# Quarterly Update to BPU Water Systems (DW, WP & NP)

By: Jack Richardson, PE

Deputy Utility Manager – Gas, Water, Sewer (GWS)

BPU Meeting – January 15, 2020

Water Production Pipeline

NM State Road 4 Area – 1955 Installation

14” Concrete Cylinder Pipeline Blowout

Water Production Pajarito Well 4

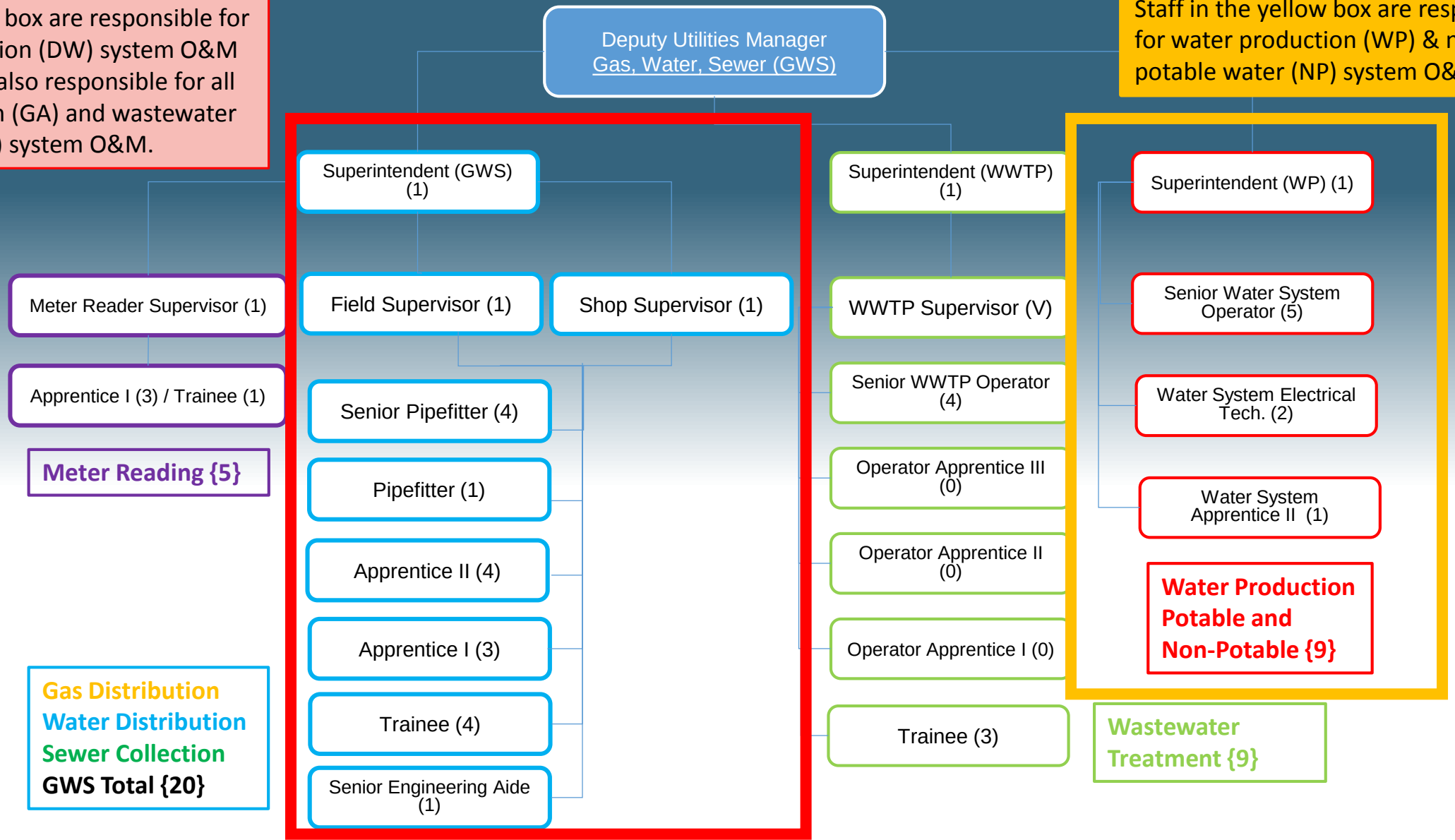
Pajarito Road Area – Installed 1981

Cracked and Worn Pump Impeller

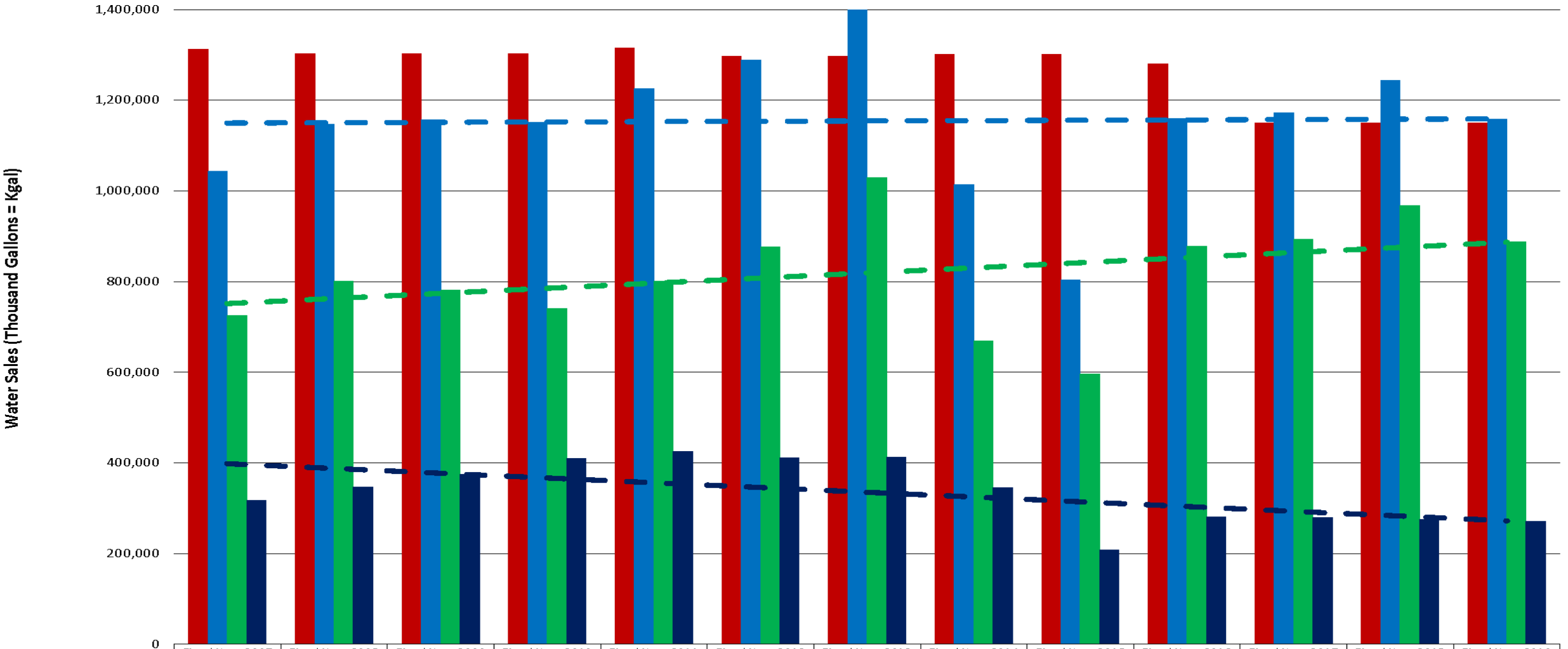
# GWS ORGANIZATIONAL STRUCTURE

Staff in the red box are responsible for water distribution (DW) system O&M – but they are also responsible for all gas distribution (GA) and wastewater collection (WC) system O&M.

Staff in the yellow box are responsible for water production (WP) & non-potable water (NP) system O&M.



# Total Budget vs Total Actual Water Sales w/ Retail & DOE Sales




| | Fiscal Year 2007 | Fiscal Year 2008 | Fiscal Year 2009 | Fiscal Year 2010 | Fiscal Year 2011 | Fiscal Year 2012 | Fiscal Year 2013 | Fiscal Year 2014 | Fiscal Year 2015 | Fiscal Year 2016 | Fiscal Year 2017 | Fiscal Year 2018 | Fiscal Year 2019 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Budgeted Sales (Kgal) | 1,312,032 | 1,302,257 | 1,302,257 | 1,302,257 | 1,315,887 | 1,297,502 | 1,297,502 | 1,301,800 | 1,301,800 | 1,280,000 | 1,150,000 | 1,150,000 | 1,150,000 |
| Total Actual Sales (Kgal) | 1,043,428 | 1,147,098 | 1,156,924 | 1,151,292 | 1,225,571 | 1,288,126 | 1,442,319 | 1,014,176 | 803,215 | 1,159,323 | 1,172,479 | 1,243,400 | 1,158,533 |
| Annual Retail Sales (Kgal) | 725,873 | 800,273 | 781,692 | 741,284 | 800,842 | 876,361 | 1,030,017 | 668,756 | 595,774 | 877,811 | 892,834 | 968,326 | 887,932 |
| Annual LANL Sales (Kgal) | 317,555 | 346,825 | 375,233 | 410,008 | 424,728 | 411,765 | 412,302 | 345,420 | 207,441 | 281,512 | 279,645 | 275,074 | 270,601 |

Total Budgeted Sales (Kgal) | Total Actual Sales (Kgal) | Annual Retail Sales (Kgal) | Annual LANL Sales (Kgal) | Linear (Total Actual Sales (Kgal)) | Linear (Annual Retail Sales (Kgal)) | Linear (Annual LANL Sales (Kgal))

# RECENT MAJOR AMT ACHIEVEMENTS

- **DW -** Implemented field work portion of the PRV Station R&R program – 4 PRV stations complete so far.
- **DW -** Purchased and implemented 21st century smart phone meter reading application.
- **DW -** Backflow prevention survey original scope completed. Add-on large multi-family complexes to the scope of work also completed.
- **DW -** Added 30 new customers with new service lines infill development throughout the County
- **WP -** Otowi Well 2 drilling complete. Pump station design and construction are scheduled for completion in FY20 & FY21.
- **WP -** SCADA master and repeater radio equipment upgraded. Pajarito site - complete. Tesuque site – after snowmelt.
- **WP -** TA-21/DP Road Contract Delivery meter replaced.
- **WP -** Tank inspections completed: coating, CP & code compliance.
- **NP -** Meter/SCADA reporting for billing & permit monitoring system fully functional.
- **NP –** Funding & Design of Overlook Park Booster Station & Bayo Booster Station Tank Funding.

# RECENT MAJOR AMT CHALLENGES

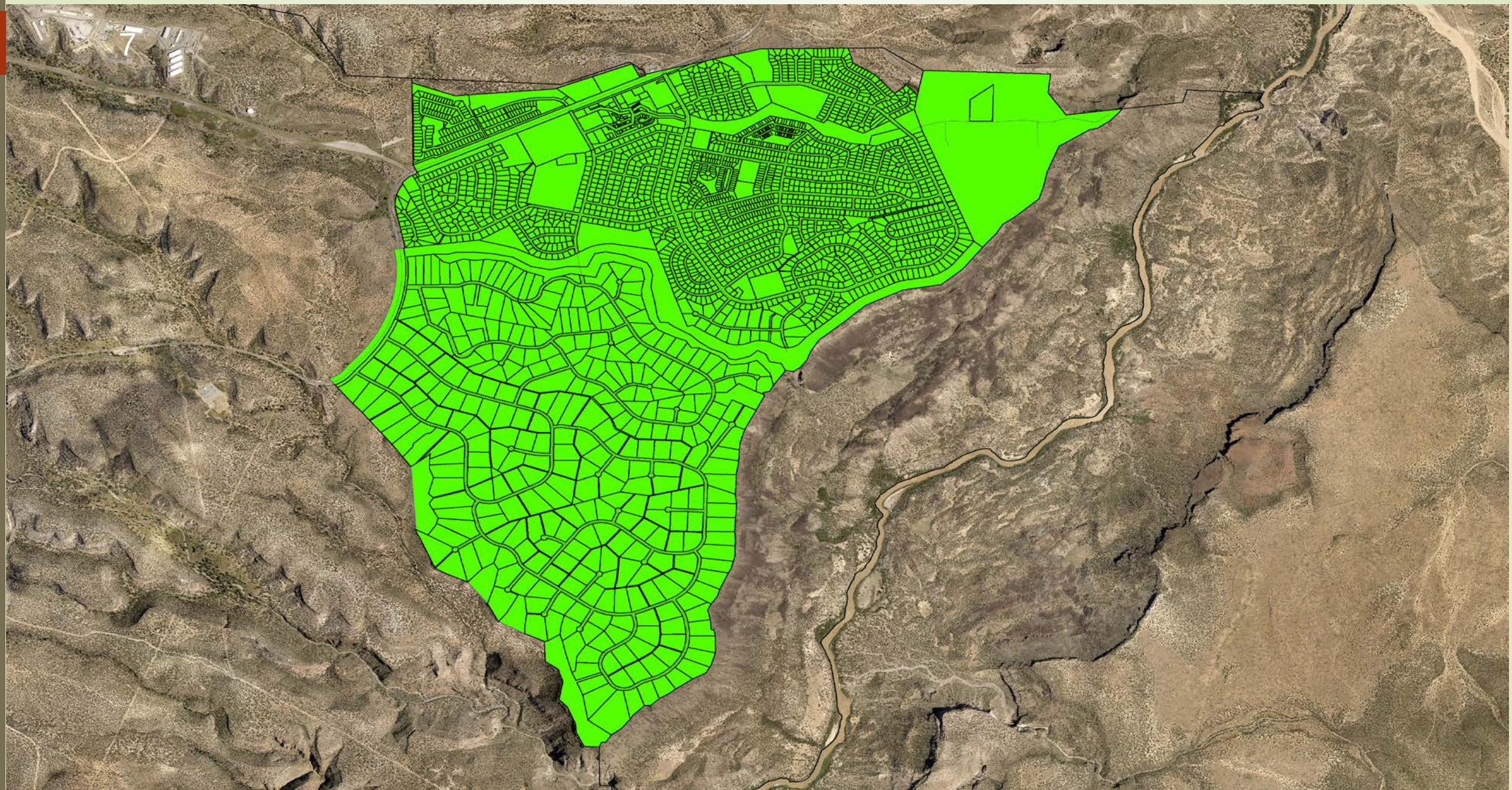
- **DW -** Failed to progress with fire hydrant and valve O&M R&R programs due to staff turnover and inspection of NM 502 & El Mirador projects.
- **DW -** Did not progress as far as desired with PRV Station O&M R&R program for the same reason.
- **DW -** Significant number {33} of pipeline breaks recently – colder winters.
- **WP –** Otowi Well 2 drilling difficulties.
- **WP –** Otowi Well 4 discharge issue – old pump lubrication mineral oil discharge accumulation in LA Canyon streambed needs cleanup / issue with legacy DOE contamination increases the difficulty.
- **WP –** Pajarito Well 3 control issue – continuous unplanned shut down - possible motor rewind / MCC compatibility issue. Coordinate with outside experts for troubleshooting and training.
- **WP –** Pajarito Well 5 motor flame out issue. Unknown cause – possible power source phasing issue. Coordinate with designers of PW5 MCC CIP project to ensure compatibility.
- **NP –** Recent flood damage to newly installed LA Reservoir Road pipeline and electric conduit.
- **NP -** Continued water pipeline breaks.

# Water Meter Change Out Program Discussion Points



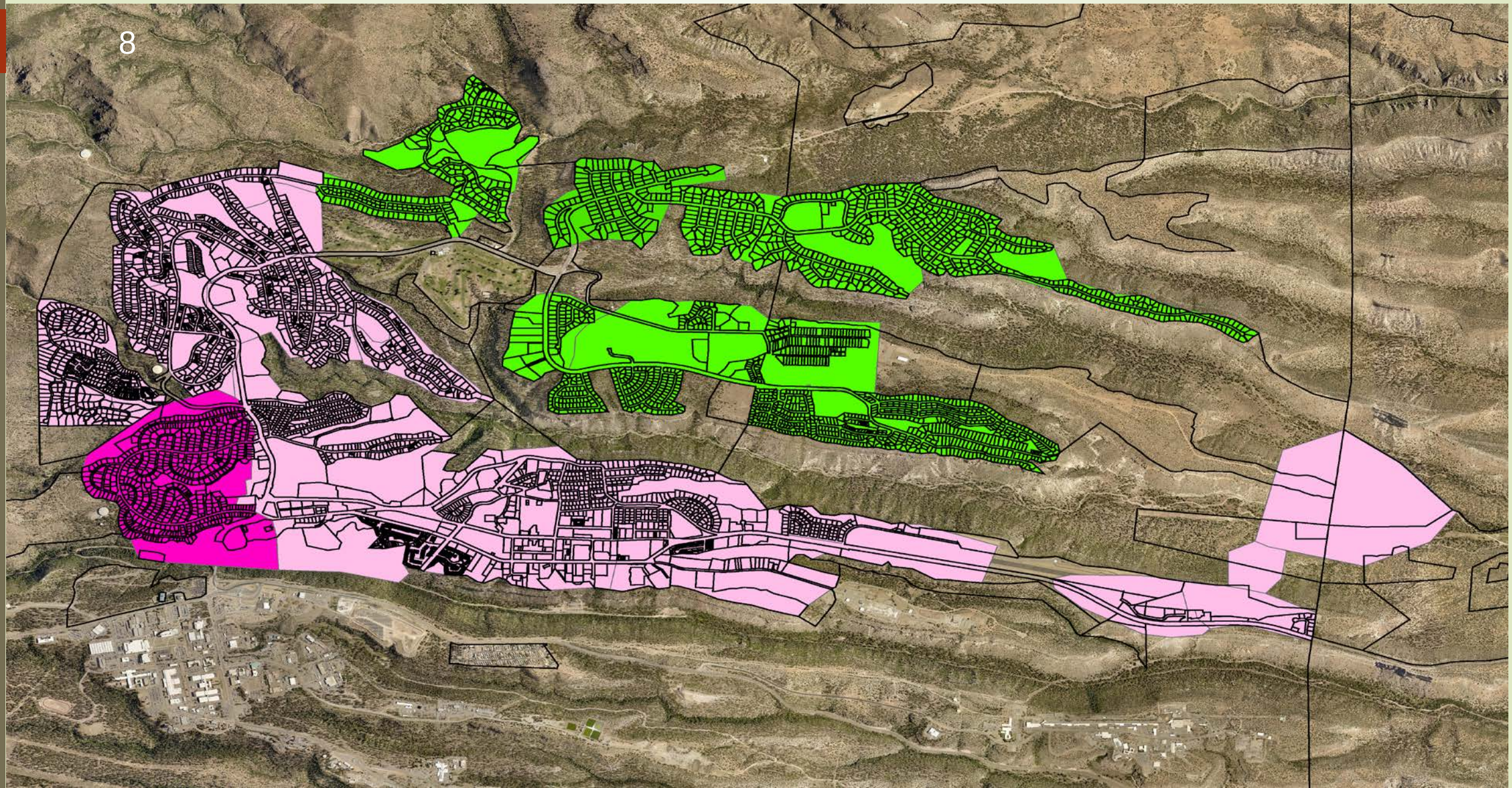
- **Historic Water Meter Change Outs**
  - Typical minimum expected life of a water meter is 20 years. (battery related)
  - Average number of water meters in the water distribution system at any one time is 7,050.
  - 7,050 / 20 Years = 352.50. DPU has recently had an annual goal of 350 water meter change outs per year. This was decided as the appropriate approach to maintain adequately functional water meters throughout the system.
- **Current Temporary Accelerated Water Meter Change Out Program**
  - Recent improvements to the new style of water meter being installed have improve the accuracy at low flows. Newer meters have improved compatibility with AMI (Automated Metering Infrastructure) systems. A significant portion of the existing water meters being replaced throughout the system are near or at the end of their expected life and would have been replaced anyway.
  - Installation of all new meters during the temporary accelerated program will provide multiple benefits:
    - Improve meter reading accuracy and lower the unaccounted for water loss percentage.
    - Standardize the water meters throughout the system thereby improving efficiencies for AMI incorporation and GWS O&M.
    - Provide the opportunity/incentive to complete R&R maintenance activities on related meter service appurtenances (shut off valves, leaking connections, meter cans and/or lids, etc.)
  - Temporary Accelerated Program is scheduled to run from FY2016 through FY2023.
- **Cost / Benefit of the Temporary Accelerated Water Meter Change Out Program**
  - Costs for the accelerated program are expected to average approximately $300,000 per year over historic costs.

# Water Meter Change Out Program – White Rock – 99% Complete (Green)



# Water Meter Change Out Program – Townsite – 99% (Green)/30-50% (Pink)/0-10% (Rose)





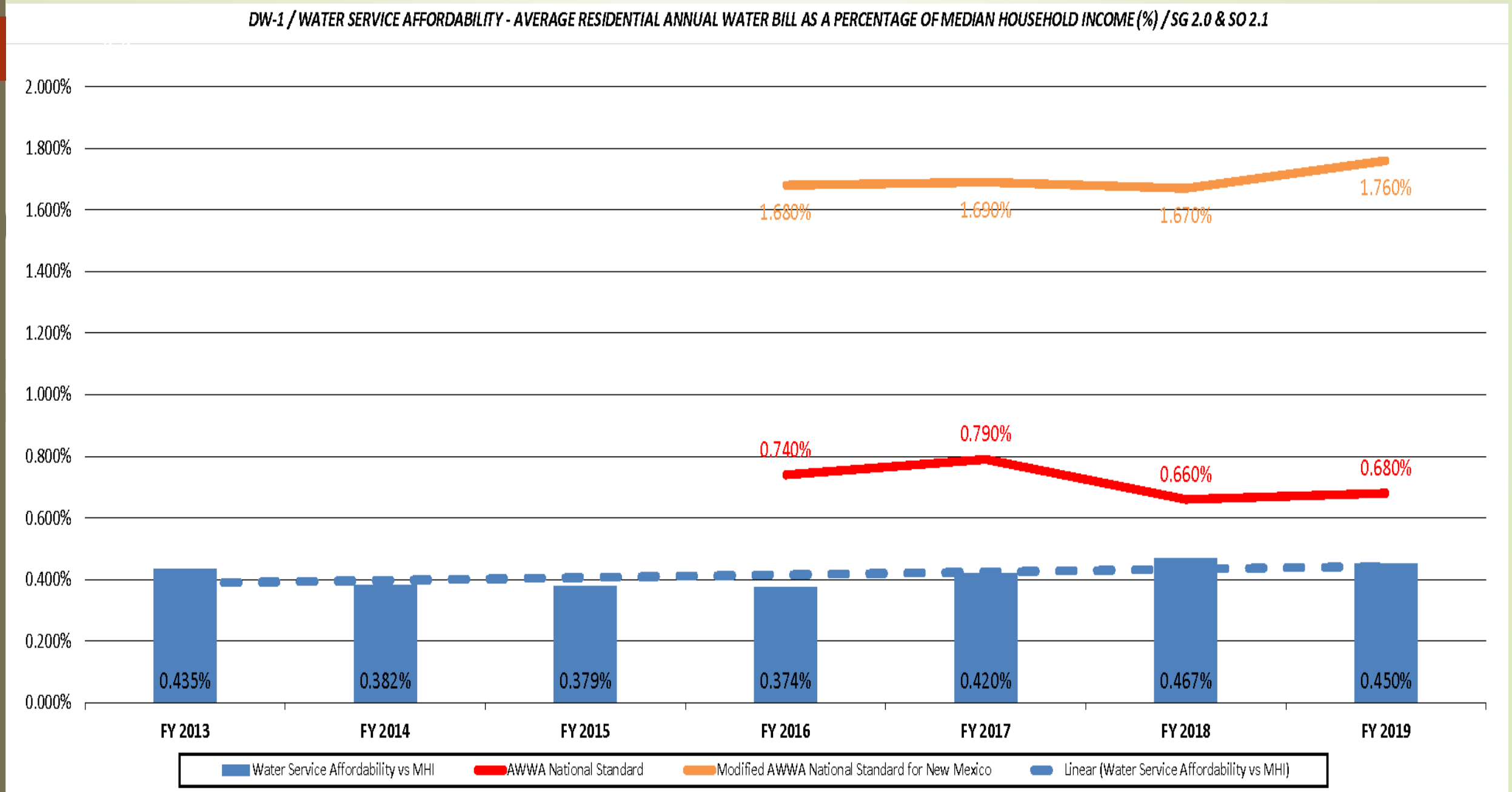
# Measures/Targets/Benchmarks for Tracking Water Distribution System O&M

- **PRIMARY KEY ORGANIZATIONAL PERFORMANCE MEASURES**
  - Water Service Affordability – Based on Average Res Monthly Bill per Median Household Income (%) – US & NM Only
  - O&M Expenditures per 100 Miles of Main Pipeline ($/ 100 Miles)
  - Main Pipeline Breaks per 100 Miles of Pipeline (#/100 miles)
  - Unaccounted for Water Loss (%)
  - Total Gallons Purchased for Distribution (DW) vs Delivered to Distribution (DW) vs. DPU Distribution (DW) Projected Sales
- **SECONDARY KEY ORGANIZATIONAL PERFORMANCE MEASURES**
  - Number of Meters Changed Out and Average Age of Meters in the DW System (# and age)
  - O&M Expenditures per All Accounts ($/ Account)
  - Cost of Water per All Accounts ($ / Account)
  - CIP Expenditures per All Accounts ($ / Account)
  - Planned Maintenance as a Percent of Total Maintenance (planned maint. hours/planned + corrective maint. hours) (%)
  - System Renewal and Replacement (CIP Expenditures for R&R/Total Present Worth of Gas System) (%)
- **PERFORMANCE MEASURES WITH TARGETS OR BENCHMARKS**
  - Performance Measures with known National Standards for system comparison are in GREEN (Typically AWWA standards)
  - Performance Measures with a DPU Strategic Plan or Conservation Plan Goal are in MAGENTA
  - Performance Measures with both a DPU Strategic Plan or Conservation Plan Goal and a National Standard comparable goal are in CYAN
  - Measures are collected and reviewed monthly via a 12 month moving average graph. Annual FY performance measures data is transferred from the annual data sets to a multi-year data set for year over year / multi-year comparison

# DW – DASHBOARD ANALYSES

- Summary of Primary Performance Measures for Water Distribution.
  - **DW-1: Water Service Affordability** – Trending upward (more expensive per Median Household Income) due to recent series of rate increases. Excellent comparison to national and state standards.
  - **DW-2: O&M Expenditures per 100 Miles Main Pipeline** - Good 7-year trend downward. Significantly above national standard – but improving.
  - **DW-3: Breaks per 100 Miles Main Pipeline** - Good 7-year trend downward. Significantly above national standard – but improving.
  - **DW-4: Unaccounted for Water Loss** - Trend line difficult to assess due to FY14 negative value. Good comparison to national standard. Trending toward DPU Conservation Goal.
  - **DW-5: Gallons Purchased vs Gallons Delivered** - Projected sales now better in line with actual sales.

# Water Distribution – Primary Key Organizational Performance Measure



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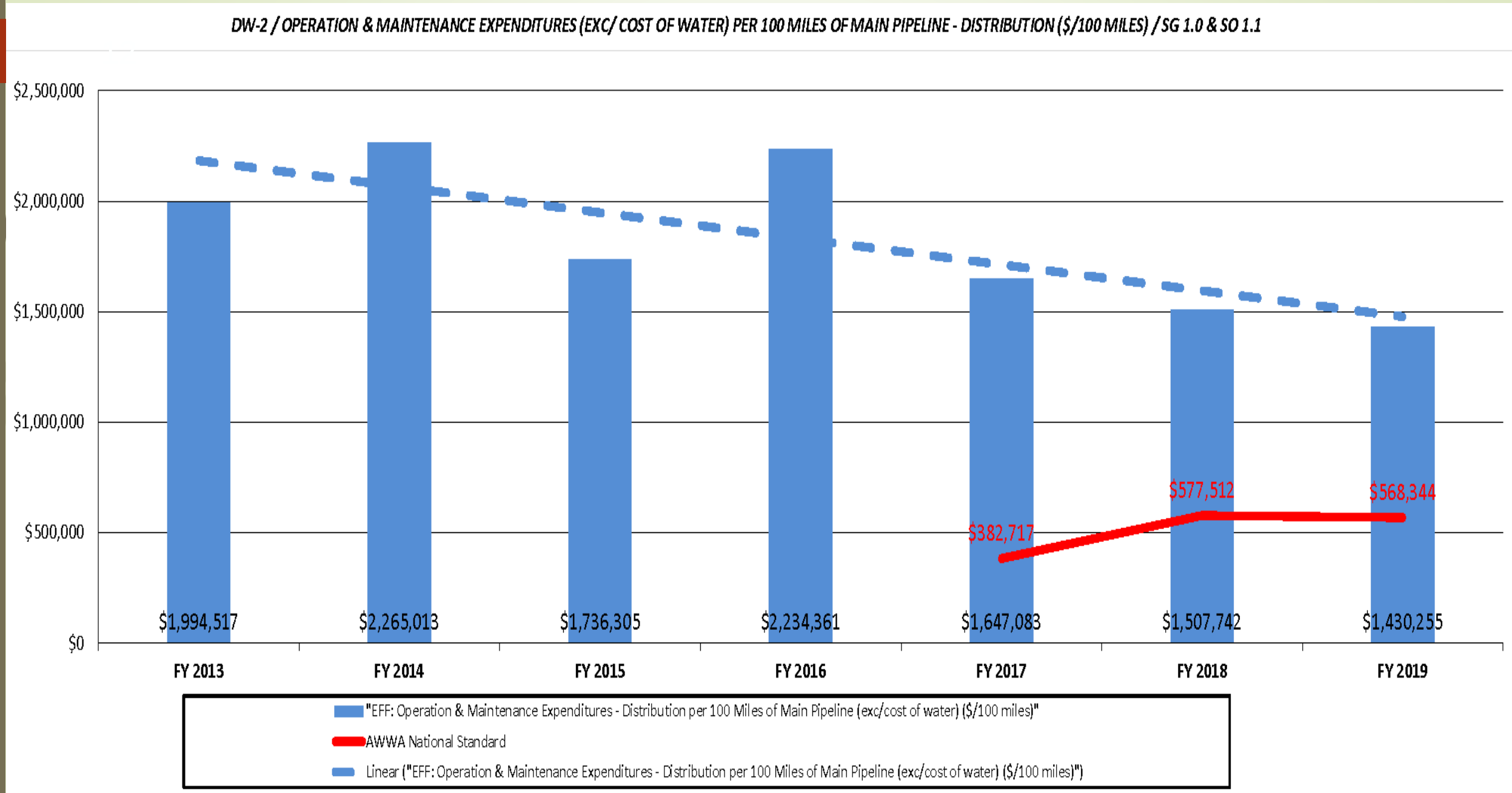

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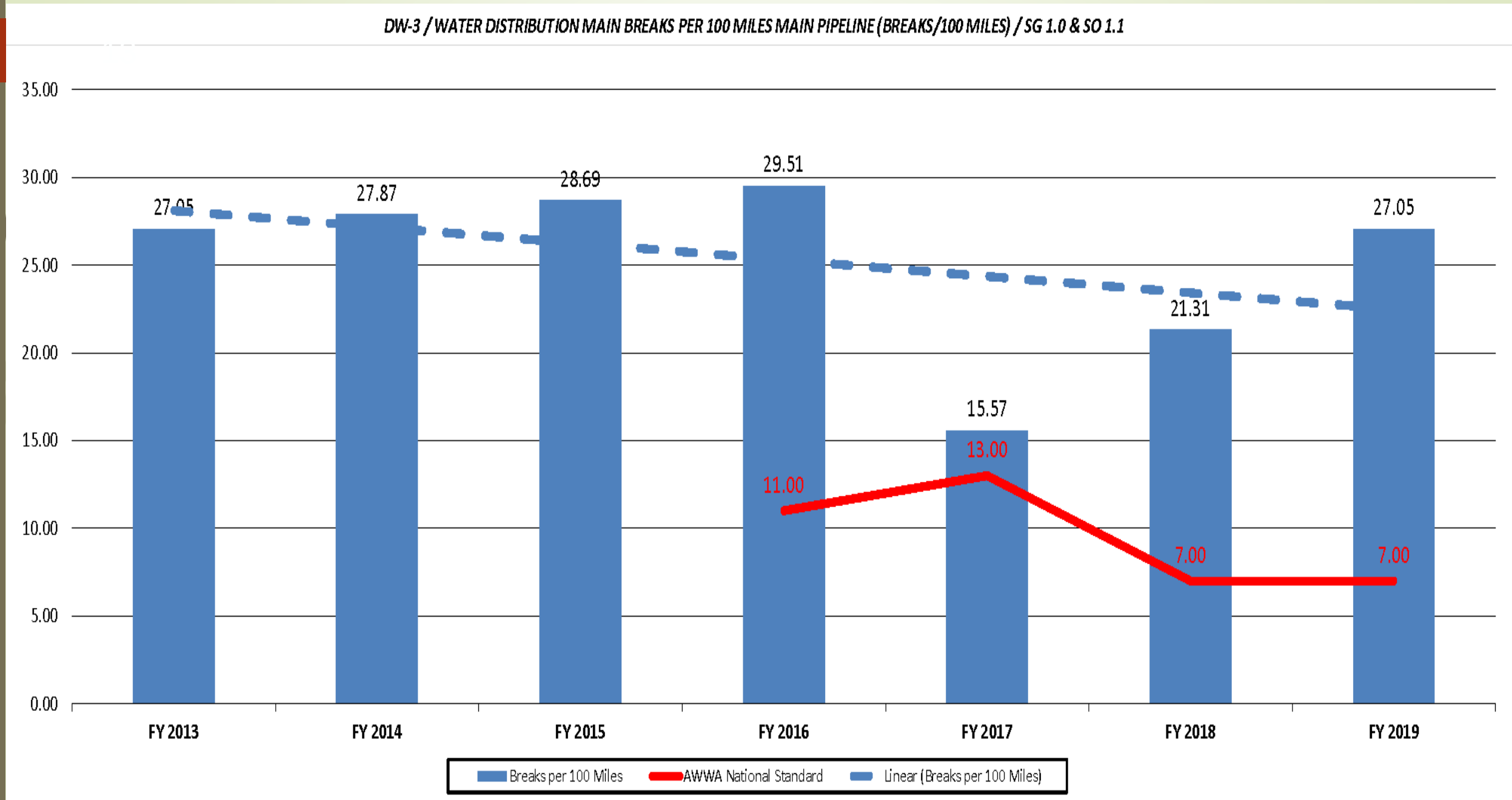

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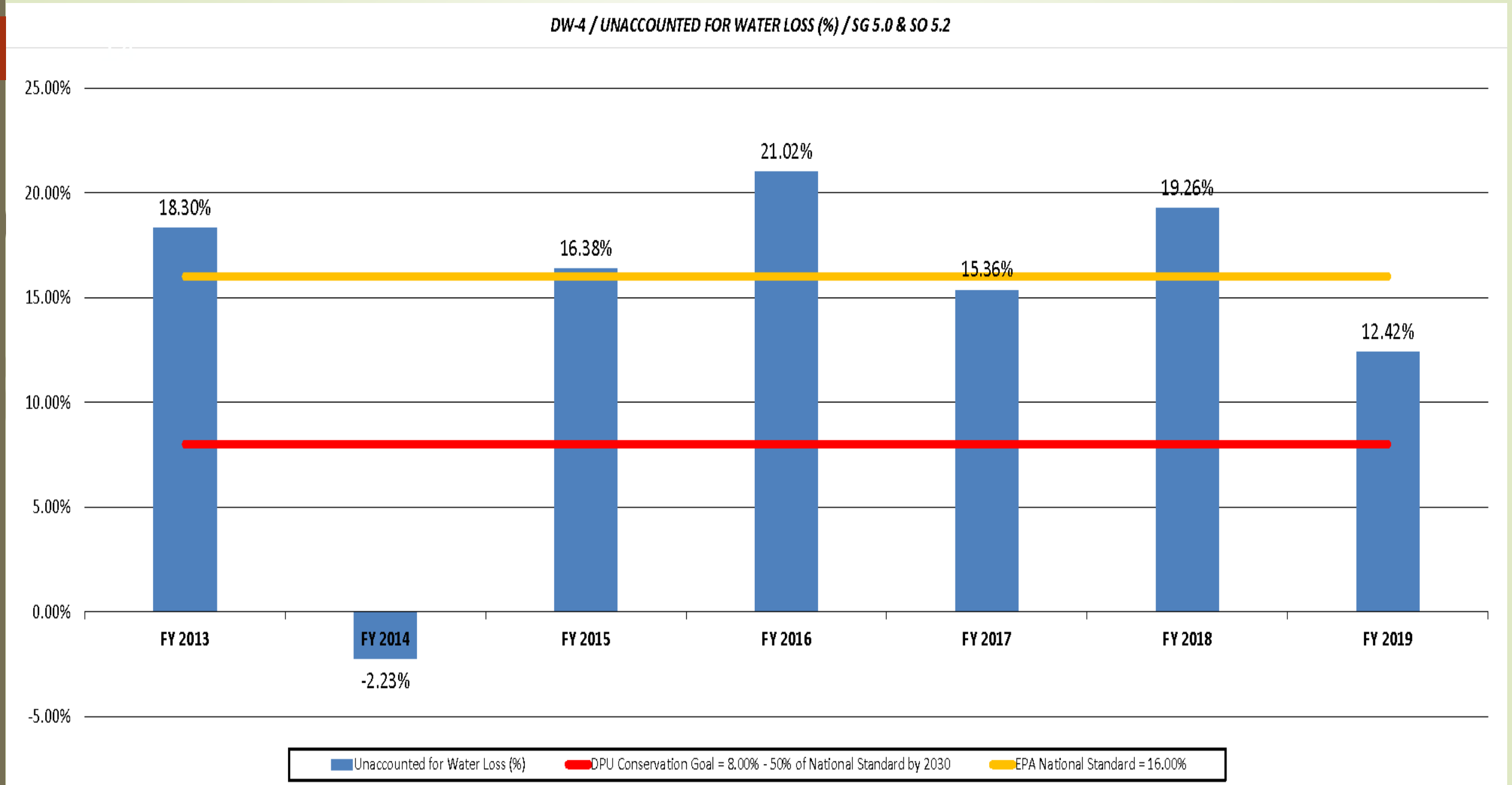

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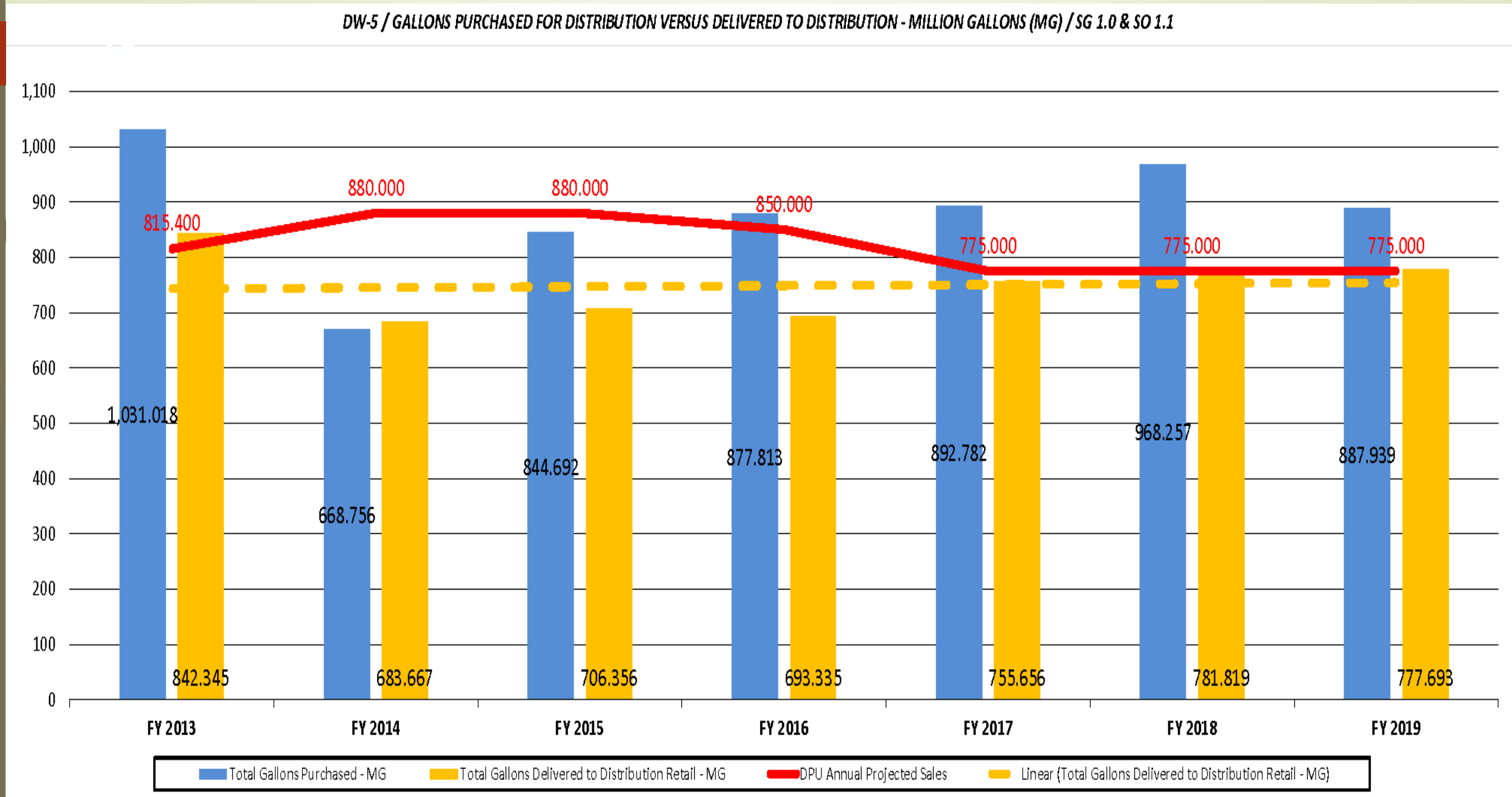

# Water Distribution System Photos - DP Road Pipeline Infrastructure Inherited from DOE

Water Distribution System Photos – Pressure Reducing Valve Station – R&R Program
Sand Blasting / Repainting and Refurbishing Smaller Fittings - Before & After
All Stainless Steel Fastener (nuts, bolts, washers) Instituted in FY17

# DW Sub-System Summary – January 2020 Water Distribution
# Physical Condition Assessment



- The current physical condition of the water distribution system overall is fair to good.
- Last year the physical condition was also rated fair to good.
- Known portions in poor condition: PRV station condition and deteriorated pipelines that have been in the ground for 50 to 60 years. The last scheduled CIP pipeline R&R project year deferral is FY21. Consistent annual pipeline R&R CIP projects begin again in FY22.
- Greatest weakness = PRV Station valve & pipe condition due to excessive rust. GWS crews have begun the implementation of the PRV Station R&R program – completing 4 stations to date. 10 PRV stations are scheduled for completion in FY21.
- New more accurate meters continue to be installed at a rapid pace – anticipated FY16 thru FY23. The AMI project is being implemented during FY20-FY21.
- The GIS upgrade project, with the anticipated condition assessment reporting, is on schedule to be completed at the close of FY21.

# Measures/Targets/Benchmarks for Tracking Water Production System O&M

- ❖ **PRIMARY KEY ORGANIZATIONAL PERFORMANCE MEASURES**
- ► **Percent Number of Days in Full Compliance (%)**
- ► **O&M Expenditures per Million Gallons Produced ($/MG)**
- ► **Main Pipeline Breaks per 100 Miles of Pipeline (#/100 miles)**
- ► **Energy Consumption per Million Gallons Potable Water Produced (kWh/MG)**
- ► **Gallons per Capita Daily Water Produced (GPCD)**
- ► **Total Gallons Produced vs DPU Projected Sales**
- ❖ **SECONDARY KEY ORGANIZATIONAL PERFORMANCE MEASURES**
- ► **Energy Consumption per Million Gallons Produced (kWhr/MG)**
- ► **Planned Maintenance as a Percent of Total Maintenance (planned maint. hours/planned + corrective maint. hours) (%)**
- ► **System Renewal and Replacement (CIP Expenditures for R&R/Total Present Worth of Gas System) (%)**
- ❖ **PERFORMANCE MEASURES WITH TARGETS OR BENCHMARKS**
- ► **Performance Measures with known National Standards for system comparison are in GREEN (Typically AWWA standards)**
- ► **Performance Measures with a DPU Strategic Plan or Conservation Plan Goal are in MAGENTA**
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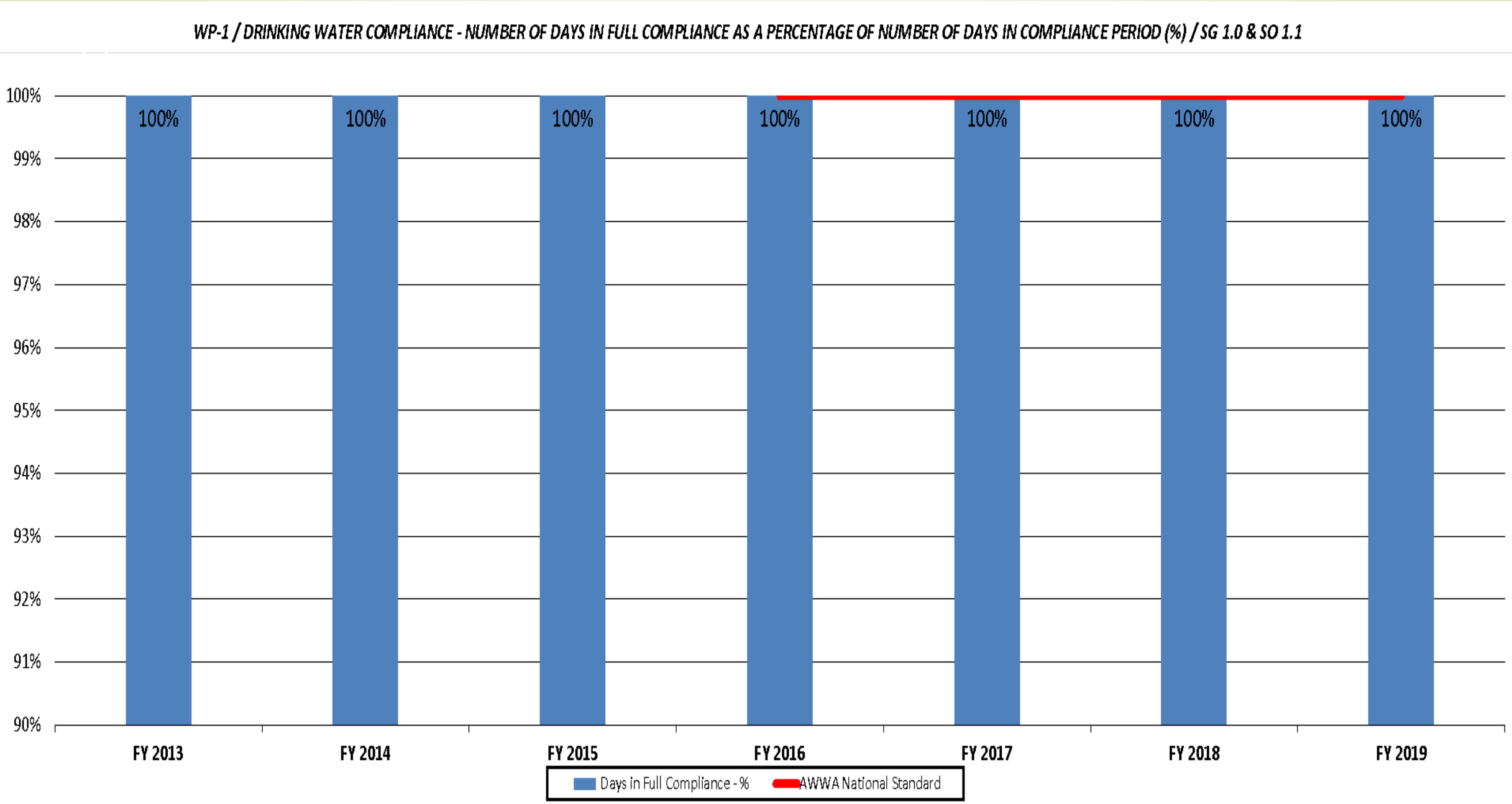
- ► **Measures are collected and reviewed monthly via a 12 month moving average graph. Annual FY performance measures data is transferred from the annual data sets to a multi-year data set for year over year / multi-year comparison.**

# WP – DASHBOARD ANALYSES

- Summary of Primary Performance Measures for Water Production.
  - **WP-1: Drinking Water Compliance** – Outstanding long term historic compliance record.
  - **WP-2: O&M Expenditures per MG Produced** - Good previous 6-year trend downward. Significant increase in Fy19 – need to evaluate this data point from MUNIS.
  - **WP-3: Breaks per 100 Miles Main Pipeline** – Limited years of data available. FY19 value significantly above national standard. No long term trend yet available.
  - **WP-4: Gallons per Capita per Day (GPCD)** - GPCD Goals re-established between FY16 & FY17. Long term trend is slightly upward while long term trends for national standard and DPU conservation goal is slightly downward.
  - **WP-5: Potable Water Produced** - Projected sales revised down in FY16 and again in FY17. Actual vs projected sales now in better alignment.

# Water Production – Primary Key Organizational Performance Measure



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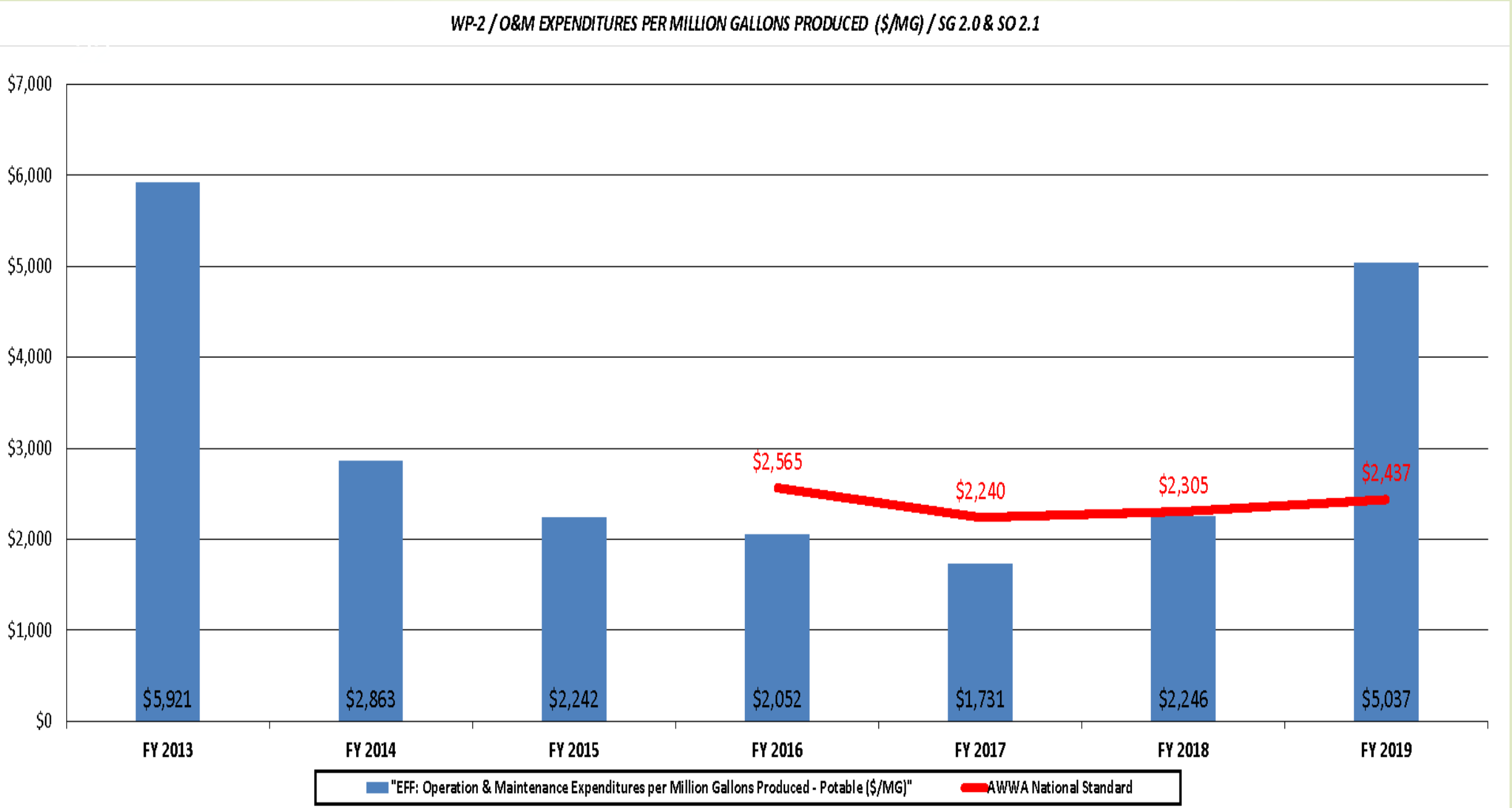

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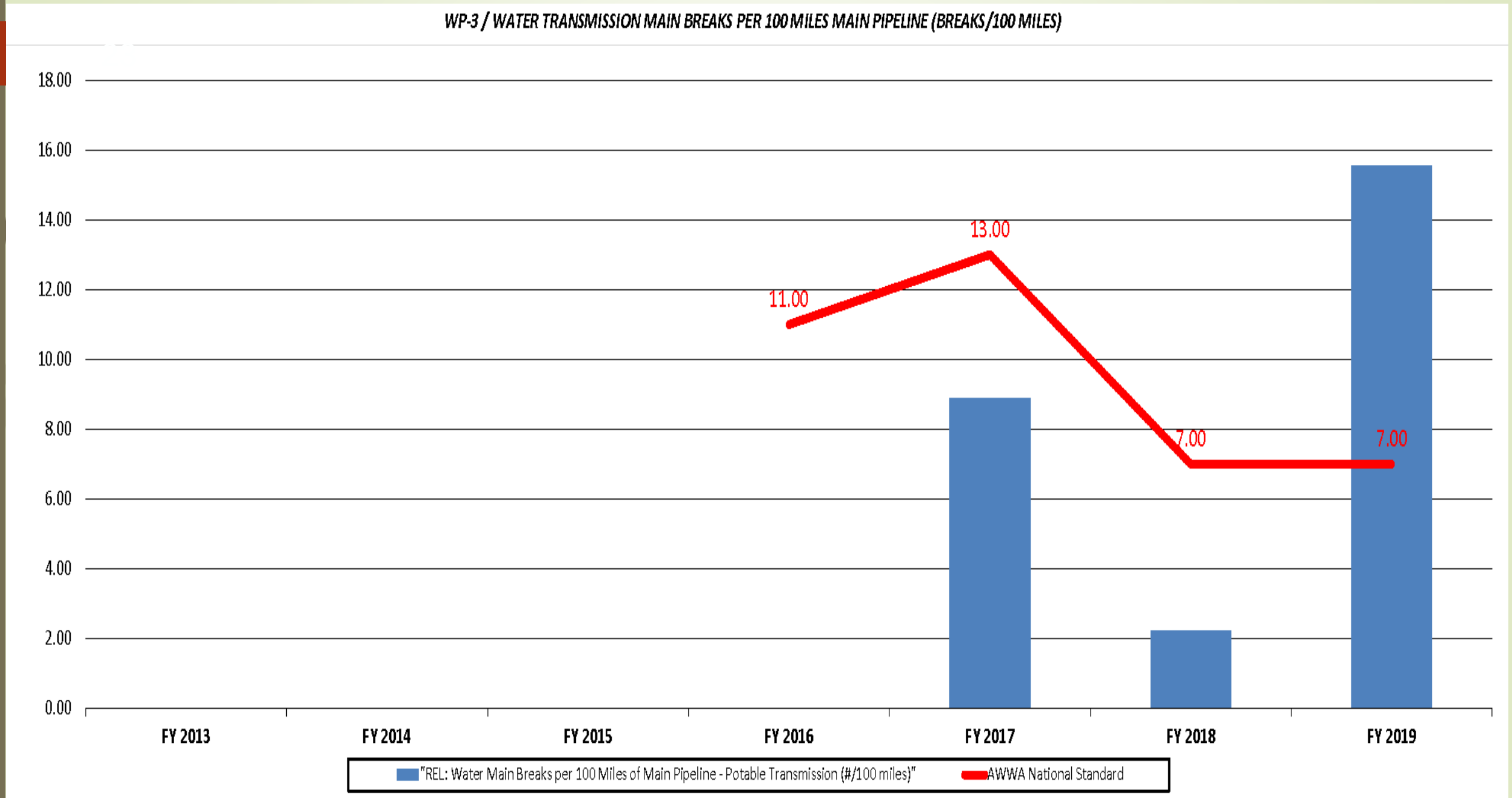

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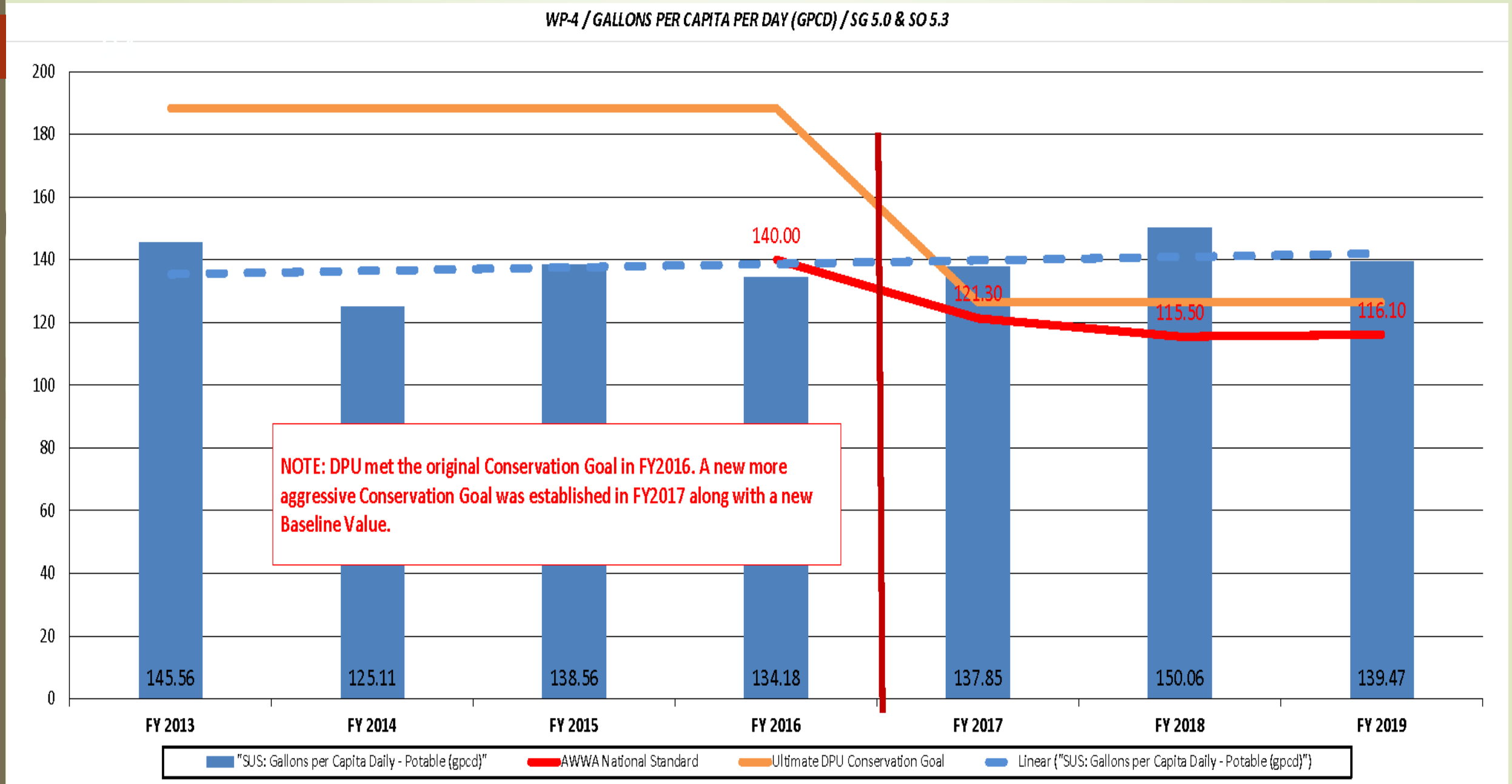

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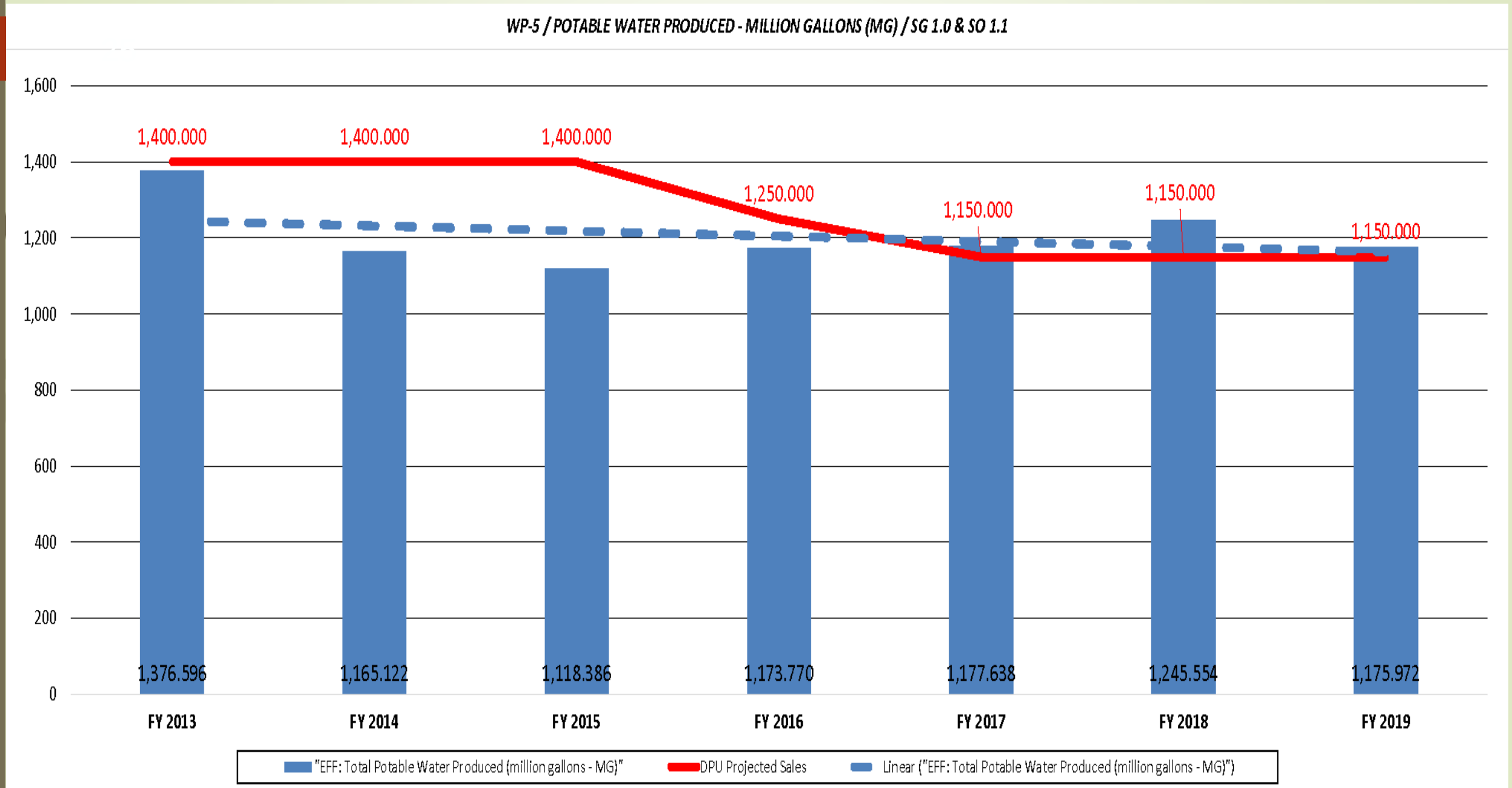


# Water Production Storage Tank Inspection Program Results
## Priority 1 Thru 5 Tanks R&R Scheduled by FY 2025
## Priority 6 Thru 8 Tanks R&R Scheduled by FY 2028

KLM Engineering Inc.
WATER TOWER SPECIALISTS

### 2019 Los Alamos Reservoir Assessment Project
### KLM Engineering, Inc.

| Reservoir Name | KLM Project # | Year Constructed | Size (MG) | Type | Lead | Current Reconditioning Estimate | KLM Recommended Priority Timeline | |
|---|---|---|---|---|---|---|---|---|
| Barranca Tank No. 2 | MN3968 | 1962 | 0.20 | Single Ped | Yes | $435,000 to $465,000 | 1 | recondition interior wet & dry and exterior in 12 months |
| Western Tank | MN3977 | 1947 | 0.25 | GSR | Yes | $260,000 to $285,000 | 2 | recondition interior and exterior in 12 months |
| Guaje Booster Station 1 Tank | MN3980 | 1950 | 0.15 | Standpipe | Yes | $225,000 to $240,000 | 3 | recondition interior and exterior in 12 months |
| Guaje Booster Station 2 Tank 1 | MN3981 | 1948 | 0.10 | Standpipe | Yes | $175,000 to $190,000 | 4 | recondition interior and exterior in 12 months |
| Guaje Booster Station 3 Tank 1 | MN3982 | 1964 | 1.00 | GSR | Yes | $550,000 to $580,000 | 5 | recondition interior and exterior in 12 months |
| | | | | | | | | |
| North Mesa Tank | MN3970 | 2000 | 0.20 | Single Ped | No | $225,000 to $255,000 | 6 | Replace wet coating & overcoat exterior in 2 years, int. dry insp. in 5 years |
| Pajarito Tank 4A | MN3986 | 1982 | 4.00 | GSR | No | $1.55 to $1.58 Million | 7 | full coating replacement in 2 years |
| Otowi Booster Station 1 Tank 2 | MN3983 | 1992 | 0.20 | Standpipe | No | $220,000 to $240,000 | 8 | recondition interior and exterior in 3 years |
| | | | | | | | | |
| Pajarito Booster Station 1 Tank | MN3975 | 1966 | 1.50 | GSR | No | $475,000 to $505,000 | 9 | replace interior 5 to 7 years; overcoat exterior 5 to 7 years |
| Pajarito Booster Station 3 Tank | MN3971 | 1971 | 1.00 | GSR | Yes | $520,000 to $545,000 | 10 | reinspect in 5 years; plan for replacement in 7 years |
| Sycamore Tank | MN3973 | 1950 | 7.75 | GSR | Yes | $2.27 to $2.37 million | 11 | reinspect in 5 years; replace in 8 to 10 years |
| | | | | | | | | |
| Community Tank | MN3969 | 1947 | 1.00 | Standpipe | No | $745,000 to $775,000 | 12 | reinspect in 5 years; replace finial vent in 2 months |
| Quemazon Tank | MN3974 | 1999 | 0.75 | GSR | No | $430,000 to $460,000 | 13 | reinspect in 5 years; remove soil and vegetation from against base of tank |
| Pajarito Booster Station 2 Tank 1 | MN3985 | 1966 | 1.50 | GSR | No | $680,000 to $710,000 | 14 | reinspect in 5 years |
| Otowi Well 4 Tank | MN3984 | 1992 | 0.25 | GSR | No | $325,000 to $350,000 | 15 | reinspect in 5 years |
| Pajarito Well 5 Tank | MN3979 | 1984 | 0.10 | Standpipe | No | $155,000 to $170,000 | 16 | reinspect in 5 years |
| Pajarito Tank 4 | MN3978 | 1966 | 1.50 | GSR | No | $650,000 to $680,000 | 17 | reinspect in 5 years |
| Pajarito Booster Station 2 Tank 2 | MN3976 | 2011 | 0.25 | Standpipe | No | $223,000 to $248,000 | 18 | reinspect in 5 years |
| Twin Tank | MN3972 | 1949 | 7.75 | GSR | No | $2.25 to $2.35 million | 19 | reinspect in 5 years |
| Arizona Tank | MN3967 | 2002 | 7.75 | GSR | No | $2.2 to $2.3 million | 20 | reinspect in 5 years |

# WP Sub-System Summary – January 2020 Water Production
## Physical Condition Assessment



- The current physical condition of the water production system overall is fair to good.
- Last year the physical condition was also rated fair to good.
- Known portions in poor condition: storage tanks needing R&R, GW1A well failure and aged pipelines that have been in the ground for 50 to 60 years. Between FY20 and FY25 WP CIP projects concentrate on high priority storage tank R&R and getting wells OW1, OW2 and GW1B on line. The last scheduled CIP major pipeline R&R project deferral year is FY25. Consistent annual pipeline R&R CIP projects are scheduled to begin again in FY26.
- Greatest weakness = the age of the well and booster station pumps, control valves and control systems. DPU has temporarily lost the use of 6 wells for a period of time over the past 3 years. Adding OW2 & OW1 wells on-line for the first time in FY22, and getting GW1B on-line in FY23, will help to reinforce against this weakness.
- A system wide isolation valve exercise and R&R program was re-scheduled from FY19-FY20 to FY20-ongoing; including consistent annual replacement of the worst 1 or 2 control valves.
- **The GIS upgrade project, with the anticipated condition assessment reporting, is on schedule to be completed at the close of FY21.**

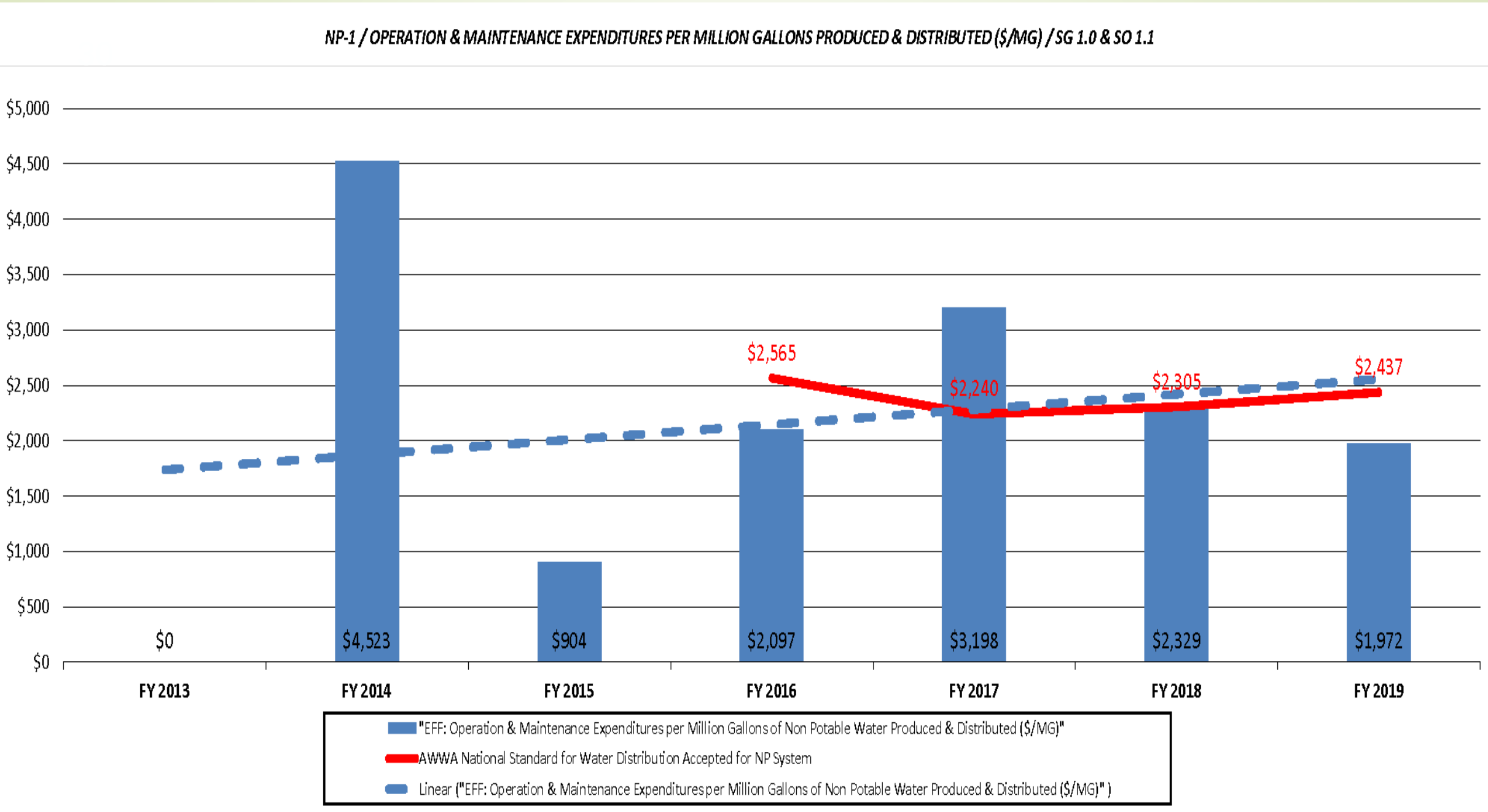
# Measures/Targets/Benchmarks for Tracking Non Potable Water System O&M

- **PRIMARY KEY ORGANIZATIONAL PERFORMANCE MEASURES**
  - **O&M Expenditures per Million Gallons Produced & Distributed ($/MG)**
  - **Main Pipeline Breaks per 100 Miles of Pipeline (#/100 miles)**
  - **Gallons per Capita Daily Water Produced (GPCD)**
  - **Total Gallons Produced & Distributed vs DPU Projected Sales**
- **SECONDARY KEY ORGANIZATIONAL PERFORMANCE MEASURES**
  - **Percent Gallons to Reuse vs Gallons Treated (%) – White Rock WWTP & LA WWTP**
  - **Energy Consumption per Million Gallons Produced & Distributed (kWhr/MG)**
  - **Planned Maintenance as a Percent of Total Maintenance (planned maint. hours/planned + corrective maint. hours) (%)**
  - **System Renewal and Replacement (CIP Expenditures for R&R/Total Present Worth of Gas System) (%)**
- **PERFORMANCE MEASURES WITH TARGETS OR BENCHMARKS**
  - **National Standard Performance Measures for Potable systems accepted as viable for NP system comparison (AWWA)**
  - **Performance Measures with a DPU Strategic Plan or Conservation Plan Goal are in Magenta**
  - **Performance Measures with both a DPU Strategic Plan or Conservation Plan Goal and a National Standard comparable goal are in CYAN**
  - **Measures are collected and reviewed monthly via a 12 month moving average graph. Annual FY performance measures data is transferred from the annual data sets to a multi-year data set for year over year / multi-year comparison**

# NP – DASHBOARD ANALYSES

- Summary of Primary Performance Measures for NP System.
  - **NP-1: O&M Expenditures per MG** - Long term trend is upward – not a good look; however, expenses needed to increase over the past 7 years so NP specific revenue covered NP specific expenses. Current good comparison to national standard for potable water distribution systems.
  - **NP-2: Breaks per 100 Miles Main Pipeline** - Limited early data. Recent trend is in a good direction. FY19 experienced a good comparison value to national standard for potable water distribution systems.
  - **NP-3: Gallons per Capita per Day (GPCD)** - Long term trend is upward – which for effluent reuse is good.
  - **NP-4: NP Water Produced** - Projected sales compare well to actual sales. Weather dependent variable.

# NP System – Primary Key Organizational Performance Measure



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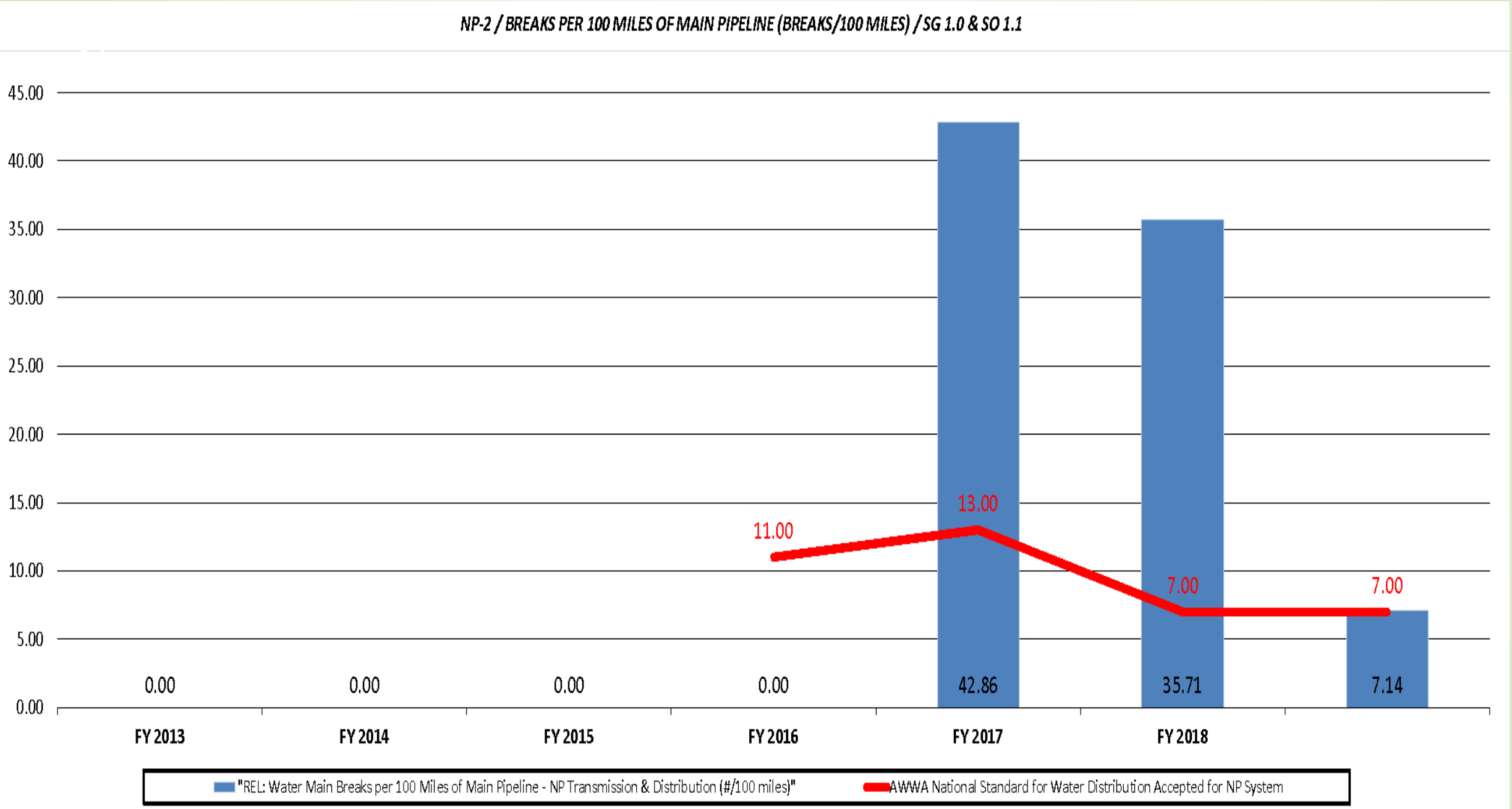

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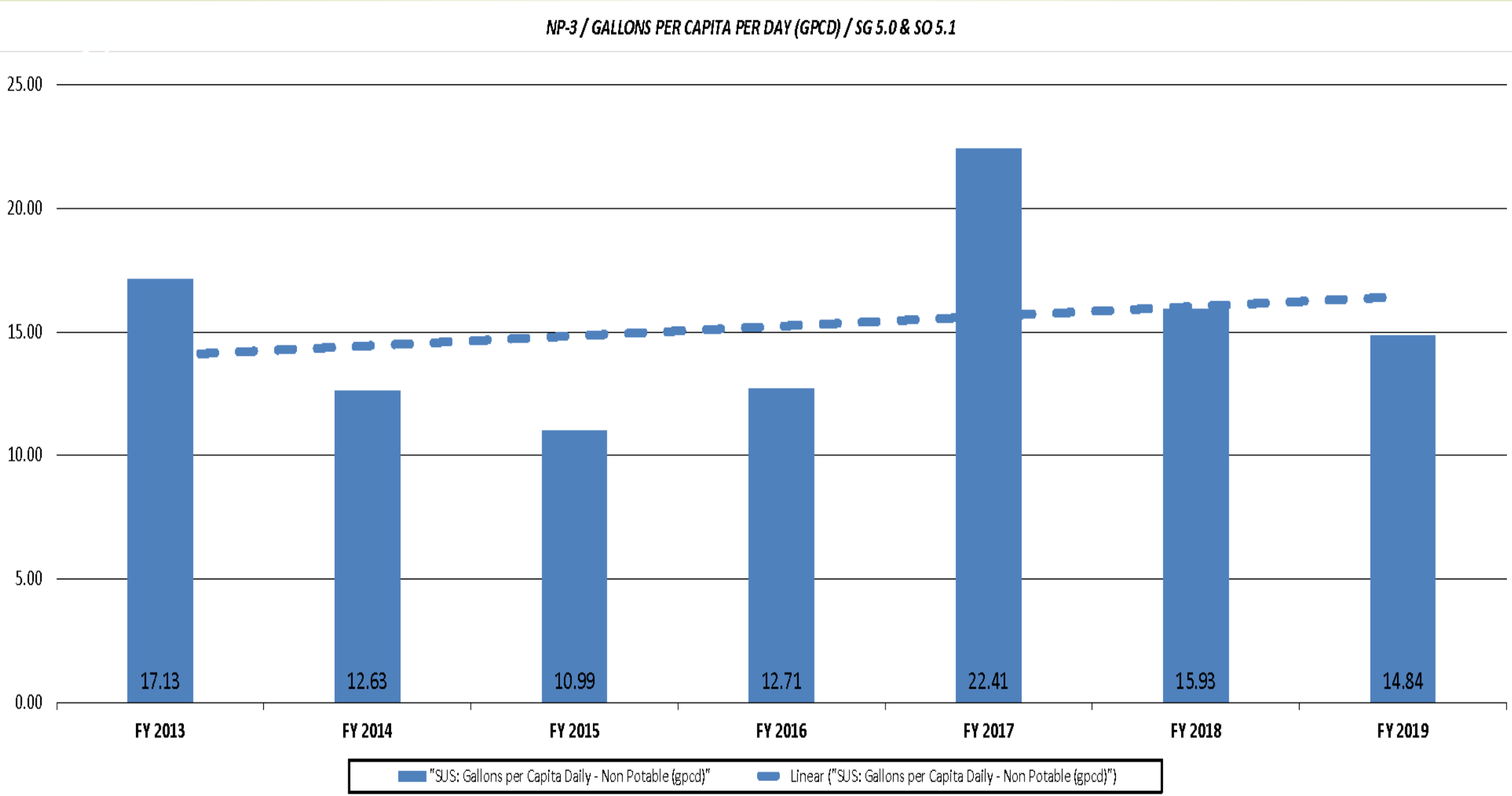

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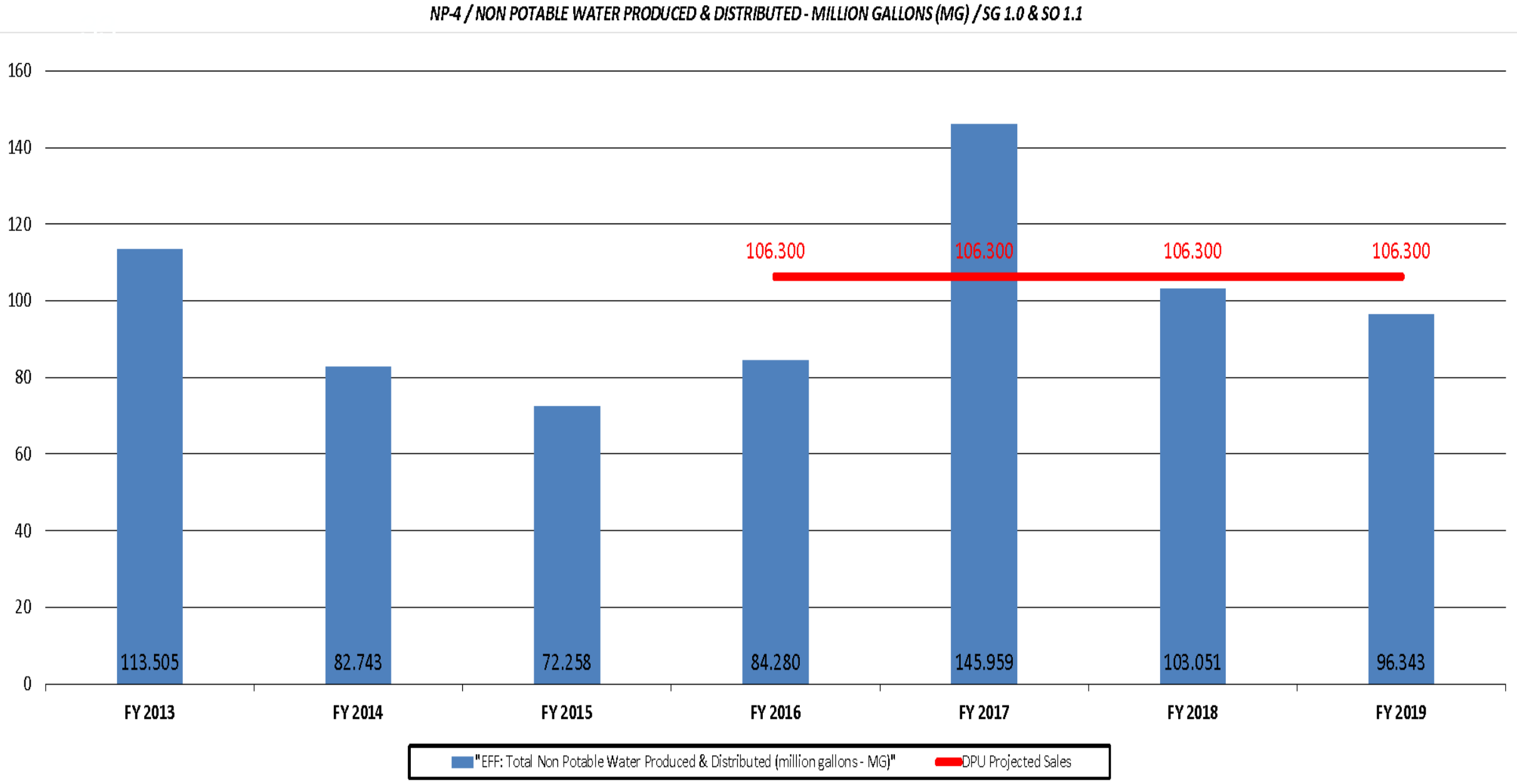


Non-Potable System Photos – Overlook Park Booster Station & Pond Cleaning
Booster Station Scheduled for Replacement FY 2020
Pond is Scheduled for Draining & Cleaning Every Fall

# NP System Summary – January 2019 Non Potable Water
# Physical Condition Assessment



- The current physical condition of the NP water system overall is good.
- Last year the physical condition was also rated good.
- Known poor infrastructure: the irrigation pump station at Overlook Park and the older pipeline segments inherited from previous owners (golf course & parks).
- Greatest weakness = Overlook Park Irrigation Pump Station. Water Trust Board funding has been approved to replace this station in FY21. It will be converted to system booster station to serve other White Rock customers besides just Overlook Park.
- The LA Reservoir pipeline replacement project completed in FY18 was washed out again Spring FY19. LA Reservoir water flow into the NP system now scheduled to start in FY21.
- New meters and pressure control/flow control valves installed at NP customer points of use (except the ski hill) is now fully functional and fully automated.
- The GIS upgrade project, with the anticipated condition assessment reporting, is on schedule to be completed at the close of FY21.

# DW + WP + NP / FY21 – ANTICIPATED CHALLENGES

- **DW -** AMI start of field installation. Coordination with AMI contractor will be prioritized over all routine O&M activities except emergencies.
- **DW -** Development infrastructure inspection is also prioritized over routine O&M activities.
- **DW -** The vactor and hydro-excavation equipment are now routinely not always available due to equipment down time.
- **WP –** Potential Chromium concerns. Specifically Pajarito Well 3.
- **WP -** LANL truck route area shooting range expansion. Pajarito Well 3 is in the expanded range safety area. WP will not have access when range is in operation.
- **WP –** Finalizing Otowi Well 4 oil discharge issue.
- **NP –** Potential modifications to control scheme at Bayo Booster Station after the new tank is installed.
- **NP -** Reservoir Road washout issues. Also O&M of the reservoir, dam and pipeline during construction of the LA Reservoir Road Stabilization Project.

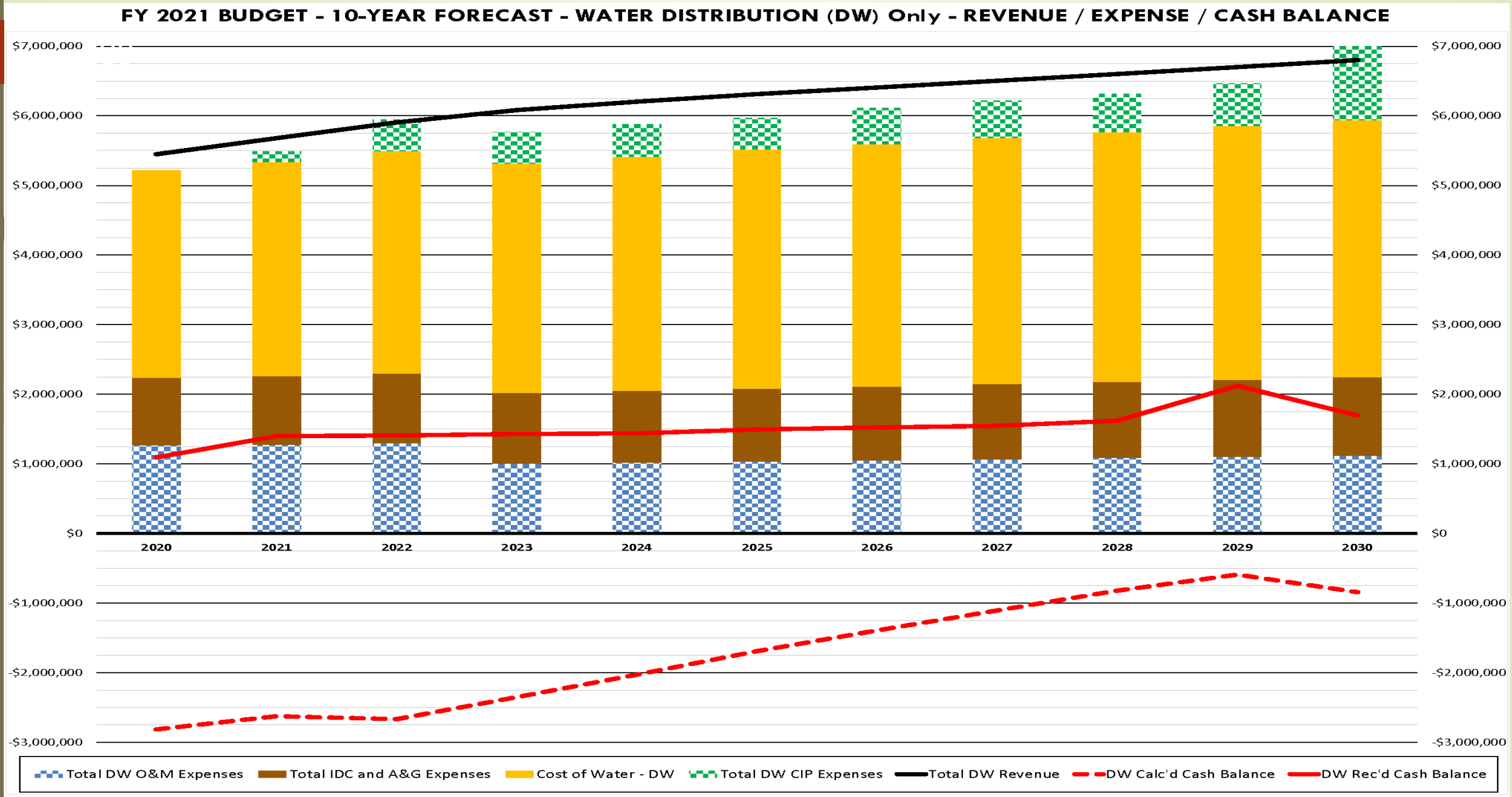
# DW / FY21 – O&M GOALS / ACTION ITEMS

- Complete 10 fire hydrant replacements.
- Complete White Rock area valve maintenance O&M R&R program.
- Complete 10 PRV Station O&M R&R program stations.
- Change out 1,200 water meters.
- Replace aged deficient main and service pipeline segments at 11$^{th}$ Street & Nugget with a planned outage.
- Reassign/retrain meter reading personnel as AMI is implemented and functioning as planned.

# DW / FY21 – MAJOR PROJECTS

- AMI implementation will continue.
- El Mirador, along with additional new housing development projects, will continue.
- Water meter change outs will continue.
- Install a PRV station in the Barranca Mesa area to serve Barranca Tank 2 area in preparation for that tank being down for repainting in FY22.

# Water Distribution / 10-Year Revenue – Expenditure - Cash Balance Graph



# DW Sub-Fund Summary – January 2019 Water Distribution
# Financial Condition Assessment



- The current financial condition of the water distribution system is poor.
- Last year the financial condition was also rated as poor.
- The cash balance reserves of the water distribution sub-system are severely negative. However, the long term forecast is for cash balance reserves in the DW sub-fund to continually climb toward a positive value.
- Annual O&M expenses decrease slightly between FY22 and FY23 due to the scheduled ending of the accelerated water meter change out program.
- Annual pipeline R&R CIP projects are re-started in FY22.
- The GIS upgrade project, with the anticipated financial asset management reporting, is on schedule to be completed at the close of FY21.
- The three year DW water rate annual increases recently approved are part of a multi-year plan for water rate increases. These rates will continue the improvement of the financial stability of the DW sub-fund while at the same time providing enough revenue to re-start a modest pipeline R&R CIP program; starting in FY22.

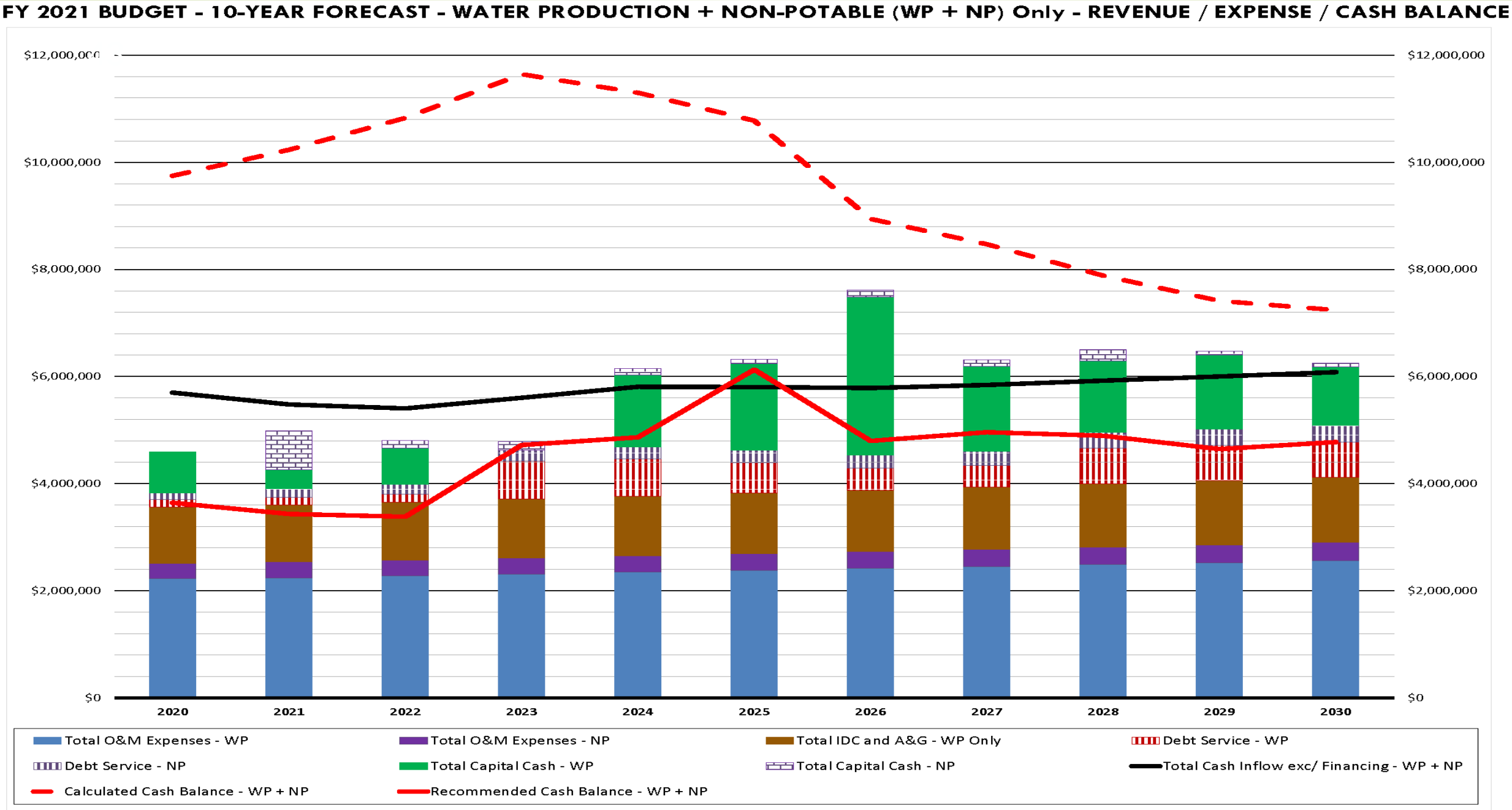
# WP & NP / FY21 – O&M GOALS / ACTION ITEMS

- WP - Continue the confined space equipment R&R program with full field implementation. Full time, when available, 2-person crew with various assistance from other WP crew and GWS to emphasize critical assets R&R and O&M.
- WP - Replace Auto Valve 3 at S-Site Booster Station 1. Two weeks for a 4-person crew with assistance from GWS. Improved overflow prevention at Twin Tank and reliable service for back flow from Pajarito Tank 4 & 4A. Also improved safety with underground vault elimination.
- WP – Work with Finance & Admin to ensure billing is started on newly installed meters: TA-21 DP Road Contract Delivery; LAPS Middle School fire station pump seal discharge.
- NP – Drain the water from the LA Reservoir to prepare for the road stabilization project. Delay the start-up of the reservoir NP pipeline until FY22.

# WP & NP / FY21 – MAJOR PROJECTS

- WP - OW2 well station design and construction. Includes the potential use of a natural gas engine. Pump and MCC characteristics designed to match those of OW4. Ensures control feature and equipment consistency between our two highest producing wells and replaces the obsolete MCC at OW4.
- WP – Tank pipe upgrades: Twin, Sycamore & Pajarito 4. Replace obsolete non-functioning altitude and shut off valves. End the unaccounted for loss of 1 million gallons per year of non-revenue water.
- NP – Bayo Booster Station Tank Upgrade. New 1 million gallon tank to capture more reclaimed effluent for use in the NP system. WTB funded project.
- NP – LA Reservoir Road Stabilization Project – construct this FEMA funded project to protect this asset and the associated pipeline and electric conduit assets buried underneath.

# Water Production & Non Potable / 10-Year Revenue – Expenditure - Cash Balance Graph

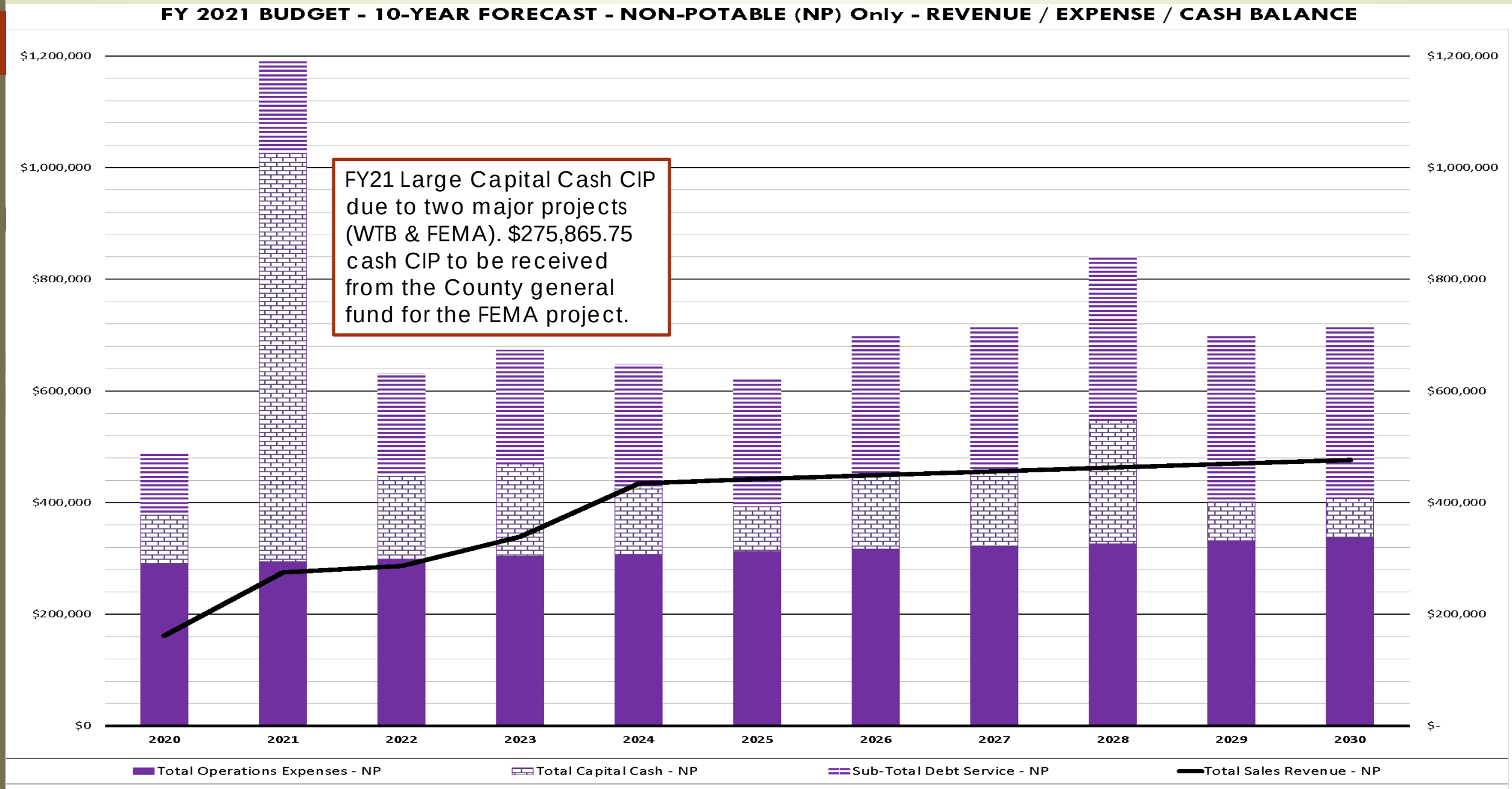


# WP (inc/ NP) Sub-Fund Summary – January 2020 Water Production Financial Condition Assessment



- The current financial condition of the water production (& NP) system is good.
- Last year the financial condition was rated as fair – trending poor.
- Last year the policy of debt service financing of major CIP projects was not yet solidified and that led to the fair – trending poor financial condition assessment. The policy of debt service financing for major CIP projects has been clarified leading to the improved financial condition assessment for the WP sub-fund for this year.
- The cash balance reserves of the water production system are significantly above the financial policy goals. However, these reserves are required to offset the negative cash balance in the DW sub-fund. As the DW sub-fund cash reserves grow the WP sub-fund cash reserves are planned to decrease to financial policy levels.
- The GIS upgrade project, with the anticipated financial asset management reporting, is on schedule to be completed at the close of FY21.
- The three year WP (& NP) water rate annual increases recently approved are part of a multi-year plan for water rate increases. These rates will continue the improvement of the financial stability of the WP (& NP) sub-fund while at the same time providing enough revenue to continue the modest pipeline R&R CIP program that was minimized for a short 1-year period in FY21.

# Non Potable Water System / 10-Year Revenue – Expenditure – (But Not Cash Balance) Graph

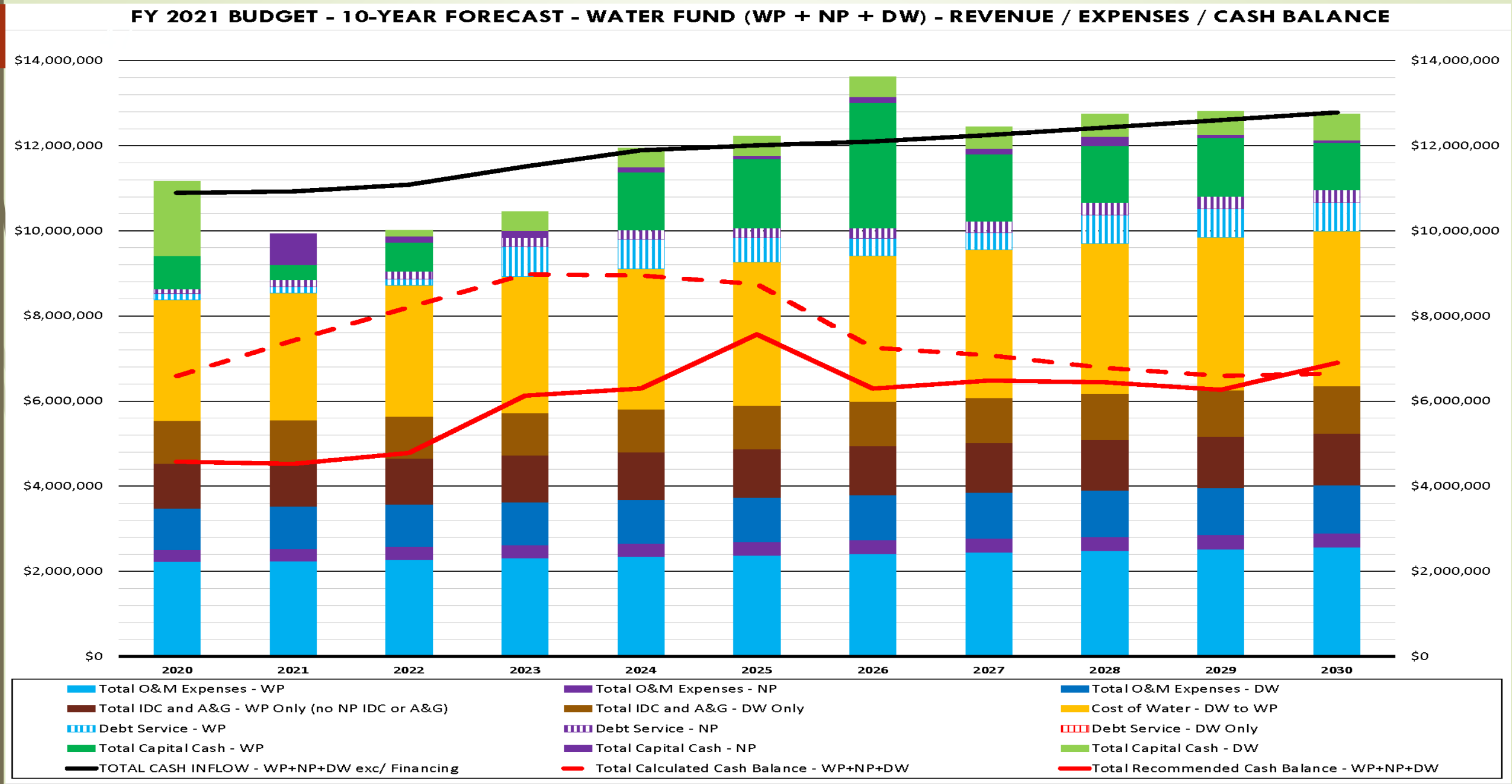


# NP System Summary – January 2020 NP Water System
# Financial Condition Assessment



- The current financial condition of the non potable water system system is fair.
- Last year the financial condition was also rated as fair.
- No separate cash balance reserves are tracked for the NP system because it is embedded into the WP sub-fund. However, whether or not NP system revenues cover expenses (O&M, cash CIP & debt service) does have an effect on the financial health of the combined (WP + NP) sub-fund.
- Financial model revised to include a 10% cash match for WTB projects. The FY21 FEMA project has a cash match of $551,731.50 that is to be split 50/50 between DPU and the County general fund for the LA Road Stabilization Project.
- The three year NP water rate annual increases recently approved are part of a multi-year plan for water rate increases. These rates, along with increased sales and revenues, will continue the improvement of the financial outlook of the NP portion of the WP + NP sub-fund.
- CIP projects for the next 10-year planning period continue to emphasize system expansion projects rather than pipeline and equipment R&R projects. The relative young age of the majority of the system and the need for increased sales and revenue, and the increase in use of NP water from a sustainability perspective, allows for this approach.

# Total Water Fund (WP + NP + DW) / 10-Year Revenue – Expenditure - Cash Balance Graph



# Overall Water Fund Summary – January 2020 DW, WP & NP Water Systems Financial Condition Assessment



- The current financial condition of the Water Fund (both sub-funds of Water Distribution and Water Production & including the NP Water System) is excellent.
- Last year the financial condition of the overall Water Fund was rated as fair.
- The cash balance reserves of the Water Fund are above financial policy goals; and with the solidification of the policy to debt finance future major CIP projects Water Fund cash balance reserves are expected to remain above financial policy goals while trending down toward matching financial policy goals for cash balance reserves by the end of the current 10-year planning period.
- The financial model has been revised to include County IDC and DPU A&G expenses separately. The model has also been revised to provide for possible future debt financing of CIP projects in the DW sub-fund (where none now exists).
- The GIS upgrade project, with the anticipated financial asset management reporting, is on schedule to be completed at the close of FY21.
- The three year water rate annual increases recently approved are part of a multi-year plan for water rate increases. These rates will continue to improve the ability of DPU to plan the aggressive CIP R&R programs necessary to maintain all three water systems: Water Distribution, Water Production & Non-Potable Water.