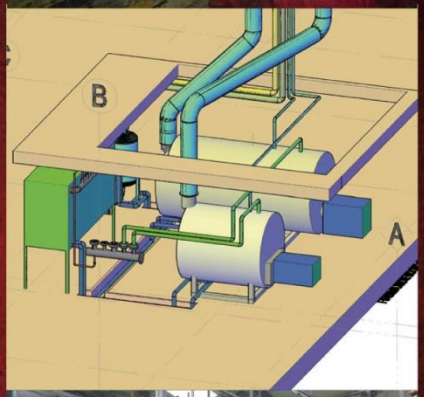
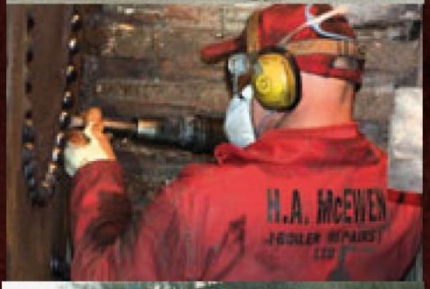
INDUSTRIAL BOILER SERVICES CASE STUDIES





H.A. McEwen (Boiler Repairs) Ltd

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INDUSTRIAL BOILER SERVICES CASE STUDIES

H.A. McEwen industrial boiler services include boiler repair, servicing, supply, installation and removal. Our industrial boiler repairs include D-patching, boiler retubes and furnace replacements, all carried out to the highest standards of coded welding.

We undertake industrial boiler servicing contracts, which include annual and NDT inspection preparation, valve overhauls and pipework testing. We also build, supply and install new boilers and have an enviable track record in the design, installation and commissioning of gas, oil, or biomass fired steam boilers.

CASE STUDIES CONTENTS (click link to view)

CASE STUDY:	INDUSTRIAL BOILER REPAIR
CLIENT:	A PAPER PACKAGING COMPANY
JOB:	REPAIR TUBE LEAKS IN COMBUSTION CHAMBER
SCOPE OF WORK	A steam package boiler has multiple tubes leaking in the combustion chamber. McEwen Boilermakers attend site to carry out the work within 48 hours of receiving the call. Two of our coded-welding standard industrial boiler engineers attend site with the equipment required to carry out the boiler repair. The leaks are identified and the problem is rectified within a few hours, before the boiler is returned to normal operation.s

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CASE STUDY:	D-PATCH REPAIR
CLIENT:	PET FOOD MANUFACTURER
JOB:	D-PATCH REPAIR TO ACCESS RING OF WELLMAN –ROBEY STEAM BOILER
SCOPE OF WORK	During a scheduled service and NDT inspection a crack was discovered in the rear access ring of the boiler. On receipt of the location of the crack from the NDT surveyor, we quickly formulated a quotation and method statement for the work. Once approved, the material for the repair was obtained and rolled to the correct dimensions. Our foreman boilermaker arrived on site with all the equipment to carry out the repair; cut the defective section of plate out; ground a prep on the new patch and access ring, and tacked the new plate into place. The “tack-up” was approved by the insurance surveyor, and the patch was fully welded up in position. Finally the new weld was re-tested and approved, a hydraulic test applied for the insurance surveyor was carried out, and the boiler boxed back up and returned to service.

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CASE STUDY:	INDUSTRIAL BOILER RETUBE
CLIENT:	FULL RE-TUBE OF WELLMAN-ROBEY 12,000LBS/HR STEAM BOILE
JOB:	COMPLETE RE-BUILD OF 1904 AMERICAN BUILT FRICK TRACTION ENGINE BOILER
SCOPE OF WORK	Due to poor water treatment over a number of years, the condition of the boiler tubes had deteriorated to such an extent that tubes had to be repaired on numerous occasions. The decision was made during a two week shut down in the summer that a full retube of the boiler would take place. McEwen Boilermakers attended site on the pre-arranged date and carried out the following: • J-Prepped Combustion • Chamber to remove seal welds • Cut out old tubes, leaving stay tubes in place. • Prepared tube holes for new tubes • Slid new tubes into place and power expanded • Seal Welded tube ends in combustion chamber • Carried out hydraulic test for insurance inspector • Boxed boiler back up and brought up to working pressure • Handed boiler back to engineering staff. The full re-tube took less than two weeks and the works engineer was delighted with the work.

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CASE STUDY:	PREPARATION FOR ANNUAL INSURANCE INSPECTION
CLIENT:	PAPER MILL IN CUMBRIA
JOB:	PREPARATION FOR ANNUAL INSURANCE INSPECTION
SCOPE OF WORK	Due to limited downtime for the Babcock Steambloc Boiler, our engineers commence work on a Saturday morning, removing the 6" steam valves, klinger sight glasses, Hopkinson blowdown valves and feedwater valves and manlid and mudlids. The front doors are lifted down using certificated lifting equipment and the furnace, smoketubes and waterside of the boiler are cleaned. The flange faces are cleaned, ready for new gaskets. All the steam valves and lids etc are returned to our works where they are; • Fully stripped down • All internal components cleaned and inspected for wear and tear. • Re-assembled • Re-Packed using graphite packing material • Hydraulically Tested to 1 ½ times working pressure • Safety Valves re-set • Re-painted The boiler is then re-built and handed back over by the following Friday afternoon.

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CASE STUDY:	NDT INSURANCE INSPECTION PREPARATION
CLIENT:	PAPER MILL IN LEEDS
JOB:	NDT INSURANCE INSPECTION PREPARATION
SCOPE OF WORK	Our engineers arrive on site and commence removing sections of steel cladding from the boiler. Due to the age of the lagging it's crumbled and deemed unsuitable for re-use. It's bagged and removed from site. Our engineers wear full protective overalls and suitable PPE to protect eyes, ears and feet; as well as suitable breathing equipment, quality dust masks in this case. Careful dimensions of the refractory quarl are taken, to ensure it's re-built correctly. It's then broken out using 110v breakers. The plate surfaces are cleaned to the satisfaction of the ultrasonic inspector. If the boiler passes it's then re-built with new lagging fit etc. If it fails our engineers can carry out the necessary repairs.

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CASE STUDY:	VALVE OVERHAUL AND REFURBISHMENT
CLIENT:	FABRIC DYING COMPANY IN CHESTERFIELD
JOB:	OVERHAUL OF PNEUMATIC CONTROL VALVES
SCOPE OF WORK	Four automatic pneumatically controlled steam valves were removed by the client and couriered up to our works, they were stripped, thoroughly cleaned and re-assembled. The diaphragms were checked and then the valves tested hydraulically to 1 ½ times working pressure. The valves were then certificated for 12 months.

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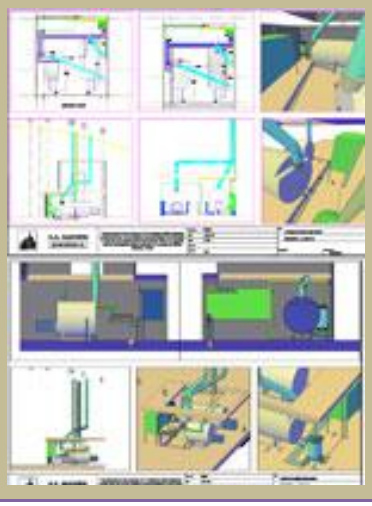
CASE STUDY:	INDUSTRIAL BOILERPLANT DESIGN
CLIENT:	MOORHOUSES BREWERY, BURNLEY
JOB:	DESIGN OF NEW BOILERHOUSE WITHIN NEW BREWHOUSE DEVELOPMENT
SCOPE OF WORK	McEwen Boilermakers have worked for Moorhouses Brewery for over 20 years. The original steam boilerplant was installed by us, so when the decision was made to build a new much larger brewery, we were contacted and began to design the new plant. We began by liaising with the architect, and transferred the building layout onto our CAD program, where we were able to site the boiler, hotwell and blowdown receiver, as well as show interconnecting pipework, chimneys etc. We were also able to provide civil drawing for concrete shuttering for drains and pipework ducts, resulting in a very neat and tidy installation.



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CASE STUDY:	INDUSTRIAL BOILERPLANT SUPPLY
CLIENT:	MOORHOUSES BREWERY, BURNLEY
JOB:	SUPPLY OF BYWORTH YSX 2000 STEAM BOILER & ANCILLARY EQUIPMENT
SCOPE OF WORK	After the initial design stage of the contract, we placed an order with Byworth Boilers to manufacture the steam boiler, which was rated @ 4,400 lbs/hr. We began work on manufacturing the ancillary equipment, which consisted of: Blowdown receiver • Hotwell tank (fully lagged and cladded) • Condensate Manifold • Steam Manifold. • Aluminium Chimney

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CASE STUDY:	INDUSTRIAL BOILERPLANT INSTALLATION
CLIENT:	MOORHOUSES BREWERY, BURNLEY
JOB:	INSTALLATION OF 4,400 LBS/HR GAS FIRED STEAM BOILERPLANT
SCOPE OF WORK	After the boiler was manufactured, along with the hotwell tank, blowdown receiver, manifolds etc, we delivered them to site, and began the on-site phase of the work. The hotwell and blowdown receiver were sited first at the back of the boilerhouse, as per the design, and then the boiler skated into position. Once sited our engineers began the pipework installation phase, which included on-site fabrication of the steam, gas and condensate lines, as well as the installation of the feed, blowdown and exhausts to and from the boiler. A crane was brought to site for the work at height, which included installing the aluminium chimney sections and roof sealing cowls. The boiler was finally commissioned and handed over the Moorhouses staff.

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CASE STUDY:	HOTWELL TANK DESIGN, SUPPLY AND INSTALLATION
CLIENT:	KITCHEN MANUFACTURER IN NORTH EAST
JOB:	DESIGN, MANUFACTURE & INSTALLATION OF MILD STEEL HOTWELL TANK
SCOPE OF WORK	During a routine service visit to the site, we were asked to quote for the replacement of the three existing hotwell tanks, with one larger tank capable of feeding the large wood fired steam boiler. The tank capacity was calculated, and the tank designed and approved, the mild steel tank was then fabricated in our works, along with a large steel support stand. Once completed it was loaded to transport and delivered to site. Our on-site installation team then ran all the interconnecting pipework, and the tank was commissioned and handed over.

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CASE STUDY:	BLOWDOWN RECEIVERS
CLIENT:	WALLPAPER MANUFACTURER, LANCASTER
JOB:	DESIGN, MANUFACTURE AND INSTALLATION OF BLOWDOWN RECEIVER
SCOPE OF WORK	As part of a large boiler installation project, a blowdown receiver was sized correctly and manufactured under the pressure directive. With a large elliptical manlid for accessing the internal surfaces for cleaning and inspection, and flanged connections, for ease of installation, the project was completed successfully and on time to a high standard.

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CASE STUDY:	CHIMNEYS AND FLUES
CLIENT:	FABRIC COMPANY IN ACCRINGTON
JOB:	DESIGN, MANUFACTURE & INSTALLATION OF STEEL CHIMNEY
SCOPE OF WORK	Our company was given the order to manufacture and install a new steel chimney at a large fabric manufacturer. Our engineers fabricated the sections in two strakes, before delivering them to site. The two strakes were then lifted into position by a local crane company and our engineers bolted the sections together, one joint being at the boiler and the other above the roof level. The roof was then sealed and weatherproofed.

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CASE STUDY:	BOILERPLANT DISMANTLING AND REMOVAL
CLIENT:	RIGID PAPER, ROCHDALE
JOB:	REMOVAL OF STEAM BOILERPLANT, OIL TANKS AND CHIMNEY
SCOPE OF WORK	Our team of engineers arrived on site, and began by carefully isolating the boilers from the oil supply. The interconnecting pipework, and ducting was then dismantled and removed from site, and the boilers readied for being skated out of the boilerhouse and lifted onto transport. A 250 tonne crane was then brought to site, with a 100 tonne crane alongside for the man-rider basket. The 250 tonne crane took hold of the chimney, while our engineers were lifted up to the ring of holding bolts, which were removed. The chimney was then lifted from the building and lowered to the ground.

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CASE STUDY:	PIPEWORK FABRICATION
CLIENT:	BIO FUEL DEVELOPMENT PLANT, NORTH DEVON
JOB:	INSTALLATION OF STEAM AND CONDENSATE PIPEWORK
SCOPE OF WORK	The company was contracted to carry out the manufacture and installation of a new main steam supply into the fuel development building. Two steam manifolds were designed and installed along with the supply of isolating steam valves, steam traps, interconnecting steam and condensate pipework. Our team of engineers pre-fabricated the manifolds and sections of pipework, and carried out a full on-site installation service. On completion of the pipework manufacture, it was lagged in foil back insulation.

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