

ZAP ENGINEERING AND QUALIFICATIONS AND CAPABILITIES

DISTRIBUTION TERMINALS



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SUMMARY OF QUALIFICATIONS

CAPABILITIES

ZAP Engineering & Construction Services, Inc. (ZAP) was established in 2001 and brings decades of expertise to the oil & gas, specialty chemical, and material handling industries. The diverse backgrounds of our project team members allow ZAP to bring focused knowledge to unique challenges and projects. In-house engineering services include: Process, Mechanical, Electrical, Instrumentation & Controls, and Civil/Structural.

ZAP is a full-service engineering and construction management firm. Our team provides process expertise with design and construction follow-through to provide our clients with the capabilities necessary to execute on-schedule, quality projects.

ZAP specializes in:

- ✓ Conceptual Engineering,
- Detailed Engineering and Design,
- Project and Construction Management,
- ✓ Controls and Automation,
- ✓ Procurement Services,
- ✓ Safety Management,
- ✓ Project Controls,
- ✓ Feasibility Studies,
- ✓ Due Diligence Analysis, and
- ✓ Permitting Support.

ZAP executes a variety of projects ranging from small process studies to full EPC installations including but not limited to:

- ✓ Well Pad Production Facilities
- ✓ Gathering Pipelines (Gas, Oil, Saltwater, Fresh Water),
- ✓ Compressor Stations,
- ✓ Gas Processing Plants,
- Oil Stabilization, and
- ✓ Terminals.

Our company size allows us to execute a wide range of projects and prioritize work to meet your company's needs. ZAP has the manpower to tackle large capital projects while efficiently executing smaller projects. We are able to meet deadlines, identify alternate solutions, and change direction quickly when necessary.

LEADERSHIP

CEO Steve Tzap, PE

PRESIDENT Frank Lousberg, PE

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CONTACT DETAILS

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GREELEY OFFICE 7257 W. 4th Street Suite #2 Greeley, CO 80634 Efficiency and quality are emphasized on every project, and the ZAP team is continually looking for ways to improve in these categories. ZAP takes pride in producing high quality designs at a lower cost. The ZAP culture embraces a collaborative design process with cooperative design reviews. These design reviews involve all project stakeholders to ensure a successful project.

The foundation of our company is process engineering. Our in-depth understanding of processes allows us to provide a holistic approach to any engineering challenge.

PROJECT EXECUTION STRATEGY

ZAP has executed projects with a variety of contracting strategies to best fit our clients' goals and desired outcomes. Below are our most successful strategies.

DESIGN BUILD (EPC)

ZAP has completed engineering, procurement, and construction services on relevant projects ranging from compressor stations and cryogenic gas plants to brownfield processing facility retrofits. Utilizing an engineering, procurement, and construction (EPC) vehicle allows ZAP to offer a turnkey approach. ZAP's responsibility for all project-related activities allows for more streamlined communication between the disciplines. With better communication, mistakes are avoided, the schedule can be compressed, and the project has a higher likelihood of success. ZAP's EPC experience has allowed for the development of simplified project management practices, comprehensive lessons learned program, and robust cost estimating tools. This methodology minimizes client risk but also represents the highest cost.

OWNERS' AGENT ENGINEERING & CONSTRUCTION MANAGEMENT

ZAP is able to provide an open book approach where ZAP is reimbursed for a management fee to execute the project. In this scenario, ZAP provides project management, engineering and design, procurement services, and construction management. ZAP's management fee is subject to the risk of budget or schedule exceedances. The project is initiated with an engineering phase where project documents and drawings are generated, the overall schedule is defined, and a total installed cost estimate is developed. This estimate serves as the basis for the fee and the cost target.

DESIGN-BID-BUILD (T&M OR FIXED PRICE ENGINEERING)

ZAP also offers a more traditional approach to contracting. In this approach, ZAP coordinates with your company to establish the design, assist in the bidding process, and support the final build out. ZAP is able to provide project management, engineering and design, procurement services, and construction management. Generally, ZAP expects the engineering and design services to constitute approximately 5% to 10% of the total project cost. The construction management support can vary greatly depending on construction duration and level of field services desired. Typically, construction management support is approximately 7% to 10% (when trade inspection is included) of the total project budget depending on the desired scope. Both of these metrics will depend on the contract structure between ZAP and your company.

RELEVANT PROJECT EXPERIENCE - TERMINALS

FLY ASH DISTRIBUTION TERMINAL

ZAP was contracted to perform detailed engineering and design for a greenfield fly ash terminal project. The client would be receiving fly ash via rail, off-loading to a custom flat bottom storage building, reclaiming via loader to storage silos, and truck loading. ZAP also completed site & parking planning and worked with the local regulatory authorities for permitting.



TERMINAL RAIL-LOADING MODIFICATION

ZAP was contracted to perform detailed engineering & design for a terminal expansion project. The clients existing terminal was only capable of loading trucks. ZAP worked directly with railroad specialists to layout the rail spur into the facility, utilize the existing storage silos for rail loading capability and install a dual rail/truck scale combination. ZAP included future silo storage expansion into the design. Project scope included mechanical, civil, structural, instrumentation/controls & electrical engineering disciplines.



CEMENT DISTRIBUTION TERMINAL CONCEPTUAL DESIGN

ZAP was contracted to perform conceptual layout, design, and total installed cost estimate for a new pneumatic truck off-loading, storage, and automated truck loading system. The system was designed to transfer cement by truck to the silo during low traffic periods and load customer trucks during peak shipping periods. ZAP designed the traffic plans with various scenarios for determining minimum real estate required.



CEMENT AND SLAG IMPORT AND DISTRIBUTION TERMINAL ENGINEERING

ZAP was contracted by our client to perform complete engineering services including civil, structural, mechanical, electrical, and controls engineering for a major modification and replacement of 2 silo reclaim conveying systems. After a field review of the existing conveying and dust control systems, ZAP developed a new system concept and subsequently engineered a complete system to eliminate troublesome transfers between air gravity conveyors and belt conveyors and address associated dust control issues. Deliverables included full engineering plans for mechanical, structural, electrical, and instrument and controls.

CEMENT AND SLAG IMPORT TERMINAL PRELIMINARY ENGINEERING AND FEL-2 COST ESTIMATE

ZAP was contracted to perform conceptual engineering for 60,000 ton import terminal including dock improvements, ship unloader, 3 x 20,000 ton storage silos, product storage and loadout, ship loader, and all material handling systems. Final work product was a +25/-10% total installed cost estimate.

CEMENT DISTRIBUTION TERMINAL CONCEPTUAL DESIGN

ZAP was contracted by our client to perform conceptual layout and design for a new rail distribution terminal. The system was designed to receive cement by dual rail tracks and off-load simultaneously into one of four silos. Each system had independent conveying systems to reduce the potential for cross-contamination, as each silo would likely hold a different type of cement. ZAP specified all equipment and provided a total equipment cost estimate. The client utilized ZAP's drawing package for both permitting as well as EPC bids.



CEMENT AND FLY ASH TRANSPORT SYSTEM ENGINEERING

ZAP provided engineering and detailed design for a pneumatic conveying system upgrade and conveying line reroute. Civil and structural engineering included a new stair tower and personnel elevator to access existing cement storage silos. Project included relocation of an existing motor control center and associated structural and HVAC engineering for a new electrical room.



CEMENT IMPORT AND DISTRIBUTION TERMINAL

ZAP was contracted to perform preliminary engineering and comprehensive cost estimating for the expansion of a cement import and distribution terminal. The scope for the import facility expansion included three (3) new 450,000 FT3 steel storage tanks, transport equipment to convey material from ship to the new storage tanks, and transport equipment to convey material from the new storage tanks to existing rail and truck loading facilities. The scope of the distribution facility expansion included two (2) new 160,000 FT3 concrete slip-formed silos, the addition of a marine vessel loading system to the facility and conveying lines to connect the storage

silos and vessel loading equipment. Interfaces with existing equipment systems were identified and optimized. The design was executed to suit existing site process and layout conditions to form a comprehensive total installed cost estimate.



ZAP PERSONNEL RELEVANT EXPERIENCE

In addition to the relevant experience of ZAP as a company, the ZAP team has vast experience in cement manufacturing and distribution, both in operations and in projects. We believe this experience is what sets ZAP apart from many other engineering firms, and ultimately adds great value to the services we provide to our clients.

Our team has had experience with various manufacturers' equipment, as well as types of equipment. This allows ZAP to discuss various perspectives (capital cost, reliability, life cycle, maintenance, etc.) of a particular piece of equipment or system with our clients. This experience also serves as a "pool" from which we can draw from to develop optimized designs.

ZAP personnel have fulfilled the following roles in operations:

- Cement Plant Manager
- Cement Plant Production Manager
- Corporate Chief Process Engineer
- Cement Plant Maintenance Manager
- Corporate Project Manager
- Cement Plant Process Engineer
- Cement Plant Engineer
- Cement Plant Mechanical Engineer
- Cement Plant Quality Manager

ZAP personnel project experience:

- Owner's plant production manager, process engineer, and mechanical engineer for the addition
 of a 5,500 stpd precalciner kiln, roll press addition to existing raw mill systems, and 180 stph
 cement ball mill in southern California. Responsibilities during the project included coordination
 with the corporate project team, review of project documents and status, project scheduling for
 commissioning and outage, pre-commissioning checkout, operating manual development,
 commissioning, and startup.
- Owner's project manager for a plant modernization in Midlothian, TX. Project included substantial modifications to an existing kiln including shortening and a new drive system. A new preheater/precalciner, a new kiln baghouse, a new clinker cooler and a new coal mill were installed.
- Owner's project engineer for the installation of a new vertical finish mill in southern California. The project consisted of a 200 stph vertical finish mill, mill feed and product material handling systems. Project engineering responsibilities included management and implementation of controls engineering and programming.
- Owner's project manager for a new cement storage and truck loading system in southwest Arkansas. The storage consisted of two 12,000 ston silos. Three truck loading lanes were built with fully automated driver-loading capabilities.
- Owner's Engineer and Project Manager for an ammonia injection system for NOX control (SNCR). System included 20,000 gal aqueous ammonia storage system, injection pump skid, stainless steel piping, and injection control equipment. Responsibility included NOx reduction process optimization and testing.
- Engineer and Project Manager for various NESHAP compliance projects including kiln baghouse PM improvement upgrades, hydrated lime storage and injection system for sulfur dioxide control, gas conditioning tower upgrade for hydrochloric acid and sulfur dioxide control, and process material handling upgrades for optimizing kiln dust distribution for emissions control by material balance.
- Owner's project manager for a green field cement import and distribution terminal in Houston, TX. Project included dredge containment, ship channel dredging, a new ship berth and dock to accept 50,000 ton ships, 1,650 MTPH ship unloader 100,000 metric tons of storage, three truck loading lanes equipped with fully automated driver-loading capabilities, and office and shop buildings.
- Owner's Engineer and Project Manager for pulverized coal grinding system. The project consisted of a 9 stph mill, explosion protected mill vent baghouse and draft system, pulverized fuel storage and injection equipment.

SAFETY

ZAP utilizes a Site Specific Safety Plan which outlines the safety and health requirements that apply to all ZAP and subcontractor employees and any site visitors. Per company policy, three types of safety meetings are required.

Daily Safety Meeting with Subcontractors (Tailgate Meetings)

- Facilitated by each Foreman
- 15-20 minutes reviewing possible hazards for the days work (job safety analysis (JSA)).
- Allow site workers to stretch and loosen up.

Weekly Supervisor Meetings

- Facilitated by the Project Manager
- Occur during weekly progress meetings
- Review possible safety concerns.

Tri-monthly Safety Meetings

- Facilitated by the ZAP Safety Director
- 20-30 minutes reviewing the safety performance of the past three months.
- Rewards for a good safety record.

ZAP's Construction Management Team requires, along with the individual daily safety meeting, a joint safety/coordination meeting with all onsite workers. During this meeting, the daily JSA is reviewed and discussed and the activities of the day are reviewed to ensure all parties understand where work is occurring.

SAFETY RECORD

ZAP has logged over 800,000 safety man-hours on EPC project sites demonstrating our understanding of the importance of safety on the job. Our dedication to safety is reflected in our outstanding OSHA ratings. To continue to achieve an exceptional safety record, ZAP has a number of programs and trainings in place for our office and field employees.

To comply with OSHA's process safety management (PSM) regulations, ZAP focuses on employee participation and training, project hazard analysis (PHA) knowledge, effective communication, and performing pre-startup safety reviews (PSSR). A PSSR is always completed as part of our dedication to safety. As part of this review, ZAP's safety director, safety manager, and other onsite personnel will meet with Williams to confirm construction and equipment are in accordance with design specifications; Safety, operating, maintenance, and emergency procedures are in place and are adequate; A process hazard analysis has been performed for new facilities and recommendations have been resolved or implemented before startup, and modified facilities meet the management of change requirements; and training of each employee involved in operating a process has been completed