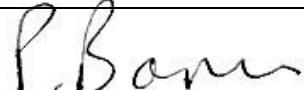


## Inspection Body Accreditation Programme

Schedule to	
<b>CERTIFICATE OF ACCREDITATION</b>	
Design Engineering International Limited Certification, Compliance and Consulting Engineers	<b>Client Number 5771</b>
PO Box 642, Timaru, 7940 4 Elizabeth Place, Timaru, 7910	
<b>Telephone 03 688-6713</b> <b>Fax 03 688-6722</b>	<b>www.designengineering.co.nz</b>
<b>Authorised Representative</b> Mr Dean Van Buuren Managing Director	
<b>Programme</b> Inspection Body	
<b>Accreditation Number 81</b>	<b>Initial Accreditation Date 10 June 2003</b>
<b>Conformance Standard</b> ISO/IEC 17020:2012 Conformity assessment — Requirements for the operation of various types of bodies performing inspection	
<b>Inspection Services Summary</b>  Engineering Safety Inspection Mechanical Inspection	

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**Engineering Safety Inspection**

**Type A Inspection Body**

**Inspections in accordance with the *Health and Safety in Employment (Pressure Equipment, Cranes and Passenger Ropeways) Regulations 1999:***

**Design Verification Inspection**

Cranes

**Fabrication Inspection**

Boilers

Without superheat. Fabricated from carbon steel without post weld heat treatment or austenitic grades  $\leq 316$

Hot Water Boilers

Pressure Vessels

Fabricated from carbon steel without post weld heat treatment or austenitic grades  $\leq 316$ .  
 Excluding those which are lined, clad, transportable, subject to cyclic operation or are intended for cryogenic use

Fired Heaters

Pressure Piping

Fabricated from carbon steel without post weld heat treatment or austenitic grades  $\leq 316$

Cranes Category A

Overhead travelling (gantry) cranes

Goliath and semi-goliath cranes

Monorail hoists

**Commissioning and In-service Inspection**

Boilers and associated piping system

Without superheat. Fabricated from carbon steel without post weld heat treatment or austenitic grades  $\leq 316$

Hot Water Boilers

Heritage Boilers

Heritage Pressure Vessels

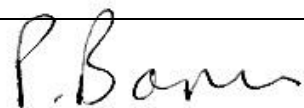
Heritage Engines

Pressure Vessels

Fabricated from carbon steel without post weld heat treatment or austenitic grades  $\leq 316$ .  
 Excluding those which are lined, clad, transportable, subject to cyclic operation or are intended for cryogenic use

Fired Heaters

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- Pressure Piping  
 Fabricated from carbon steel without post weld heat treatment or austenitic grades  $\leq 316$
- Cranes Category A  
 Overhead travelling (gantry) cranes  
 Goliath and semi-goliath cranes  
 Monorail hoists
- Cranes Category C  
 Mobile cranes  
 Truck mounted cranes  
 Vehicle mounted truck loader cranes
- Other Cranes (specify)  
 Scotch derrick

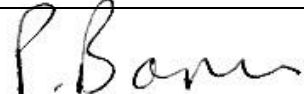
**Repairs and Alterations Inspection**

- Boilers and associated piping system  
 Without superheat. Fabricated from carbon steel without post weld heat treatment or austenitic grades  $\leq 316$
- Hot Water Boilers
- Heritage Boilers
- Heritage Pressure Vessels
- Heritage Engines
- Pressure Vessels  
 Fabricated from carbon steel without post weld heat treatment or austenitic grades  $\leq 316$ .  
 Excluding those which are lined, clad, transportable, subject to cyclic operation or are intended for cryogenic use
- Fired Heaters
- Pressure Piping  
 Fabricated from carbon steel without post weld heat treatment or austenitic grades  $\leq 316$
- Cranes Category A  
 Overhead travelling (gantry) cranes  
 Goliath and semi-goliath cranes  
 Monorail hoists
- Cranes Category C  
 Mobile cranes  
 Truck mounted cranes  
 Vehicle mounted truck loader cranes
- Other Cranes (specify)  
 Scotch derrick

**Mechanical Inspection**

**Type A Inspection Body**

**Inspection by Non Destructive Testing**

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**4.75 Welder Qualification Tests**

*Mechanical tests and the interpretation of radiographs in accordance with specifications such as:*

- API 1104
- AS/NZS 1554 parts 1 to 6
- AS/NZS 1665
- AS/NZS 2980
- AS/NZS 3992
- ASME IX
- AWS D1.1
- BS EN ISO 9606-1
- BS EN ISO 15609-1
- BS EN ISO 15614-1

**4.81 Non Destructive Tests by Radiography**

(a) Radiographic examination of metals

- |      |  |            |
|------|--|------------|
| (i)  | Single wall, rolled or wrought products<br>Thickness Measurements<br>Corrosion Pitting | Al, Fe, SS |
| (ii) | Welded joints  | Al, Fe, SS |

**4.82 Non Destructive Tests by Ultrasonics**

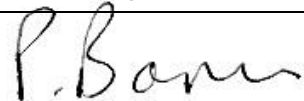
(a) Ultrasonic examination of metals

- |       |   |                     |
|-------|---|---------------------|
| (i)   | Single wall, rolled or wrought product<br>Thickness Measurements<br>Corrosion Pitting | Al, Fe, SS          |
| (ii)  | Welded joints   | Fe, SS              |
| (iii) | Castings  | Al, Fe, SS          |
| (iv)  | Forgings  | Fe, SS              |
| (v)   | Extruded products   | Fe, SS              |
| (vi)  | Other specified metallic products   | Machined components |
| (vii) | Nozzle and node welds   |                     |

(b) Ultrasonic examination of bonded metals

- |       |                          |
|-------|--------------------------|
| (i)   | Soldered & brazed joints |
| (ii)  | Hard faced components    |
| (iii) | Machine bearings         |

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- (e) Manual Phased Array
  - (ii) Welded joints Al, Fe, SS

**4.83 Non Destructive Tests by Visual Inspection**

- (a) Visual inspection of metals
  - (i) Flat or rolled product Al, Fe, SS
  - (ii) Welded joints Al, Fe, SS
  - (iii) Castings Al, Fe, SS

*In accordance with specifications such as:*

AS 3978  
AWS D1.1

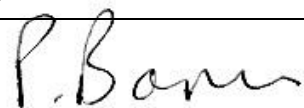
**4.84 Non Destructive Tests by Dye Penetrant Methods**

- (a) Visible Dye
  - (i) Water washable method
  - (ii) Solvent removable method
  - (iii) Post emulsifiable method
- (b) Fluorescent Dye
  - (i) Water washable method
  - (ii) Solvent removable method
  - (iii) Post emulsifiable method

**4.85 Non Destructive Tests by Magnetic Particle Methods**

- (a) Magnetic flow method
  - (i) Welded joints
  - (ii) Forgings
  - (iii) Castings
  - (iv) Machined parts
- (b) Current flow method 3000 Amps AC/DC
  - (i) Welded joints
  - (ii) Forgings

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- (iii) Castings
- (iv) Machined parts

(c) Coil method 3000 Amps AC/DC

- (i) Welded joints
- (ii) Forgings
- (iii) Castings
- (iv) Machined parts

**4.86 Non Destructive Tests by Eddy Current**

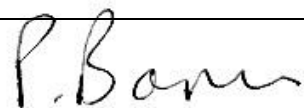
- |  |                        |
|--|------------------------|
| (a) Surface flaw detection                 | Al, Cu, Fe, Ni, Mg, Zn |
| (b) Metallic coating thickness measurement | Al, Cu, Fe, Ni, Mg, Zn |
| (c) Sorting of materials & components      | Al, Cu, Fe, Ni, Mg, Zn |
| (d) Sub-surface flaw detection             | Al, Cu, Fe, Ni, Mg, Zn |
| (e) Weld testing                           | Al, Cu, Fe, Ni, Mg, Zn |

**Process Verification Inspection**

**Welding Qualification Examining Body**

Inspections required to verify compliance with the process for qualifying welders for fusion welding of steels in accordance with AS/NZS 2980

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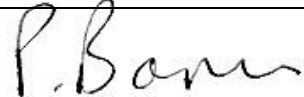
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**Signatories**

Mr Jhonnal Calleja	<p><b>PECPR</b> <b>Design Verification Inspection:</b> Cranes</p>
Mr Pieter Fouche	<p><b>NDT</b> <b>Product Inspection:</b> 4.81(a)(i-ii), 4.83(a)(i-iii), 4.84(a)(i-iii)(b)(i-iii), 4.85(a)(i-iv)</p>
Mr Douglas Lamb	<p><b>NDT</b> <b>Product Inspection:</b> 4.86(a – e)</p>
Mr Terry Reynolds	<p><b>PECPR</b> <b>Fabrication Inspection:</b> Boilers without superheat, Hot Water Boilers, Fired Heaters, Pressure Vessels &amp; Pressure Piping (excluding those which include exotic materials, requirements for post weld heat treatment, are lined, clad, transportable, subject to cyclic operation or are intended for cryogenic use) Cranes Category A</p> <p><b>Commissioning and In-Service Inspection:</b> Boilers without superheat, Hot Water Boilers, Heritage Boilers, Heritage Pressure Vessels, Heritage Engines, Fired Heaters, Pressure Vessels &amp; Pressure Piping (excluding those which include exotic materials, requirements for post weld heat treatment, are lined, clad, transportable, subject to cyclic operation or are intended for cryogenic use) Cranes Categories A &amp; C and Scotch Derrick Cranes</p> <p><b>Repairs and Alterations Inspection:</b> Boilers without superheat, Hot Water Boilers, Heritage Boilers, Heritage Pressure Vessels, Heritage Engines, Fired Heaters, Pressure Vessels &amp; Pressure Piping (excluding those which include exotic materials, requirements for post weld heat treatment, are lined, clad, transportable, subject to cyclic operation or are intended for cryogenic use) Cranes Categories A &amp; C and Scotch Derrick Cranes</p> <p><b>NDT</b> <b>Product Inspection:</b> 4.82(e)(ii)</p>
Mr Dean Van Buuren	<p><b>PECPR</b> <b>Fabrication Inspection:</b> Cranes Category A</p> <p><b>Commissioning and In-Service Inspection:</b> Cranes Categories A &amp; C</p>

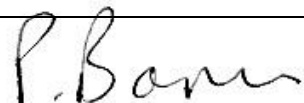
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**SCOPE OF ACCREDITATION****Repairs and Alterations Inspection:** Cranes Categories A & C**NDT****Product Inspection:** 4.75 (mechanical tests only), 4.82(a)(i-vii)(b)(i-iii)(e)(ii), 4.83(a)(i-iii), 4.84(a)(i-iii)(b)(i-iii), 4.85(a)(i-iv)(b)(i-iv)(c)(i-iv)**WQEB****Process Verification Inspection:** Inspections required to verify compliance with the process for qualifying welders for fusion welding of steels in accordance with AS/NZS 2980Authorised:  
General Manager

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