

TLG
Engineering

Integrated, multi-discipline
engineering, construction and asset
management for power, resources
and complex industrial assets.

Engineering | Construction | Asset Management | Labour Solutions





TLG Engineering is a specialist firm offering engineering, construction and asset management to Energy & Power Generation, Heavy Industry & Manufacturing, Mining & Resources and Utilities.

TLG Engineering delivers specialist engineering, construction and asset management. Our difference lies in our ability to offer Tier 1 capability coupled with the agility, flexibility and pragmatic approach of a consultancy. While our industry experience is broad, we have developed in depth power generation knowledge, bridging the gap in power generation expertise.

We solve complex challenges and deliver streamlined, ethical, and sustainable solutions that drive performance, efficiency and long-term value for industrial clients.

We are trusted by:



Our Services

Integrated, multi-discipline engineering, construction and asset management for power, resources and complex industrial assets.

From concept to commissioning, we consult, design, build and optimise.

Engineering & Technical Support

Providing the following Mechanical, Structural and Electrical Services, backed by a wide range of Subject Matter Experts solving complex problems, delivered through practical solutions.

- Studies (Options Analysis, Pre-feasibility and Feasibility)
- Scopes, Tenders and Financial Applications
- Design & Drafting
- Integrity & Compliance Assessments
- Advanced Modelling FEA, CFD, DEM, and Pipe Modelling
- 3D Terrestrial Laser Scanning
- Subject Matter Experts



Asset Management & Reliability

Strategic advisors for asset management, supported by reliability engineering, balancing theory, experience and system maturity for optimal outcomes.

- Strategies, tactics development and optimisation
- CMMS and Master Data alignment
- Maintenance planning and improvement initiatives
- Root Cause Analysis (RCA) and failure investigations
- Lifecycle modelling & replacement planning



Construction & Site Services

Specialist in construction support, providing assurance and maximising value for Owners across Critical Projects, Overhauls, Turnarounds, Shutdowns and Outages.

- Critical planning and execution support
- Construction advisory
- Contract Management
- Construction engineering
- Welding Coordination & Supervision
- Quality Management



Strategic Labour Solutions

TLG services are supplemented by strategic labour through resourcing of Specialists, Engineers, Management, Supervision and Subject Matter Experts.

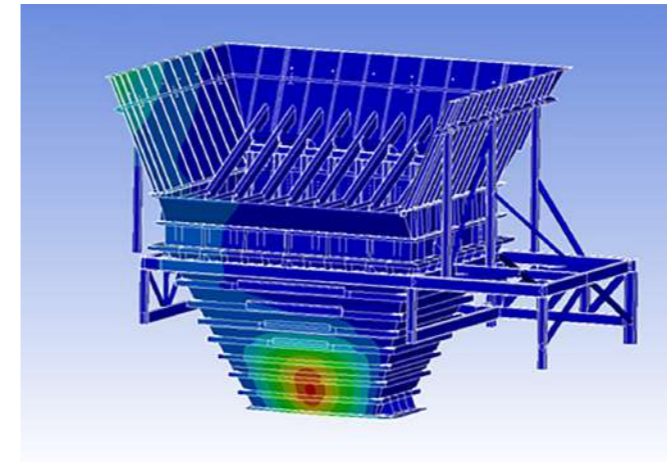
- Project Managers and Engineers
- Drafting and CAD specialists
- Reliability and Maintenance Engineers
- Planners and Schedulers
- Document Controllers and Project Administrators
- Construction Supervisors and Site Engineers
- Welding Coordinator and Supervisors
- Quality Coordinators



What you expect



Projects



Emergency ROM Bin Repair & Structural Analysis

Service: Engineering

Integrity & Compliance Assessments + Design & Drafting.

Client: CS Energy, Kogan Creek Power Station

Scope

The ROM (Run-of-Mine) Bin is an initial and critical asset for fuel collection of the 1x 750MW supercritical power station which was reported to have noticeable damage, requiring structural inspection expertise.

Challenge

Structural assessment identified significant risks; bin was temporarily put out of service to avoid operational failure.

Solution

Advanced FEA modelling identified high-stress areas; targeted repairs enabled safe return to service.

Outcomes

Urgent engineering solution developed and implemented within 10 days to avoid costly outages. ROM Bin was returned to service inside the client's outage window, avoiding unit deteriorating and penalty exposure; management received a defensible engineering report on actual condition and risk; temporary repair design provided a controlled pathway to final rectification during a planned overhaul.

Completed: 2024



Electrostatic Precipitator Condition Inspection

Service: Engineering and Construction

Subject Matter Experts + Construction Advisory Management and Supervision.

Client: MSF Sugar

Scope

MSF Sugar requested an Electrostatic Precipitator (ESP) material redesign due to suspicions of severe internal corrosion.

Challenge

Client initially proposed unproven material for retrofit. Relatively new plant with limited funds budgeted for a redesign/rebuild of the ESP. Process operating conditions were not achieved with limited OEM Engineering information available.

ESP had been exposed to a plant fire leaving the internal material integrity largely unknown.

Solution

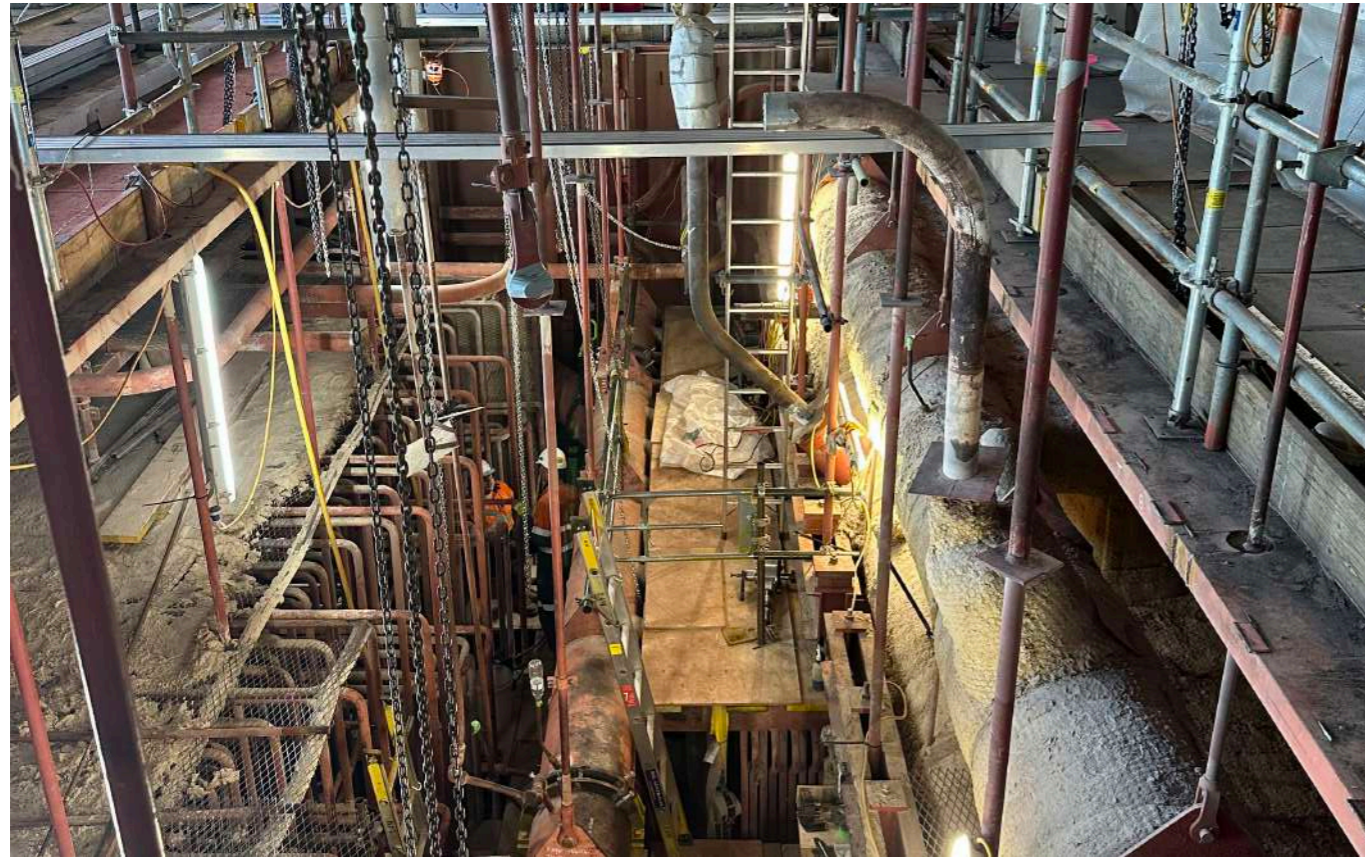
Re-strategised the project into stages, firstly evidence-based assessment; confirming the main ESP structure was in sound condition; identified the root cause which enabled a targeted redesign rather than whole system/ESP replacement, avoiding the need for follow-on large scopes.

Outcomes

- Client avoided an unnecessary multi-million-dollar retrofit.
- Issue was downgraded from an immediate structural risk to a manageable maintenance/upgrade task.
- Operating team received clear justification for the chosen approach.
- Internal stakeholders had a common, defensible position to present to the board.

Completed: 2024

Projects



Steam Line Repairs & Attemperator Replacements

Service: Construction

Critical Planning & Execution Support + Contract Management.

Client: Genuity, Millmerran Power Station

Scope

Project involved replacement of three Attemperators, one Hot Reheat Tee and Header Transition Weld Repair for a 450MW Supercritical Boiler.

Challenges

Project sets outage critical path; underestimation or overestimation leads to significant financial loss or lost generation.

Equipment made from exotic materials (P91, P22 and P11); replacements not widely practiced in Australia.

Prior to TLG engagement, multiple planned attempts with most successful completed 40% over planned duration and resulted in overall increased project costs by a factor of 10.

Long lead times: equipment manufacturing up to 10 months, welding consumables 6 months; limited technical and trades expertise available.

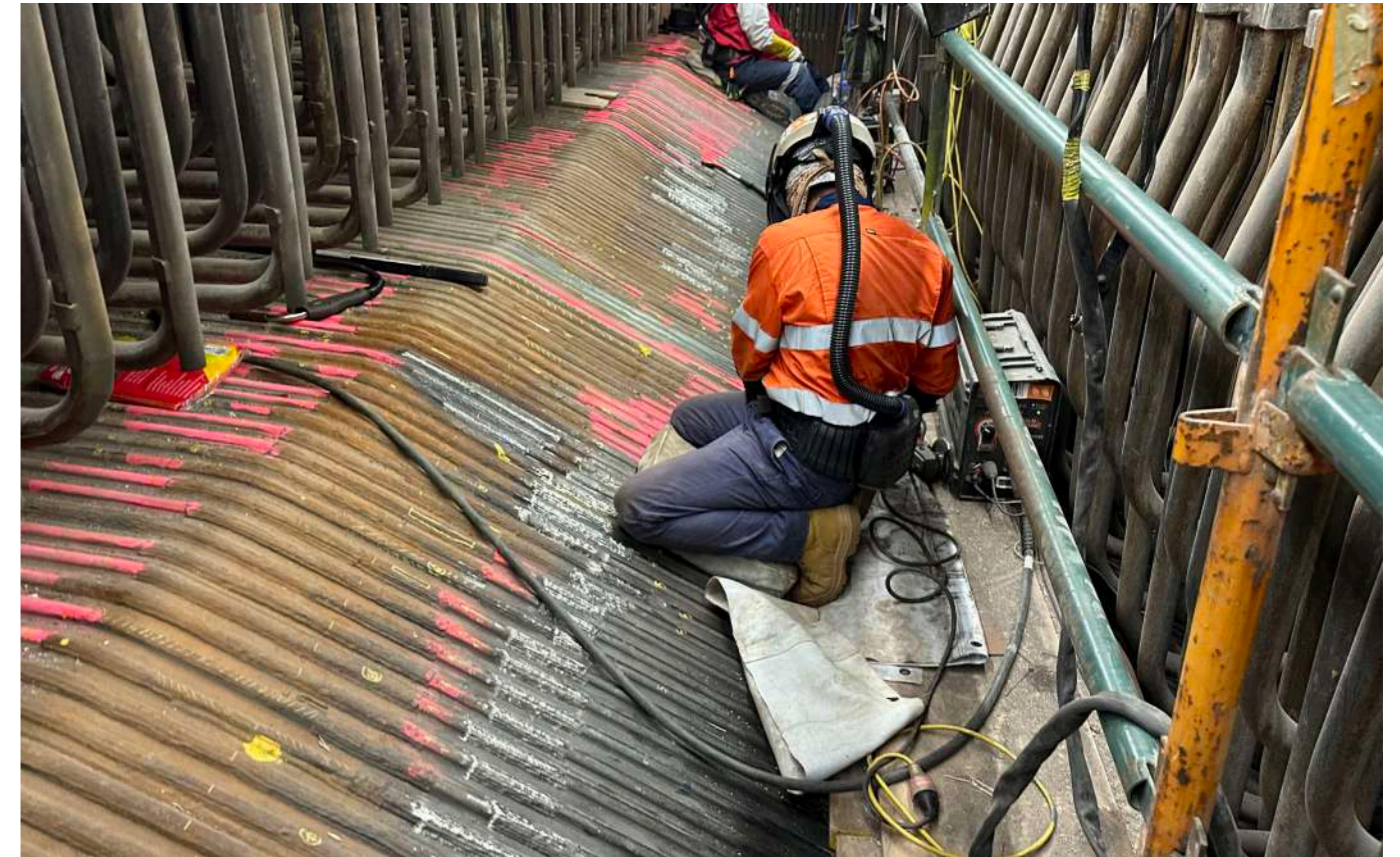
Solutions

Began with a structured "lessons learnt" review of previous failed/over-run works; locked down scope and variation control early; pre-staged new components and work areas, included local lifting systems to remove weather delays and crane dependencies; increased local power capacities; increased supervision and ensured critical resource spares, imposed tight meetings, cost and progress-tracking rhythms suited to 24/7 work; aligned all parties on project objectives.

Outcomes

- Works were completed one day ahead of the forecast program despite a 100% scope increase from previous project attempts.
- Project successfully completed in 30% less time than previous attempts and 1 day before planned duration. Station avoided repeat penalty exposure.
- Strict Contract Management returned an estimated ~20% cost saving.
- The client gained confidence to deploy similar replacement methodologies into future boiler campaigns.

Completed: 2024



Welding Supervision & Quality Management

Service: Construction

Welding Coordination & Supervision + Quality Management.

Client: Stanwell Corporation, Tarong Power Station

Scope

Supported the Owner's Overhaul team for the Unit 2 Overhaul through welding supervision and inspection, and quality management.

Challenge

Challenges to overcome included previous contractor issues and perceptions with an overly complex internal system; short onboarding time frames and client-side training/coaching.

Solution

Team of welding supervisors, QA/QC and project admin resources monitored 60+ welders and 500+ work packs, ensuring welding compliance and work pack completeness for overhaul MDR.

Outcomes

- All supervised welds were accepted and the unit successfully returned to service as planned.
- Owner regained confidence in its outage welding controls.
- Documentation set a repeatable pattern for future outages.

Completed: 2024

Projects



Maintenance Operations Review & Improvements

Service: Asset Management

Lifecycle Modelling & Replacement Planning + Strategies & Tactics Development and Optimisation + CMMS & Master Data Alignment.

Client: Mclean Farms, Grading Floor

Scope

Maintenance operational review focused on strategies, resource management, CMMS system health, PM compliance and work standards & practices.

Challenges

- Sustaining and developing new industry standards and general best practices.
- Specialised equipment and continual, regular technology advancements.
- Strict bio-security and auditing requirements across the operation.
- Company downwards pressure for lean FTE teams.

Solution

- Developed a maintenance based asset lifecycle cost model tuned to technology advancements and business growth plans.
- Set up satellite warehouse with a procurement function and inventory system.
- Updated and implemented new maintenance program, including strategies, asset hierarchy, tactics and work process improvements.

Outcomes

- Management and shareholder alignment with the maintenance team of the existing operation.
- Quick win – Satellite warehouse with procurement & stores officer (FTE) resulted in \$50k saving in staffing cost and unlocked 1 FTE equivalent in maintenance resource hours plus system efficiency gains.
- New maintenance program implemented and modelled \$10M+ savings in expenditure over a 20 year period.
- 15% uptime increase recorded post project – a key business metric.

Completed: 2022



Maintenance Operations Review & Improvements

Service: Asset Management

CMMS & Master Data Alignment + Maintenance planning and improvement initiatives.

Client: Country Heritage Feeds

Scope

Maintenance operational review focused on strategies, CMMS system health, PM compliance and work standards & practices.

Challenges

- Low plant reliability and a limited understanding of the applicability, benefits, and costs associated with adopting maintenance best practices.
- High company growth targets combined with a lean operational strategy, alongside strict auditing, compliance, and traceability requirements.
- A diverse workforce that relies heavily on on-the-job training and informal knowledge transfer.
- Gaps in foundational maintenance management practices, including record keeping, reporting, asset hierarchy structure, and naming conventions.
- Traditional document management methods with low compliance, leading to siloed information and individually retained knowledge.
- Limited digital systems and inconsistent use of existing systems, impacting data accuracy and decision-making. Need for ongoing client education.

Solution

- Managed custom Computerised Maintenance Management System (CMMS) development and implemented a cost effective Document Management system.
- Established an asset hierarchy, naming convention and process flow diagrams. Also used this to develop technical training packs.
- Client side education and training across duration of project for ease of implementation and sustained results.

Outcomes

- Organisation gained the foundations for disciplined maintenance management.
- CMMS implementation was de-risked with the plant's new conventional and tailored systems.
- On-boarding and training was simplified through new supporting systems (CMMS, Document Management and drawings)
- Client capability to improve their operation was strengthened.

Completed: 2021



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TLG Engineering
www.tlgengineering.com.au
info@tlgengineering.com
P: 1300 703 659