Facilities Case Studies

Case Study #1 (Scope Development, Project Management, Process Safeguards)
The Client manufactured an industrial chemical that was highly reactive and had the potential for sensitization of the local workforce. A solution was needed to reduce the potential for worker exposure and OSHA recordable incidents. TAS completed Scope Development and Project Management for a project which was implemented to successfully resolve this ($15MM TIC), with the project team also being awarded an internal company award.

Case Study #2 (Due Diligence and Operational Performance Assessment)
The client was interested in acquiring an operational renewable fuels plant and needed an assessment of the performance and reliability of the facility. TAS visited the site visit, reviewed the maintenance and operations documentation, and interviewed key operating personnel. TAS completed an assessment of the facility, including areas of strength and potential problem areas to be addressed. This insight allowed the client to recalibrate their offer (asset value ~$300MM). As a result of this initial engagement, TAS was retained to evaluate additional sites for this client.

Case Study #3 (Due Diligence, Scope Development and Cost Savings)
The client facility had significant operating costs that it wanted to reduce. In performing a due diligence review, TAS identified a 3 MW power demand and significant waste heat stream as a source of potential value creation. TAS developed a scope for the installation of a steam turbine generator and associated boiler upgrades to allow the site to produce its own power at a substantial savings. The project resulted in a 1.25-year payback on a $5MM project investment.

Case Study #4 (Scope Development, Project & Construction Management, Cost Management)
Client had multiple facilities that required projects to be completed for expansion and regulatory reasons. TAS was engaged to develop project scopes and manage the engineering and construction contractors to assure projects were completed safely, consistent with business operability expectations, and per plan (cost and schedule). The project portfolio totaled $9MM, including new tanks, retrofits, blending, loading, and injection facilities, pumps, piping, controls, automation, and containment.

Case Study #5 (Operability Review, Technical Due Diligence, Performance Improvement)
Client site was not reaching production targets due to frequent operability problems. TAS performed a technical review to identify root cause and remedy. Due diligence included operations interviews and external expert reviews which identified root cause. TAS developed a project scope and execution plan for a $2MM project to modify the production unit (piping, systems and procedural modifications). TAS oversaw onsite completion, including management of engineering and construction contractors. Post re-start, the facility run rates increased to design capacity.

Case Study #6 (Process Improvement, Scope Development, Project Execution)
Client needed to improve water quality for steam production as well as analytics used to determine and control the water quality at a coal fired generating station. TAS developed scope and project execution plans for a $3MM water quality improvement and monitoring project and validated design with site engineers and subject matter experts (water, instrumentation). TAS oversaw execution per defined scope, with project completed on time and on budget.

Case Study #7 (Integrity Management and Preventative Maintenance)

Client pipeline had corrosion at various pump stations and needed a phased work plan to address in a sound and economical way. TAS surveyed the entire system using qualified inspectors to rank the levels of corrosion at the different sites. Site specific work plans were developed per the required work, ranging from no action or pressure wash to media blast to near white finish and full recoat. TAS developed a tiered 3-year maintenance cycle plan for the client to mange going forward.

Case Study #8 (Relief Valve Study and Installation, Project Management)
Client facility had a full shut down scheduled and had identified over 700 relief valves to be checked for proper sizing and/or due for recertification. A HAZOP had identified additional scenarios that needed to be checked with some of those resulting in new relief valve installations. TAS oversaw the completion of the asset study and onsite installation project (738 relief valves being either installed as new or removed, recalibrated and reinstalled), safely, on time and on budget.

Case Study #9 (Pilot Plant Design, Code Review, Cost and Schedule Development)
The Client wanted to design a new pilot plant in conjunction with ongoing efforts to develop process conditions, manage technical constraints, and optimize reactor configurations. TAS provided 3D piping and equipment CAD models to allow an interactive and iterative layout process. TAS developed cost and schedule projections and completed NFPA code review. Final package included all equipment and structures, constructability analysis, and modular construction to minimize risk of business interruption.

Case Study #10 (Due Diligence, Operability, Reliability, Risk Mitigation)
Client requested an operational due diligence review of a potential investment, with TAS reviewing the technology being utilized to generate power at a prospect facility. The use of alternative power generation was key to the investment valuation and thus its operational reliability was the subject of our study. TAS did a deep dive of the technology, the operational history and the associated risks. TAS highlighted key viability concerns to be addressed during the negotiations, giving the investors a full view of downside risk and potential mitigation to enable risk weighting their offer prior to close.

Case Study #11 (Technical Due Diligence, Market Assessment, Transaction Support)
Client was considering purchasing a company and needed technical due diligence and a market study to inform their decision. TAS reviewed global market and company sales data and analyzed competitive position to determine relative strength and future potential. TAS completed an operational risk review and technology assessment to determine the reliability of company operations and products. TAS factored its recommendations to account for the specific risk profile of the investors and their forward target thresholds for the business. TAS worked closely with the client to ensure deliverables aligned with expectation and completed its analysis ahead of schedule to give the client improved optionality.

Case Study #12 (Process Improvement, Installation Planning and Oversight, Project Management)
Client's facility required a significant increase in dust collection capacity and efficiency with the installation to be completed during an upcoming scheduled turnaround. TAS's deliverable objective was to design and install 2 dust collectors that would provide ~4x the capacity of the previous units. This required substantial technical and executional effort as the units and structural supports were to be located on top of twin 165' tall production silos, within a 1-day installation window. The TAS team identified various items to eliminate potential problems, and the installation was seamlessly completed within the window with no safety issues and on budget. The project was later cited as an example of good project management with excellent alignment between operations and engineering.

Case Study #13 (Facility Repurposing, Upgrades & Modernization, Project Management)

Client purchased a vacant industrial building in need of repair and wanted to repurpose the site for use as an office and warehouse facility. TAS oversaw demolition and removal of legacy boilers/equipment and completion of environmental remediation (lead paint removal, asbestos abatement, mold elimination). TAS designed and managed the installation of required system upgrades (HVAC, electrical, lighting, fire suppression, plumbing). TAS scoped and coordinated roof replacement. TAS provided design and layout recommendations for transformation of the interior space to meet client's requirements (office areas, cold storage, controlled access warehouse, records retention, etc.).