Research-to-Power: The sCO₂ Future

Coordination and contributions to component research and system demonstrations by Sandia National Laboratories

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Research Progress to the sCO2 Future
Support of Component Development

Turbomachinery
- Bearing Shell
- Wing Foil
- Top Foil
- Turbine Degradation RCA
- Gas Foil Bearing Behavior in CO₂

Heat Exchangers

Materials
- In Situ Corrosion/Erosion Monitoring
- Alloy Corrosion Experiments
- EC Structural Materials Consortium
Support of Demonstration Efforts

1 MWe Merlin Power cycle, by Peregrine Turbine Technologies
Variable configurations, including CHP
Any air combustible fuel
Indirect power cycle

TIT 750 °C
CDP 42.3 MPa
PR 5.5
zm 5.5 kg/s sCO₂
η 42% (LHV)