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Burnet County Sheriff's Office Generator

2 messages

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Wed, Apr 29, 2026 at 2:40 PM

To: Calvin Boyd <cboyd@burnetsheriff.com>, Alan Trevino <atrevino@burnetsheriff.com>

Cc: Bryan Wilson <bwilson@burnetcountytexas.org>

Here are the specs and my recommendations.

230 kW Diesel Generator System (480/277V, 3-Phase)

16. EXISTING ELECTRICAL SYSTEM ASSESSMENT (MANDATORY)

16.1 Pre-Award Review (Recommended / Optional Walkthrough)

- Vendors are encouraged to perform a site visit to review existing electrical infrastructure prior to bid submission.
- Vendor shall familiarize themselves with:
 - Existing service entrance equipment
 - Distribution panels and feeders
 - Existing transfer switch (if applicable)
 - Conduit routing and conditions

16.2 Post-Award Mandatory Assessment

Upon award of contract and **prior to installation**, the selected vendor shall perform a **comprehensive evaluation of the existing electrical system** to verify suitability for connection to the new generator system.

Assessment shall include, but not be limited to:

- **Feeder and Conductor Integrity**
 - Verify conductor sizing meets NEC requirements for 230 kW load (~346A)
 - Inspect insulation condition and terminations
 - Check for overheating, corrosion, or deterioration
- **Conduit System**
 - Inspect for damage, corrosion, or capacity limitations
 - Verify adequate space for conductors and compliance with fill requirements
- **Distribution Equipment**
 - Inspect panels, switchgear, and disconnects
 - Verify bus ratings and breaker compatibility
 - Identify any code deficiencies or safety concerns
- **Grounding and Bonding**
 - Verify grounding electrode system
 - Ensure proper bonding in accordance with NEC and generator configuration
- **Existing Transfer Equipment (If present)**
 - Evaluate condition and compatibility
 - Determine if reuse is feasible or replacement is required

16.3 Load Verification

- Contractor shall verify actual facility load conditions
 - Confirm generator sizing is appropriate for:
 - Connected loads
 - Motor starting requirements
 - Future expansion (if identified)
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16.4 Written Report Requirement

- Contractor shall provide a **written assessment report** to Owner including:
 - Findings and deficiencies
 - Code compliance issues
 - Recommended upgrades or replacements
 - Cost impacts (if any)
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16.5 Owner Approval Required

- No installation work shall proceed until:
 - Assessment report is submitted
 - Deficiencies are reviewed with Owner
 - Written authorization is provided to proceed
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(Add to Section 9 – Installation Requirements)

Include the following clause:

Installation shall not commence until completion of the **Existing Electrical System Assessment (Section 16)** and written approval by the Owner. Contractor shall incorporate any required upgrades identified during the assessment into the project scope upon approval.

Why this addition matters (from a risk standpoint)

This protects the County by:

- Preventing **undersized or degraded wiring** from being tied into a new generator
 - Avoiding **change orders after install begins**
 - Shifting responsibility to the contractor to **verify code compliance upfront**
 - Documenting existing conditions for liability and future maintenance
-

If you want, I can take this one step further and:

- Add **NEC-specific references (Articles 700, 701, 702, 445, 250)** to make it even tighter legally
- Include a **required megger testing / thermal imaging clause** (very useful for older facilities like yours)
- Convert this into a **final bid-ready PDF with Burnet County formatting and signature pages**



add these specifications A 230 kW diesel generator operating at 480/277V, 3-phase, 60Hz typically produces 346 amps. Common, reliable models for this power range include the Cummins DSHAD (using QSL9-G2 engines) and Generac SD230 (using 8.7L engines). www.ers-cat.com www.ers-cat.com +3 Typical 230kW Generator Specifications (480/277V) Standby Power Rating: 230 kW / 287.5 kVA Voltage/Phase: 480/277V AC, 3-Phase, 4-Wire, 0.8 Power Factor Amperage Output: Approx. 346 Amps Frequency: 60 Hz (1800 RPM) Engine: 6-Cylinder Diesel (e.g., Cummins QSL9 or 8.7L/9.0L John Deere/Iveco) Emissions: EPA Tier 3 Stationary Emergency Fuel Consumption (100% Load): Approx. 16–18.3 Gallons Per Hour (GPH) Alternator: Brushless, 4-pole, Permanent Magnet Generator (PMG) Controller: Digital Control Panel (e.g., PowerCommand 2100) Circuit Breaker: 400 Amp 3-Pole Main-Line www.ers-cat.com www.ers-cat.com +4 Recommended Transfer Switch Specifications A 3-pole or 4-pole automatic transfer switch (ATS) rated for 300A–400A is standard for this size generator to allow for full-load capacity and potential future expansion. Amperage: 225A - 400A (400A recommended to match generator breaker) Voltage: 480V, 3-Phase Type: Automatic, Open Transition Enclosure: NEMA 3R (Outdoor) or NEMA 1 (Indoor) Compatible Models: ASCO 300 Series, Cummins OTEC Features: Solid Neutral or Switched Neutral, 60 Hz rating, UL 1008 listed Buckeye Power Systems Buckeye Power Systems +3 Common Components & Accessories Fuel Tank: 24-hour capacity (e.g., 300–400+ gallon) sub-base tank with double wall Enclosure: Sound-attenuated or weather-protective steel enclosure Heaters: Coolant heater (block heater) for cold weather starting Battery Charger: 10 Amp, integrated or mounted inside Depco Power Systems Depco Power Systems +3 Show moreShow less

Here is your **fully integrated and tightened RFQ specification** with your added technical content formally incorporated into the correct sections. I've cleaned up language, removed duplication, and made it **bid-ready and enforceable**.

REQUEST FOR QUALIFICATIONS (RFQ) / BID SPECIFICATION

230 kW Diesel Generator System (480/277V, 3-Phase, 60Hz)

1. GENERAL DESCRIPTION

Burnet County is soliciting qualified vendors to provide, install, and commission a **standby diesel generator system** capable of supplying emergency power to critical facilities. The system shall be complete, turnkey, and fully operational upon acceptance.

A 230 kW generator operating at **480/277V, 3-phase, 60Hz** shall produce approximately **346 amps** at full load.

2. GENERATOR SET REQUIREMENTS

2.1 Electrical Ratings

- Standby Power Rating: **230 kW / 287.5 kVA**
 - Voltage: **480/277 VAC**
 - Phase: **3-Phase, 4-Wire**
 - Frequency: **60 Hz**
 - Speed: **1800 RPM**
 - Power Factor: **0.8**
 - Full Load Output: **Approx. 346 Amps**
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2.2 Engine

- Type: **Diesel, 4-cycle**
 - Configuration: **6-cylinder**
 - Acceptable engines include:
 - Cummins QSL9-G2
 - John Deere 8.7L / 9.0L
 - Iveco equivalent
 - Emissions: **EPA Tier 3 – Stationary Emergency Rated**
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2.3 Alternator

- Type: **Brushless, 4-pole**
 - Excitation: **Permanent Magnet Generator (PMG)**
 - Insulation Class: **H**
 - Voltage Regulation: **±1%**
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2.4 Fuel Consumption

- At 100% Load: **16–18.3 gallons per hour (GPH)**
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2.5 Acceptable Manufacturer Models

- Cummins **DSHAD** (QSL9-G2 engine)
 - Generac **SD230** (8.7L engine)
 - Caterpillar or approved equal
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3. CONTROL SYSTEM

- Digital controller (e.g., **PowerCommand 2100** or approved equal)
 - Minimum features:
 - Automatic start/stop
 - Engine and alternator monitoring
 - Fault alarms and shutdowns
 - Event logging
 - Remote monitoring capability
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4. CIRCUIT BREAKER

- Main Line Breaker:
 - **400 Amp, 3-Pole**
 - UL Listed
 - Mounted within generator enclosure
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5. AUTOMATIC TRANSFER SWITCH (ATS)

5.1 General

- Type: **Automatic, Open Transition**
- UL 1008 Listed

5.2 Ratings

- Voltage: **480V, 3-Phase**
- Amperage Range: **225A – 400A**
- Preferred Size: **400A (to match generator capacity and allow expansion)**

5.3 Configuration

- 3-pole or 4-pole as required by system design
- Solid neutral or switched neutral (coordinate with grounding scheme)

5.4 Acceptable Manufacturers

- ASCO 300 Series
- Cummins OTEC
- Approved equal

5.5 Enclosure

- Indoor: **NEMA 1**
 - Outdoor: **NEMA 3R**
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6. FUEL SYSTEM

- Sub-base fuel tank:
 - **Double-wall construction**
 - Minimum **24-hour runtime capacity**
 - Approx. **300–400+ gallons**
 - Includes:
 - Fuel level gauge
 - Leak detection
 - Fill and vent piping
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7. ENCLOSURE

- Weather-protective or sound-attenuated steel enclosure
 - Corrosion-resistant finish
 - Lockable access doors
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8. ACCESSORIES

- Engine block heater (coolant heater)
 - Battery system with rack and cables
 - **10 Amp battery charger**
 - Vibration isolation mounts
 - Critical-grade exhaust silencer
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9. INSTALLATION REQUIREMENTS

Vendor shall provide a complete turnkey installation, including:

- Concrete equipment pad if needed.
- Electrical connections
- Fuel system installation
- Integration with existing electrical infrastructure
- Start-up and commissioning
- Load bank testing (if required)
- Coordination with AHJ and inspections

Installation shall not commence until completion of Section 16 (Electrical System Assessment) and Owner approval.

10. TESTING & COMMISSIONING

- Factory test documentation
 - On-site functional testing
 - Simulated outage test
 - Final acceptance testing with Owner
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11. WARRANTY

- Minimum **1-year comprehensive warranty**
 - Provide optional extended warranty pricing
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12. SUBMITTALS

Vendor shall provide:

- Product data sheets
 - Shop drawings
 - Electrical one-line diagrams
 - Site layout and foundation drawings
 - Project schedule
 - Warranty documentation
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13. DELIVERY & SCHEDULE

- Provide equipment lead time

- Provide installation timeline from Notice to Proceed
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14. ALTERNATES (OPTIONAL)

- Sound attenuation upgrade
 - Remote monitoring system
 - Increased fuel capacity
 - Paralleling capability for future expansion
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16. EXISTING ELECTRICAL SYSTEM ASSESSMENT (MANDATORY)

16.1 Post-Award Requirement

Before installation, the electrical contractor shall perform a **comprehensive evaluation of the existing electrical infrastructure.**

16.2 Scope of Assessment

- Feeder/conductor sizing and condition (verify capacity for ~346A load)
- Conduit condition and fill compliance
- Panels, switchgear, and breaker ratings
- Grounding and bonding verification
- Transfer switch compatibility (if existing)

16.3 Load Verification

- Confirm actual facility load
- Validate generator sizing and motor starting capability

16.4 Reporting

Electrical Contractor shall provide a written report including:

- Deficiencies
- Code compliance issues
- Required upgrades
- Cost impacts

16.5 Approval

No work shall proceed until:

- Report is submitted
- Reviewed with Owner
- Written authorization is issued

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