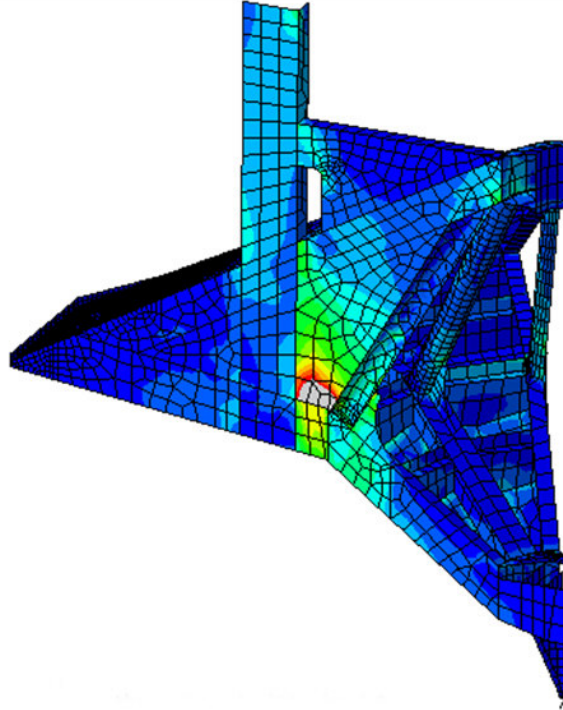


Engineering Assessment

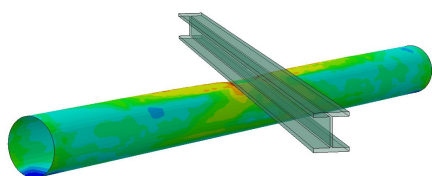
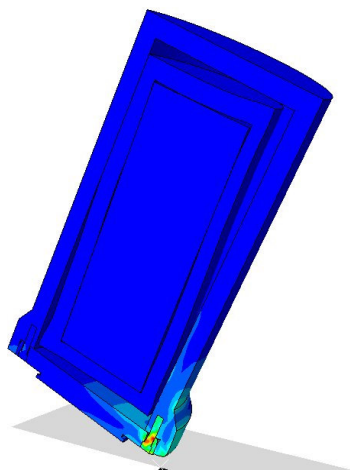


Engineering Assessments are used to demonstrate the Fitness for Service of new, existing and deteriorating plant and equipment. Vectra's engineers have many years experience of using advanced engineering assessment techniques for solving your complex problems. These range from traditional analytical methods, finite element analysis (FEA), and customised computer programs.

The types of problem we tackle include:

- Design assessments and audits
- Impact / crashworthiness assessments
- Crack initiation and growth assessments
- Failure / forensic investigations
- Remaining life assessments (RLA)
- Fitness-for-service (FFS)
- Engineering Criticality Assessments (ECA)





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SERVICES AND EXPERTISE

Equipment in service can degrade, for a variety of reasons, from the presence of defects to service conditions falling outside of the original design specification, or simply due to the progress of time. Under these circumstances, significant cost savings can be made when continued operation is justified through a robust Fitness for Service (FFS) or Residual Life Assessment (RLA) study.

Vectra's Integrity Engineers are experienced in the pragmatic application of a wide range of industry codes and standards (including API 579, BS 7910, DNF F101, CEGB R3/R5/R6 etc) within a regulatory framework (HSE, NII and other international regulatory authorities). These are used in conjunction with advanced finite element analysis (FEA) techniques to develop a robust Engineering Substantiation as part of the overall Safety Case for the equipment.

BENEFITS

Engineering Assessments can help to achieve maximum economic benefit from new and existing assets through:

- Maximisation of operational benefits by utilising assets to their full potential capacity
- Improved awareness of potential safety and integrity risk exposure
- Reduction of the risk of unplanned breakdown or failure
- Optimisation of repair scheduling to minimise plant downtime
- Extension of the operational life of assets beyond the original design life
- Optimisation of replacement planning
- Demonstration of a rational, effective and strategic approach to asset integrity management
- Reduce risk through improved knowledge of the cause of potential plant failures
- Facilitate the continued, safe operation of plant
- Generate confidence in asset owners and staff that the plant can be operated for the required service life
- Identify an optimum programme of further inspection or repair
- Minimise maintenance and capital charges
- Contribute to client's drive to lower total operating costs and further improve competitive position