

Supporting the drive towards a hydrogen economy with quality and inspection consultancy for new build, refurbishment and replacement equipment

It is clear that the UK industrial sector will play a vital role in the development of a hydrogen economy with industry producing 16% of UK emissions in 2018¹. The industrial heartlands of the UK including the North West has already demonstrated its commitment for large scale low carbon hydrogen supply through collaborative initiatives. It is this intention that drives the specialist engineers at Axiom to ensure that industry sectors in the North West have access to pragmatic Quality and inspection support to address the challenges of the production, distribution, storage and use of hydrogen.

Inadequate owner/user quality & inspection presence – the risks

Over time, we have had numerous enquiries for quality and inspection consultancy from issues that arose after construction at the pre-commissioning stage. It would ordinarily be expected that these issues would be caught at hold points during the construction phase and remedied / mitigated. Observations seen by our team include:

- The use of the wrong welding filler
- Non-adherence to, or an incorrect, welding procedure
- Construction materials not as per design specification
- Insufficient NDT coverage when compared with code requirements
- Entire lines not hydro-tested without an appropriate mitigation
- Non-conformance of as-installed system when compared to design intent

One or a combination of these issues has the potential to lead to commissioning delays, not meeting performance expectations, the non-issuance of CE/UKCA and possible insurance complications that can prove costly.

Why have an owner/user inspection present?

The presence of a quality representative from the owner/user can provide assurance that you get the plant as designed. It can also minimize performance issues during commissioning. The knowledge that their work will be overseen encourages EPC contractors and sub-contractors to manage their quality more diligently as they know any area of work maybe sampled. This can lead to smooth commissioning, the avoidance of unnecessary rework and associated delays and subsequent cost implications.

Quality and inspection service

We offer the following quality and inspection services

to clients carrying out new-build, refurbishment or asset replacement projects:

- Collation and review of Life Time Quality Records (LTQR) / Dossiers
- Review and acceptance of Quality Packs
- Review and approval of weld procedure & performance qualifications
- Welding inspection
- Review and acceptance of Inspection Test Plans (ITPs)
- Witnessing of construction phase hold points
- Witnessing of Factory Acceptance Testing (FAT) & Site Acceptance Testing (SAT)
- Pre-commissioning checks
- Acceptance of mechanical completion
- Review of material certificates
- Review and management of test packs and punch list
- Walkdown and punch listing of piping
- Review and approval of NDT procedures and certificates
- Coordination of Non-Destructive Testing (NDT)
- Supervision and implementation of all quality activities
- Management of NCRs
- Quality Representative on commissioning panels

We can work with your in-house team to deliver any or all of the above services, to de-risk your most critical plant new-build or improvement projects. We have personnel with wide-ranging experience as technical consultants with experience of having worked in senior 'in-house' roles for owner-operators. Thus, we understand the commercial pressures and risks you face running large-scale site projects.

Axiom is committed to the UK's net zero ambition, to prepare industry to decarbonise plant and build net zero infrastructure towards an improved sustainable future.

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¹ Department for Business, Energy and Industrial Strategy (2020), 'Final UK greenhouse gas emissions from national statistics: 1990 to 2018: Supplementary tables' (viewed 27 July 2022)



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