



Io Engineers^{INC}

MECHANICAL | ELECTRICAL | PLUMBING | FIRE PROTECTION

3000 N. WICKHAM RD
SUITE 10
MELBOURNE, FL 32935

P 321 752 4949
321 752 4948
F 321 752 4947

POETKER@IOENGINEERS.COM
WWW.IOENGINEERS.COM

INDUSTRIAL

PROJECT EXPERIENCE

Industrial

Aluminum Company of
America, Warrick
Operations –
Environmental Lab
Newburgh, Indiana

Senior Project Engineer and Construction Engineer for the design and installation of mechanical systems in a completely renovated environmental testing lab and office facility at Alcoa's largest aluminum fabricating plant. Mechanical systems included an HVAC system with direct expansion cooling, direct digital control, laboratory fume hoods with roof mounted exhaust fans and stainless steel ductwork, heating recovery systems, dehumidification, high efficiency filtration system and laboratory gas piping.



Aluminum Company of
America, Warrick
Operations –
Finishing Area Quality
Assurance Lab
Newburgh, Indiana

Senior Project Engineer and Construction Engineer for the design and installation of mechanical systems in a new 4,000 s.f. quality assurance lab and office facility at Alcoa's largest aluminum fabricating plant. Mechanical systems included 100% outside air



HVAC system with chilled water cooling, direct digital control, laboratory fume hoods with roof mounted exhaust fans and stainless steel ductwork, heat recovery systems, dehumidification, high efficiency filtration system and laboratory gas piping.

PROJECT EXPERIENCE

Industrial

Aluminum Company of America, Warrick Operations –
Ingot Plant Ventilation Upgrade-Phase II
Newburgh, Indiana

Senior Project Engineer and Construction Engineer for project to install five new makeup air units, 100,000 cfm each, with direct-fired gas burners. Project included natural gas piping and structural steel stairways and catwalks for maintenance accessibility.

Aluminum Company of America, Warrick Operations –
Rolling and Fabricating Area High-Temperature Water Coil Replacement
Newburgh, Indiana

Senior Project and Construction Engineer for project to replace 32 high-temperature water integral face and bypass heating coils in makeup air units (100,000 cfm each) located in plant roof throughout rolling and fabricating areas. Project included the replacement of HTW piping and insulation. As construction engineer was responsible for the coordination of helicopter lifts for coil replacements.



Aluminum Company of America, Warrick Operations –
Loading Dock Radiant Heating System
Newburgh, Indiana

Mechanical engineering services at an aluminum production plant for the design and installation of a low-intensity gas-fired radiant heating system in the 20,000 s.f. Pack/Ship Loading Dock. Responsibilities included developing the scope of work, requesting and obtaining funds, design, purchasing the equipment and materials, supervising construction, system start-up, and developing operation and maintenance documents.

PROJECT EXPERIENCE

Industrial

Aluminum Company of America, Warrick Operations –
Ingot Area Gas-Fired Makeup Air Units
Newburgh, Indiana

Mechanical engineering services for Alcoa's Warrick Operations. Projects consisted of the design and installation of: 1) six 100,000 cfm direct gas-fired makeup air units in the ingot casting area of the plant, 2) natural gas piping, regulators, and hot-tapping of the existing gas main, and 3) structural steel supports, stairways and catwalks installed for maintenance accessibility. Responsibilities included the design, purchasing the equipment and materials, supervising construction, system start-up, and developing operation and maintenance documents.

Aluminum Company of America, Warrick Operations –
HVAC for Various Industrial Facilities
Newburgh, Indiana

Mechanical engineering services for the design and installation of direct-expansion air conditioning systems for various facilities throughout the plant. Responsibilities included the design, purchasing the equipment and materials, supervising construction, system start-up, and developing operation and maintenance documents. The following facilities were constructed: Environmental Lab (included the installation of inert gas piping and storage, laboratory fume hoods, and high efficiency filtration system), Maintenance Shops, Switchgear Equipment Buildings, Offices, Recycling Scrap Inspection Facility, Finishing Area Quality Assurance Lab (4,000 s.f. lab and office facility that included the installation of laboratory fume hoods, natural gas laboratory piping, dehumidification, and high efficiency filtration system).

Aluminum Company of America, Warrick Operations –
Computer Room Air Conditioning Installations for Various Facilities
Newburgh, Indiana

Mechanical engineering services for an aluminum production plant. Projects consisted of the design and installation of packaged computer room air conditioning systems, high-filtration positive pressurization units and halon fire protection systems for the computer rooms of various facilities. Responsibilities included developing the scope of work, requesting and obtaining funds, design, purchasing the equipment and materials, supervising construction, system start-up, and developing operation and maintenance documents.

PROJECT EXPERIENCE

Industrial

Aluminum Company of America, Warrick Operations – HTW Heating Coil Replacements in Makeup Air Units
Newburgh, Indiana

Mechanical engineering services for the replacement of 32 high-temperature water (HTW) heating coils, piping and control valves in various makeup air units located on the roof of the fabricating and rolling areas of Alcoa's largest aluminum fabricating plant. HTW (350°F, 360 psi) coils are 50,000 cfm integral face and by-pass type and required helicopter lifting for removal and installation. Responsibilities included the design, purchasing the equipment and materials, developing the helicopter flight plan, coordinating the helicopter flight plan with the various production areas for the required safety considerations, supervising construction, system start-up, and developing operation and maintenance documents.



Aluminum Company of America, Warrick Operations – Building 814 Roof Ventilator Replacements
Newburgh, Indiana

Mechanical engineering services for replacement of 21 building roof ventilators with new 40,000 cfm roof ventilators located at the peak of a gabled roof. Removal of the existing and installation of the new roof ventilators required helicopter lifts. Responsibilities included the design, purchasing the equipment and materials, supervising construction, developing the helicopter flight path, coordinating the helicopter flight plan with the various production areas for the required safety considerations, and developing operation and maintenance documents.

Aluminum Company of America, Warrick Operations – Coil Prep Line Oil-Mist Eliminator
Newburgh, Indiana

Mechanical engineering services for project to capture and remove oil-mist from the production area of Alcoa's largest aluminum fabricating plant. Oil-mist eliminator systems were designed and installed for each of five aluminum coil prep lines. Each system consisted of capture hoods, high pressure ductwork, prefilters, high efficiency filters, high pressure air blower (8,000 cfm), and oil sump. Eliminators were located on structural steel platforms with stairways and catwalks for maintenance access.

PROJECT EXPERIENCE

Industrial

Aluminum Company of
America, Warrick
Operations –
CFC Refrigerant
Recovery/Recycling
Program
Newburgh, Indiana

Engineering services at aluminum production plant for refrigeration maintenance program to recover and recycle CFC refrigerant in HVAC systems throughout plant. Development of program included procurement of recovery/recycling equipment and training of maintenance personnel. Existing refrigeration systems were retrofitted with purge units, suction line filters, schraeder valves, and isolation valves to substantially reduce the amount of CFCs being leaked to the atmosphere. New design standards were developed to provide guidance for future installations. Program was adopted by Alcoa's corporate environmental group as a guide to other Alcoa plants.

Kimberly-Clarke
(formerly Scott Paper)
Ventilation Study of
No. 5 Paper Machine
Everett, Washington

Performed engineering survey of the existing HVAC systems serving the offices, lab, conference room, and research addition in the Pulp Lab. Occupants had numerous complaints about overheating and concerns about indoor air quality. Recommendations were presented with five options, of varying construction costs, to solve the problems associated with the occupants' complaints.

Kimberly-Clarke
(formerly Scott Paper)
No. 10 Boiler Building,
Chemical Room
Ventilation
Everett, Washington

Mechanical engineering services for an employee safety project that consisted of an acid-resistant exhaust ventilation system for the chemical room. Design included the installation of acid-resistant ductwork from the existing Conquor, Sulfito, Phosphate, and Nitrate mix tanks, routed to a fiberglass centrifugal exhaust fan (42,000 CFM) located outdoors adjacent to the building. The exhaust duct was terminated above the building roof. New inlet louvers to the room were also installed, as well as, additional plumbing venting for three existing chemical storage tanks.