

## POWER GENERATION

TAI is a full-service organization that has been serving the **Power Generation Industry** with Engineering, Management, and Technical Service offerings since its establishment in 1989. Many of TAI's core competencies were developed specifically to service the unique demands of this market. A deep understanding of the operational, maintenance and construction requirements within these markets is overlaid onto the technical strength of TAI's service offerings to assure that we deliver solutions that work for you. Our extensive technical expertise has enabled our clients to design, build, operate and maintain world class facilities over the last 30 years.

TAI is headquartered in Baltimore, MD, and has offices in Dallas, TX and Wilmington, DE.



### ENGINEERING

- Process & Mechanical
- Electrical - Power, Instrumentation & Controls
- Automation & Systems Integration
- Structural & Civil



### MANAGEMENT

- Project Management
- Construction Management
- Procurement Services
- Design-Build & Turnkey Solutions
- Staff Augmentation
- Process Safety Management



### TECHNICAL SERVICES

- Inspection & Test
- I&C Field Services
- Site Safety
- 3D Scanning
- Mechanical, Electrical and Steel Construction

### SERVICES

- \* Preliminary & Detailed Engineering
- \* Scope Development
- \* Construction Cost Estimation
- \* Master Planning
- \* Project Economic Analysis
- \* Equipment Sizing & Selection
- \* Start-Up / Commissioning
- \* Facility Documentation
- \* Peer Review
- \* Calibration Program Development
- \* Electronic Calibration Lab Services
- \* Balance of Plant Engineering & Outage Support

### CERTIFICATIONS

ISO / IEC 17025:2005 (International)  
ANSI / NCSL Z540-1-1994 (National)  
Certification #: AC-2055

#### CONTACT

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# NOTABLE PROJECTS

## ■ CP Crane NOx Abatement Project - Detailed Design and Engineering



TAI provided services for the installation of outdoor Urea Storage Tank foundations, chemical containment, and integration of the Advanced Combustion Technology (ACT) skid units into the plant mechanical, electrical and control systems. Additionally, TAI provided design engineering to route piping and cabling between skids and from the Urea storage tanks to the distribution headers and injectors.

**CLIENT:** CONSTELLATION ENERGY  
**MARKET:** Power Generation  
**LOCATION:** Middle River, MD  
**SERVICES:**

- Project Management & Field Engineering
- Commissioning
- Start-Up | Training | Outage Assistance
- Engineering and Design
- Construction Documentation

**COMPLETED:** 2013  
**VALUE CLASS:** \$10MM

## ■ Retrofit New FGD Unit



TAI provided structural engineering for the new FGD Equipment used to upgrade the Mayo Generation Station in North Carolina.

The project included the design, engineering, and as-built drawings of all structural support steel, access walkways, ladders, and stair towers for the main evaporators and secondary evaporator skids. TAI completed this project early and under budget.

**CLIENT:** PROGRESS ENERGY  
**MARKET:** Power Generation  
**LOCATION:** Raleigh, NC  
**SERVICES:**

- Structural Engineering and Design
- Technical Review
- As-Built Drawings
- Construction Drawings

**COMPLETED:** 2014  
**VALUE CLASS:** <\$1MM

## ■ Mercury Reduction via PAC Injection



TAI provided design engineering for installation of outdoor Urea Storage Tank foundations, chemical containment, and integration of the Advanced Combustion Technology (ACT) skid units into the plant mechanical, electrical and control systems. TAI designed a patent-pending instrument mounting assembly for the TDL units. Additionally, TAI provided design engineering to route piping and

cabling between skids and from the Urea storage tanks to the distribution headers and injectors (complicated pipe routing through existing plant was challenging).

Installation of SNCR technology (supplied by Advanced Combustion Technology "ACT") to reduce NOx stack emissions at Constellation's CP Crane Coal-Fired Electrical Power Generation Station. Additionally, provided duct mounted Ammonia Detection Instrumentation utilizing Tunable Diode Laser (TDL) technology (supplied by Cemtek) for closed loop control and optimization of the urea feed. The SNCR system included two, 25,000-gallon urea storage tanks, a urea circulation skid with ~ 1000' of circulation piping, 4 Urea injection skids with ~ 500' of injection piping, and 2 coiling air blowers with ~500' of piping.

**CLIENT:** CONSTELLATION ENERGY  
**MARKET:** Chemical Process  
**LOCATION:** Middle River and Baltimore, MD  
**SERVICES:**

- Performance Specifications for PAC bid and technical review
- Construction Drawings
- Field Engineering
- Commissioning
- Start-Up

**COMPLETED:** 2014  
**VALUE CLASS:** \$7MM