DESIGN VERIFICATION

Providing Confidence That Your Design Meets Best Practice Standards

BUSINESS CHALLENGE

Operators need to be confident that their facilities will operate as intended. If lifetime costs are to be minimised, problems must be identified and eliminated from the design. Owners want facilities to be built to proven industry standards that meet their own exacting requirements for operational, safety and environmental performance.

SOLUTION

What is Design Review?

Design Review (Design Verification) is an independent review of the designed intent of an engineered system or process. These checks can be performed against:

- Duty holders performance standards
- National regulatory requirements
- Regulatory guidance and associated approved codes of practice
- Recognised international standard (ISO/ IEC / DIN / BS etc)
- Standards from professional societies (ASME / API etc)
- Corporate standards
- Design specifications
- Bureau Veritas in-house standards

Typical equipment and systems included within the design review of an offshore Oil & Gas facility includes:

- Primary structure and foundations
- Hydrocarbon containment
- Topsides process equipment
- Risers and pipelines (rigid & flexible)
- Well integrity
- High integrity protection systems
- Collision warning systems
- Fire and gas detection systems
- Emergency shutdown systems
- Passive and active fire protection system
- Personal safety and survival equipment
- Rescue and recovery systems
- Escape and evacuation systems
- Emergency communications systems

What are the key benefits?

- Demonstrates compliance with codes, performance standards (ASME, PED etc.)
- Risk identification, prioritisation and minimisation
- Dissemination of best practice
- Staff and stakeholder reassurance
- Confirmation that the design is based on best practice standards
- Helps to demonstrate that risks are ALARP (as low as reasonably practical)

RELATED **SERVICES**

- Independent validation of the design, construction, installation, significant modification or decommissioning of offshore petroleum facilities
- Vendor risk selection assessment Independent Review Certificates (IRC)
- Certificate of Conformity (COC)
- Safety audit
- Safety Critical Elements Identification
- Performance Standards development
- Operational Verification
- Fire and explosion modelling
- Spill and dispersion modelling
- Fire systems basis of design

WHY CHOOSE BUREAU VERITAS?

Recognition Founded in 1828, Bureau Veritas is a world leader specialising in conformity assessment services related to Quality, Health, Safety & Environment (QHSE).
Certified to ISO 9001 for all of its activities globally, Bureau Veritas is well known for its ability to adapt to changing client environments and situations and for its commitment to providing leading solutions through quality service.

Knowledge & Expertise Through expert local teams and technical knowledge, Bureau Veritas are able to deliver packaged and targeted solutions and information, to support our clients' unique business requirements.

Network With a global network of over 900 locations in more than 140 countries, Bureau Veritas provides tailored solutions to clients throughout the world across a diverse range of industries.

OUR APPROACH

Local Specialist engineers in our Australian offices, supported by the Regional Technical Centre in Kuala Lumpur, assess all safety aspects of the facility design and check compliance with international standards requirements.

The design appraisal is performed through a review of the design documents prepared by the designer or manufacturer, including drawings, calculations notes, specification & functional diagrams, special surveys and more. The review will include independent analysis such as checks on design calculations, detailed inspections of drawings and specifications.

FAQ – FREQUENTLY ASKED QUESTIONS

What is the difference between a Certification and a Validation?

A full design appraisal involves review against standards such as API, ASME, NACE etc. and will normally be followed by issue of full certification.

The validation approach comes from the goal-setting approach to safety management. It involves defining "safety critical elements" and "performance standards" that have been defined by the owner or operator. Successful design validation is marked by the issue of a statement of validation, confirming that the identified equipment meets the set goals.

CLIENT **REFERENCES**

ENI required the services of a 3rd party provider to validate the design, manufacture and installation for the system and components of the Scalybutt —1 tieback. This would ensure compliance with the Australian P(SL)A requirements.

Bureau Veritas Australia's scope of works covered the design verification for issue of Independent Review Certificates (IRC), Manufacturing Surveys for issue of Certificates of Compliance and surveys during installation & commissioning for issue of Certificate of Completion.

CONTACT

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