WAPA update

Midwest Electric Consumers Association
Board Meeting
June 16, 2021 | Virtual
UGP update

Lori Frisk
VP of Power Marketing
Upper Great Plains Region
Agenda

- Firm Electric Service (FES) Contracts
- Polar Vortex
  - PP&W – latest on cost impact
  - Plan to build up PPW reserve
  - Mitigating price exposure
- Hydro/Gen outlook
- Firm Electric Service (FES) Rate Outlook
- Construction Highlights
- Re-entry plan news
Firm Electric Service Contracts
UGP Customer contracts update

• 2021 Power Marketing Initiative
  • 30-year Native American Tribe Bill Crediting Contracts
    • Continue to work with Ponca and Omaha
    • PMI Tribal Contract – Contact Darla at (406) 255-2938

• 2021 Other Contracts
  • Construction
  • Maintenance
  • Fiber
  • Compliance
  • Interconnection
  • Environment
  • Communications
  • Generation
  • Transmission
UGP Customer contracts update, cont.

• 2021 Other Contracts
  • Firm Electric Service Exhibits B & C Project
    • Approximately 600 Exhibits
  
  ![EXHIBIT B](image)
  (Operating Agreement Including Quantitative Determinations)

  ![EXHIBIT C](image)
  (Transmission Path and Delivery and Measurement Conditions)

  • Start this summer.
  • Start with ND, SD, IA, MN, MT, then NE.
    • Some of the customers contracts are much more complex
    • Some also require updates to their CFA and IA
  • Estimate that this project will take over 2 years
Polar Vortex
UGP Available Capacity
Month to Month – Jan. 2021 to Feb. 2022

5 Year UGP Average Load vs COE BOR Forecast Resource

5 Year Avg Total Load vs COE BOR Basic Forecast

Acredited Resource Capacity

- Avg Load
- COE + BOR Basic Forecast
UGP Firm Obligations vs. Resource Net Position - April 2020 to March 2021
UGP Purchased Power and Wheeling Source of Funding (in millions)
WAPA Use of Receipts Reserve Target for PPW is $393M

- Must have Authority
- Authority is available in the year authorized
- Once matched with receipts, resource is available until expended
- Can only be used on PPW
PPW Use of Receipts Reserve Overview FY21 by Region (in millions)
Mitigating Price Exposure

UGP Energy Marketing Team
- Seven-member team and a Manager
- 114 years of Energy Markets Experience
  - Average 16 years each
- Over 140 years in the electric industry
- Manager teaches Energy Markets courses
  - 5 years at Bismarck State College

We have the expertise!
Mitigating Price Exposure, cont.

• Work with vendors on advance weather forecasts
• Watch for SPP Energy Emergency Alert indicators
• Strategies for Demand Bids
  • Federal generation to federal load in the Day Ahead Market
Mitigating Price Exposure, cont.

• Review/modify existing contracts for energy sales
• Possible to reduce winter allocations
• Analyze Bi-lateral Costs vs. Forecasted Market Costs
• Possible Bi-lateral Energy Purchases
  • Physical delivery to physical location
• Analyze legislative authority for Financial Transactions
  • Can be volatile and risky
  • Additional cost to customers
Hydro/Gen Outlook
Mountain Snow Pack Water Content

Missouri River Basin – Mountain Snowpack Water Content
2020-2021 with comparison plots from 1997*, 2001*, and 2011
9-May-2021

On May 9, 2021 the mountain Snow Water Equivalent (SWE) in the “Total above Fort Peck” reach was 9.9”, 75% of the May 9 average and 60% of the normal April 15 peak. The "Total above Fort Peck" reach peaked on March 31, 2021, at 14.1” SWE and 86% of the normal peak. On May 9, 2021 the mountain SWE in the “Fort Peck to Garrison” reach was 11.2”, 87% of the May 9 average and 77% of the normal April 15 peak. The "Fort Peck to Garrison" reach peaked on April 26, 2021, at 14.0” of SWE and 96% of the normal peak.

Provisional data. Subject to revision.
U.S. Drought Monitor

https://www.drought.gov/drought/

droughtmonitor.unl.edu
Drought Update

U.S. Seasonal Drought Outlook
Drought Tendency During the Valid Period

Valid for April 15 - July 31, 2021
Released April 15

Published by the NOAA/NWS/NCEP/Climate Prediction Center

Author: Grad Pugh

Drought persists
Drought remains but improves
Drought removal likely
Drought development likely

https://www.cpc.ncep.noaa.gov/
Missouri River Mainstem System Forecasts - 2021

Energy in GWh

- Actual
- Forecast
- 1967-2020

2021

Upper Basic: 9,000 GWh
Basic: 8,800 GWh
Lower Basic: 8,900 GWh
Firm Electric Service (FES) Rate Outlook
P-SMBP composite rate projection is holding
P-SMBP rate update

• Study set at 24.29 mills/kWh for Pick Sloan Composite rate
• *Polar Vortex Impact*
  • Pick Sloan FY21 PPW projection of $46M, two weeks of SPP billing totaled $138M
  • Deficit very likely this Fall
    • Too early to predict amount
    • Deficits have 10-year balloon payment
    • With average water, could potentially pay off deficit in 3 years
• Pinch Point in 2045 – $231M Aid to Irrigation
• Drought Adder customer notification
  • Preliminary Notice in June
  • Final Notice in October
P-SMBP Preliminary 2021
PRS required payments

Millions

- Deficit
- Adds
- Rep
- Aid
- BOR Oakes Transfer

2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050

$45M
$133M
$231 M
$58M
$54M
Rate Approaches

• Power Repayment Study (PRS)
  • Study solves for deficit
• Drought Adder
  • Not anticipated at this time
  • Decision in October
• Rate Process
  • January 2022 start process for 2023 Rate
Draft Schedule for 2022 Rate Process

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**Firm Power Customer Notification Schedule**

- **Feb-Mar**: Finalize annual PRS. Determine if Base/Adder needs adjustment via formal rate adj
- **Early Summer**: Preliminary review of Drought Adder; Notify Customer of estimated change
- **Sept-2nd Review of Drought Adder**: Notify Cust of Drought Adder Change eff Jan
- **New Rate Effective Jan 1**: New Rate
Construction Highlights
Construction Projects Completed

• Miles City-Baker 230kV Transmission line two structures replaced
• Edgeley-Forman 69kV Transmission line four structure reroute
• Brookings Substation Stage 09
• Mount Vernon Substation Stage 05
• Fargo Substation Station Service Replacement
• Shelby Substation Stage 05
Construction Projects Completed, cont.

• Martin Substation Stage 07
Projects Currently Under Construction

- Killdeer-Charlie Creek 115kV Transmission Line Rebuild
- Ward Delivery-Mandan 230kV Transmission Line Reconductor
- Devils Lake Substation Stage 06
- Watertown Substation Stage 22 Station Service Replacement
- Bismarck Substation, Station Service Upgrade
- Bismarck O&M Service Center Vehicle Storage Building
- Jamestown Substation Stage 15
- Grand Prairie-Grand Island 345kV Transmission line structure erosion repair and bank stabilization
Projects Currently Under Construction, cont.

• Jamestown Substation Stage 15
Projects Currently Under Construction, cont.

• Grand Prairie-Grand Island 345kV Transmission line structure erosion repair and bank stabilization
Re-entry plan news
Coronavirus response

• Stabilizing conditions and moving closer to new normal
• End of mask mandate on federal property
• Maximum Telework
• Mission Critical Travel Only
• Evaluating re-entry and post-pandemic workplace
Questions?
Contact me + follow WAPA

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RMR update

Tim Vigil
Senior VP and Acting Regional Manager
Rocky Mountain Region
Agenda

• Loveland Area Projects (LAP) Marketing Plan Activities
• LAP Firm Electric Service (FES) Rates Outlook
• Markets Update
  • SPP WEIS Update
  • RTO Evaluation Status
• Construction Highlights
LAP 2025 Marketing Plan
Activities
LAP Marketing Plan History

- **12/21/1962:** Reclamation Allocates Power of Pick Sloan Missouri River Basin Project Western Division
- **6/23/1981:** Fryingpan-Arkansas Project Final Power Marketing Plan
- **1/31/1986:** Post-1989 LAP General Power Marketing and Allocation Criteria
  - Integrated PSMBP-WD and Fry-Ark
  - Extended allocations to existing PSMBP-WD Customer
  - Expanding marketing area into Kansas
  - Established initial contracting period from 10/1/1989 to 9/1/2004
- **10/20/1995:** Energy Planning and Management Program (EPAMP)
  - Extended Post-1989 contracting period through 9/30/2024
  - Establish “Resource Pools” for potential new customers
- **12/30/2013:** Final 2025 LAP Power Marketing Initiative
  - Extended Post-1989 power marketing principles through 9/30/2054
2025 Firm Electric Service (FES) Contracts Implementation

- 122 of 124 Contracts Executed for 2025 LAP FES Allocations
- WAPA starting to prepare for the implementation of the 2025 LAP FES contracts
- Several changes needed for 2025 contracts for all customers:
  - Update Exhibit Revisions to account for Resource Pool withdrawal and revised allocations
  - Update/Revise the Scheduling, Accounting, and Billing Procedures
  - Update WAPA-wide Creditworthiness procedures to current revision
2025 FES Contracts Implementation

• Need to make additional changes/updates for specific groups:
  • For entities under WAPA’s NITS with PSCo, need to determine if we will continue this arrangement
  • Tribal Benefit Crediting Arrangements
  • For entities that have assigned their contracts to other entities need to implement new assignments
  • East Side Delivery Arrangements
  • Power Interference Agreements

• Myriad of non-FES agreements with September 30, 2024, expiration date – need to determine if still needed/put new agreements in place
LAP 2025 Power Marketing Initiative (2025 PMI) Resource Pool Plans

• 2025 PMI provides for 3 resource pools
  • Oct 1, 2024 (2025 Resource Pool)
  • Oct 1, 2034
  • Oct 1, 2044

• WAPA has begun the process of implementing the 2025 Resource Pool, including:
  • Will withdraw up to 1% (approximately 6.9 MW of capacity in summer season and 6.1 MW in winter season) of the LAP long-term firm hydroelectric resource available October 1, 2024, for new preference customers
Prior LAP Resource Pool Results

• 2004
  • Up to 4% of LAP resource available October 1, 2004
  • 28 MW of capacity in summer season and 24 MW of capacity in winter season
  • Allocated among 6 Native American allottees and 20 non-Native American allottees

• 2009
  • Up to 1% of LAP resource available October 1, 2009
  • 6.9 MW of capacity in summer season and 6.1 MW of capacity in winter season
  • Allocated among 3 allottees

• 2014
  • Up to 1% of the LAP resource available October 1, 2014
  • 6.9 MW of capacity in summer season and 6.1 MW of capacity in winter season
  • Allocated among 6 allottees
LAP 2025 Power Marketing Initiative (2025 PMI) Resource Pool Plans

- Tentatively planning publication of the Federal Register Notice announcing the 2025 Resource Pool criteria and call for applications in June 2021
- Virtual public information forum tentatively planned for early August 2021
- Receipt of written applications and completed Applicant Profile Data forms tentatively due in early September 2021
- Allocations of power to eligible new preference entities effective October 1, 2024
LAP FES Rates Outlook
LAP FES Rate Update

- LAP Firm Electric Service Rate Schedule L-F11 became effective January 1, 2018
  - Drought Adder reduced to zero
  - LAP Composite Rate reduced 14% to 31.44 mills/kWh
    - Since 2015, rate decreased 24% from high of 41.42 mills/kWh
    - Effective through December 31, 2022

- 2022 Rates
  - No rate adjustment for LAP Base Rate
  - Monitoring Drought Adder
    - Preliminary notification letters sent to customers on June 11th
      - review resulted in no estimated change
    - Final notification letters to be sent in the fall ~ Oct
LAP FES Rate Update – Final FY20

• FY20 Power Repayment Study (PRS) Updates
  • **Fry-Ark**
    • Has been experiencing rate pressures related to the on-going rehabilitation efforts at Mt. Elbert Powerplant
      • BOR’s FY22 work plan had $19.4M of rehab investment to be booked by FY22.
    • O&M costs increased for both BOR and WAPA
    • Estimated $3.1M increase to revenue requirement after FY22
      • Adds upward pressure of ~1.5 mills/kWh (5%) on LAP rate
  • **Pick-Sloan WD**
    • Pick-Sloan PRS solved at approved rate (24.29 mills/kWh)
FY21 PRS updates to include:

- FY23 workplans for WAPA, BOR, and COE
  - Fry-Ark - estimated additional revenue requirement increase of $480k (~0.24 mills/kWh impact to LAP rate)
  - Pick-Sloan - experiencing some rate pressures due to RMR’s revamped 10-year plan.
- Latest generation projections, used to determine purchase power and sales estimates
  - Costs related to Feb 2021 polar vortex will be included in Pick-Sloan
- New estimates for the WEIS Market activities (BA purchase power, sales, LAP imbalance charges, administration fee)
LAP FES Rate Update – FY 2023

• Along with UGP, initiate LAP rate adjustment process ~January 2022 to have new 5-year rates in place for January 2023
  • Pick-Sloan Western Division Component
    • As discussed by UGP - potential for no change.
  • Fry-Ark Component
    • The preliminary FY21 study indicates an overall estimated increase of $3.5M (~1.7 mills/kWh impact to LAP).
Markets Update
Markets update

- WEIS transition completed Feb. 1.
- SN EIM go-live completed March 25.
- DSW study results expected this spring.
  - Public process begins
- CAISO EIM governance review
- Continuing discussions on SPP RTO expansion into the West.
Excerpts from SPP Market Monitor WEIS Market Update
Post February: Average Energy Prices ~$20/MWh
Limited Negative Pricing

**NEGATIVE PRICES**

- April – negative prices occurred during 4.18 percent of load intervals, with all intervals being less than minus $50/MWh.
- Negative price/percentage based on all load intervals.
Hydro serving 30-40% of load
SUMMARY

• Average hourly load for the first two months of the WEIS market was 2.5 GWh. Average load for February 2021 was 2.6 GWh, approximately twelve percent above March 2021 average load of 2.3 GWh.

• Coal generation was the primary source of generation during the first two months of the market with over 65 percent share of the total generation. Hydro was a strong secondary generation resource during the period with over 21 percent of total generation followed by wind generation at seven percent and gas resources at six percent of total generation. All remaining resources combined comprise less than one percent of total generation.

• Hydro generation provided over 25 percent of generation as a percent of load in February 2021 and close to 30 percent of load in March 2021. There was also an expected increase in wind generation in March 2021 to ten percent of the load.

• The WEIS market averaged around 1,500 MWh of hourly exports and 750 MWh of hourly imports for the first two months.
SUMMARY - CONTINUED

- In both balancing authorities, the number of intervals that failed the supply adequacy analysis dropped significantly from February to March. Most of the failed intervals occurred during the late morning or evening when the obligation range was above available capacity range for brief periods. The overall financial impact was minimal.

- The extreme winter weather event in mid-February had a major impact on prices during that month. Spot gas prices at some trading hubs in the WEIS market region reached prices of over $275/MMBtu during the event. As a result, gas prices at the Cheyenne hub averaged $18.21/MMBtu in February 2021.

- The high gas costs in February did have an impact on market prices even though gas resources only provide about six percent of generation, leading to an average real-time load price of $92.87/MWh for February 2021.

- February and March 2021 had just over three percent of all asset owner load intervals in the WEIS market with negative prices. March 2021 had slightly fewer intervals than February 2021, but was very consistent with almost all intervals being less than –50/MWh. This was mostly due to intervals with high wind and low load requirements.
SUMMARY - CONTINUED

• The Market Monitoring Unit recommended that the WEIS market design team review uninstructed resource deviation charges in which excessive penalties were being allocated to resources.

• Congestion was minimal within the WEIS market.

• The Market Monitoring Unit will continue to develop this report and additional metrics to review and monitor the WEIS market.
LAP Purchases

LAP Purchases (MWh)

LAP Purchases ($)

Avg. LAP Purchase Price ($/MWh)
LAP Sales
SPP WEIS Update - Operations

• WACM performs the following roles:
  • NERC registered Balancing Authority adhering to all NERC/WECC reliability standards
  • Balancing Authority in the SPP Reliability Coordinator footprint
  • Balancing Authority in the SPP WEIS market
    • *WACM went live in the SPP WEIS Market on 2-1-2021*
  • Market Participant in the SPP WEIS market
Current BA challenges

• Load calculation discrepancies between the BA’s and SPP’s calculations.
  • This is causing the BA to drift out of balance and make manual corrections to the SPP operating load value in order to continue to balance the system.

• Generation resource mix and availability is causing the BA to show potential Supply Adequacy issues during high load periods.
  • The BA is working with the Market Operation staff on the process for communicating with the deficient MP and the BA.

• During times of high load, we realized that insufficient generation exists in the SPP EI market to balance the system.
  • This means it will be necessary to continue the practice of purchasing and selling energy as the BA to balance the system.
SPP WEIS Update - Marketing

• Since February 1, 2021, go live date
  • Priority continues to be maximizing our resource to meet Firm Electric Load
  • Worked with Settlements and customers to resolve e-tags that were improperly mapped
  • EMMO working closely with RMR settlements staff on analysis of WEIS charges
  • Continuous coordination with SPP
SPP RTO Expansion into the West

• October 14, 2020, RMR and UGP committed to evaluating participation in the SPP RTO

• April 9, 2021, CRSP committed to evaluating participating in the SPP RTO
Construction Update
Dave Johnston Tap–Sidney Substation 115kV Reconductoring

- In 1993, 210 miles of conductor was repaired using Full Tension ACSR Splices at over 1800 structures
- Largest fire was over 300 acres in July of 2020. No injuries and minimal property damage.
Project Status

• Awarded November 28th
• Industry delays in materials pushed start to June 14th
• Construction complete end of CY 2021
• Reseeding in the fall 2021 and spring 2022
Estes-Lyons 115-kV Double-Circuit Transmission Line Rebuild

- Two 115-kV lines from west Loveland, CO to Estes Park, CO built in 1938 and 1953 on wood H-Frame. 16 miles in length with 3000-ft elevation gain.
- Reduced life cycle and maintenance costs and vegetation management footprint.
- Increases reliability and resolves major access and Right-of-Way issues.
Project Status

- Award by end of FY2021
- Construction complete end FY 2023
- Construction challenges with outages, access, rock, and terrain
1) Estes – Lyons 115-kV Relocate: Following the resolution of a lawsuit that caused a 2-year construction delay, WAPA’s contractor was able to mobilize quickly and complete the construction of the line in the new alignment in 5 months and ahead of the start of construction on the reservoir.

2) Badwater Reactor: Installation of a shunt reactor at Badwater solved a recurring issue where Badwater, Buffalo Head and Grieve substations would experience high voltages during an outage of the Badwater-Spence 230kV line.

3) Laramie-Snowy Range line construction: A new 115kV transmission line from Snowy Range to Laramie substation solved a problem where low voltages occurred at Laramie substation, Oasis Tap and May substation during an outage on the LAM-SNG section of the Miracle Mile-Snowy Range line.
Questions?
Contact me + follow WAPA

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Personnel updates

- Mark Gabriel – retired March 13
- Acting Administrator and CEO Tracey LeBeau
- Acting Senior VP and UGP Regional Manager Lloyd Linke starts 6/13
- Acting Senior VP and RM Regional Manager Tim Vigil
- Acting Senior VP and DSW Regional Manager Jack Murray
- Acting Senior VP and CRSP Manager Rodney Bailey