

## Shop Operations: Mechanical Services

**When you have a mechanical repair or refurbishing need related to power generation equipment, you'll find the expertise you need at TVA's Power Service Shops.**

We understand that you can't afford to wait — minimizing your downtime is critical. The Mechanical Services department of TVA's Power Service Shops can design, build or repair almost any tool or component, and we offer the flexibility of performing repairs at our location or yours.

From computer numerical controlled lathes, boring mills, and work centers to hydraulic presses, balancing machines, and a specialized bearing and coatings shop, our facility is one of the best equipped in the world.



### IN-SHOP REPAIRS

In our Muscle Shoals machine shop, we've tackled jobs as small as governor pins 0.032 inches in diameter and less than one inch long to turbine rotors 30 feet long weighing more than 100 tons. We have 50 lifting cranes ranging in capacity from one ton to 400 tons, so we can handle practically any turbine generator component your system uses.

#### With our shop capabilities we can:

- Repair bearings made of babbitt, lead, plastic and steel
- Fabricate all types and sizes of motors, fans and pump shafts
- Fabricate and repair all types and sizes of plant components, such as bolting, blades and seals.
- Pierce and cut steel components utilizing high-pressure water to reduce thermal problems.

**In addition, we can apply specialized coatings to turbine steam path components that extend service life, reduce costs and maintain operating efficiency. These coatings can be applied to a wide array of power plant equipment, including:**

- Steam turbine blades, diaphragms, valves and rotors
- Gas turbine blades, seals, nozzles and rotors
- Hydro equipment such as wicket gates and generator hubs
- Auxiliary equipment such as boiler and coal-handling components.



The coating facility is completely self-contained to optimize coating integrity and minimize environmental impact. It uses state-of-the-art multi-axis robotic coating equipment and features a unique HP/RH/IP rotor handling capability.

### REPAIRS AT YOUR FACILITY

We can perform more than 100 different machining operations using mobile equipment, so that almost any task can be performed at your location.

#### With our mobile repair capabilities we can perform:

- Turbine-component and sealing-surface refurbishment
- Valve resealing and reseating
- Alignment checks with optical or laser tooling
- Rotary and stationary face milling of all sizes of flanges
- Deep hole inspection with video probes
- Rotor bore honing and inspection
- Line boring (boring bars from one-inch to 13-inch diameter by 16 feet in length)
- Lathe turning up to 250 tons' capacity
- Low speed balancing up to 100 tons
- Steam turbine blade, cavitation and metal disintegration repairs.

Equally important, our attention to quality control ensures that your repair is done right. The Mechanical Quality Assurance section uses up-to-the-minute technology such as video probes, die penetration visuals and magnetic particle inspection gauges to verify that our work meets the highest standards of accuracy and completeness.

TVA has been in the power business for more than seven decades. That means a level of expertise honed over millions of work-hours at every type of plant and facility. Put that experience to work for your plant by contacting us today.

[www.tvapowerserviceshops.com](http://www.tvapowerserviceshops.com)

