



**SPP Roadmap Initiative Education:
Ancillary Service Buyback Risk**

03.18.20

SPP Roadmap Initiative # 44:

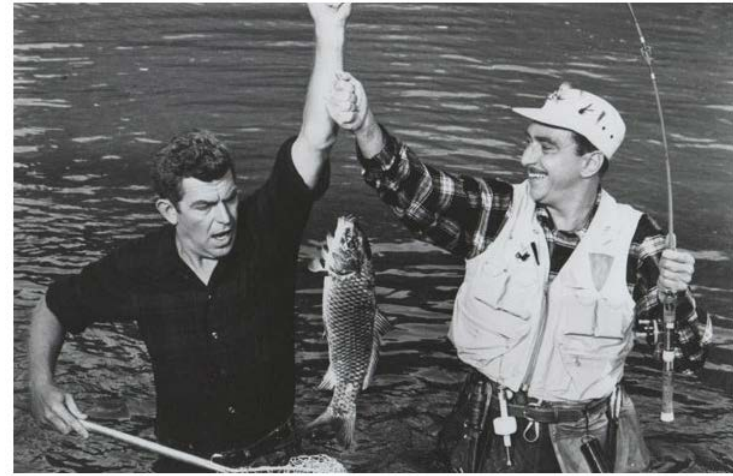
- Develop a solution to address the ancillary service buyback risk currently incurred by resources in the Integrated Marketplace

Background

- Resources that clear ancillary services in the DA are exposed to MCP delta if not cleared for the same service and quantity in RT
- Eligible for RUC MWP if RT dispatch differs from DA cleared results at the direction of SPP
- RUC MWP intended to make resources whole to operational costs, not DA/RT price exposure

Griffith Power Company

- Old Sam:
 - Combustion Turbine
 - 170 MW max limit
 - Qualified for 135 MW offline supp.
- ‘Market’ Commitment status in both DA and RTBM
- 135 MW of offline supp. cleared HE 1-24 in DA
- ‘Manual’ commitment instruction in RT HE 15-18



Old Sam – DA/RT Hourly Settlement Detail

| | | Energy Settlements | | | | | Ancillary Service Settlements | | | | | | | | |
|----------------|------------|--------------------|-----------------|------------------|-----------------|---------------------------------|---|-----------------|---|-----------------|---------------------------------------|---------------------------------------|---|----------------|-----------------------------|
| HE | Commitment | DA Awards (MWh) | DA LMP (\$/MWh) | Generation (MWh) | RT LMP (\$/MWh) | DA Plus RT Energy Position (\$) | DA Cleared Offline Supplemental Reserve (MWh) | DA MCP (\$/MWh) | RT Cleared Offline Supplemental Reserve (MWh) | RT MCP (\$/MWh) | DA Supplemental Reserve Position (\$) | RT Supplemental Reserve Position (\$) | Ancillary Service Losses (\$) (DA + RT Supplemental Reserve Position) | Unit Cost (\$) | RUC Make Whole Payment (\$) |
| 1 | Market | 0 | \$17 | 0 | \$7 | \$0 | 135 | \$0.00 | 0 | \$0.00 | \$0 | \$0 | \$0 | \$0 | |
| 2 | Market | 0 | \$15 | 0 | \$7 | \$0 | 135 | \$0.00 | 100 | \$0.00 | \$0 | \$0 | \$0 | \$0 | |
| 3 | Market | 0 | \$14 | 0 | \$6 | \$0 | 135 | \$0.00 | 135 | \$0.00 | \$0 | \$0 | \$0 | \$0 | |
| 4 | Market | 0 | \$13 | 0 | \$6 | \$0 | 135 | \$0.00 | 135 | \$0.00 | \$0 | \$0 | \$0 | \$0 | |
| 5 | Market | 0 | \$15 | 0 | \$6 | \$0 | 135 | \$0.00 | 135 | \$0.00 | \$0 | \$0 | \$0 | \$0 | |
| 6 | Market | 0 | \$16 | 0 | \$8 | \$0 | 135 | \$0.00 | 135 | \$0.00 | \$0 | \$0 | \$0 | \$0 | |
| 7 | Market | 0 | \$19 | 0 | \$10 | \$0 | 135 | \$0.10 | 135 | \$0.00 | \$14 | \$0 | \$14 | \$0 | |
| 8 | Market | 0 | \$19 | 0 | \$10 | \$0 | 135 | \$0.10 | 135 | \$0.00 | \$14 | \$0 | \$14 | \$0 | |
| 9 | Market | 0 | \$20 | 0 | \$11 | \$0 | 135 | \$0.20 | 135 | \$0.00 | \$27 | \$0 | \$27 | \$0 | |
| 10 | Market | 0 | \$21 | 0 | \$197 | \$0 | 135 | \$0.20 | 135 | \$0.01 | \$27 | \$0 | \$27 | \$0 | |
| 11 | Market | 0 | \$22 | 0 | \$60 | \$0 | 135 | \$0.70 | 135 | \$0.40 | \$95 | \$0 | \$95 | \$0 | |
| 12 | Market | 0 | \$23 | 0 | \$15 | \$0 | 135 | \$0.80 | 135 | \$0.70 | \$108 | \$0 | \$108 | \$0 | |
| 13 | Market | 0 | \$23 | 0 | \$18 | \$0 | 135 | \$0.80 | 135 | \$0.60 | \$108 | \$0 | \$108 | \$0 | \$5,660 |
| 14 | Market | 0 | \$26 | 0 | \$31 | \$0 | 135 | \$0.80 | 135 | \$0.70 | \$108 | \$0 | \$108 | \$0 | |
| 15 | Manual | 0 | \$24 | 55 | \$134 | \$7,370 | 135 | \$0.80 | 80 | \$85.00 | \$108 | -\$4,675 | -\$4,567 | -\$17,000 | |
| 16 | Manual | 0 | \$25 | 170 | \$22 | \$3,740 | 135 | \$1.00 | 0 | \$10.00 | \$135 | -\$1,350 | -\$1,215 | -\$6,000 | |
| 17 | Manual | 0 | \$24 | 170 | \$16 | \$2,720 | 135 | \$1.00 | 0 | \$20.00 | \$135 | -\$2,700 | -\$2,565 | -\$6,000 | |
| 18 | Manual | 0 | \$23 | 110 | \$116 | \$12,760 | 135 | \$1.00 | 0 | \$90.00 | \$135 | -\$12,150 | -\$12,015 | -\$3,250 | |
| 19 | Market | 0 | \$21 | 0 | \$20 | \$0 | 135 | \$0.80 | 50 | \$5.00 | \$108 | -\$425 | -\$317 | \$0 | |
| 20 | Market | 0 | \$21 | 0 | \$9 | \$0 | 135 | \$0.80 | 135 | \$0.30 | \$108 | \$0 | \$108 | \$0 | |
| 21 | Market | 0 | \$20 | 0 | \$9 | \$0 | 135 | \$0.70 | 135 | \$0.02 | \$95 | \$0 | \$95 | \$0 | |
| 22 | Market | 0 | \$19 | 0 | \$8 | \$0 | 135 | \$0.70 | 135 | \$0.01 | \$95 | \$0 | \$95 | \$0 | |
| 23 | Market | 0 | \$14 | 0 | \$7 | \$0 | 135 | \$0.01 | 135 | \$0.00 | \$1 | \$0 | \$1 | \$0 | |
| 24 | Market | 0 | \$12 | 0 | \$6 | \$0 | 135 | \$0.00 | 135 | \$0.00 | \$0 | \$0 | \$0 | \$0 | |
| Average | | | \$19 | | \$31 | | | \$0.44 | | \$8.86 | | | | | |
| Totals | | 0 | | 505 | | \$26,590 | 3240 | | 2525 | | \$1,419 | -\$21,300 | -\$19,881 | -\$32,250 | \$5,660 |

Old Sam – Settlement Summary

| Manual Commitment and Corresponding RT MCP Exposure | |
|---|-----------------|
| Energy Revenue (\$) | 26,590 |
| Unit Cost (\$) | (32,250) |
| RUC Makewhole Payment (\$) | 5,660 |
| <i>Sub Total for Energy, Cost, and RUC MWP (\$)*</i> | - |
| DA Ancillary Service Revenue (\$) | 1,419 |
| RT Ancillary Service Buyback (\$) | (21,300) |
| <i>Sub Total for Ancillary Service Position (\$)**</i> | (19,881) |
| Unit Net Position for Day (\$) | (19,881) |

*Made whole for unit start up and operational cost

**No make whole payment for real time ancillary service scarcity caused by manual commitment

Why this is an Issue

- Resource addressed reliability need at a cost
- Disincentivizes resources to competitively offer AS in DA
- Penalty risk if AS not offered in DA
- Undermines co-optimized SCED solution
- OOME MWP allowance for DA/RT cleared amount differences when RT prices are higher

Benefits

- Improved economic efficiency
 - More robust AS participation in DA and RT
 - Encourages competitive offers
- Increased reliability

Potential Solutions

- Re-evaluate MWP eligibility
- Something else?

Impact

- Solution dependent

Potential Impact – SPP Assessment

- **Potential System Impacts:**
 - MDB, MCE, RUC, Settlements
- **Potential MCE Performance Impact:**
 - Low - Medium
- **Potential Complexity:**
 - Design: Low
 - Implementation: Medium
- **Market Philosophy Impacts: Price Formation, Price Convergence, Market Efficiency, Market Transparency, Market Reliability**
 - Price Formation, decrease Market Transparency, price convergence, possible Market efficiency

Potential Impact – SPP Assessment

- SPP understands the concerns raised by the submitter. SPP would caution that in any market there are risks associated with participation and that those risks can be quantified used to adjust the competitive offers submitted for the as-risk products. SPP cautions that the current implementations in other Markets involve Make Whole Payments which have the potential to push one Market Participants risk onto all Market Participants. Additionally, SPP has an action item research these issues further and it is SPP's preference to continue further research into these issues in hopes that the majority of the problem can be addressed without potentially uplifting the costs of the buy back to all Market Participants.

