

WELL NOS. 12 AND 14

Backup Power Technology Evaluation

October 14, 2026

Background

- Largest producing wells; half capacity
- Power quality issues

The following were hired for assessments:

- Academy Electric (Power Metering)
- Terra Verde (Battery Evaluation)
- Variable Speed Solutions (Field Testing)
- LEE + RO (Backup Technology Evaluation)

Assessment and Findings

Terra Verde

- \$2.4M in capital cost for battery backup
- ROI did not justify the cost
- SGIP application cancelled – funds exhausted

Academy Electric

- Collected power quality metering data (Jan-Mar 2026)
- Raw data provided – interpretation needed

LEE + RO: Jordan Lim, PE

“How you do anything is how you do everything.”

– T. Harv Eker

Experience

- E/I&C
- W/WW
- Nine yrs

Client Background

- OC San
- MWD
- Mesa Water



Anecdote – Electrical Troubleshooting



- Why isn't my receptacle working?



- The switch was off.

Field Investigation

- Simulated power outages
- Assessed existing electrical equipment and controls
- Intent: Understand the root of the problem



Setting	Previous Setting	Revised Setting	Setting Purpose
ATS - S1 Failure Delay	23 sec	5 sec	Confirms loss of utility power before initiating transfer
ATS - S1 to S2 Transfer Delay	120 sec	30 sec	Delays transfer from utility to generator power
ATS - Center-Off Position Delay	120 sec	0 sec	Delays transfer while ATS is in center-off position
ATS - S2 Failure Delay	3 sec	3 sec	Confirms loss of generator power
ATS - S2 to S1 Transfer Delay	4 min	4 min	Delays retransfer from generator to utility power
VFD Ride-Through	Disabled	Enabled	Helps VFD remain online during short power disturbances
Total Delay	4 min 23 sec	35 sec	Enough delay for generator to warm up

Comprehensive Alternatives Analysis Evaluation						
Alternative	Ride Thru (25%)	Reliability (20%)	Complexity (25%)	Lifecycle (15%)	Cost (15%)	Total Score
#1-Battery (\$2.4M)	3	4	1	3	1	2.4
#2-Flywheel (\$600K)	4	4	2	4	2	3.2
#3-Controls (\$75K)	1	5	5	5	5	4
#4-Hybrid (\$150K)	5	5	4	4	4	4.45

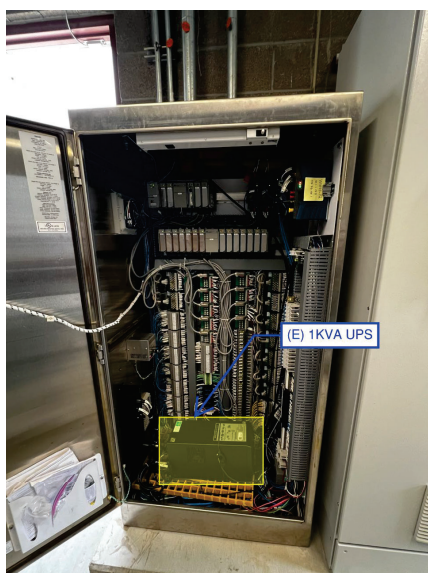
Final Results

LEE + RO

- Field changes
- Evaluated 4 backup power technologies
- Set “ride-thru” requirement

Mesa Water

- \$709,000 budgeted
- <\$100,000 spent
- No significant power issues reported since field changes



Recommendations

LEE + RO Recommends:

- Six-Month Monitoring
- Upgrade 120V UPS
- Power VFD Controls via UPS

Next Steps

- Monitor W-12 and -14
- Procure UPS
- Hire Electrician
- Four months - \$75K
- Put LEE + RO on speed dial

QUESTIONS?



THANK YOU!