



Western  
Area Power  
Administration

# PRS SOFTWARE *Update*

March 17, 2017 10AM



Rodney Bailey  
Power Marketing Advisor

# Purpose

Replace the current Power Repayment Study (PRS) software to one reliable WAPA-wide PRS platform

- Save time
- Save cost
- Focus on analysis
- Consistent with Strategic Roadmap 2024
- Improvement of transparency per DOE reporting



# Future Picture

- WAPA-wide single platform
- Transparent and auditable (no black-box)
- User-friendly
- Report generator
- Built-in data validation functions
- Compliant with DOE policies



2-15-73 2000 1972-1980

Continuation of Worksheet Form 1041-B Form 1041-B (Contd)

See page 1 of this return for instructions

Year	Amount of 2-100	Amount of 8-100	Other	Total
1972	7,147,223	21,128		7,168,351
1973	7,135,903	27,828		7,163,731
1974	6,983,024	3,921,799		10,904,823
1975	1,114,361	3,761,702		4,876,063
1976	0	304,211		304,211
1977	0	0		0

Identified = 29,730,716 - 13,702,796 - 7,000,000 = 9,027,920

Split in two portions as identified QIP assets

Split 50% = 4,513,960 = 7,335,913

Identified

29,730,716 comes from 1972-1977 figure on TD rechartered plan in 2000

2000 1972-1980

Continuation of Worksheet Form 1041-B Form 1041-B (Contd)

See page 1 of this return for instructions

Year	Amount of 2-100	Amount of 8-100	Other	Total
1972	7,147,223	21,128		7,168,351
1973	7,135,903	27,828		7,163,731
1974	6,983,024	3,921,799		10,904,823
1975	1,114,361	3,761,702		4,876,063
1976	0	304,211		304,211
1977	0	0		0

Identified = 29,730,716 - 13,702,796 - 7,000,000 = 9,027,920

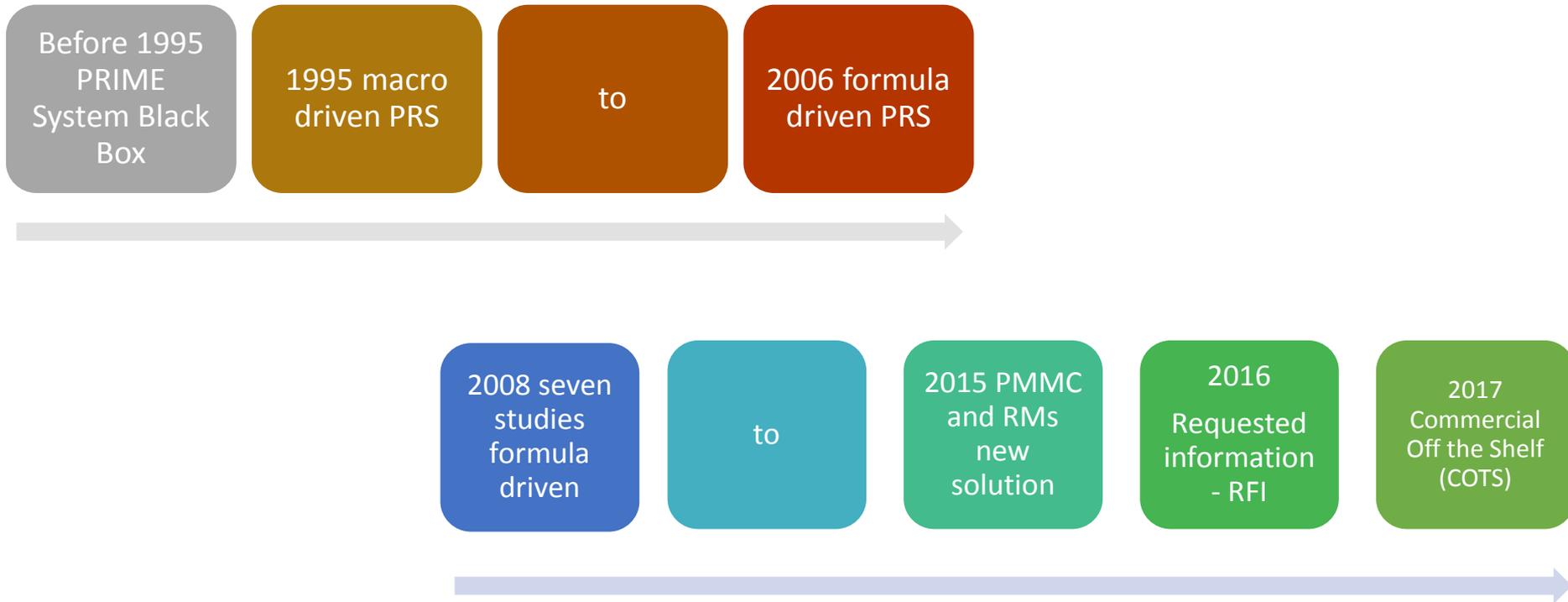
Split in two portions as identified QIP assets

Split 50% = 4,513,960 = 7,335,913

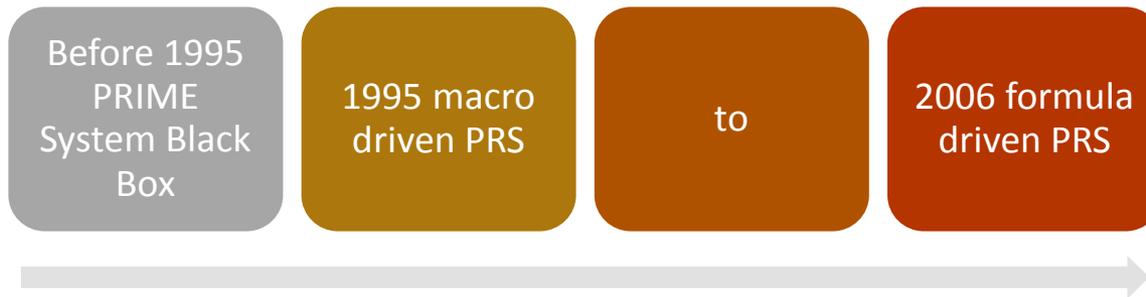
Identified

29,730,716 comes from 1972-1977 figure on TD rechartered plan in 2000

# PRS Timeline:



*Note: WAPA manages 15 studies*



- Before 1995 PRIME System (black box)
- 1995 macro-driven PRS
- 2006 began in-house development of formula driven PRS because of limitations in Excel and the inability to apply change control





- 2008 – Seven studies began using the formula-driven PRS
- 2009 to 2015 – significant effort went into converting the remaining macro-driven studies into formula-driven studies– to date only nine studies have been converted and are in production
- April 2015 – Input from users led to Power Marketing Management Council (PMMC) and Rates Managers discussions for a sustainable, reliable solution

# One of thousands of formulas in the PRS

Formula Details

Active Cell *=Investments!IV868 --> Year 2018 AUF*

Excel formula: `=IFERROR(IF($A868-IV$8<$A$813,IV468,IV468-OFFSET(IV468,-IV$8,0))*IV$812+IV1068,0)`

w Cell Values `=IFERROR(IF(2018-50<1963,0,0-0)*1+0,0)`

English `=IFERROR(IF(Year 2018-Service Life<Year 1963,Year 2018 CFI,Year 2018 CFI-Year 1968 CFI)*AUF Manual+Year 2018 AUF ADJ,0)`

Token	Value	Value/Result	Description	Category
IFERROR(IF(\$A868-IV\$8<\$A\$813,IV468,IV468-OFFSET(IV468,-IV\$8,0))*IV\$812+IV1068,0)	IFERROR	0		
IF(\$A868-IV\$8<\$A\$813,IV468,IV468-OFFSET(IV468,-IV\$8,0))	IF	0	Argument	Investm
\$A868-IV\$8<\$A\$813	IF	0	Argument	Investm
\$A868	\$A868	False	Argument	Investm
IV\$8	IV\$8	2018	Year 2018	Investm
<	<	-		
\$A\$813	\$A\$813	50	Service Life	Investm
IV468	IV468	<		
IV468	IV468	0	Year 1963	Investm
IV468-OFFSET(IV468,-IV\$8,0)	IV468	0	Year 2018 CFI	Investm
IV468	IV468	0	Value if False	Investm
IV468	IV468	0	Year 2018 CFI	Investm
OFFSET(IV468,-IV\$8,0)	OFFSET	0	Year 1968 CFI	Referer

Go to History

# 2016

June 2015 to Jan 2016 – Functional requirements for all 15 studies were developed resulting in a unified set of PRS requirements

Feb 2016 – Issued Request for Information

June 2016 – Power Marketing developed a business case proposal, including recommendation for a Commercial Off The Shelf (COTS) solution

July to Sept 2016 – Assembled a project team of Subject Matter Experts: Power Marketing, IT, Procurement, Project Management and Change Management

Oct to Nov 2016 – Developed statement of work, project plans, finalized ~ 400 requirements, policy/legal/procurement reviews

Requirements

Feb 2016 RFI

June 2016  
Business Case

Sept 2016  
Project Team

Nov 2016  
SOW

Dec 2016  
RFQ



WAPA

# Project Background

## A Team Recommendation Approach

- PRS end users
- Rates Managers
- Power Marketing Managers
- IT Supervisors
- External business consultants

## Development Method with a combination of:

- Focus groups – brainstorming
- In-depth interviews
- Independent analysis
- Formal request for information (RFI)
- Market research

Overcame challenge to reconcile various requirements across all studies



# Approximately 400 Requirements in the Request For Quotation (RFQ)

Some of the requirements that were included in the RFQ are:

- No black box – we need transparency to see calculations (drill down and drill back in the formula with auditability)
- A Commercial Off The Shelf (COTS) product
- One Sustainable system over the next 15 to 20 years
- Customer access with the ability to perform “what-if” scenarios
- Meet regulatory requirements
- Role-based security – to address cyber security concerns
- Historic tracking – repeatable and reliable data. Have a robust reporting engine

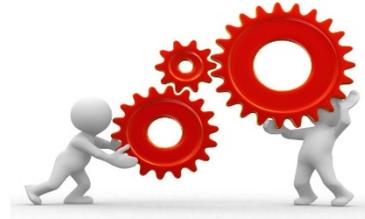


# Other Key Requirements

- Prior year adjustments
- Multiple repayment methodologies (balloon, straight line amortization)
- Simple interest calculations
- Interest offset calculations
- Payment priority
- Discretionary payments
- Deficit loan calculations



# Operational Controls



- Pre-implementation
  - Project Sponsors will have ownership and control
  - Will work closely with Rates Managers, PRS experts, IT, and Contractor
- Post-implementation
  - WAPA Rates Team will have functional control and determine priorities
  - IT will coordinate with Rates Team on updates and patches

# Current Status

- We are currently in the procurement process. We cannot disclose detailed information about the Request For Quote (RFQ)
- RFQ- received and evaluated proposals
- We anticipate the award to be sometime in March



# Tentative Implementation Timeline

2017  
to  
2018

March 2017- Award

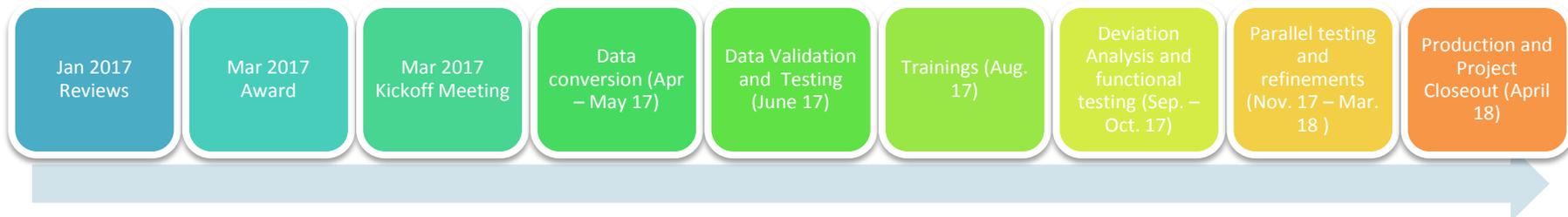
April to July 2017 – COTS implementation

July to August 2017 – Train staff

August 2017 to March 2018 – Data QAQC and Parallel Testing

April 2018 – COTS in Production

Project Close out



# Parallel Testing Timeline

- Validate against FY 2016 final studies
- Roll forward and parallel with FY 2017 studies
- Roll forward FY 2018 parallel
- Use new software for FY 2018 studies

Deviation Analysis  
and functional testing  
(Sep. – Oct. 17)

Parallel testing and  
refinements (Nov. 17  
– Mar. 18 )

Production and  
Project Closeout  
(April 18)



# Cost Allocation

50/50 split methodology based on PRS fee and gross revenues

- PRS fee = 50%
  - Evenly divided across the 15 studies
  - Which equal 6.7% per study
- Gross Revenues = 50%
  - Taken from the 2014 Statistical Appendix
  - Each project's proportionate share of total gross revenues
- The same methodology will be applied to both capitalized and expensed items



# 50/50 Cost Sharing Calculation

Project	Fixed Share	2014 Gross Rev (M)	Rev Cost Share	Weighted 50/50 Total
BC	6.7%	\$ 96.7	7.7%	7.19%
CVP	6.7%	\$ 189.2	15.1%	10.87%
Fry Ark	6.7%	\$ 20.0	1.6%	4.13%
PD	6.7%	\$ 64.3	5.1%	5.90%
P-S	6.7%	\$ 627.0	50.0%	28.32%
Colbran	6.7%	\$ 1.0	0.1%	3.37%
CRSP	6.7%	\$ 190.6	15.2%	10.93%
Dolores	6.7%	\$ 3.2	0.3%	3.46%
Rio Grand	6.7%	\$ 2.5	0.2%	3.43%
SeedSkadee	6.7%	\$ 0.1	0.0%	3.34%
CAP	6.7%	\$ 10.0	0.8%	3.73%
FA	6.7%	\$ 6.8	0.5%	3.60%
Intertie	6.7%	\$ 42.3	3.4%	5.02%
Provo	6.7%	\$ 0.2	0.0%	3.34%
Washoe	6.7%	\$ 0.7	0.1%	3.36%
<b>Total</b>	<b>100.0%</b>	<b>\$ 1,254.6</b>	<b>100.0%</b>	<b>100.0%</b>

# HQ 10-Year Capital Plan Meeting – September 2016

- We indicated roughly \$2M that includes:
  - Product and infrastructure
  - WAPA staff time
- What was not included:
  - Travel
  - Training
  - Data conversion
  - Planning and design
  - Consultants Fee



# Government Cost Estimate in 2016

Total estimated initial cost of ownership for  
Commercial off the shelf (COTS) - **\$3,819,000**

- 1 year to implement
- No development necessary



# Government Cost Estimate in 2016

- Estimate to build in-house
- Total estimated initial cost of ownership with In-house development - **\$4,126,500**
  - 2 years to develop and implement



# Future Cost savings

## In-house vs. COTS

Annual maintenance costs based on government estimate

- In-house cost - **\$710,500 / year**
- COTS cost - **\$278,000 / year**
- Annual Cost Savings In-house vs. COTS
  - **\$710,500 - \$278,000 = \$432,500 Savings/Year**

A 5-yr Cost Savings with COTS product

- **5 \* \$432,500 = \$2,162,500 Savings**

# CRSP

## Rate Impact Estimate

Project	Purchase Cost*	Allocation	Rate Impact
Collbran	\$ 128,822	3.37%	
CRSP	\$ 417,393	10.93%	
Dolores	\$ 132,170	3.46%	
Rio Grande	\$ 131,105	3.43%	
Seedskadee	\$ 127,452	3.34%	
<b>SLIP total</b>	<b>\$ 936,942</b>	<b>24.53%</b>	<b>0.11%</b>

\*based on estimated \$3.8M full cost

# CRSP

## Rate Impact Estimate

CRSP MC	Purchase Cost*	Allocation	Rate Impact
Provo	\$ 127,604	3.34%	5.90%
Falcon Amistad	\$ 137,650	3.60%	0.45%

\*based on estimated \$3.8M full cost

# DSW

## Rate Impact Estimate

Project	Purchase Cost*	Allocation	Rate Impact
BCP	\$ 274,477	7.19%	0.07%
PDP	\$ 225,165	5.90%	0.07%
CAP	\$ 142,520	3.73%	0.15%
Intertie	\$ 191,681	5.02%	0.11%

\*based on estimated \$3.8M full cost

# RM

## Rate Impact Estimate

Project	Purchase Cost*	Allocation	Rate Impact
Fry-Ark	\$ 157,740	4.13%	
P-S**	\$ 1,081,593	28.32%	
LAP			0.05%

\*based on estimated \$3.8M full cost

\*\*This is the entire P-S cost, however for the rate impact 80% was assigned to P-S Eastern Division and 20% to P-S Western Division.

# SN

## Rate Impact Estimate

Project	Purchase Cost*	Allocation	Rate Impact
CVP	\$ 415,262	10.87%	
Washoe	\$ 128,365	3.36%	
Total	\$ 543,627	14.23%	0.18%

\*based on estimated \$3.8M full cost

# UGP

## Rate Impact Estimate

Project	Purchase Cost*	Allocation	Rate Impact
P-S**	\$ 1,081,593	28.32%	
P-S Eastern Division			0.03%

\*based on estimated \$3.8M full cost

\*\*This is the entire P-S cost, however for the rate impact 80% was assigned to P-S Eastern Division and 20% to P-S Western Division.

# Summary Benefits and Efficiency of a COTS system

- A 5-yr Cost Savings of \$2,162,500
- ~1 year for implementation
- Single platform
- Role-based security – address cyber security concerns
- Customer Access
- Current Technology



# What can you do?

- Review existing PRS
- Provide Feedback on your need for customer access and reporting



# Questions/Comments

# Thank You!

Rodney Bailey  
Power Marketing Advisor  
801-524- 4007  
[rbailey@wapa.gov](mailto:rbailey@wapa.gov)