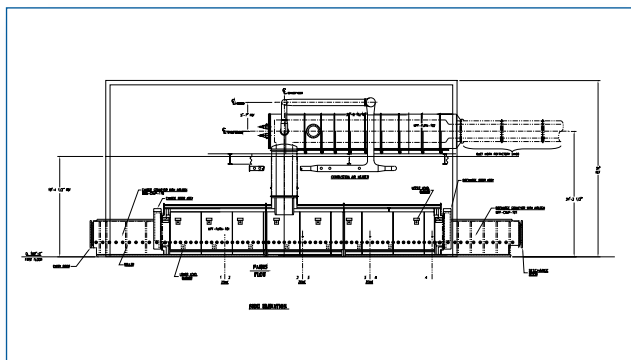


PROCESS DEVELOPMENT AND DESIGN

The Process Development and Design Group at Continental Research and Engineering provides a team of mechanical and chemical engineers experienced in the development of a variety of different types of facilities. Our engineers incorporate the results from our Computational Fluid Dynamics Models, Mass and Energy Balance Models, thermodynamic considerations and kinetic models to develop sophisticated engineering designs in a timely manner and within the project budget. We have recently been chosen by SAIC as a partner to produce the initial, ground-up design for a chemical weapons demilitarization facility. This design has very tight budgetary constraints, and the time constraint is governed by the date set by the International Chemical Weapons Convention.



Engineering/ Design

- Plant design:** Conceptual design, process flowsheets & parameters
- Plant design:** Detailed design - PFD, P&ID
Process control design, modification
- Equipment specification:** Primary process, off-gas treatment, monitoring/analytical
- Equipment design:** Furnaces, specialty thermocouples, sparge air nozzles, thermox sleeves, time-temperature indicator for harsh physical/chemical environment

Project management

Systems analysis and modifications

Selected Projects:

- Coal Drying Project, MCN Energy Group, *Detroit, Michigan*
- White Paper on flameless destruction of chemical agents, EG&G Defense Materials, *Tooele, Utah*
- Material supply DFS Thermocouple, MPF sparge air nozzle, thermox sleeves, *Raytheon, Johnston Island*
- Wet-eye bomb processing modeling and development of processing procedures, EG&G Defense Materials, *Tooele, Utah*
- Completed Feasibility Study for Design of 500,000 NTPY Direct Reduced Iron/Hot Briquetted Iron Facility, ENCOAL, *Charleston, South Carolina*
- Rotary Hearth Furnace Design, Rouge Steel Waste Oxide Facility, *Dearborn, Michigan*
- Design of Combustor for Glycerin Liquid Waste, CIBA, *Batam, Indonesia*

