

# ZAP ENGINEERING QUALIFICATIONS AND CAPABILITIES

# **OIL & GAS 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

VP OF ENGINEERING James Allan, PE

DIRECT BID CONTACT Shane Wilson wilsons@zapecs.com Phone: 720.644.3370 Fax: 720.529.4437 www.zapecs.com



### **CONTACT DETAILS**

LAKEWOOD OFFICE 333 S. Allison Parkway Suite 100 Lakewood, CO 80226

GREELEY OFFICE 7257 W. 4<sup>th</sup> 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 – OIL & GAS TERMINALS.**

# NEW MEXICO CRUDE STORAGE TERMINAL ENGINEERING, PROCUREMENT & CONSTRUCTION SUPPORT

ZAP completed the process, mechanical, structural engineering and design for the addition of a 100,000 BBL tank to an existing crude oil terminal. ZAP provided technical and commercial bid evaluations for vendor provided metering skids, pump skid, and associated instrumentation. ZAP engineers worked with vendors to ensure client standards were met. ZAP also provided contractor bid support for the structural/mechanical and Electrical/I&C contractors.



### NORTH DAKOTA CRUDE STABILIZER AND TRUCKING TERMINAL ENGINEERING AND PROCUREMENT

ZAP performed front end engineering and cost estimation before completing the detailed engineering, procurement and construction planning for a 40,000 BPD crude stabilization facility with functionality to load, unload and meter crude and facility slop oil via two truck loading lanes equipped with fully automated driver-loading capabilities. The facility was designed to operate in winter months and the design included engineering provisions against snow drifting and to ensure operation down to a minimum ambient temperature of -38°F.



### **TEXAS CRUDE STORAGE TERMINAL ENGINEERING**

ZAP was contracted to complete engineering and design for a new 10,000 BBL storage facility. ZAP's scope included engineering and design of an API 650 floating roof tank, 5,000 BPD pump skid, pig launcher, and pig receiver.

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### COLORADO CRUDE STORAGE TERMINAL EXPANSION COST ESTIMATE

ZAP was contracted to complete a total installed cost estimate for the addition of two crude oil storage tanks and associated equipment required for metering at an existing crude oil terminal. ZAP completed initial design and solicited quotes from multiple vendors for equipment costs on the crude oil storage tanks, charge pumps, the inlet check meter skid, Coriolis meters, valves, and various instruments. ZAP's extensive experience in oil and gas construction allowed for an accurate estimate of construction and installation costs.



## ZAP PERSONNEL RELEVANT EXPERIENCE

In addition to the relevant experience of ZAP as a company, the ZAP team has wide reaching experience in oil and gas storage and transportation, 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:

- Blending & Shipping Process Engineer
- West Coast Terminals Logistics Coordinator
- Refinery Process Engineer
- Refinery Senior Process Engineer

### ZAP personnel project experience:

- Owner's project engineer for scheduling and execution of terminal inspection and tank repair. Turnaround execution included demand diversion to alternate terminals and turnaround was expedited to reduce impact on customer supply.
- Owner's project engineer for specification and construction of 50,000 bbl internal floating roof tank with emissions dome, heaters, mixers and automated sample system for storage of high sulfur fuel oil.
- Owner's project engineer for terminal pump upgrade specification and installation. Pump swap had to be managed without impacting contracted loads to customers.
- Owner's project manager for turning all California terminal tankage from winter to summer gasoline specifications. Tank vapor pressure spec had to be reduced by a hard deadline without emptying tanks.
- Owner's project manager for terminal metering accuracy evaluation and project to reduce pipeline transmix production. Reducing transmix volume created between pipeline batches resulted in reduced slop management costs.
- Owner's project manager for commissioning of new airport jet fuel terminal and pipeline. Transitioning over to larger line and tank capacity allowed for easier management of demand swings.

### 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.