



Statement of Qualifications



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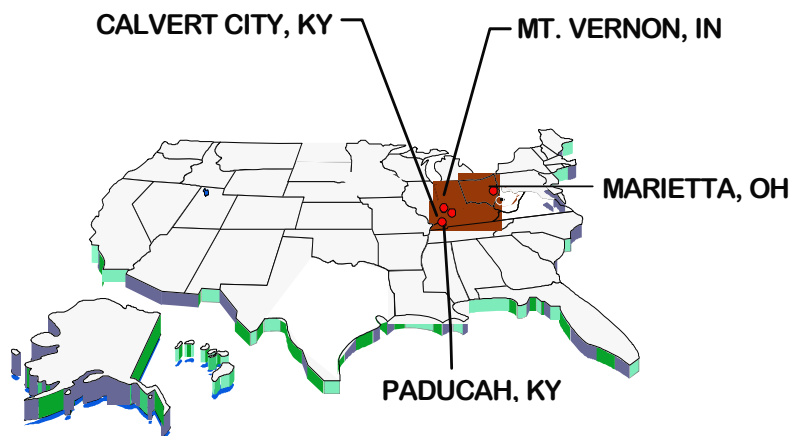
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APEX **Bulk Technologies**

www.apexbulktech.com

1.0 INTRODUCTION

Apex Engineering, Incorporated, a full service engineering firm, provides consulting engineering services to diverse segments of industry. Our clients include major producers of specialty chemicals, polymers, nonferrous metals, electric power generation, rubber and elastomer products, mines, quarries, refineries, process equipment manufacturers, and pulp and paper products. First established in Calvert City, Kentucky in 1974, Apex now has additional permanent offices in Mt. Vernon, Indiana, and Marietta, Ohio.



Today Apex Bulk Technologies is a multi-disciplined firm, providing a wide range of services to our clients. These services include:

- Project Engineering
- Automation
- Process Design
- Cost Estimation
- Project Management
- Control System Design
- Construction Management
- Software Development
- Purchasing Support
- Construction

Apex Bulk Technologies' continued success is attributed to long-term, confidential relationships we maintain with our clients. This is achieved through quality management, fast response and engineering excellence. From small engineering tasks to large-scale projects, Apex Bulk Technologies provides unsurpassed quality resources to the client.



2.0 CAPABILITIES AND SERVICES

Apex Bulk Technologies provides a complete range of engineering services to cover every facet of project implementation including feasibility studies, estimating, scheduling, procurement, design, construction management, construction, and commissioning.

2.1 PROJECT MANAGEMENT

Project Management services offered by Apex enable clients to deal with one individual throughout all phases of a project. Apex project managers are experienced with projects of varying sizes from retrofits to new, complete, multi-million dollar mines, quarries or power plants. Services include:

- Project Management and Control
- Development Procedures
- Scheduling
- Cost Control
- Project Estimating
- Scope Development
- Reporting Systems and Document Management
- Start-up and On-going Technical Support Services
- Construction

2.2 PROJECT ENGINEERING

Apex Bulk Technologies can furnish an integrated team of professionals for civil, structural, piping, mechanical, instrumentation and electrical engineering design. This project team can produce the working documents necessary for procurement, fabrication and installation of all materials required to construct a material handling project ready for operation.

Our designs emphasize safety, quality, and practicality. In addition, economy, ease of operation, and maintenance are important considerations in each process plant design.

2.3 INITIAL ENGINEERING

Apex Bulk Technologies' process design team offers the benefits of many years of experience in industrial applications. Our engineers have performed a wide range of studies, from process optimization of existing mines, quarries, or power plants to design of new bulk material handling facilities. Services include:

- Conveyor Layout
- Loading Requirements
- Equipment Sizing and Specifications
- Hydraulic Pipe Sizing
- Environmental Permit Application Preparation
- Storage Silos, Bins, or Piles



2.4 CONTROL SYSTEM AND SOFTWARE DEVELOPMENT

Apex offers expert system integration and software development. We have extensive experience with programmable controllers and routinely work with Allen-Bradley, Modicon, GE/Fanuc, Siemens and other PLC hardware platforms. Our systems range from 20 I/O to projects involving over 5,000 I/O points. In addition to normal discrete I/O modules, we are experienced in specialized modules, such as analog I/O modules, RTD modules, PID control modules, programmable operator interfaces, variable frequency drive interfaces, high speed counters, axis positioning modules, BASIC cards, RS-232/RS-422 communications modules, Ethernet adapters and communications networks of up to 10,000 ft. length. Apex Engineering is also a software developer for Rockwell and an authorized systems integrator for Wonderware, GE Fanuc and other quality control products suppliers.

Apex can also provide System Control and Data Acquisition (SCADA) programming and HMI development for operator interface terminals. Project experience includes FixDMACS, TCP Smart Screen, RS View, Cimplicity, Factory Link, Intellution, and Wonderware.

In addition to extensive work with programmable controllers, Apex has staff expertise in distributed control systems (DCS) including Fisher Provox, Bailey, Honeywell, Westinghouse, GSE, Yokogawa, and PC-based control systems. Our highly skilled DCS group has extensive experience with controls narration, design and implementation.

Apex offers extensive experience in the instrumentation field. We have designed a variety of control systems from single loop controllers to large scale DCS controlled systems including specifying, designing and start-up of instrumentation in the four major control groups, i.e., pressure, temperature, level and flow. We have many years of combined experience in standard electrical control systems involving hard-wired control devices. Apex also provides complete start-up and system trouble-shooting services.

2.5 SPECIALIZED RAIL CAR, TRUCK, & BARGE LOADING EXPERTISE

Apex Bulk Technologies has developed specialized skills in the loading of coal, limestone, flyash, cement, potash, gypsum, lime ,and phosphate including:

- Batch Loading
- Unit Train Loading
- Truck Loading
- Barge Loading
- Ship Loading

2.6 PURCHASING SUPPORT

Apex offers complete purchasing services, from purchasing assistance to complete procurement management. Our up-to-date knowledge of equipment vendors, scheduling and costs can be beneficial to the flow of a project. Our in-house purchasing assures close coordination with engineering to assure proper compliance with specifications. Apex Engineering also works closely with clients to facilitate Reverse Auctions when required.



2.7 PROJECT COST ESTIMATION

For medium to large projects, Apex uses Aspen Icarus[®] Project Manager (IPM) estimating software products to efficiently prepare detailed cost estimates. IPM is continuously updated to maintain accurate labor, materials and equipment cost databases for projects throughout the United States.

2.8 CONSTRUCTION MANAGEMENT

Experienced construction management can help owners reduce cost and risk throughout a construction project. We provide professional assistance with the following tasks:

- Determination of project goals and budget
- Development of cost control, scheduling and reporting systems
- Review of design documents
- Development of procurement and contract strategies
- Assistance with bidding
- Maintenance of project records
- Coordination of construction activities
- Inspection for conformance to plans and specifications
- Negotiations

2.9 COMPUTER DRAFTING & DESIGN

In keeping pace with the latest technology, our design staff uses AutoDesk[®] AUTOCAD[®] products and Multisteel 3D structural design software products.

2.10 SOFTWARE

In keeping pace with the latest technologies, our design staff uses a variety of software to aid in design.

- AUTOCAD[®]
- Estimating (ASPEN[®]IPM[®])
- Structural (RAM[®] Integrated System and STAAD/Pro[®])
- Scheduling (Microsoft Project[®])
- Business Systems (Microsoft)



3.0 GENERAL EXPERIENCE

This section lists specific engineering and design services, arrayed by discipline, which we provide to our clients.

3.1 INITIAL ENGINEERING

- Preliminary engineering studies including feasibility and economic studies, cost estimates and scheduling
- Detailed equipment specifications
- Process control for new facilities and retrofit of existing facilities
- Software available: Icarus Project Manager[®], Apex developed cost databases, and Pipe Flo[®] hydraulic design software

3.2 FACILITIES, CIVIL AND STRUCTURAL ENGINEERING

- New buildings and building expansions for general plant works, control buildings, loading/unloading facilities, offices, change rooms, labs and maintenance shops
- Site planning including grade plans and drainage systems
- Storm and process drainage with containment systems
- Foundations for building and equipment per ACI Code
- Structural steel for buildings, conveyors, platforms, walkways, ladders, stairways, transfer towers, sampling systems, and loadouts per AISC Code

3.3 MECHANICAL ENGINEERING

- Conveyor system designs for bulk solids, including gravity and power systems
- Pneumatic conveying systems for bulk solids
- Specialty machinery design, fabrication and installation supervision including motion devices and controls
- Storage bins or silos
- Hydraulic piping systems per ASME-B31 specification series
- Dust Collection Systems

3.4 INSTRUMENTATION ENGINEERING

- Field instrument device selection, specification and troubleshooting
- Control valve and safety relief valve selection and specification
- Preparation of instrument loop diagrams and installation details



3.5 ELECTRICAL ENGINEERING

- Electrical designs for new mines, quarries, or power plants and expansion projects
- Lighting design
- Substation and MCC design
- Complete power surveys and load studies
- Preparation of elementary electrical diagrams and electrical one line drawings
- Electrical designs of power distribution in compliance with the National Electrical Code (NEC) to meet hazardous (classified) location requirements, flammable gasses and dust
- Power Factor Improvement Project to reduce power costs
- Fault Current and Arc Flash Analysis

3.6 CONTROL SYSTEM ENGINEERING

- Graphics screen development for graphical operator interface systems including full color touch screen applications utilizing many major software packages
- Design of complete process controls systems for various industrial process plants using a variety of control architectures and operating platforms
- Software troubleshooting and equipment start-ups
- Plant control system recommendation and detailed design
- Programmable Logic Controller installations including Allen Bradley, GE, Modicon, Siemens and others
- Distributive Control Systems including Honeywell TDC, Bailey, Emerson Provox and DeltaV, Applied Automation and GS&E D3.
- PC-based control systems including Steeplechase, Cimplicity, Opto22 and others
- Block and graphic process control panels
- I/O subsystems
- Profibus, DH+, Modbus and Industrial Ethernet networks
- Specialized service through ACS (Apex Controls Specialists)

3.7 PLANT UTILITY DESIGN AND ENGINEERING

- Ventilation systems for industrial use, including scrubber equipment, air curtains, evaporative coolers, and dust control
- Utility systems for steam, plant and instrument air, water, and boiler feedwater treatment chemicals
- Building HVAC systems

3.8 DRAWINGS AND DOCUMENT MANAGEMENT

- Conversion and updating of existing drawings onto various CAD formats
- Preparations of as-built drawings in all major engineering disciplines
- Numerous AutoCAD[®] systems on-line and also have experience with CADAM[®], CADKEY[®], CALMA[®] and AUTOTROL[®]



3.9 PURCHASING SUPPORT

- Reverse Auction bidding process
- Complete handling of all project purchasing activities including issuing of purchase orders and payments
- Partial handling of all project purchasing as “agent” for client excluding issuing of purchase orders and payments
- Selection and evaluation of recommended vendors lists
- Preparation of purchase requisitions with supporting equipment and performance specifications
- Quotation evaluation and recommendations
- Vendor data review and approval
- Witness inspections at vendor’s plant for quality assurance
- Expediting of project equipment and vendor data

3.10 CONSTRUCTION SUPPORT

- Overall site management
- I/E punch listing and loop checking
- Hydraulic piping walk-downs, punch listing and installation verification
- Foundation/structural steel installation verification
- Resolution of design improvements and preparation of revision documentation

3.11 SAFETY MANAGEMENT

- Assess existing programs and resources
- Develop compliance action plan including documents, operating procedures, mechanical integrity, etc.
- Develop prioritized schedule for hazard analysis
- Provide HAZOP and SWIFT facilitation and recording support
- Management of Change Requirements

3.12 COMMISSIONING SUPPORT

- Planning, scheduling and staffing to ensure safe and timely equipment commissioning
- Mechanical checkout, lubrication and testing
- Electrical testing, loop checks and I/O verification
- PLC and DCS software testing and start-up
- Training classes and individual instruction for production and maintenance
- Coordination of vendor field service personnel
- Technical support, 24-hour coverage, on-call coverage, or other support as required by client



4.0 PROJECT EXPERIENCE

The partial listing herein provides a brief description of representative projects. These projects were performed by Apex Bulk Technologies and/or Apex Engineering personnel during both prior employment and employment with Apex. Apex is proud that our success stems from repeat business from satisfied clients. All project costs are in US Dollars and are approximate.



Industry	Project Description	Capital Cost
Aggregate	Complete plant expansion, primary, secondary, finishing, blending, barge loadout, automation and startup. Location: Western Kentucky	\$45,000,000
Aggregate	Primary crushing, conveying, secondary crushing and finishing systems, electrical and controls design, automation and startup. Location: Western Kentucky	\$5,500,000
Aggregate	Blending and barge loading. Primary, secondary, auxiliary, aggregate blending, barge loading systems, controls design, automation and startup. Location: Southern Illinois	\$5,000,000
Aggregate	Primary crushing, conveying, secondary crushing and finishing systems, electrical and controls design, automation and startup. Location: Western Kentucky	\$4,500,000
Aggregate	Lime Plant system controls design, automation and startup.	\$3,500,000
Aggregate	Primary crushing, conveying, secondary crushing, finishing, storage systems electrical and controls design, automation and startup. Included equipment specification and procurement. Location: Mid-Ohio	\$2,500,000
Aggregate	Secondary crushing, conveying, storage, truck loadout systems controls design, automation and startup. Location: Eastern Missouri	\$1,500,000
Aggregate	Portable plant crushing, conveying, loadout, electrical and controls design, and startup. Included equipment specification and procurement. Location: Canada	\$1,500,000
Aggregate	Plant conveying and truck loadout system, electrical, controls, automation and startup. Location: North Arkansas	\$1,500,000
Aggregate	Tertiary crushing and conveying systems controls design, automation and startup. Location: Western Kentucky	\$1,000,000
Clay	Cleated Belt Conveyor. 45-degree corrugated-wall cleated belt conveyor to convey cat litter from grade to the top of silo.	\$150,000



Industry	Project Description	Capital Cost
Catalyst	Warehouse and Bulk Material Handling System	\$3,500,000
Clay	45 Degree Cleated Belt Conveyor	\$150,000
Coal	Replace Belt on 72" 5 Mile Overland Conveyor	\$3,000,000
Coal	Coal Handling and Storage DCS Control System Location: Illinois	\$180,000
Coal	Coal Yard Material Handling and Dust Control	\$100,000
Coal	Coal Concrete Silos, Reclaim Tunnels, and Stacking Tubes Locations: Wyoming, Kentucky, West Virginia, Colorado, and Ohio	\$250,000/ea. \$4,000,000
Coal	Four-1200 TPH Coal Conveyors	\$750,000
Coal	Six-500 TPH Coal and Limestone Conveyors	\$800,000
Coal	Coal Conveyor	\$500,000
Coal	Barge Loadout Conveyor Location: Kentucky	\$300,000
Coal	Boilerhouse Wood Chip and Coal Conveyors	\$2,000,000
Coal	Coal Refuse Overland Conveyor Location: Kentucky	\$300,000
Coal	Truck Unloading, Conveying, and Barge Loading Project Location: West Virginia	\$6,000,000
Coal	2,000' Slope Belt from Mine Portal Complete with Transfer Tower Location: Kentucky	\$3,000,000
Coal	Three mile Overland Conveyor for Run of Mine Coal with Reclaim Tunnel, Stacking Tube, Magnetic Separators, and Dust Suppression System. Location: Kentucky	\$10,000,000
Coal	New Conveyor to Feed a Screening and Loadout Structure Location: Kentucky	\$500,000
Coal	Clean Coal Overland Conveyor complete with Transfer Tower, Stacking Tube, Feeders, Magnetic Separator, Belt Scales, Sampling System, Mooring Cells, and Barge Loadout rated at 3,800 TPH. Location: Kentucky	\$15,000,000



Industry	Project Description	Capital Cost
Coal	New Mine Development in Western U.S. consisting of Feeder-Breaker Equipment, Conveying, Screening, Radial Stacker, Reclaim Tunnel with Feeders, and Truck Loadout.	\$10,000,000
Coal	Upgrade Coal Fired Utility Conveyor System Location: Indiana	\$50,000
Coal	Truck Unloading, Conveying, Storage, Feeding, Magnetic Separation, Sampling, and 4,000 TPH Batch Rail Car Loadout Location: Western United States	\$25,000,000
Coal	Rail Car Unloading, Conveying, Storage, Sampling, Feeding, Overland Conveyor, Mooring Cells, 72" Tripper with 5,000 TPH Barge Loadout Location: Indiana	\$70,000,000
Fertilizer	Belt Conveyor System Location: Texas	\$350,000
Metals	Carbon Solids Handling System	\$8,000,000
Metals	Furnace Feed Cleated Belt Conveyors Location: Indiana	\$400,000
Metals	Furnace Feed Belt Conveyors and Storage System Location: Kentucky	\$800,000
Petroleum Coke	Conveying System with Railcar/Truck Loadout Location: California	\$1,000,000
Power	Fuel Blending Control System – PLC and HMI	\$375,000
Power	Coal Dust Suppression System	\$350,000
Power	Fuel Handling Conveyor	\$300,000
Power	Dust Control and Collection	\$250,000
Power	Develop Specifications to Upgrade a Railcar and Truck Loading System for a Coal-Fired Utility Location: Illinois	\$50,000
Sand	Foundry Sand Batch Delivery System Location: Tennessee	\$500,000
Wood Chips	Wood Chip Conveyor Location: Kentucky	\$500,000



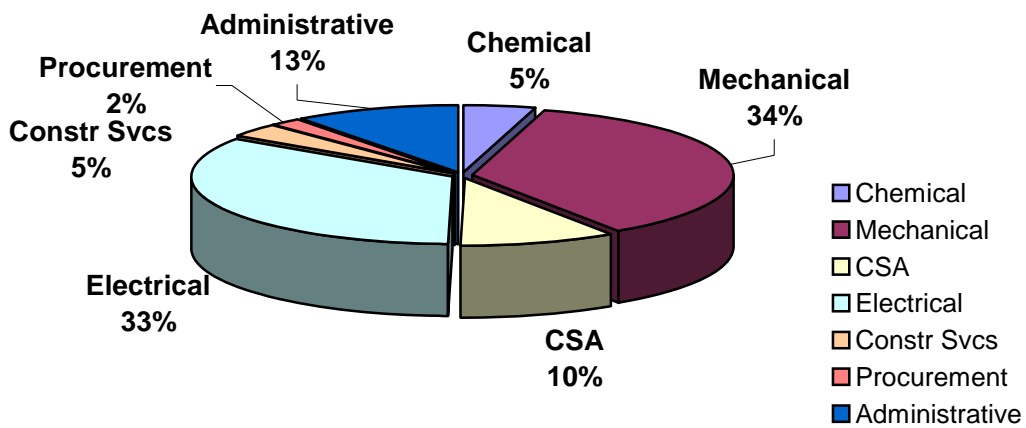
Industry	Project Description	Capital Cost
Wood Chips	Bark Drying and Classification Belt Conveyors Location: California	\$550,000
Wood Chips	Wood Fines Handling Transfer and Storage System Location: Virginia	\$750,000
Utilities	Boilerhouse Expansion	\$11,600,000
Utilities	Air Separation Unit Electrical Engineering and Design	\$10,000,000

5.0 ADDITIONAL INFORMATION

5.1 STAFFING

Project Managers	6
Engineers	
Process	5
Chemical	6
Civil/Structural	4
Electrical/Instrumentation	7
Mechanical	10
Construction	4
Project Support	48
Administrative	15
<hr/>	
Total Staffing	105

Apex Staff by Discipline





5.2 REPRESENTATIVE CLIENTS

(AEP) American Electric Power	Hopkins County Coal
Alcan Rolled Products Company	Japan Steel Works
Alton Coal	Lafarge
Century Aluminum	Logan Aluminum
Ghent Generating Station	Louisville Gas & Electric
AK Steel	Marathon/Ashland Petroleum
Alliance Coal	Martin-Marietta Materials
Amoco	MeadWestvaco Corporation
Bethlehem Steel	Noranda Aluminum
Cabot Corporation	Ormet Aluminum
Carbide Industries LLC	Oxbow Carbon & Minerals
Chevron, USA	Pechiney Rolled Products
Commonwealth Aluminum	River View Coal
Criterion Catalysts	Rogers Group
Daikin America	Sierra Coal Company
Duke Energy	SITRAN Dock
Electric Energy, Inc. (EEI)	Southern Illinois Power
Freeman Coal	Tunnel Ridge Coal
George Koch & Sons	Valley Steel Company
German Valley Limestone	Vulcan Materials
Hoosier Energy	Warrior Coal
	Webster County Coal