

QUALIFIED ELECTRICAL WORKER (QEW):

Authorization to Energize Electrical Equipment Form A Qualified Electrical Person and the Project Commissioning Representative shall use this form to obtain approval for Energization or Re-Energization of Electrical Systems related to Construction or Maintenance Work. Where required the MOC Process should also be utilized. PROJECT: WO#: LOCATION: EQUIPMENT/DEVICE: INSTALLER: COMPANY: BERRY BROS.

DATE:

| General Items | COMPLETE | QEW | PCR | Comments | |
|---|-----------------|--------------|-----------|----------|--|
| | YES/NO | INITIALS: | INITIALS: | | |
| 1. All electrical equipment and systems being | | | | | |
| energized are correctly installed and complete | | | | | |
| (e.g. Jumpers and test leads removed, cables | | | | | |
| and bus terminations torqued correctly)? | | | | | |
| 2. All electrical equipment is CSA/NRTL approved | | | | | |
| and rated for the location in which it is installed? | | | | | |
| 3. System and equipment voltages verified to be correct? | | | | | |
| 4. All electrical components (wire, breaker, | | | | | |
| overloads etc.) are sized according to the | | | | | |
| Canadian Electrical Code or National Electric | | | | | |
| Code requirements? | | | | | |
| 5. Are Grounding and Bonding appropriate, correct | | | | | |
| and complete? | | | | | |
| 6. All protective devices are properly rated and | | | | | |
| installed, programmed and tested? | | | | | |
| 7. All Protection and Coordination schemes have | | | | | |
| been approved by the Engineering Department? | | | | | |
| 8. Engineering Incident Energy Analysis Studies | | | | | |
| complete and detailed Arc Flash & Shock labels | | | | | |
| in place? | | | | | |
| | ality Assurance | ce/Quality C | Control | | |
| 1. All electrical connections checked for correct termination and tightness? | | | | | |
| All instrument loops have been wire checked / continuity checked? | | | | | |
| 3. Megger and Hi-pot testing is complete and | | | | | |
| acceptable e.g. Megger ungrounded conductors | | | | | |
| to ensure no shorts exist (phase to phase, | | | | | |
| phase to ground)? | | | | | |
| 4. All vendor representative commissioning checks | | | | | |
| and manufacturers recommended checks are | | | | | |
| complete? | | | | | |
| 5. Ensure that all applicable quality control and | | | | | |
| assurance documentation has been completed | | | | | |
| and a copy is entered into the project file. | | | | | |
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| June 2013 | Authorization to Energize Electrical Equipment Form | Rev 0.0 | | |
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Berry Bros. General Contractors, Inc. 206 FM 1216 / PO Box 1860 Central States Division Pecos, TX 79772

| 6. All tools, construction materials, removed and equipment is clean and free of any debris? | | | | | |
|--|-----|--|--|--|--|
| 7. Equipment covers are in place and all bolts installed or if hinged doors, doors closed and latched? | | | | | |
| Switching and Isolation | | | | | |
| All branch circuit loads turned off, loads are isolated? | | | | | |
| 2. All personnel are clear of equipment, locks and tags removed, permits released? | | | | | |
| 3. All Temporary Protective Grounds or Ground Truck and Test Devices are removed and counted? | | | | | |
| 4. For outdoor substations all personnel are outside the fence, away from transformers or outside of electrical rooms during energization? | N/A | | | | |
| If required approved Electrical-Specific PPE, Tools, and Equipment are been used for work tasks related to energization and/or re- energization? | | | | | |
| energization? | | | | | |

The Electrical equipment or system is complete and safe to energize: (signature required)

Shell SAEP or QEP

Project Commissioning Representative

PROJECT POST ENERGIZATION CHECKLIST

| System Phasing (if applicable) | System Phasing Checks Complete | | | | |
|--------------------------------|--------------------------------|-------------|---|--|--|
| Voltage Verification | Volts A-B | Volts B-C | Volts C-A | | |
| | Volts A-G | Volts B-G | Volts C-G | | |
| Motor Checks | Rotation check | _ Amp DrawA | Uncoupled Run / RTD Temperatures Stable | | |
| | | | | | |
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