

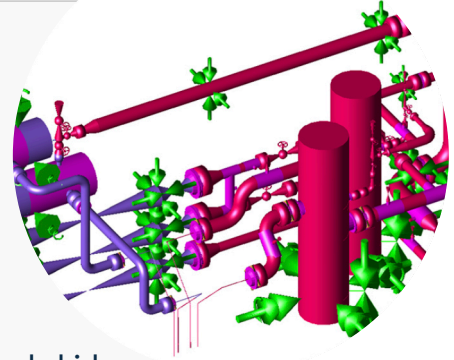


Mechanical Engineering Design

Biggs Design Engineering was founded by a mechanical engineer, and one of our core services is the design of mechanical equipment and piping systems.

We strive to deliver solutions that are comprehensive, meet the client's objectives, and will last the test of time. We can deliver:

- Plant layout and design
- Piping system design to ASME B31.3 and AS4041 including stress/flexibility analysis in Caesar II
- Pressure vessel design to AS1210 and ASME VIII
- Atmospheric storage tank design to AS1940
- 2D and 3D design and drafting
- Packaged equipment and skid designs for pumps, compressors, pressure vessels and piping
- Fitness for service (FFS) assessments
- Failure investigations
- Detailed design of mechanical equipment using finite element analysis



Multidiscipline Engineering Design

Biggs Design Engineering can bring together the right people to deliver multidiscipline engineering design to provide a comprehensive offering for your projects.

We can deliver your Assess Select, FEED and detailed design projects in the oil and gas, energy, future fuels, and manufacturing industries. We have delivered projects in the following areas:

- Gas compressor packages for CSG wellsites. This included the design of the piping system, compressor skid, inlet scrubbers, and pulsation dampeners
- Water treatment facility brownfield upgrades
- Gas plant upgrades to reduce emissions and increase productivity
- Packaged equipment skids for produced water beneficial use programs



Project Management

From problem definition through to project execution, we will work with you to achieve your project, operational, and business objectives.

Project management is an integral part of every project we deliver, as we believe that an effective design team must be able to not only deliver solutions, but do so in line with the client's budget and timeline constraints.

For examples of projects that we have successfully delivered and project managed, refer to [the projects gallery](#) on our website.



Owners Engineering

Biggs Design Engineering provides technical authority (TA) and Owner's Engineering services for piping, static mechanical equipment, civil and structural engineering in the oil and gas industry.

We take representation of clients seriously as Owner's engineers. We will own problems as they are identified and strive to help the project achieve the client's objectives.

As part of the TA offering, we have delivered the following projects and services:

- Preparation and revision of Owner's technical specifications for piping systems, mechanical equipment, and structural engineering
- Worked as part of the client's team to supplement their in-house engineering and design group
- Completion of design reviews for numerous projects in the oil and gas industry to ensure compliance with the Owner's requirements, project objectives, and local regulations



Training Services

Empower your engineering team with the knowledge to excel.

Biggs Design Engineering has developed training courses for Owner's Engineers that have contributed to team performance, and engineers' continual professional development. We have delivered the following training courses for one of Australia's largest energy providers:

Owner's Engineers Pipe Stress Analysis

This six-part training course was again designed specifically to deliver training relevant to the client's group of owner's engineers in the following areas:

- Purpose of piping system stress and flexibility analysis
- Requirements for greenfield and brownfield projects
- Pipe support types and selection
- Differences between ASME B31.3 and AS4041
- Specific requirements for AS2885.1 pipeline stations
- How to review pipe stress analysis calculations
- Review of client specific examples

Training in Piping System Design

This four-part training course was tailored to a particular client's requirements for their operations and project delivery engineers. Topics covered include:

- Purpose of piping systems
- Introduction to ASME B31.3
- Service and equipment specific requirements
- Piping design for existing facilities
- Piping design throughout the project stages
- Piping system repair and FFS



About Biggs Design Engineering

Biggs Design Engineering is an Australian engineering consultancy that is focused on helping customers achieve project, operational, and business objectives by taking an inclusive approach to problem solving.

