McNolty | Special Projects

Modifications and replacement of T-22 Chromalloy Super Heater tube.

In a diversified field with a wide range of essential variables, McNolty has become a leader in developing and implementing definitive, approved, specialized techniques to deliver the highest quality products and services.

This innate ability to adapt to and excel at challenging or difficult situations by providing detailed, workable solutions is more than a strength, it is our core competency.

Based on this long track record dedicated to consistently meeting clients' needs, the McNolty name is now synonymous with quality anddeliverability.

We take pride in being the contractor of choice for all highly technical projects.

www.mcnoltymechanical.com/projects

The McNolty production mandate is maticulous control of materials, environment and product.

Stainless Steel, T-22 Chrome Alloys, Inconel 625 and other alloys are received, separated, controlled and quarantined for job specific projects. These materials are stored separately from the fabrication area to mitigate “cross contamination” and ensure a consistent, quality product is delivered.

Our fabrication shop utilizes epoxy flooring to provide easy cleaning and decontamination for controlled alloy welding & assembly along with state of the art air scrubbing and cleansing equipment to ensure the highest level of safety for our staff and again to ensure particulate matter crosses no boundaries of contamination.

Precision welding of alloys has within itself many challenges and hazards that require proactive systematic mitigation of inherent problems. QA - QC protocol ensures that every detail no matter how small is incorporated as part of our philosophy from the research and development of new welding procedures, to dissimilar metal fusion to the scheduled care and maintenance of the equipment that gets used in all our processes.

As part of the mcnolty mandate, a comprehensive, TSSA audited Quality control manual has been assembled to implement steps as part of a verification process for all phases of manufacturing. Welding and testing equipment calibration with current CTR’s (calibration test reports) along with MTR’s (Mill Test Reports) CRN’s (Canadian Registration Numbers) for all steels, alloys pipe and fitting under our control. Strict adherence to the documentation plan allows for a seamless approach to shippingreceiving reports and QA inspections even before materials are off loaded at our facility. Upon discovery of substandard parts or fittings they are tagged as non-compliant and an official “Non Conformance Report” is filled out with a copy being added to QA manual specific for that project, and documented notification to the supplier with traceability numbers provided for investigation.

Upon assembly completion, dimensional checks are performed and final weld mapping with specific welder identification added to as built drawings. All system specific, parts and pieces have to be accounted for with supporting documentation before shipping or installation occurs. This is standard process for McNolty whether work is performed in the field or in our fabrication facility.

Manufacturing and field assembly demands ASME code interpretation and implementation, under TSSA as the governing body for inspections and verification. Project specific ITP’s (Inspection Test Plans) with detailed “Hold Points” for inspection are produced for every registered system.

As stipulated under ASME (American Standard of Mechanical Engineering) approved methods for weld quality verification are used.

Radiographic (x-ray), UT (Ultra Sonic), LP (Liquid Dye Penetrant), MT (Magnetic Particle) testing are routinely used to ensure that the quality of workmanship is of the highest standard. MMI philosophy is to seek out projects and to become involved with clients who have the highest level of quality expectation, and as such, MMI has found tremendous success in these fields with consistent deliverability of end product to all our clients.

McNolty is certified under TSSA Quality management and approved to manufacture Catagory H fittings, to fabricate, build and install under the following codes with approved “TSSA Letters of Authorization” for each.

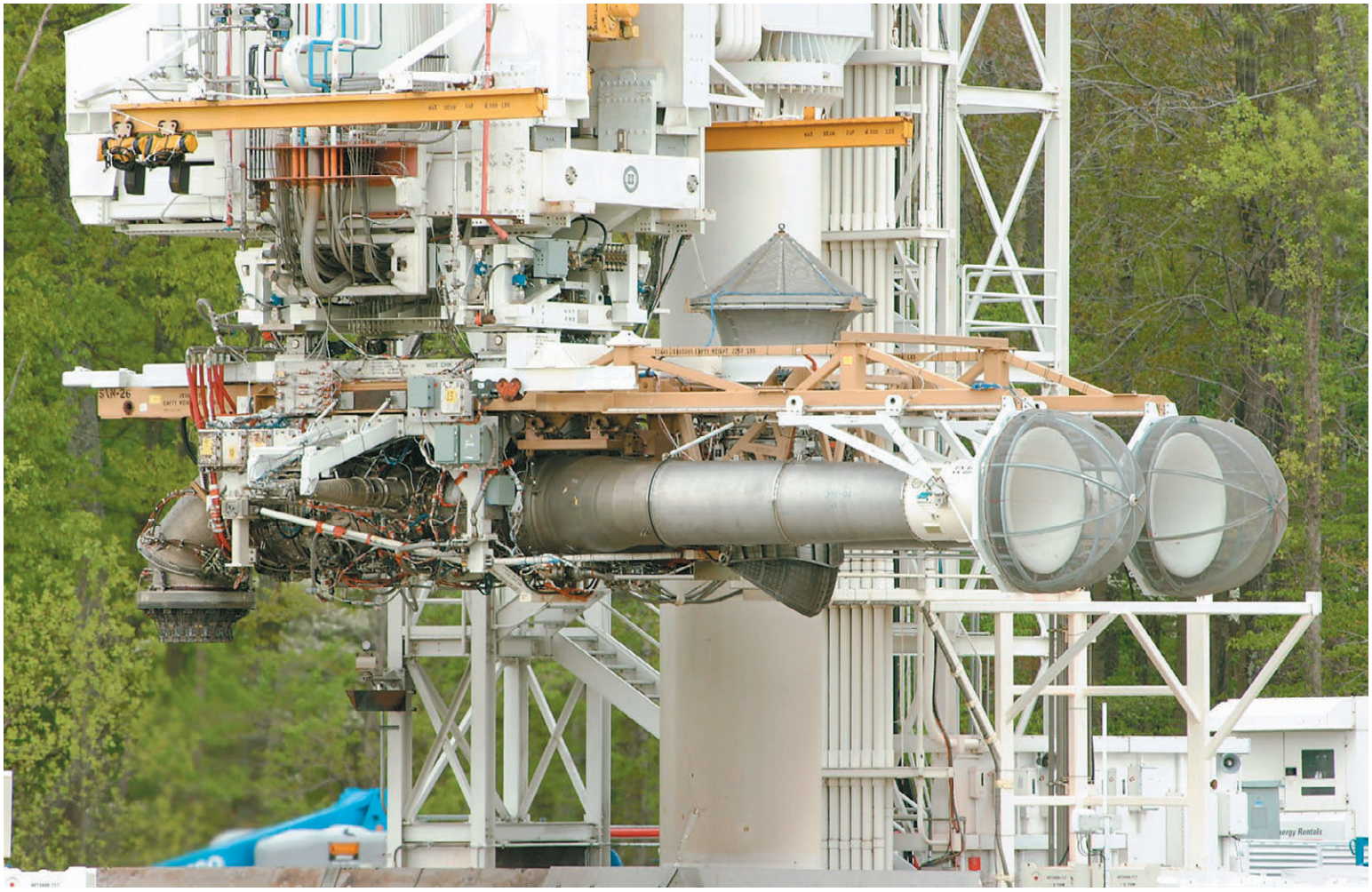
- *QA License # 01844 Shop and Field Fabrication and Assembly of Process piping in accordance with ASME Code B31.3, CSA B51*
- *QA License # 01843 Shop and Field Fabrication and Assembly of Pressure / Power piping in accordance with ASME Code B31.1, CSA B51*
- *QA License # 03623 Repairs and Alterations of Boilers and pressure Vessels, Pipe and Fittings in accordance with CSA-B51*
- *QA License # 01845 Fabrication and Assembly of Refrigeration piping, erection of refrigeration piping at field sites in accordance to CSA Standard B52, ASME B31.5*
- *QA License # 04328 Category “H” Fittings manufacturing.*
- *QA License # 000169797 Compressed Gas contractor.*
- *QA License # 000169795 Heating Fuels Contractor.*
- *Welding procedures that conform to ASME Section IX Code*
- *Canadian Welding Bureau (CWB), CSA W47.1 – Structural Steel*
- *CWB Certified Welding Supervisors Shop / Field*
- *Quality Control Manager.*
- *Testing methods*

Super Heater Repair

When in use Super-Heated steam is used to drive turbines for electrical power generation. McNolty was contracted on an emergency basis to develop new welding procedures for “Chromalloy T-22” due to the high temperature setting inside the combustion chamber the welding procedure needed to be performed to include all pre and post heat treatment and a strict monitoring of interpass temperature. In all a total of 32 tubes in 3 separate Super Heaters were replaced for the Canadian Government in a Type 3 Confined Space. McNolty continues to excel in in difficult and challenging situations.

Venture Development and fabrication

Having the ability to adapt to unique requests is a strength. Working hand in hand with MDS Aero Support McNolty developed new welding and machining procedures and techniques to manufacture Venture Nozzles used for testing and calibrating emissions for Jet Turbine research. All Aluminum components were heat treated and hardened from a T-0 to a T-6. State of the art welding equipment with intercoolers were used to create ultra-pure welds. All components were tested and verified before shipment to confirm surface abrasion, ovality, perpendicularity.



Test Cell #2

In addition to completing the high Temperature Natural Gas Delivery system made from 316L Stainless Steel piping for Test Cell #2 at M-10-F NRC, McNolty was contracted by Siemens Controls to assist in the mechanical dismantling and detailed customizing of internal combustion and cooling appliances specific for Research and Development of Turbine technology. Exotic alloys needed to be weld assembles using GTAW (Gas Tungsten Arc Welding) process with intricate Turbine repairs being performed using Hastelloy-X, our ability to adapt, create and overcome challenging situations with workable solutions has made us a contractor of choice for Siemens Controls at Test Cell #2.

Jet Fuel System For The Canadian Military

With less than desirable environmental circumstances McNolty was contracted to perform an installation of a double wall Jet Fuel containment system with the Highest level of Quality inspections allowed at the Canadian Forces Base Trenton Ontario. In all 3000 linear feet of pipe line was to be installed out doors with pumping chambers, fueling pits, low and high point drains.

Engineering demanded the highest level of NDT with 100% radiographic (x-ray) inspections for every single weld joint on the entire project. Meeting and exceeding Quality expectation, scheduling and completion dates gave assurance to our client that the proper contractor was given the challenge.

McNolty

Our mission is to continue to thrive as a business over the next ten years and beyond, McNolty must look ahead, understand the trends and forces that will shape our business in the future and move swiftly to prepare for what's to come. We must prepare for tomorrow today. That's the McNolty's vision.

It creates a long-term destination for our business and provides us with a "Roadmap" for winning together with all our clients' mechanical partners.

Don McNolty's career in welding has spanned thirty very active years. After completing his studies, and receiving his provincial accreditation from British Columbia, in welding techniques in the late 1960's, Don progressed to pipeline welding, and worked for a number of years in the natural gas industry.

During that time, he expanded his knowledge of metallurgy and welding techniques, under the tutelage of the renowned Harry Thomason, a consulting engineer for Westinghouse Canada. Further training followed at the British Columbia Institute of Technology, (BCIT) in Vancouver, Canada. Subsequent to this, Don spent most of two decades working in the pulp and paper industry on the west coast as a certified "A Class", "Red Seal" tradesman.

In the mid 1980's, Don returned to Ontario as an entrepreneur. Over the past twenty five years, McNolty Industrial Services Inc. has grown to serve a wide range of industries, including health care, nuclear medicine, and food production and processing, and refrigeration, among others.

In 2005 McNolty Industrial amalgamated its efforts and expertise with McNolty Mechanical (MMI) owned and operated by Don's son Landon McNolty, whose field of experience extended to welding specialty alloys, welding procedure development, Red Seal steam fitting and associated super-heated systems and the field of automated fabrication. As every year passes, sustainable growth and a vision of expanding the market share in fields demanding technical experience has become a cornerstone of McNolty's business development strategy.

Ensuring that Quality and client satisfaction are fundamentally incorporated into our daily operations has made McNolty the contractor of choice for highly technical projects.