



PG&E Hydrostatic Test Program Welding Qualifications & Processes

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All PG&E welders complete a state-approved apprenticeship welding program

- Apprentices complete over 6000 hours of training to achieve journeyman status
- Journeymen are required to re-qualify every 6 months to meet PG&E's welding standards as well as American Petroleum Institute (API) Standard 1104: *Standard for Welding Pipeline and Related Facilities*

PG&E field and engineering teams oversee and review all weld work for quality

- PG&E design engineers create detailed job packages for every project, and foremen conduct tailboards on weld procedures prior to any work
- Foremen are responsible for verifying that every weld has been completed according to the job package, which may include multiple weld procedures designed by registered pipeline engineers

All welds performed and inspected in the field meet federal and state regulations

- For the hydrostatic test program, radiographic inspections are conducted on every weld by a certified independent third party
- Field engineers conduct quality assurance reviews of all weld records to verify and document that each weld is x-rayed and meets PG&E requirements
- Design engineers conduct quality control reviews of all weld records
- All tie-in welds are soap-tested when the pipe is re-pressurized



PG&E Hydrostatic Test Program Contractor Welding Qualifications & Processes

PG&E partners with contractors to perform welds for the hydrostatic test program

- All contractor welders are required to be certified by the American Petroleum Institute (API) Standard 1104: *Standard for Welding Pipeline and Related Facilities*

PG&E employs an operator qualification task for visual inspection of welds

- PG&E hires API 1104-certified weld inspectors to provide third party inspection and oversight of contractor work
- Inspectors are responsible for verifying that every weld has been completed according to the PG&E weld procedure, which has been designed by registered pipeline engineers
- Operator qualified contractors are qualified prior to every project to which they are assigned, which requires successful completion of a written examination and demonstration of welding techniques

All welds performed and inspected in the field meet federal and state regulations

- Radiographic inspections conducted on every weld by certified independent third party
- Field engineers conduct quality assurance reviews of all weld records to verify that each weld is x-rayed with the appropriate documentation
- Design engineers conduct quality control reviews of all weld records
- All tie-in welds are soap-tested when the pipe is re-pressurized