

# WELL NOS. 12 AND 14 POWER QUALITY MITIGATION

Proactive Reliability + Funding Strategy

December 10, 2025

## Why We're Evaluating Options

- Portions of SCE's grid serving Wells 12 & 14 experience voltage dips and short outages
- These events can cause the wells to **shut down**, requiring operator response
- Wells 12 & 14 are Mesa Water's **two largest production wells**, supplying ~half of well capacity
- Improving resilience supports system reliability and positions Mesa Water to pursue **limited-window funding**

## Option 1: Do Nothing

- Wells continue operating without power quality mitigation
- Voltage dips and short outages would continue to shut down the wells
- Avoids immediate cost but leaves the District exposed to ongoing reliability impacts
- Does not provide a long-term mitigation path

## Option 2: Adjust VFD Settings



- Power quality monitoring will help determine whether VFD tolerance can be safely increased
- Low-cost operational adjustment
- Can reduce sensitivity to minor fluctuations, but is not a full reliability solution

## Option 3: Flywheel UPS



- Provides **20–30 seconds** of uninterrupted power during short disturbances.
- Allows existing backup generators time to start and stabilize
- Addresses most **short-duration disturbances** currently shutting down the wells
- Moderately sized system (~\$250K–\$350K per well) with faster procurement and installation

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## Option 4: Battery Energy Storage Systems



- Provides **instantaneous power** for 2–4 hours, enabling continuous operation through extended outages
- Supports **daily peak shaving and load shifting**, reducing electricity costs
- Eligible funding through:
  - Self-Generation Incentive Program (deadline Dec 31, 2025)
  - Inflation Reduction Act Investment Tax Credit (30% rebate; construction deadlines apply)
- Requires feasibility study

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## Staff Recommendation

1. Install power quality monitoring at Wells 12 & 14 (Academy Electric; ~\$20K)
2. Contract with TerraVerde Energy to prepare SGIP applications and support IRA planning (~\$14K)

# QUESTIONS?



**THANK YOU!**