

# SINGLE-SOURCE CAPABILITIES



**Engineering**



**Project Management**



**Procurement**



# Single-Source

Wheelabrator Air Pollution Control Inc. provides full service design, construction and project management capabilities with nearly a century of experience and a commitment to excellence. More than half of our professional



## ENGINEERING

Wheelabrator's staff of structural, mechanical, piping, electrical and control systems engineers and designers produce quality, cost-effective designs and drawings. We have the technical expertise and experience required for the detailed design of emissions control and ancillary components and systems. It is our goal to complete projects on time and within budget, while exceeding the expectations of our customers.

Wheelabrator provides a full range of services from preliminary engineering — including feasibility studies, development of material cost estimates and planning — to turnkey projects on new or existing facilities. We have the capabilities and experience to analyze existing field and plant problems, develop solutions and oversee the field implementation of those solutions. Our engineers provide support during the field construction, start-up, operation and maintenance of air pollution control equipment.

### Engineering Capabilities Structural

- √ Vessel and casing design for electrostatic precipitators, fabric filters, absorber and spray dryer vessels, tanks and silos.
- √ Ductwork design and engineering, water-cooled ductwork, furnace hoods and gas coolers. Support steel and access, including stair towers, equipment and ductwork supports.
- √ Custom-designed buildings and equipment enclosures, prefabricated buildings and masonry block structures.

- √ Foundations, including excavation and site preparation, piling design, etc.
- √ Development of design drawings and review of fabricator detail drawings.
- √ Preparation of specifications for material supply, site development, fabrication and erection.
- √ Material estimating, including weight and quantity take-offs.
- √ Finite Element Analysis (FEA) of structures and vessels with Algor software.
- √ Computer analysis of structural framework with STAAD software.
- √ Licensed, Professional Engineers in sixteen (16) states.



### Mechanical and Piping

- √ General arrangements, system layout and layout of equipment.
- √ Equipment selection and specification, including process equipment, fans, motors, pumps, material handling systems, dampers, etc.
- √ HVAC system design and specification.
- √ Computer flow modeling, including gas flow and temperature modeling.
- √ Process and utility piping design, including steel, FRP and lined pipe.
- √ Design of pipe supports, including custom-designed and standard supports.
- √ Selection, sizing and specification of all piping, valves and fittings.
- √ Stress analysis of large diameter or high temperature/pressure piping.

# Capabilities

Full-service, multi-disciplined engineering, procurement and construction management. A century of hands-on experience and a commitment to excellence. Our staff has over 20 years of industry experience.

## Electrical and Control Systems

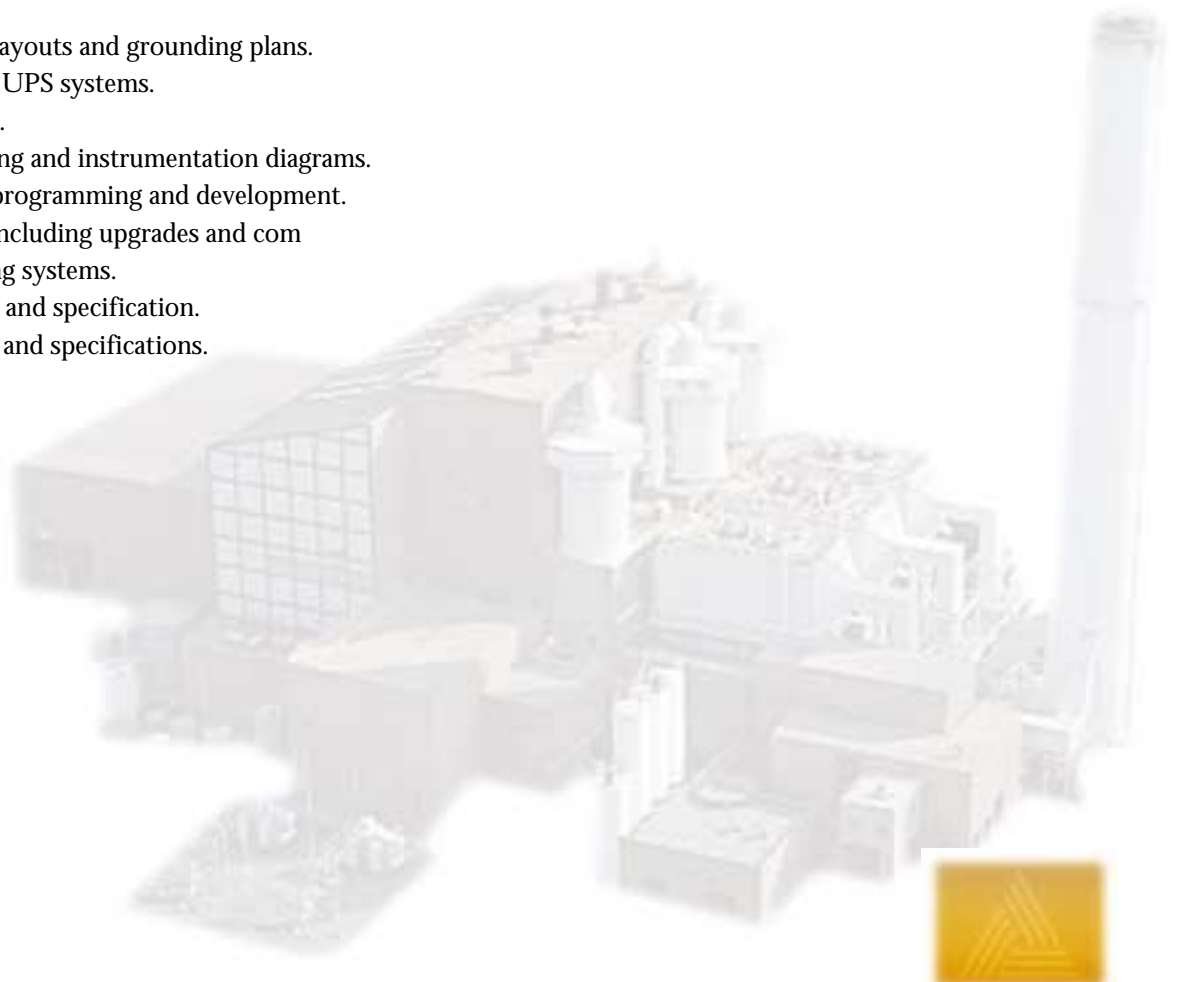


- ✓ Power distribution, including design and specification of medium and low-voltage power distribution equipment, transformers, switchgear, load centers and motor control centers.
- ✓ Preparation of elementary and interconnection wiring diagrams.
- ✓ Preparation of cable tray routing, conduit layouts and cable schedules.
- ✓ Lighting design and layouts and grounding plans.
- ✓ Communication and UPS systems.
- ✓ Heat tracing systems.
- ✓ Development of piping and instrumentation diagrams.
- ✓ DCS / PLC design, programming and development.
- ✓ System integration, including upgrades and communication to existing systems.
- ✓ Control panel design and specification.
- ✓ Instrument selection and specifications.

## CAD System Hardware / Software



- ✓ Bentley MicroStation SE CAD software.
- ✓ Twenty-one (21) fully-licensed MicroStation workstations.
- ✓ AutoCAD 2000 capability.
- ✓ "D" and "B" size plotters and printers.
- ✓ Xerox CS50 Color Copy Center / Printer.





## PROCUREMENT

Our staff of buyers, expeditors, traffic coordinators and quality assurance professionals realize savings by developing supplier relationships, monitoring quality, ensuring adherence to delivery schedules and using the latest procurement tools and applications to expedite the purchasing process.

### Procurement Capabilities

- √ Vendor qualification, selection and negotiation.
- √ Material and services subcontracting.
- √ Inquiry preparation.
- √ Bid review and analysis.
- √ Equipment and parts purchasing.
- √ Expediting.
- √ Shipping and transportation.
- √ Quality assurance.
- √ Construction site procurement services.



## PROJECT MANAGEMENT

Our project management team offers an uncompromising dedication to quality. Our project managers are experienced in the procedures and practices of project execution. They administer all contract provisions, regulatory and safety requirements, control costs, and coordinate construction schedules with the site manager to ensure the on-time, on-budget completion of a project.

Project managers are the single-point customer contact, which allows more efficient communication and resolution of our customer's needs and requirements.

### Project Management Capabilities

- √ Scheduling and tracking.
- √ Project cost controls.
- √ Licenses, permits and insurance certificate coordination.
- √ Safety programs.
- √ Compliance with contract provisions.
- √ Contract change orders.
- √ Communication procedures and tools.
- √ Single-point customer contact.
- √ Project documentation and reporting.



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