

NORTHFIELD ENGINEERING AND BLUE PROJECTS

– A SPECIAL COLLABORATION WITH ABINBEV



Northfield Engineering was engaged by Blue Projects for the ABinBev (Ibhayi) refrigeration Plant Upgrade project.

The planning for this project commenced in December 2022 with the establishment of the teams and the procurement of all equipment, consumables and the preparation of the site establishment requirements.

The on-site team consisted of Elridge Cook (Project Lead Supervisor), Eddie Yates (Project Quality Coordinator), Rehann Keown (Welding Inspector) and Teams consisting of a Pipe Fitter, Coded Welder and a semi-skilled assistant.

All staff had to undergo various training interventions for the project; SAB site induction, Ammonia awareness (including the use of monitors and respirators), working at heights, MEWP operator training, Specific WPS Coding for the welders, safety rep and First Aid.

The site establishment required rigging studies and lift plans for the placement of 2 x 6m office containers, 1 x 12m store container and the erection of overhead cover for an onsite workshop.

The Northfield team moved on site on 06 February 2023 and commenced with the workshop fabrication of the various piping spools and valve connections.

Materials received had to be processed through QC to verify material according to ASME B31.5 requirements, all welds and piping had to be marked according to ISO 3834 standards and according to the specific ISO drawings.

There were initially 40 Quality Control plans compiled for this Project, however, as the project progressed, this increased to 60.

The nature of the project required a very high level of skill, care and due diligence by all involved to ensure successful completion of work. This also involved specialist services by 3rd party inspectors for Digital Radiography, Standard Radiography, Liquid Penetrant testing and Magnetic Particle Inspections and Pneumatic pressure testing with Nitrogen, most of which had to be completed after hours due to the degree of danger involved.



Safety was of paramount importance during all phases of the project with Northfield Engineering in conjunction with the ABinBev Project Safety Team ensuring that the highest degree of safety was applied and adhered to at all times – including when using the services of sub-contractors.

During this project, over 900 welds of various pipe diameters, ranging from 15nb to 250nb were successfully completed, many of which were in difficult positions with accessibility restrictions.

Due to restrictions which did not permit pressure testing of certain lines, many of these welds were reclassified as “Golden Welds” requiring all welds on that specific line to undergo Radiographic examination.

OF THE TEAM MEMBERS WHO EXCELLED AND WENT ABOVE THE CALL OF DUTY WERE

Thando “Machine” Mqulo: Coded Welder
 Mlamleli “Max” Dindile: Semi Skilled Assistant
 Kennan Koopman: Semi Skilled Assistant

Simpiwe “Archie” Fundi: Pipe Fitter
 Howard Jordaan: Semi Skilled Assistant
 Enslin Daniels: Semi Skilled Assistant

With the completion and successful tie-in of all the new lines and components, the finesse work such as the painting of lines as per ABinBev colour codes, the insulation of refrigeration lines and electrical connections by sub-contractors is currently underway.

Additional work is also being carried out by the Northfield Engineering team, such as the fabrication and installation of the new Sub-cooler skid.

A great word of thanks and appreciation to all role players involved in making this a hugely successful Project



8694.35

Man hours worked on Blue Project

14 000

Man hours had been factored in for the project

911

Welds were completed

236

Welds were X-rayed (Production welds)

114

Welds underwent Digital X Ray

86

“Golden welds” underwent X-ray

129

Welds underwent Liquid Penetrant testing

77

Welds underwent Magnetic Particle Testing

27

Material wall thickness tests were performed

