



Coal Plant O&M Support

Post-commissioning disorder?
Let us fine-tune your operations.

ASSESSMENT EXPERTISE

Post-Contract Evaluations
Design Shortfalls
Vendor Product Issues
Equipment Failures
Performance Testing
Redundancy Evaluations
Heat/Water Balance Changes
Environmental Concerns
Punch List Monitoring
Plant Improvements
Root-Cause Analysis
Set-Points and Margin Review
Premature Failure Advice
Corrosion Assessment

Contact: David Cohn
Vice President, Sargent & Lundy Consulting
+1-312-269-6404
david.w.cohn@sargentlundy.com

During the life cycle of a coal-fired power plant, the period of time immediately after a contractor's handover to an owner is a crucial period of time that often sets the tone for long-term successful operation of a facility. This time period begins immediately after the commercial operation date (COD).

Large capital projects like power plants are often competitively bid and subsequently awarded to vendors or a contractor with a keen interest in cost control. As a result, minimum functional power plant designs are routinely offered by the bidders as project solutions. But what measures are in place to ensure these designs are suitable for the entire life cycle of the plant—say 30+ years or even more?

This can be a difficult task, but if there are any of these early, post-commissioning signs of stress or operating issues present in your facility, then it may be worthwhile to have an independent engineering review of the finished installation's operations and maintenance (O&M):

- ✕ Frequent component or equipment failures
- ✕ Extensive outage or maintenance work
- ✕ Unplanned operating limits
- ✕ Lengthy contractor punch-list items that remain open or unresolved
- ✕ Shortfalls in plant performance—whether related to fuel, MW, or other
- ✕ Environmental or safety events that require action

Sargent & Lundy can dispatch a team of independent specialists to identify and analyze your new coal plant's stress points—uncovering potential risks to your long-term, successful operating plans.

If you have post-commissioning disorder, contractual shortfalls, or require expert support to optimize your plant to tackle specific operating issues, call us to find out how we can help.



Coal Plant O&M Support Selected Experience List



O&M REVIEW OF COAL PLANTS IN SOUTHEAST ASIA

- Plant 1: 2 x 50-MW units and 2 x 55-MW units, constructed between 1995 and 2004
- Plant 2: 2 x 135-MW units, both entered service in 2009

Sargent & Lundy completed a comprehensive review of O&M practices, including interviews with key personnel, visual assessments of the plants, and evaluation of historic operating data. We provided recommendations to improve plant O&M practices to achieve better availability, efficiency, health and safety, and equipment life cycle performance.



O&M REVIEW OF A COAL PLANT IN SOUTHEAST ASIA

- Coal-fired IPP power plant consisting of two identical 325-MW power blocks, designed and built by a Chinese EPC contractor under contract to the owner/developer, and went into operation in 2014
- Engineering and technical advisory support
- Worked on a two-unit remediation program that addressed technical, warranty, and operational issues.

After COD, numerous technical issues were affecting operation, and the plant was not completely commissioned. The first year's equivalent availability factor was less than 65%. Sargent & Lundy had 1+ engineers at the site and provided technical support via home office specialists. Our support included steam turbine bearing issues; coal pulverizer inspection and performance assessment; circulating water flow problems; main steam temperature problems; high-pressure heater failure and replacement; heat rate evaluation, testing, and improvement; generator circuit breaker procurement; protective device relay setting; and investigation of failures in various systems, including ash handling, closed cooling water, air heater, flame scanner, and fuel-firing systems. After the completion of our program, the equivalent availability of the plant was over 90%, and the heat rate was 5% better than the initial "as commissioned" heat rate.



AES HAWAII POWER PLANT INDEPENDENT ENGINEERING ASSESSMENT

Hawaiian Electric Company, Inc. (HECO)

- AES Hawaii Barbers Point coal-fired power plant is a 180-MW plant on the island of Oahu, completed in 1991. The plant consists of two PyroPower circulating fluidized bed boilers (CFBs) that fire coal, coal fines, biomass, and tire-derived fuel.

Sargent & Lundy performed a review of the plant with respect to good engineering and operating practices. Historical performance data was compared to contractual agreements. We provided a report on findings and recommendations to improve plant operations.



USINA TERMOELÉTRICA PORTO DO PECÉM COAL-FIRED PROJECTS, BRAZIL OPERATIONAL REVIEW

Inter-American Development Bank (IDB)

- Pecém I Thermal Power Project is a two-unit, 720-MW coal-fired power plant in northeastern Brazil near the city of Fortaleza. The plant entered commercial operation in 2013.

Sargent & Lundy conducted construction monitoring for the lender. Since the plant began operation, Sargent & Lundy has monitored O&M and health, safety, and environmental (HSE) issues; regulatory factors; and financial performance with respect to contracts and good utility practices. We conducted an annual site visit to review plant conditions and reports findings and recommendations.