

“Dishing” is a form of deformation of a steam turbine diaphragm, very common in more modern steam turbines such as the General Electric model D-11. Dishing can be caused by operational rubs or severe creep deflection from exposure to high-steam pressure differentials across the blade ring and inner web when operating at high temperature. Dishing can be removed from a diaphragm once the diaphragm is removed from the turbine.

Dish removal entails pressing the dished area on the diaphragm to eliminate the dishing condition and restoring flatness. Once the dishing has been removed, the diaphragm can be reinforced by adding bridges or reinforcing the partition admission edges with weld to help maintain structural rigidity. The bridges distribute the stress experienced from creep effectively increasing the structural strength and rigidity of the diaphragm. The improved stress distribution throughout the structure improves component life post-repair, reducing the frequency of costly repairs and lower operating expense.

Orbital Energy Services Midwest Service Center is a full-service steam turbine repair facility offering inspection, NDE, and repair of steam turbines and auxiliary systems from OEM’s like GE, Allis Chalmers, Elliott, Dresser-Rand, Toshiba, Hitachi, Westinghouse and Siemens.

Other Services Offered:

- Rotor repairs, including low speed balance up to 200,000 lbs
- Blade or bucket removal, repair and installation
- Stationary blade change out in shop or on-site
- Major and minor diaphragm repairs
- Nozzle box and block repairs
- Stellite strips or erosion shield change out
- J-strip seal change out and machining
- Complete steam path audit

