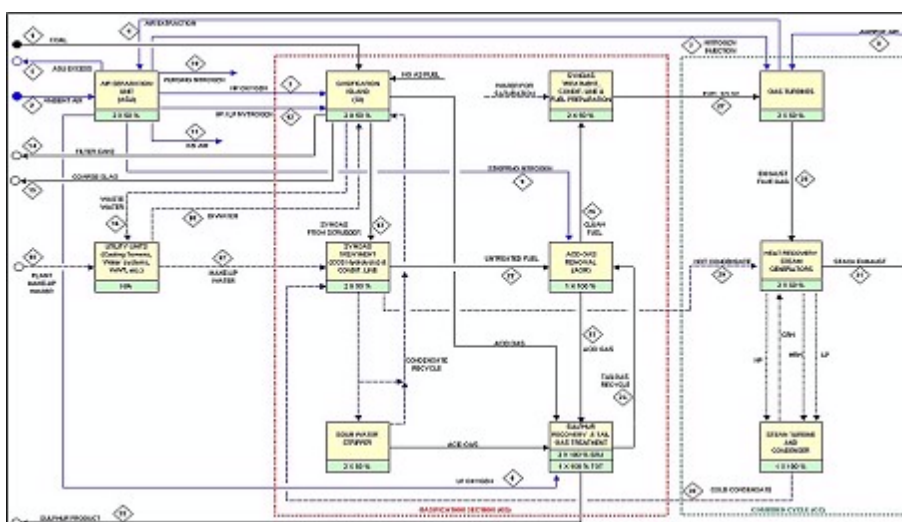


POWER

ENGINEERING AND ECONOMIC ASSESSMENT OF INTEGRATED GASIFICATION COMBINED CYCLE COAL POWER PLANTS FOR NEAR-TERM DEPLOYMENT

EPRI - Electric Power Research Institute
 Wisconsin, USA (Phase 1) - Netherlands (Phase 2)



COMPLETION DATE 2008 (Phase 1) 2010 (Phase 2)

PROJECT DESCRIPTION

Feasibility studies for technical and economic evaluation of several IGCC designs, processing different coals, e.g. Powder River Basin (PRB) sub-bituminous coal, Pittsburgh #8 and Eastern Australian bituminous coals, using different alternative gasification technologies (GEE, Shell, Siemens, MHI, CoP), with and without carbon dioxide capture for near-term deployment.

The work is being performed as part of EPRI's CoalFleet for Tomorrow Programme, a collaboration involving more than 60 power industry companies to encourage the early deployment of advanced coal power generation technology.

FOSTER WHEELER ITALIANA SCOPE OF WORK

The scope of work of the studies is the following:

- Complete engineering and economic evaluations for various dual-train IGCC plants.
- Analyze cost and performance of Powder River Basin coal-fired, Shell-based gasifier (Syngas Cooler type) IGCC plants, using two scaled-up gasifiers feeding three F-class gas turbines.
- Compare results to those of similarly sized PC plants, without CO₂ capture.
- Estimate the cost and performance of retrofitting partial and full carbon capture (nominal 90%) on IGCC plants.
- Estimate the cost and performance of Greenfield IGCC plants with full carbon capture (nominal 90%).
- Quantify the impact on cost and performance of placing an IGCC plant at high elevation (>4,000 ft).