



Puerto Rico Aqueduct and Sewer Authority (PRASA)

Promoting the Economic Development of Puerto
Rico and Improving People's Quality of Life

Alberto Lázaro
Executive Director - Infrastructure

Efraín Acosta
Executive Director - Finance

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Enhancing Bondholder Protection

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PRASA Overview

One of the Largest Public Water and Wastewater Utilities



Clients
1,290,800



Employees
4,919



Facilities
126 WTP / 54 WWTP
2,186 Pump Stations
1,723 Tanks
8 Dams

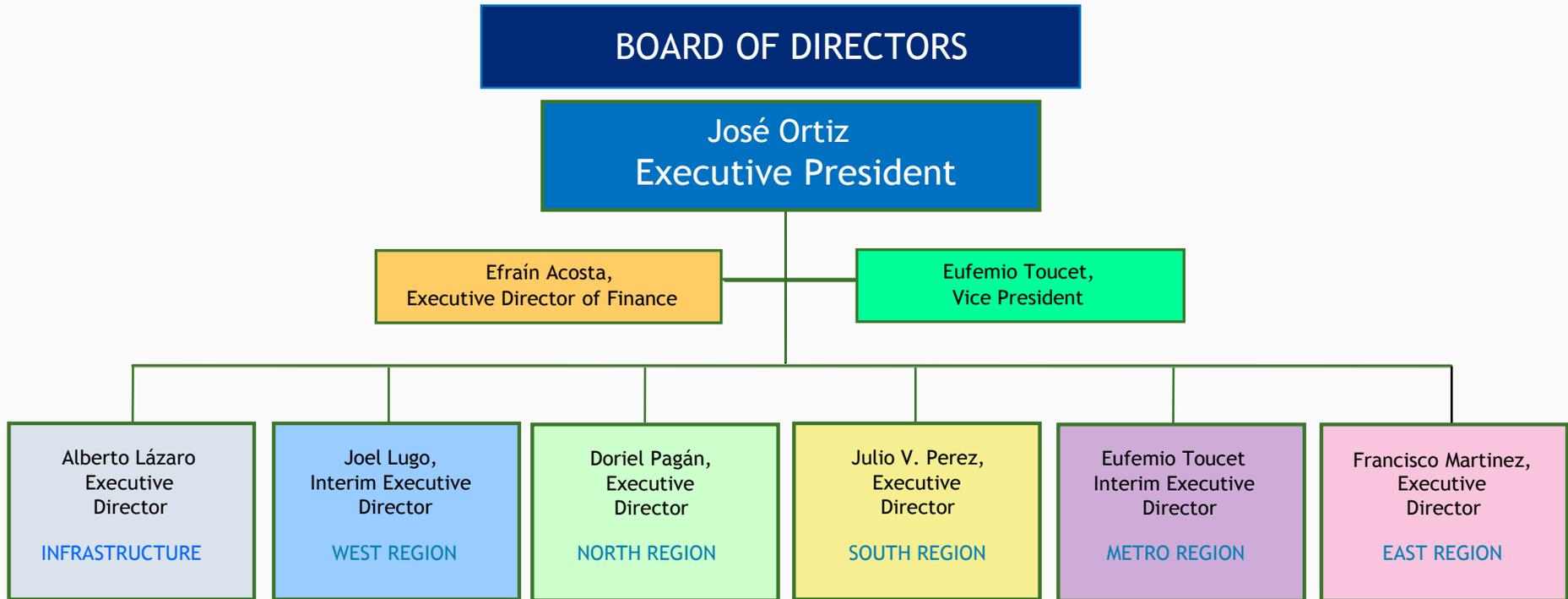


Production
Water Treated:
646 MGD
Sewer Treated:
228 MGD

Note: Information as of June 30, 2011

PRASA Overview

Organization Chart



PRASA Overview

Board of Directors

Diversified Board of Directors Closely Oversees the Operations

Member	Representing / Position	Term Ends
Mr. Edgardo Fabregas Castro	Independent Director; Board Chairman	June 30, 2014
Eng. Bernardino Feliciano Ruiz	Independent Director; Board Vice-President	June 30, 2014
Aura Gonzalez Rios, Esq	Independent Director	June 30, 2013
Carlos Davila Torres, CPA	Independent Director	June 30, 2013
Mrs. Carmen Ana Culpeper Ramirez	Independent Director	June 30, 2015
Eng. Otoniel Cruz Carrillo	Executive Director, Electric Power Authority	Ex-Officio
Mr. Reinaldo Paniagua Latimer	Executive Director of the Federation of Mayors	Ex-Officio
Mr. Jaime Garcia Garcia	Executive Director of the Association of Mayors	Ex-Officio
Plan. Ruben Flores Marzan	President of Planning Board	Ex-Officio

PRASA Overview

Independent Consultants

PRASA works with national and local firms to help manage, design, develop, and inspect its projects. Examples of these are:



- Serves as Consulting Engineer to PRASA
- Provides planning and design services for the CIP
- Manages certain Special Projects and Initiatives for PRASA



- Has managed the CIP in the Metro Region since August 2005
- Has managed the CIP in the North Region since July 2009
- Affiliate of CH2M Hill
- Manages certain Special Projects and Initiatives for PRASA



- Has managed the CIP in the West Region since August 2005
- Has managed the CIP in the South region since July 2009
- Has managed the CIP in the East Region since 2010
- A local affiliate (known as CDM Caribe) of Camp, Dresser, and McKee (CDM)
- Manages certain Special Projects and Initiatives for PRASA

PRASA Overview

Credit Strengths

Monopoly Provider of Essential Service

Stable and Seasoned Management Team

Diversified Customer Base Includes
Vast Majority of Island Residents

Proactive and Experienced
Board of Directors

Rate Setting Not Subject to
Regulatory Oversight

Strong Central Government
and GDB Support

Proven Cost Control Measures

Recurrent Revenue Enhancements

Enhanced Fiscal Oversight

Improved Bondholder Protections

 = Existing

 = New

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Update on Management Initiatives: Revenue Enhancement Operational Initiatives to Reduce Non-Revenue Water

Initiatives Continue to Exceed Expectations

- In May 2008, PRASA began to implement a comprehensive Non-Revenue Water (NRW) Reduction Program to reduce water losses (apparent and real), reduce operating costs, increase revenue and minimize water infrastructure capital investments
- Service disconnections and small meter replacements continue to be the most successful initiatives of the NRW reduction program

Reducing non-revenue water continues to be a high-priority goal for PRASA



(\$000s) Initiative	FY2010 Results	FY2011 Results	FY2012 Budget
Meter Replacement	6,170	28,916	27,752
Theft	11,142	16,801	7,902
Sprinklers	3,683	1,564	1,406
Collection Management	3,675	1,956	1,250
Inactive Accounts	1,475	768	320
Class Correction	-	399	2,372
Disconnections	34,666	20,090	15,950
Condominiums	5,306	1,006	1,690
Miscellaneous	1,213	3,114	1,358
Total	67,330	74,614	60,000

Update on Management Initiatives: Revenue Enhancement

Small Meter Replacement

PRASA Continues to Aggressively Upgrade its Small Meter Infrastructure

- Replacement of obsolete and malfunctioning water meters to improve measurement accuracy
 - Each meter change brings in approximately \$7.85/month of new income⁽¹⁾
 - Criteria: replace meters that are damaged or older than 10 years
- During the last five years, PRASA has replaced over 500,000 small meters

Meter replacement yielded an estimated \$28.9 million in additional revenues for FY2011 and is expected to bring \$27.8 million in additional revenues for FY2012



(1) MPPR/Malcolm Piernie found that average additional monthly revenue for December 2010 to May 2011 period was \$7.85 per meter.

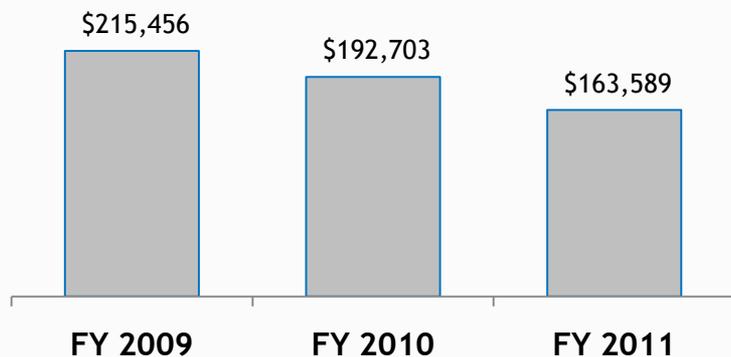
Update on Management Initiatives: Revenue Enhancement

Improving Collection Efforts

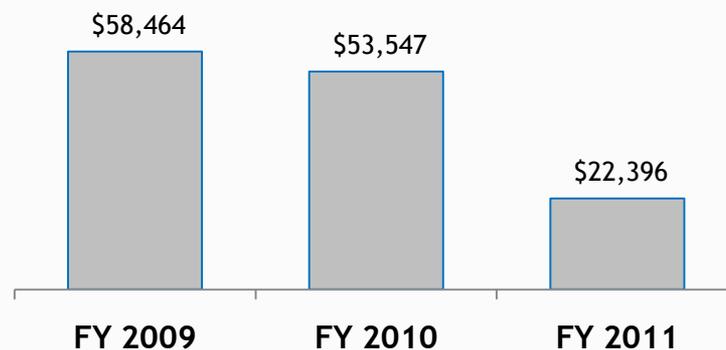
Accounts Receivable Collections

- PRASA continues its efforts to reduce accounts receivable from the Commonwealth and other clients
- PRASA has reduced accounts receivable by \$52 million in the last two years (\$29 million in FY2011)

Total Accounts Receivable by Fiscal Year (\$000s, Net of Reserves)



Annual Provision for Uncollectible Accounts (\$000s)



Update on Management Initiatives: Revenue Enhancement Customer Service Projects

Engagement of world-renowned consultants will provide PRASA with the tools and strategy to reduce Non-Revenue Water



- PRASA has partnered with MIYA to provide comprehensive solutions for water efficiency with initial focus on water loss management
- Miya has worked with clients all over the world as: South Africa, Sao Paulo Brazil (SABESP), and Manila Philippines (Maynilad)
- Success factors include:
 - Holistic strategy, not only relying on pipe replacement
 - Significant knowledge and technology transfer to local “hands”
 - Best equipment and software

Database integration will allow PRASA to identify and map PRASA’s existing and potential customers

Project includes the integration of PRASA’s customer database with those of other Puerto Rico agencies to identify common customers including:

- PREPA (Electricity)
- MRCC (Property Tax)
- Treasury (Income Tax)



Update on Management Initiatives: Revenue Enhancement AMT System for Large Meter Customers

Automated Meter Technology (AMT) Can Reduce Collection Costs and Improve Customer Service by Reducing Use of Estimated Bills

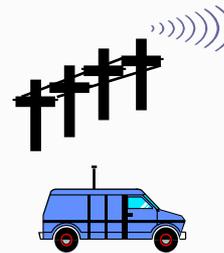
Target Large-Meter Customers

- PRASA has 7,000 large meter accounts
 - About 3,400 are large meter customers in the Metro Region

Customer Service Benefits

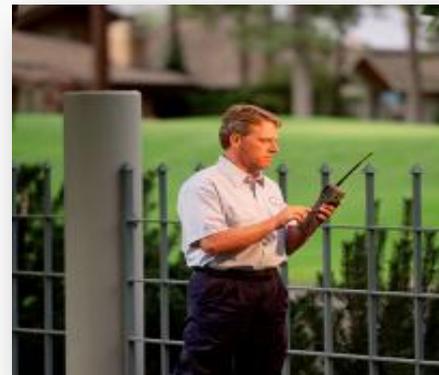
- Receive fewer customer service calls
- Reduce time to resolve customer claims
- Reduce billing adjustments and credits
- Allow issuance of accurate bills at any interval

Alternatives Being Considered



Fixed Base Network

Drive-by Radio



Update on Management Initiatives: Expense Reduction

Headcount Reduction

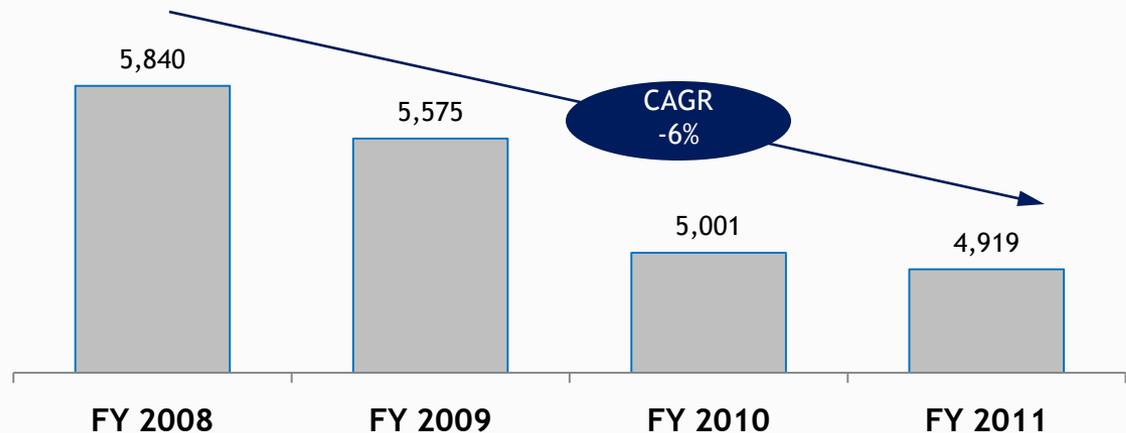
Workforce reduction is a key component of PRASA's cost control efforts

\$37 million recurrent annual savings

Workforce Reduction Generates Significant Annual Savings

- Total reduction of 921 employees from 2008 staff levels
- Incentivized retirement program has reduced headcount by 316 employees in 2010
- For FY2012, PRASA is reducing the use of contracted services for Customer Services Department and will hire transitory employees to cover these tasks at a lower cost
 - New transitory positions are hired under a new category with reduced benefits

PRASA Headcount at End of Fiscal Year



Update on Management Initiatives: Expense Reduction

Comprehensive Energy Management Program

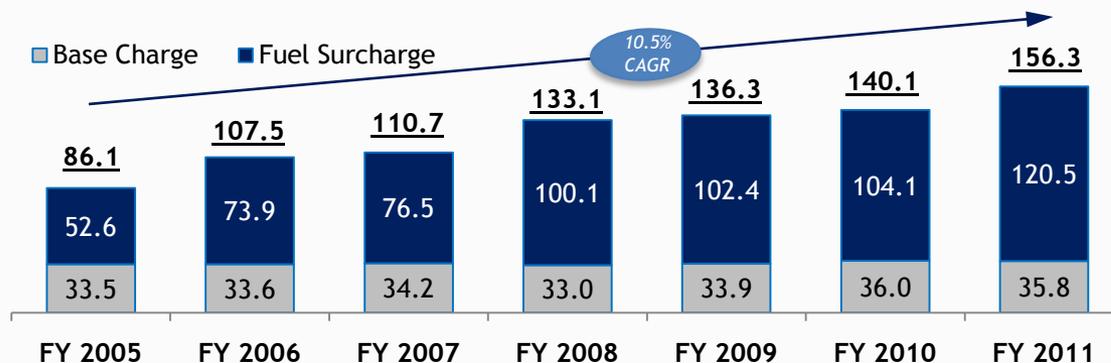
PRASA's System consumes approximately 76 MW and is one of PREPA's largest customers

PRASA's energy costs increased by \$16.2 million in FY 2011 vs. FY 2010 and have increased by over \$70 million in the last six years

Reducing Energy Costs and Volatility

- PRASA's energy costs have increased in the last seven fiscal years at an average rate of 10.5% per year
 - Energy is PRASA's second largest cost, behind payroll, and makes up approximately 22% of its total operating costs
- To reduce these costs and its dependency on the Puerto Rico Electric and Power Authority ("PREPA"), PRASA has undertaken three initiatives:
 - Demand Side Projects through Energy Performance Contracts
 - Supply Side Projects for Electric Power Generation
 - Hydroelectric Generation

Energy Costs by Fiscal Year (\$millions)



Update on Management Initiatives: Expense Reduction

Comprehensive Energy Management Program - Progress Update

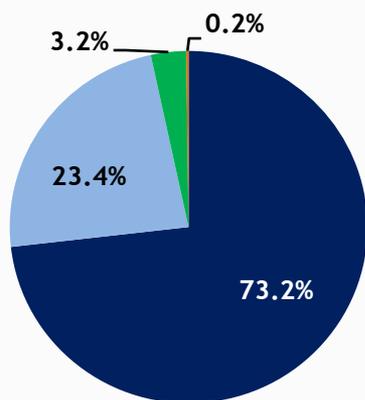
Power Purchase Agreements (“PPAs”)

- 19 companies submitted proposals
- 4 PPAs have been signed (1 cancelled)
- Unsolicited proposals have been received and are being evaluated

Energy Performance Contracts (“EPCs”)

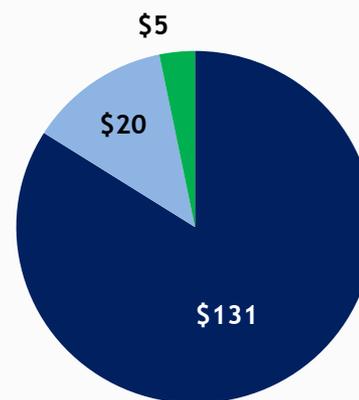
- 5 companies submitted proposals
- Investment Grade Energy Audit (“IGEA”) reports have been completed - Phase 1 of EPCs
- 2 additional contracts signed for IGEA contracts under development
- 1 EPC contract signed and 1 under development

Proposed Electric Power Portfolio



■ PREPA ■ WTE PPA ■ Wind PPA ■ Solar PPA

Projected Savings (Based on FY2011 Costs) (in \$ millions)



■ Net Cost ■ PPA Savings ■ EPC Savings

Update on Management Initiatives: Expense Reduction

Comprehensive Energy Management Program - Hydroelectric generation

Purchase of Hydro Generation Assets Will Offer Significant Ongoing Energy Cost Savings for PRASA

- PRASA and PREPA are working to transfer this infrastructure to PRASA (transfer approved by both PRASA's and PREPA's Board of Directors via resolutions number 2657 and 3861, respectively)
- Facilities to be transferred include 10 hydroelectric facilities, with total potential capacity of 100 MW, and PREPA's irrigation system
- Benefits to PRASA include:
 - Lower energy costs and better control over water resources
 - Even with no improvements to PREPA's current performance of the hydroelectric facility, PRASA could save up to an estimated \$30 million each year
- PREPA will get Renewable Energy Certificates ("RECs") from hydro production
 - PRASA will invest to upgrade aging infrastructure and increase electricity production where deemed cost-effective
 - Implementation will extend from immediate actions to long term CIP
- Initially PRASA will contract with PREPA to operate the facilities
- PRASA may operate the facilities through Special Purpose Entity ("SPE") in the future



Update on Management Initiatives: Expense Reduction

Treatment Plant Automation Program Update

Projected Net Savings

- The Treatment Plant Automation Program will allow for reduction of staffing levels and the optimization of the treatment processes
- Projected annual net savings as much as \$21 million from automation efforts⁽¹⁾

Objectives and Benefits

- The Automation Program will be aligned with existing PRASA initiatives such as:
 - Integrated Preventive Maintenance Program
 - Continuous Monitoring and Telemetry Programs
- Reduce operating costs
- Improve process control and maintain water quality (24/7)
- Remote process control provides real-time information on plant operations and water quality

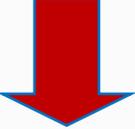
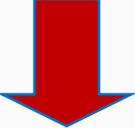
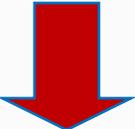
Progress

- 121 plants to be automated in 24 clusters
- Designs are complete for all facilities to be automated
- Construction at 12 WTPs has been completed
- 59 WTPs are in construction
- 18 WTPs are pending issuance of NTPs

(1) Assumes the necessary staff reductions are implemented/take place

Update on Management Initiatives

Summary of Initiatives to Improve Recurrent Net Revenues

Revenue Enhancement - Additional \$60 million during fiscal year 2012		Expected Annual Expense Reductions - Over \$80 million		
	\$28M	Meter Replacement <input checked="" type="checkbox"/>	 \$37M	Headcount Reductions <input checked="" type="checkbox"/>
	\$8M	Proactively Addressing Theft <input checked="" type="checkbox"/>	 \$25M	Comprehensive Energy Management Program ⁽¹⁾
	\$16M	Improving Collections and Enforcement <input checked="" type="checkbox"/>	 \$21M	Plant Automation Program
	\$TBD	Customer Database Enhancements	 \$TBD	System Optimization and Simplification

PRASA's Leadership Team is committed to transforming the System and has achieved progress on key objectives

(1) Excludes savings from the acquisition of hydroelectric plant facilities.

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CIP and Compliance Strategy

Comprehensive Compliance and Planning Efforts Guide CIP

Capital Improvement Program Drivers

1 Mandatory / Compliance Requirements



Wastewater Consent Decree (2006)
Sludge Treatment System Agreement
(2010)



Drinking Water Consent
Agreement (2006)

2 Structural Needs & Requirements

Water/Wastewater Planning

Water/Wastewater Infrastructure
Renewal and Replacement / Expansion

Water Loss Control

Fleet Renovation

Buildings Improvements

Technology

CIP and Compliance Strategy

Environmental Compliance

Full Compliance with the Environmental Agreements Signed with the EPA and DOH

- PRASA has consistently complied with the requirements of the two Consent Decrees with EPA and the Agreement with DOH
- PRASA continues to maintain open channels of communication with regulatory agencies

Almost 58% of 5-Year CIP Program Targeted to Mandatory and Compliance Improvements



Project Category (\$ millions)	FY2012	FY2013	FY2014	FY2015	FY2016	Total
Mandatory (EPA, DOH & Others)	140.0	158.8	137.4	93.6	105.0	634.8
Compliance	73.6	73.0	47.1	31.2	40.6	265.5
Quality, Efficiency, Reliability, Redundancy	169.2	153.4	111.7	85.2	93.0	612.5
Growth	14.8	6.6	3.6	4.2	3.3	32.5
Other	9.1	4.1	0.3	-	-	13.5
Total	406.7	395.9	300.1	214.2	241.9	1,558.8
Total Mandatory + Compliance CIP	53%	59%	61%	58%	60%	58%

CIP complies with 100% of environmental requirements, including \$635 million in mandatory improvements over the forecast period

CIP and Compliance Strategy

PRASA Master Plan

The Master Plan identified and analyzed PRASA's major water and wastewater infrastructure needs and developed a list of projects and actions that address these needs with a CIP that optimizes the use of PRASA's resources and ensures financial feasibility

Master Plan Focus Areas

Service Area Expansions

- Defined 180 water and 60 wastewater service areas

Reliability of Service Improvements

- Identified improvements to meet future demand, improve supply and satisfy compliance requirements

Environmental Compliance

- Reviewed condition of existing water sources and feasibility of potential new sources
- Assessed the feasibility and cost effectiveness of consolidating WWTPs to simplify operation of the system

Non Revenue Water Reduction

- Identified and evaluated water reuse and biosolids disposal alternatives
- Control of water loss based on standard approaches from the International Water Association and American Water Works Association

Economic Sustainability

- Project scheduling takes into consideration capacity, consent decree compliance requirements, and PRASA's financial capabilities

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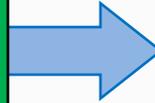
Concluding Remarks

Enhancing Bondholder Protection

Recent Amendments Reinforce Credit Quality



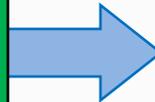
GROSS REVENUE
PLEDGE



Prioritizes Debt Service Payments

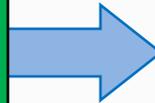


STRONGER RATE
AND
ABT COVENANTS



Strengthened Requirements

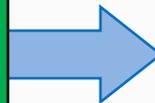
BUDGETARY
RESERVE FUND



Ensures Operational Continuity



FISCAL OVERSIGHT
AGREEMENT AND
LIQUIDITY LINES

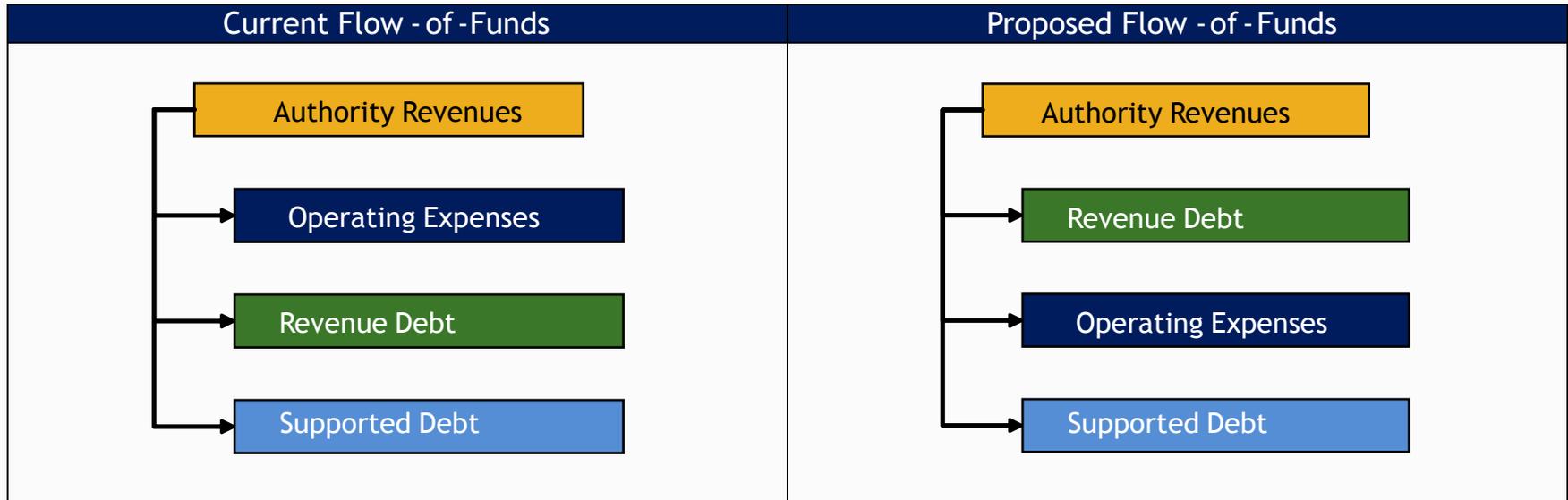


Formalizes Support Mechanism

Enhancing Bondholder Protection

Flow-of-Funds (Simplified Summary)

Gross Revenue Pledge with Revenue Bonds Ahead of Operating Expenses



Revenue Debt - Debt secured by PRASA's revenues and issued under the 2008 Trust Agreement; Includes Senior, Senior Subordinate and Subordinate Lien Debt and Debt Service Reserve Funds

Operating Expenses - Current Expenses for PRASA operations and maintenance. PRASA targets holding sufficient revenue to cover three months of operating expenses (on cash basis).

Supported Debt - Commonwealth Guaranteed or Commonwealth Supported Debt, as defined in the 2008 Trust Agreement

Transition to Gross Revenue Pledge is supported by liquidity lines from the GDB

Enhancing Bondholder Protection

Amended Trust Agreement

Objectives

- Limit bonding capacity based on revenues derived from System operations
- Permit the use of external support to meet operating requirements

Dual Requirements for ABT and Rate Covenants Based on Two Definitions of Revenue

Operating Revenues

Revenues generated from sales and other services as well as any other proceeds generated from operations

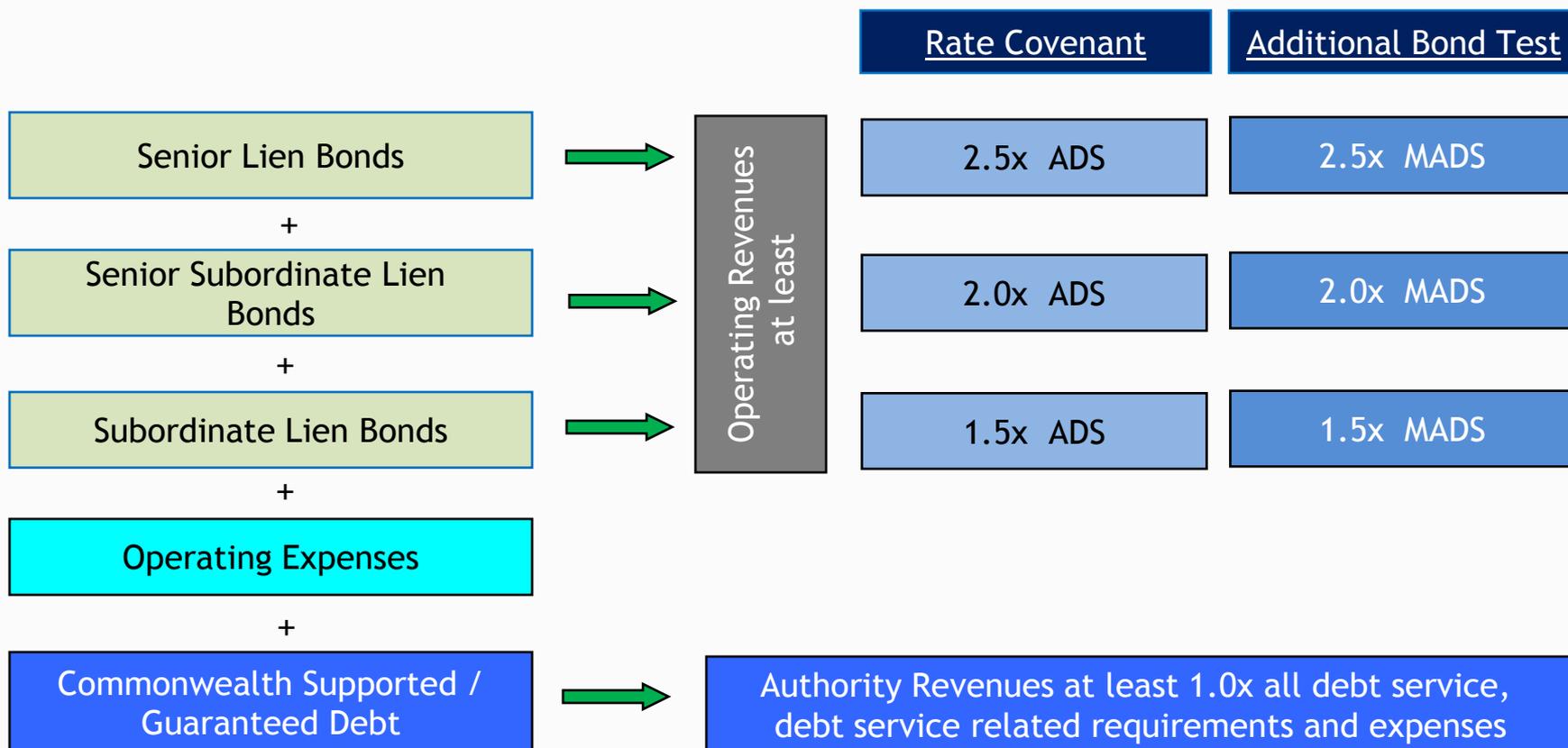
Authority Revenues

Operating revenues plus any government grants, appropriations, or draws from the Budgetary Reserve Fund

Enhancing Bondholder Protection

Amended Trust Agreement

Operating Revenues Determine Additional Bonding Capacity, Authority Revenues Must Be Adequate to Support Total Needs



ADS = Annual Debt Service
MADS = Maximum Annual Debt Service

Enhancing Bondholder Protection

Amended Fiscal Oversight and Support Agreement (FOA)

Formalizes GDB and Commonwealth Support with Pre-Funded Operational Assistance

- GDB and the Commonwealth entered into an amended FOA with PRASA to establish procedures for advancing Commonwealth support of PRASA's operations
- Multi-year financial and operating planning process will set milestones for PRASA to achieve self-sufficiency through rate and cost adjustments
- Operating Assistance would be provided through a Budgetary Reserve Fund ("BRF")
 - The BRF was initially funded from bond proceeds
 - Based on the requirements identified in the multi-year financial and operating plan, the BRF will be funded to cover anticipated operating assistance over the period
- If the balance in the BRF falls below a defined threshold amount for a fiscal year, the Commonwealth and GDB may either seek an appropriation or provide another source of funding to replenish the BRF or notify PRASA that no Commonwealth or GDB support will be provided for that fiscal year
 - GDB and the Commonwealth must provide timely notice of intent to provide support for each budget
 - PRASA will be required under the Trust Agreement and the FOA to initiate a change in rate structure or to implement measures to increase revenues or decrease expenses if funds on the BRF are not available to comply with the Rate Covenant

Enhancing Bondholder Protection

Revenue and Operating Expense Forecasts

Draws on Budgetary Reserve Fund will replace General Fund support for remainder of FY2012 and need for additional resources in FY2013

Projected electricity expenses do not include potential benefit from energy management initiatives

Growth in Senior Lien Debt Service takes into account repayment of interim facilities and new CIP expenditures

	<u>FY2012</u>	<u>FY2013</u>	<u>FY2014</u>	<u>FY2015</u>	<u>FY2016</u>
Revenues	Projection	Projection	Projection	Projection	Projection
Service Collections	729,691	698,810	698,810	682,810	683,810
Budgetary Reserve Fund Draw	95,000	145,000	-	-	-
Additional Resources	-	-	335,000	390,000	425,000
General Fund Contributions	70,264	-	-	-	-
Miscellaneous Income	4,000	4,000	4,000	4,000	4,000
Developers Contributions	5,000	3,000	3,000	3,000	3,000
Total Revenues	903,955	850,810	1,040,810	1,079,810	1,115,810
Operating Expenses					
Payroll and Benefits	283,493	292,123	296,819	301,474	307,954
Service Contract - Superaqueduct	26,900	27,169	27,441	27,715	27,992
Insurance	12,410	12,782	13,166	13,561	13,968
Chemicals	30,000	30,900	31,827	32,782	33,765
Other Operating Expenses	178,658	173,220	178,416	183,768	189,281
Electricity	175,000	180,250	185,658	191,227	196,964
Capitalized Operating Expenses	(39,422)	(40,837)	(41,800)	(42,780)	(43,886)
Total Expenses	667,039	675,607	691,527	707,747	726,038
Net Revenues	236,916	175,203	349,283	372,063	389,772
Outstanding Senior Lien Debt	90,600	90,600	90,600	90,602	90,601
New Senior Lien Debt	-	-	165,482	170,114	170,113
Senior Sub Lien Debt Service	6,696	-	-	-	-
New Senior Sub Lien Debt Service	-	-	-	14,895	27,235
Commonwealth Guaranteed Obligations	109,649	80,934	84,593	87,296	86,496
Commonwealth Supported Obligations	27,714	-	-	1,594	8,999
Remaining Revenues	2,257	3,669	8,608	7,561	6,328

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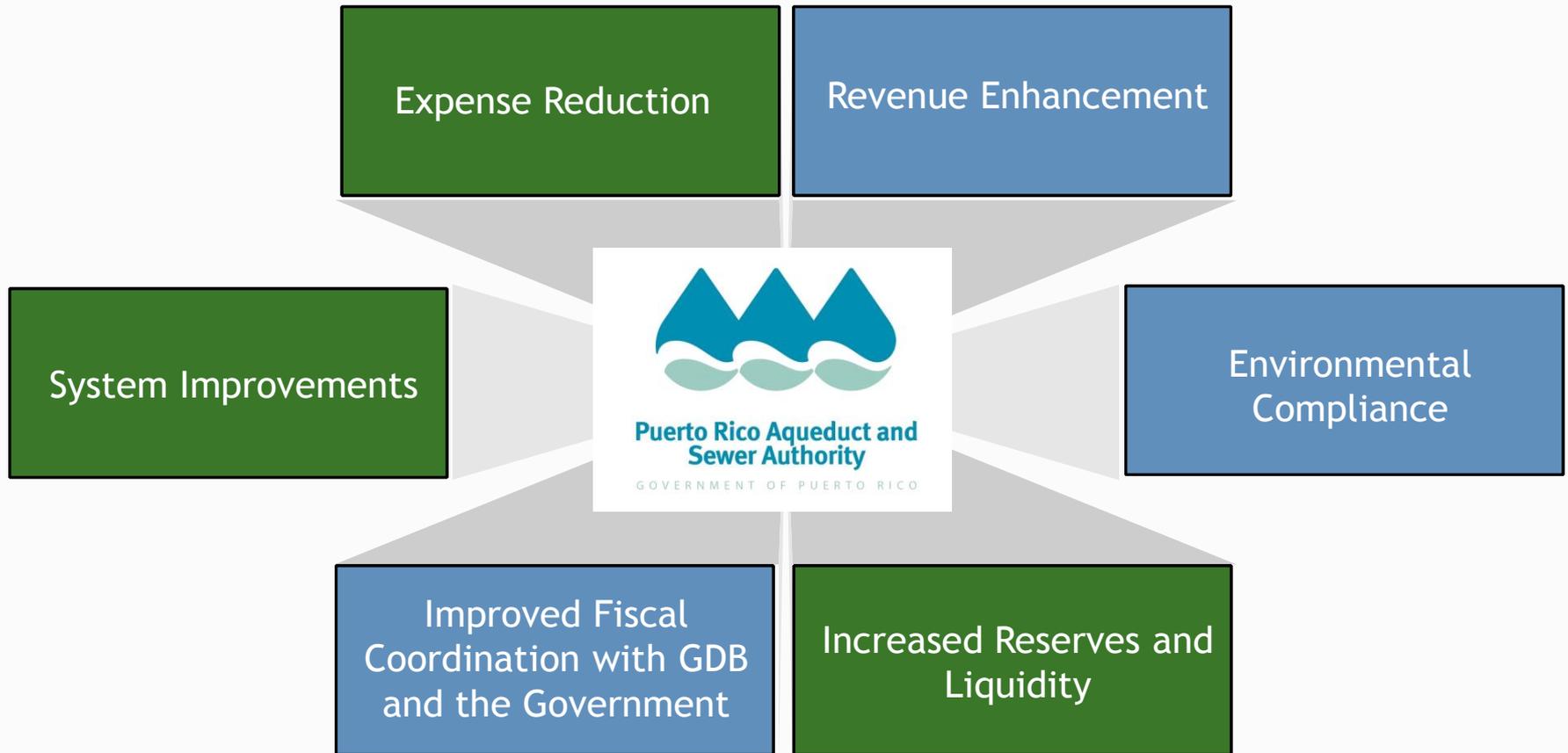
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Concluding Remarks

Concluding Remarks

PRASA's Commitment to Improve Operations



Concluding Remarks

Impact of Proven Management Strategies and Efforts



Enhanced revenue collection efforts

- Small meter replacements have generated significant new recurrent revenue without imposing higher rates on customers



Proven cost reduction initiatives

- PRASA has significantly reduced its payroll costs, generating a recurrent reduction in operating expenses of over \$37 million
- Comprehensive energy management program will improve PRASA's control of expenses and reduce operating costs by around \$25 million, excluding projected savings from the acquisition of hydroelectric plant facilities



Effective regulatory and environmental compliance

- CIP provides for compliance with 100% of environmental requirements
- Mandated compliance projects are given priority in the scheduling and procurement process



Strengthened its commitment to bondholders through amendments to the Master Agreement of Trust and the Fiscal Oversight Agreement with the GDB and the Commonwealth



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