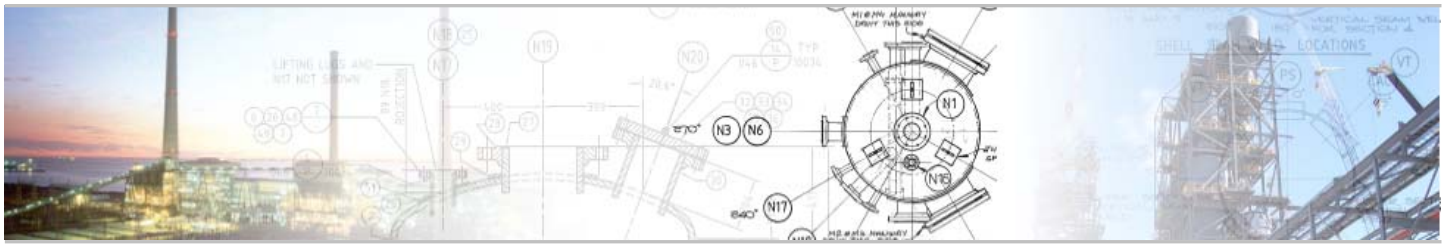


# CAPABILITY STATEMENT

## Introduction

K.J. Beer Pty Ltd was established in 1982 to provide consulting engineering services to industry in Australia. K.J. Beer quickly established itself as a supplier of engineering services primarily for pressure equipment and systems covering design and independent design verification. Major companies in the chemical, mineral processing, oil and gas, power and fabrication industries became regular users of these services. In 1998 the quality management system of K.J. Beer was registered as complying with ISO 9001. All engineering services offered by K.J. Beer are within the scope of the quality management system.

Certified System™
Quality
ISO 9001
SAI GLOBAL

## Design

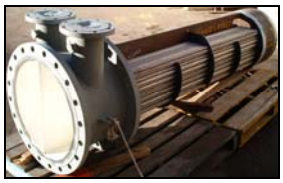
Engineering design of equipment and systems for the chemical, mineral processing, oil and gas, power and fabrication industries.

### BOILERS

Mechanical / structural design of:

- fire tube, water tube and miscellaneous boilers in accordance with AS 1228 and ASME B&PV Sect. I.

### HEAT EXCHANGERS



Shell and tube, double pipe and multi-tube, air-cooled, plate, plate-fin, spiral and heating coils:

- thermal design, rating and evaluation;
- mechanical / structural design in accordance with AS 1210, AS 3857, ASME B&PV Sect. VIII Dev. 1 & 2, BS 5500 and TEMA.

### PIPING

Sizing, pressure design, flexibility and hydraulic shock analysis of:

- metallic systems in accordance with AS 4141 and ASME B31.3;
- glass reinforced plastic systems in accordance with BS 7159.

### PRESSURE VESSELS

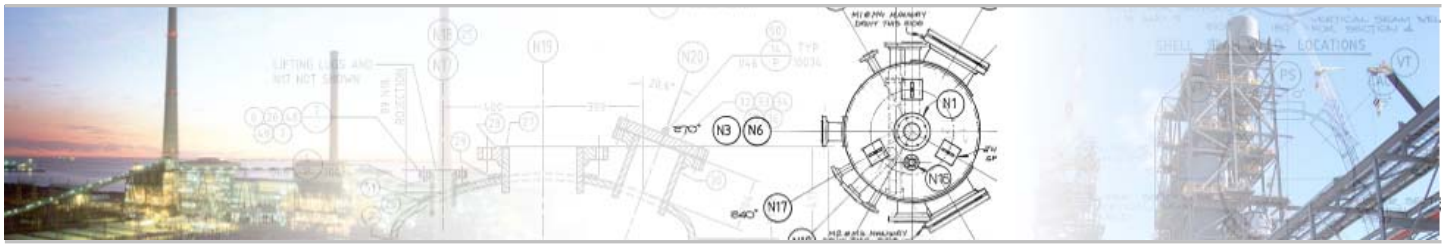
Mechanical / structural design of:

- metallic vessels in accordance with AS 1210, ASME B&PV Sect. VIII Div. 1 & 2 and BS 5500;
- glass reinforced plastic vessels in accordance with BS 4994.

### TANKS

Mechanical / structural design of:

- metallic tanks in accordance with AS 1692, API 620 and API 650;
- glass reinforced plastic tanks in accordance with AS 2634 and BS 4994.



## Design Verification

K.J. Beer Pty Ltd is a Design Verifying Body complying with SAA/NZS MP76, AS/NZS 4481 and AS 3920.1.
K.J. Beer's capability in pressure equipment design verification is recognised by Worksafe, Department of Commerce, Government of Western Australia and all other Regulatory Authorities of State Governments within Australia.

We can verify designs of all equipment listed in our **Design** section.

Some of AS 3920.1-1993 -- Assurance of product quality; Part 1: Pressure equipment manufacture is reproduced below.

> ***4.2 DESIGN DOCUMENTATION*** *The design submission for verification shall contain the following:*
>
> (a) *Three copies of drawings showing the basic design conditions, design Standard, class of construction, contents of the pressure equipment, all dimensions, material specifications of all component parts, weld details, size and location of connections and openings, supports and other details considered by the designer to be essential for proper verification.*
> (b) *A copy of design calculations, including all specified design conditions.*
> (c) *Any other data necessary to assist verification of the design (e.g. service conditions, valve specifications).*
> (d) *Where available relevant parts of the purchaser's specification.*
>
> ***4.4 EXTENT OF DESIGN VERIFICATION*** *The following aspects of the design shall be verified:*
> (a) *Materials.*
> (b) *Adequacy of all pressure parts, considering all service conditions specified in the relevant Standard or purchaser's specification or both.*
> (c) *Supports where applicable.*
> (d) *Manufacture and testing requirements.*
> (e) *Specification for flanges, valves and fittings (if such components are provided with the pressure equipment).*
> (f) *Any other aspects of the design which, in the opinion of the external design verifier, are essential for verification in accordance with Clause 4.3.*
>
> ***4.6 CONFIDENTIALITY*** *The design verifying bodies shall be responsible for ensuring that the details of the design in its possession are disclosed only to the regulatory authority, certifying body, or a person authorized by the owner of the design.*

## Design Registration

Design registration submission of pressure equipment to Worksafe, Department of Commerce, Government of Western Australia and all other Regulatory Authorities of State Governments within Australia.

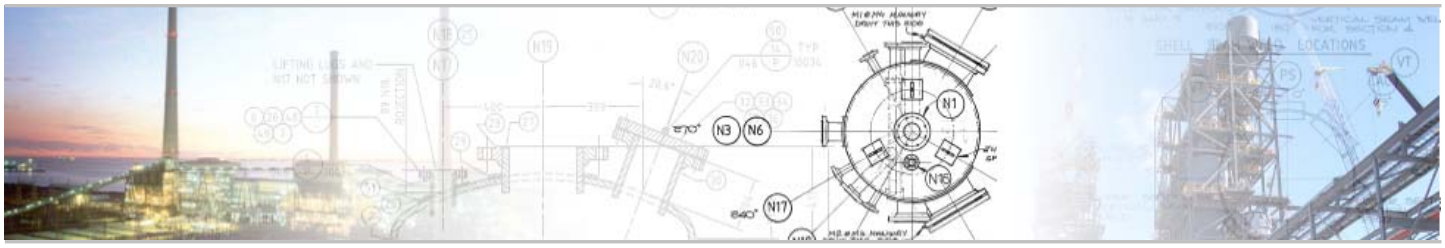
## Inspection

K.J. Beer Pty Ltd is an In-Service Inspection Body committed to complying with SAA/SNZ MP76, AS/NZS 4481 and AS/NZS 3788.

K.J. Beer's capability in pressure equipment design, design verification and integrity assessment is utilised to perform:

- Pre-commissioning inspection
- Inspection after damage
- Inspection after pressure or temperature excursion/s
- Inspection after modification, repair or process condition changes

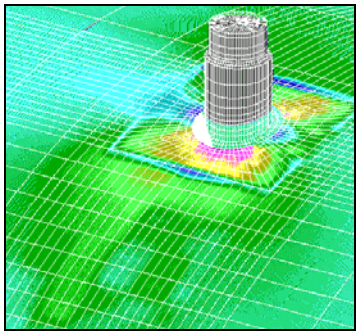
K.J. Beer inspectors are registered with the Australian Institute for the Certification of Inspection Personnel (AICIP).



## Integrity Assessment

We offer the assessment of boilers, heat exchangers, pressure vessels, pressure piping and tanks for continued safe operation by:

- Assessment of localised wall thinning due to corrosion or erosion in excess of the design allowance in accordance with AS/NZS 3788.
- Assessment of cracks or other planar or cracklike defects in accordance with AS/NZS 3788.
- Assessment of the acceptability of flaws in metal structures in accordance with BS 7910.
- Assessment of in-situ postweld heat treatment for damage due to self weight, wind, thermal gradients and creep deformation.
- Determination of the maximum allowable working pressure and temperature limited by reduced wall thickness, weld defects, corrosion, erosion, cracks, gouges, leakage, bulges, dents, metallurgical damaged material or when operating conditions have changed.
- Determination of the safe remaining life limited by fatigue, creep and wastage.
- Evaluation of continued suitability for service of tanks in accordance with API 653.



## Personnel

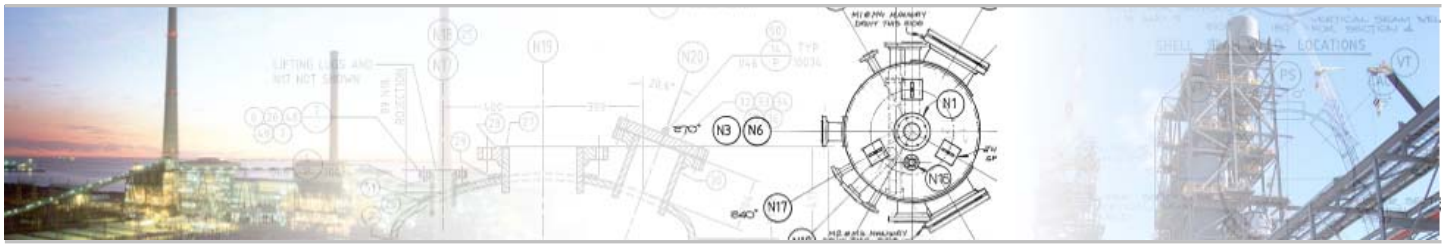
Kenneth Beer BE (Hons.) FIEAust. CPEng.
National Professional Engineers Register
Pressure Equipment Design Verifier
Membership Number 30125+
AICIP Inspector (ISI)
Simon Moore BE (Hons.) BSc.
Simo Bodegrajac BE (Hons.)
Vincent Lim BE (Hons.)
Jason Turner BE (Hons.)

ENGINEERS AUSTRALIA CHARTERED FELLOW MEMBER

## Computer Software

K.J. Beer has licenses for the following engineering software:

| | |
|---|---|
| AutoCAD | Detailed Drawings |
| PV-Elite | Pressure Vessel Design/Analysis |
| CAESAR II | Pipe Stress Analysis |
| FE/Pipe | Pressure Vessel and Piping Finite Element Analysis |
| Nozzle/PRO | Pressure Vessel Nozzle Finite Element Analysis |
| Axi/PRO | Pressure Vessel Flange Finite Element Analysis |
| HTC-ACX | Air Cooled Heat Exchanger Design, Rating & Evaluation |
| HTC-STX | Shell & Tube Heat Exchanger Design, Rating & Evaluation |




## Contact Details


| | |
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