Start-Up Engineering Support

E2 Consulting Engineers, Inc. (E2) provides start-up engineering support to help clients reduce the time and expense associated with plant or facility start-up. We offer expertise for every facet of start-up engineering services including:

- Start-Up Plans
- Test Specifications
- Test Procedures
- I&C Calibration
- Acceptance Tests
- Design Compliance
- O&M Manuals / Plans
- Document & Data Control
- Facility Turn-Over Package

Our experience extends from small auxiliary equipment to full-scale systems and encompasses all activities from pre-operational equipment checks to post-operational troubleshooting. Applying our knowledge and experience, we eliminate unexpected and common problems encountered during this critical phase of a project. We employ efficient approaches and best practices to initiate production or to bring a plant online as quickly as possible.

E2 understands that start-up delays present significant risk to project schedule and a company's reputation for excellence. Our highly experienced start-up team can assess the project needs and provide valuable input to

the testing protocols and schedule to minimize delays and cost overruns. E2 can also provide the required test documentation to meet the needs for the Management Self Assessment, Readiness Assessment and Operations Readiness Review.

Project Experience

Integrated Waste Treatment Unit

At the Idaho National Laboratory, the DOE's prime contractor is currently constructing the Integrated Waste Treatment Unit (IWTU) to turn 900,000 gallons of sodium-bearing liquid waste into a stable granular carbonate material that meets requirements for permanent disposal as Remote Handled TRU waste at the Waste Isolation Pilot Plant (WIPP) in Carlsbad, NM. E2 has been providing start-up expertise to the IWTU project since performance commenced in July of 2009. This support includes construction planning; field engineering; turnover to startup and

commissioning; startup and commissioning of components, systems and integrated testing (including comprehensive performance testing / hot startup) and turnover from commissioning to operations.


IWTU Project

Hanford Spent Nuclear Fuels Project

E2 was the principal subcontractor for start-up activities involving equipment and facilities associated with the Spent Nuclear Fuels Project at the Hanford Site. The project included the Cold Vacuum Drying Facility and the Container Storage Building. Our engineers developed the testing procedures and the document control system for test documentation and subsequent data. Our technicians performed walk-downs for physical design verification and conducted instrument calibrations and equipment checks. Also, at the request of the client, E2 test directors supervised the testing activities.


Hanford Spent Nuclear Fuels Project

In addition, E2 personnel served as Start-Up Managers assisting in test management and coordination. The client appointed E2 personnel as Chairman and Vice Chairman of a Joint Test Group established to coordinate activities among contractors, the start-up team and the operations organization. The leadership appointments grew out of the client's confidence in E2's startup engineering knowledge.

Start-Up Staffing Support Services

In addition to the larger projects above, E2 has provided start-up staff augmentation services at other DOE sites across the complex. Start-up projects include:

- Savannah River Nuclear Site (SRNS)
- Savannah River Remediation (SRR)
  - Tanks 4, 5 and 6 Closure
  - Caustic Tank Project
  - F-Area and Z-Area Control Room Upgrades
- Hanford Site
  - 100K East and West Basin Project
  - Hanford Tank Farms
- Idaho National Laboratory
  - Three Mile Fuel Project
  - 3100 Meter Project
  - GEM Project
  - V-Tank Project
  - CPP-603 Basic Closure Project
  - VES-SFE-106 Tank Closure Project
  - Advanced Mixed Waste Treatment Project