Hydrogen Safety Audit

Closes hydrogen code gaps before a regulator, an insurer, or an incident does.

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WHAT IT IS

Independent code-compliance and risk review of a hydrogen system or facility. The audit identifies safety gaps in the as-built system and operating practice, ranks them by risk severity, and produces a prioritized recommendation list. Work is done directly by the engineer running the analysis.

WHAT IS COVERED

- Pressure relief sizing and relief device selection.
- Emergency shutoff systems and isolation logic.
- Ventilation, gas detection, and area classification.
- Piping integrity, material compatibility, and joint configurations.
- Operating procedures and HAZOP review of high-risk sequences.
- Code compliance review against applicable standards.

STANDARDS REFERENCED

NFPA 2 (Hydrogen Technologies Code), IFC hydrogen provisions, DOE hydrogen safety guidelines, and OSHA Process Safety Management where applicable.

DELIVERABLE

Written report with findings ranked by risk severity, gaps identified against code, and a prioritized recommendation list with cost and effort context. Report is structured so engineering, operations, and HSE can each act from the same document.

TIMELINE

2 to 3 weeks from kickoff.

WHO IT IS FOR AND WHEN THEY NEED IT

Industrial gas operators, hydrogen fueling operators, electrolyzer-integrated facilities, and aerospace cryogenic propellant facilities. Engaged ahead of an insurer audit, after an incident or near-miss, before a turnaround so the safety scope is right-sized instead of reactive, or when a facility has not had an independent review on the hydrogen scope.

HOW IT WORKS

- Discovery call, 30 minutes, to confirm fit and frame the scope.
- NDA and document review: PFDs, P&IDs, datasheets, procedures, operating data.
- Fixed-scope written proposal with price, timeline, and deliverable defined.
- Technical review and analysis.
- Written report.
- Final review call to walk findings and recommendations.

PRICING

- Hydrogen Safety Audit: $15,000 fixed fee.
- Initial Technical Screen: $3,500. Low-commitment entry to review a specific issue, system, P&ID, or operating concern. Credits 100 percent toward a fixed-scope engagement on conversion within 60 days.
- Advisory and ongoing project support: $175 per hour.

Fixed-scope engagements exclude PE-stamped drawings, field installation, procurement, construction management, and regulatory submission unless separately scoped. PE-stamped drawings and AHJ submission are coordinated with a licensed PE where required.

PRACTICE SNAPSHOT

Independent cryogenic, hydrogen, and CO2 engineer. EIT certified in California, B.S. Chemical Engineering, UC Davis. Experience across Nikkiso (turboexpander and expander-compressor systems, and hydrogen electrolyzer and CO2 purification process engineering) and Fennessy Engineering (cryogenic pump and skid systems for industrial gas and LNG, ASME and API standards). Current independent engagements support a Fortune 500 pharmaceutical operator, an industrial cryogenic facility, and a consumer products manufacturer. Technical writing on LinkedIn has reached over 150k engineers in the field: 157,200+ impressions and 114,000+ unique members reached, with top viewer companies including Nikkiso Clean Energy, Airgas, and Air Liquide.

CONTACT

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