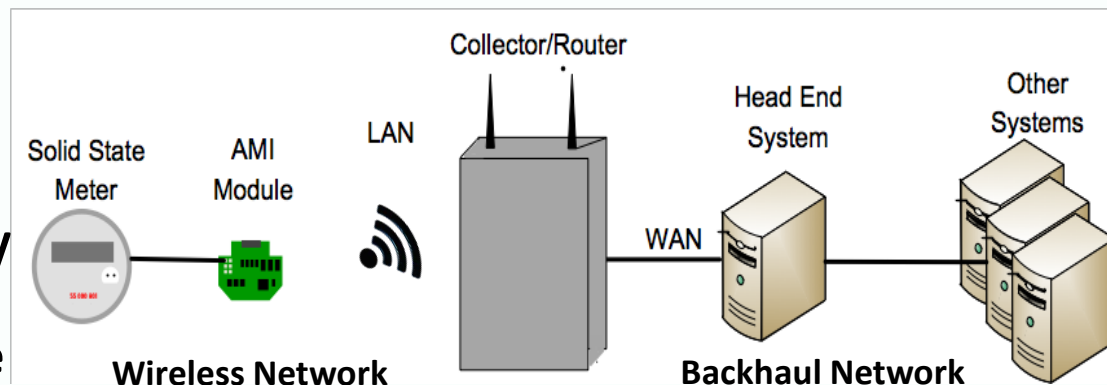


PRESENTATION OBJECTIVES

- **Provide a summary review of the proposed Automated Metering Infrastructure (AMI) program at TPU:**
 - Technology
 - Customer drivers
 - Operational drivers
 - Costs & Benefits
 - Implementation plan
- **Prepare request for approval of special project of limited duration status for the AMI program on 7/12 PUB meeting**

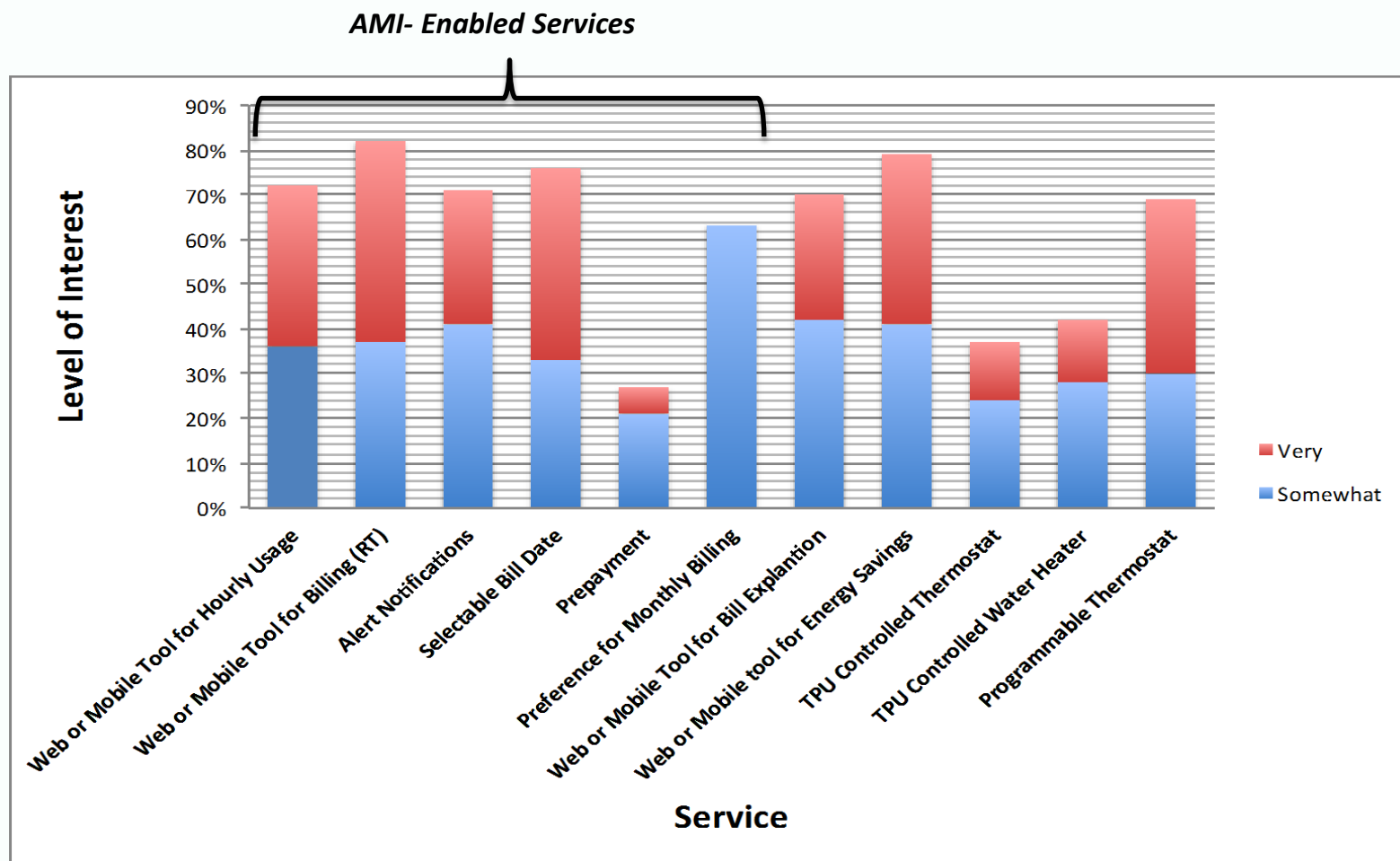
ADVANCED METERING INFRASTRUCTURE

- Composite technology of meters, communications networks, and software systems that automated the collection of meter data and provides a two-way connection between customers and the utility
- Considered a mature technology based on industry standards
- Deployment costs have come down with improved security & reliability
- Over 70% of US electric meters have been upgraded to advanced meters and continues to grow



CUSTOMER DRIVERS

Customer Interest in Potential Products & Services



**Data from Tacoma Power/Market Development web survey conducted in January 2016 with 1214 participants.*

AMI ENABLES ACTIVE CUSTOMER ENGAGEMENT



AMI enables products & services that enable active customer engagement, awareness of energy / water usage, and tailored communications

UTILITY BUSINESS DRIVERS

- **End of life challenges with existing metering technology**
- **Limited load and demand forecasting capability**
- **AMI is considered an enabling technology in Power and Water Strategic Plans:**
 - **Provides customer-oriented products & services that yield greater '2-way' engagement**
 - **Enhance outage communications**
 - **Asset management**
 - **Data driven operations through analytics**

AMI PROJECT DEPLOYMENT COSTS

- **AMI Costs are based on recent pricing from other projects**
- **Costs include additional TPU staffing and contractors**

Program Element		Cost
Electric Meter Deployment		\$30.7M
Water Meter Deployment		\$11.8M
AMI Communications Network Deployment		\$1.8M
Systems Integration and Meter Data Management Implementation		\$7.7M
Planning, Procurement, and Program Management Support		\$7.1M
Subtotal		\$59.1M
Contingency		\$12.4M
Total Deployment Cost with Contingency		\$71.5M

	2017-18	2019-20	2021-22
Biennium Costs	\$4.7M	\$29.5M	\$24.9M

NET COSTS & BENEFITS

Description	20 Year NPV (\$M)
Total Costs	(\$62)
Meter Operations Automation	\$31.5
Asset Management	\$13
Debt Recovery	\$2.5
Reduced Losses	\$7.7
Total Benefits	54.7
Cumulative Net Present Value	(\$7.3)
With Contingency	(\$18)

Enabled Customer Benefits:

- Monthly Billing
- Alert Notifications
- Selectable Billing Date
- Faster Reconnects
- More Accurate Billing
- Proactive Power Quality
- Mobile Tools

Enabled Utility Benefits:

- Load/Demand Forecasting
- Capital Planning
- Emergency Response
- Demand Management
- Quality Monitoring

BUSINESS CASE TAKEAWAYS

- **AMI is considered a strategic investment to products & services enabled by the technology**
- **Soft benefits bolster the business case**
- **Customer survey points to services that are enabled by AMI**
- **Business costs are unlikely to go down**
- **AMI solution costs have never been better**
- **Nearby utilities are all implementing AMI or working on business cases**
- **Foundational technology that allows TPU to evolve as a modern utility**

CONSIDERATIONS

Customers

- Proactively address privacy and health concerns
- Formal outreach and engagement plan
- Installation coordination
- Manage expectations on new services and tools availability

Employees

- Reductions in customer services associated with automation of meter reading and field operations
- Plan to retrain and identifying other job opportunities where possible

IMPLEMENTATION PLAN



2017 – 2018: Planning, Procurement, & Architecture (\$4.7M)

Q2 2017 Program Charter & Governance Plan	Q3 2017– Q4 2017 Technical &, Business Process Architecture, Change Management Plan	Q1 2018 – Q3 2018 Define requirements and RFPs for AMI, MDMS, and Meter Installation Vendor
---	---	---

2019-2020 : Systems Integration & AMI Network Deployment (\$29.5M)

Q1 '2019– Q4'2019 MDMS Implementation & Systems Readiness	Q4'2018 - Q2'2020 AMI Network Deployment
--	---

2020 – 2021: Mass Meter Deployment (\$24.9M)

Q2'2020 Complete AMI Network Deployment	Q2 – Q4 2020 Begin Meter Deployment (AMI Release 1)	Q1 – Q4 2021 Complete Meter Deployment (AMI Release 2)
---	---	--

CALL TO ACTION

- **Special Project Status Designation**
 - **Consulting Services Contracts**
 - **Technology Vendor Contracts**
 - **Subsequent Budget Requests for 19-20 and 21-22 Bienniums for AMI Program**
 - **Quarterly Program Updates**
- **Initial Customer and Employee Education, Awareness, and Communications Work Stream Activities**

QUESTIONS

