

SIEMENS

Ingenuity for life

Charlotte Energy Hub

Balancing Capabilities for Generators

www.siemens.com/generators

Excessive vibration can result in component failures due to unbalanced equipment. We have the ability to provide controlled and technically precise balancing services for generators to address our customers' needs for improved reliability and availability.

Generator Balancing Facility

The following are some of the services and processes that the Charlotte Energy Hub can provide:

- Balancing of generators weighing up to 500,000lbs.
- 7500 HP drive system
- 4500 RPM maximum speed
- 67in long balancing chamber
- 4 sets of Westinghouse pedestals
- Siemens PCS-7 Controls
- Balancing conducted in air
- Temperature controlled heating enclosure to perform thermal tests

Vacuum Balancing Facility

The Charlotte Energy Hub offer vacuum balancing of rotors that include:

- Balancing of generators and rotors weighing up to 600,000lbs.
- 7000 HP drive system
- 4680 RPM maximum speed
- 27in diagonal X 57in long vacuum chamber
- Maximum swing diameter – 208in
- Schenck DH-12 bunker
- Schenck DH-13, DH-10 and DH-9 pedestals
- Vacuum < 1.0 Torr (mmHg)





Control and precision are at the core of our balancing capabilities

Exciter Balancing Facility

In terms of exciter balancing, the Charlotte Energy Hub can provide:

- Balancing of small generators, exciters, and collector rotors weighing up to 80,000lbs.
- 3750 HP Drive System
- 4500 RPM maximum speed
- Maximum swing diameter – 140in
- 36in long balancing chamber
- Schenck DH-9 Bunker
- Schenck DH-8 Pedestals
- Balancing conducted in air

Software and Instrumentation

In terms of software and instrumentation, the Charlotte Energy Hub can provide:

- Measurement of shaft absolute displacement, 8 -12 probes per rotor (4 -6 measuring planes)
- Dual probe including proximity probe and seismic probe
- Vibration instrumentation is calibrated every 6 months

All facilities are equipped with:

- 12 channel MechIntel monitors
- ADRE 408P DAIU balancing instrumentation
- ADRE SXP monitoring software
- Bently Nevada balancing software

Low Speed Balancing Equipment

The Charlotte Energy Hub is a state of the art facility with the ability to also provide low speed balancing of generator rotors and components which includes the following:

- 2 Schenck hard bearing low speed balancing machines:
 - H-80 –50ton weight capacity (steam turbines and components)
 - H-40 –2.5ton weight capacity (extension shafts, jack shafts, spacers, etc.)
- Schenck CAB920 instrumentation



The Charlotte Advantage

The Siemens Charlotte Energy Hub has the capacity to manage large and complex projects with service being our differentiator. With the ability to manufacture and service components for gas turbines, steam turbines, and generators, we strive to serve as the primary service center for gas turbine, steam turbine and generator equipment for the Americas. All functions necessary for a seamless process – from initial bidding to transport for delivery –are located on site. Our extraordinary depth of skill and experience enable us to service not only the Siemens fleet, but also components originally designed and manufactured by all large equipment manufacturers.

We continually focus on the next generation of power plant management through innovative product and process development and skilled workforce development.



Managing large and complex projects for generators in terms of manufacturing and service is our differentiator.

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