Generator System Pre-Startup Checklist

Purpose

Total Energy Systems, LLC is pleased to schedule the startup of your generator system. Often, we find that systems are not ready when we arrive on site which causes a delay in the process and a costly second trip to complete the work. Please complete the following checklist which will ensure that your generator is properly prepared for startup during the scheduled period of time.

Important Notes

- Total Energy Systems requires 10-14 days of advance notice to schedule start-ups. We will do our best to meet your requirements, but cannot guarantee any dates without required advance notice. A $200 late notice fee will be assessed if start-up is required without 10-14 days notice.

- Startup is a scheduled service call (typically one visit) for the period of time agreed to in the proposal and review process.

- If the technician arrives on time and must wait longer than 30 minutes to begin the work, additional waiting time will be invoiced at our standard rates.

- If an improper or incomplete installation requires the technician to schedule another visit beyond what was scheduled for the startup, additional visits will be invoiced.

- If the technician is asked to complete any additional work not covered under what was approved to be completed during startup, this additional time will be invoiced.

- The technician will install new batteries at start-up and fill the engine oil and system coolant reservoirs if specified. The system will be tested for proper operation and the technician will inform your personnel of any discrepancies.

- Training will be conducted at start-up. Unless otherwise specified, demonstration of systems operation, including the transfer of building loads and training will be done during start-up. People who require the training must be present at start-up and return visits at future dates to complete training because of their unavailability will be invoiced.

- Final testing and training with customer’s loads will be scheduled during normal hours. After hours or weekend testing will be at an additional charge unless this time was specified and approved in the review process.

- Client videotaping of the on-site, unscripted, operational training, conducted by the manufacturer’s representative for the purpose of integration into a formal operational training program is NOT authorized by Total Energy Systems, LLC. Any videotape made during the on-site, unscripted operational training does not replace, supplement or supersede the manufacturer’s published operational procedures. It is the responsibility of the owner to follow and instruct their authorized operators in the operational and maintenance manuals provided with the unit. An approved operational DVD is available upon request and at an additional cost.
• It is the responsibility of the Purchasing Contractor to coordinate the start-up and the certification of the ATS’s if the switch or switches are not provided by Total Energy Systems. It is recommended that this be scheduled at the same time as the generator start-up. This will eliminate problems that would require additional trips and costs to the job. Total Energy Systems will only provide one trip for start-up. Any additional trips that are not related to warranty issues of equipment will be invoiced back to the purchasing contractor.

• The manufacturer’s warranty period will begin upon completion of initial start-up.

• We must receive the completed checklist and signed acknowledgment before your startup will be scheduled with our Service Department. Please send this completed document to Bonnie Renkens, Brenkens@totalemergysystems.com, and copy the servicedepartment@totalenergysystems.com.

## Checklist

**Installer Information**

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<thead>
<tr>
<th>Company Name:</th>
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<tbody>
<tr>
<td>Address:</td>
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<tr>
<td>City, State and Zip Code:</td>
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<tr>
<td>Contact Information:</td>
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<tr>
<td>Phone Number:</td>
<td></td>
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<tr>
<td>Email Address:</td>
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<tr>
<td>Total Energy Systems Job Number:</td>
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**Owner Information**

<table>
<thead>
<tr>
<th>End User/Owner:</th>
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<tbody>
<tr>
<td>Site Name:</td>
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<tr>
<td>Address:</td>
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<tr>
<td>City, State and Zip Code:</td>
<td></td>
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<tr>
<td>On Site Contact Information:</td>
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<tr>
<td>Cell Phone Number:</td>
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<tr>
<td>Email Address:</td>
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<tr>
<td>Preferred Startup Date and Time:</td>
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**Location of Generator**

1. Where is the generator installed? Concrete pad-mounted next to building, roof top or inside?
   
   • Location?________________________
Electrical Connections

2. Are all required wire connections for the generator system complete and correct?
   
   Yes / No

   • Our technicians are not licensed electricians and all connections to electrical power are the responsibility of the installer. Technicians are not permitted to make these connections. All interconnected wiring (include wiring for the remote start at generator and ATS’s, AC, Control and Remote Annunciator) should be run in separate conduits. Please refer to drawings included in the submittal.

3. Is the utility (AC) power connected to the transfer switch line side terminals prior to start-up?
   
   Yes / No

   • The utility must be available for testing of ATS, unless noted otherwise.

4. Have power circuits for the engine block heater and battery charger been installed, wired, and are they ready to be energized?
   
   Yes / No

   • We recommend the block heater battery charger(s) be wired to individuals breakers. Please have the engine block heater energized 24 hours before start-up. Do not energize the battery charger because the technician will be bringing the battery or batteries to the start-up.

Network Communication

5. Will the emergency power system be connected to or through a network?
   
   Yes / No

   • A customer network representative must be present during startup to facilitate the setup of the MODBUS to Ethernet converters. Has this been arranged?

   Yes / No
Fuel System

6. Gaseous Fuel Systems (*after the pressure regulator*)

   • Have fuel lines been connected and fuel is available to the generator for startup?
     
     Yes / No

   • Use caution when sizing fuel lines for gaseous systems. Please refer to the spec sheet and note that 11” of water column pressure is required at 100% rated capacity and consult with your local fuel supplier.
     
     Supply Line Size? _________ Length of Run? _________

   • Volume and pressure capacity of primary regulator meet generator demand requirements. Refer to spec sheet for required volume and pressure.
     
     Pressure/Water Column? _________

7. Diesel Fuel Systems:

   • Have any inspections or certifications of storage tanks and piping, been completed?
     
     Yes / No

   • Has the fuel tank been filled with diesel fuel? Please consult with your fuel supplier to determine (#2 Winter Blend Diesel).
     
     Yes / No

Exhaust System

8. For installations requiring exhaust piping and muffler installation, has all work been completed?

   Yes / No
Load Bank Test with Resistive Load Bank

9. For installations that include Load Bank testing in Total Energy Systems proposal and/or spec:
   Field Service Rates for additional time & travel if required are: $115 per hour, $2.75 per mile port to port.

   [ ] NFPA110 Requirement

   [ ] 2 Hour Test
   [ ] 4 Hour Test
   [ ] Additional Special Requirements
   [ ] No Load Bank

Confirmation and Acknowledgement

These items must be completed prior to start-up. Failure to complete any or all of these items will require another scheduled service call and the original start-up appointment will be invoiced to the contractor responsible for completing the checklist. To schedule the second service call to complete start-up, a purchase order is required to be submitted to the Total Energy Systems, LLC Service Department and a 24 hour notice is required for any start-up cancellations.

I have read the above acknowledgement and have made all the necessary inspections to verify that all these requirements have been completed as specified and I agree to all terms outlined in this checklist.

Print Name:_________________________________   Title:____________________________________

Sign:____________________________________   Date:____________________________________

Rev: 09/23/2015