

CORPORATE PROCEDURE FOR
**PRESSURE WELDING PROCEDURES AND RECORDING
SYSTEM
CS-WELD-1002**

Responsible Officer: CS Welding Officer

Approved : General Manager Production

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1. Purpose

- 1.1 To establish and maintain a uniform pressure welding procedure and recording system and set minimum technical standards.
- 1.2 To comply with the requirements of the Workplace Health and Safety Act and Regulations, and Australian Standards.
- 1.3 To provide assurance to CS Energy that plant integrity will not be adversely affected by welding operations carried out on the plant.

2. Scope

This procedure shall apply to pressure welding at all CS Energy power stations.

3. Actions

3.1 Welding System

The welding system shall consist of, as a minimum, the following four elements:

1. Welding Procedures Manual.
2. Welder qualification and performance records which are maintained at the Power Stations.
3. Welding Instructions/Non Destructive Testing Request issued at the Power Stations.
4. Technical Reports - stress relief records, NDT, hydrostatic tests issued at the Power Stations.

3.2 Welding Procedures

Welding procedures generated by CS Energy shall be produced on CS Energy document S1585.

A welding procedure shall:

- Contain all technical information relevant to the class of weld.
- The welder who qualified the procedure shall be identified.
- Be witnessed by the Welding Supervisor.
- Be approved by the CS Energy Welding Officer and General Manager Production.

All welding procedures shall be stored in the "Welding Procedures Manual" which shall be issued and updated by the Welding Officer.

The primary responsibility for having additional welding procedures approved shall be placed with the location identifying the need for such procedures.

For the qualification of a welding procedure the welding supervisor or the Welding Officer's representative at that location shall:

- Check with Welding Officer to ensure a similar procedure is not being developed at another location.
- Obtain a procedure number from the Welding Officer.
- Prepare the documentation for the procedure.
- Send a copy of the procedure to the Welding Officer for comment (if considered necessary).
- Have procedure test piece identified with the Welding Procedure Number CS-WELD-XXX and the welder's name/number).
- Have radiography and mechanical tests performed on weld.
- Send procedure and test result (if satisfactory) to CS Energy Welding Officer for approval.

The CS Energy Welding Officer shall forward the procedure to General Manager Production for signature approval, who shall return the procedure, if approved, to CS Energy Welding Officer for issue.

The CS Energy Welding Officer shall issue the procedure to all holders of the Welding Procedures Manual.

3.3 Welder Qualification and Performance

CS Energy shall keep a record of welder qualifications.

The records shall be kept in a manner that will enable an audit to be carried out by the Division of WH & S, or the local Quality Co-ordinator.

The welder's performance records shall be kept by the organisation employing the welder and accessible upon request to CS Energy.

3.4 Renewal of Welder Qualification (Ref. AS 3992 Clause 9.8)

A welder's qualification to weld a specified welding procedure shall remain valid, provided that it can be shown from records maintained by the organisation employing the welder that the welder has been employed with reasonable continuity using the relevant welding processes, and has continued to produce satisfactory welds as verified by the non-destructive examination, workmanship and pressure testing requirements of the relevant pressure equipment standard unless:

- (a) Six (6) months or more have elapsed since the welder was employed on the relevant welding processes.
- (b) There is some specific reason to question the welder's ability.

A welder shall become qualified for an approved welding procedure by carrying out a test weld and receiving a satisfactory report to a radiograph or ultrasonic examination [refer AS3992 Clause 9.2(e)]. Provided the Welding Supervisor or Welding Officer is satisfied, a welder whose qualification has lapsed may become re-qualified to the original welding procedure by a successful radiograph examination of the first production weld to that procedure or a test weld.

The maintenance of the qualification and performance records shall be the responsibility of the Welding Officer for each Power Station.

Each welder shall have a unique identifier based on that welder's initials. This will include all sub-contract welders used at each power station.

3.5 Weld Instructions

Where pressure welding is required by Statutory regulation or specified codes, the Weld Instruction/Non Destructive Test Request (Form S1588) shall be prepared by the Welder, Welding Supervisor or the Welding Officer and approved by the Welding Supervisor or Welding Officer. The purpose of the Weld Instruction is to ensure that specific details are given to the Qualified Welder to carry out that work.

The instruction shall be prepared in duplicate, a copy shall be issued to the Welder, a copy shall be filed in Callide 'B' File 370/80/1003 (Unit 1), 370/80/1005 (Unit 2) 370/80/1006 (Station) or Swanbank SW375/50/43. When required, an additional copy may be issued to the NDT contractor to provide details for testing purposes.

In certain circumstances, the Welding Supervisor or Welding Officer may decide it is impractical to have an individual weld instruction for each weld. In this case, an alternative system may be used, provided it meets the following objectives.

1. The persons carrying out the welding, heat treatment and NDT are fully aware of the details of the work.
2. There is existing documentation which will tie together the welder, work performed and all records pertaining to the work, including electronic based records.

All Weld Instruction/Non Destructive Test requests shall be produced on CS Energy Form S1588 either in hard copy or electronic format.

3.6 Non-Destructive Testing

All non-destructive testing shall be in accordance with AS 4037, and other Power Station specific requirements as nominated by the CS Energy Welding Officer.

NDT requests shall be produced on CS Energy Form S1588.

Records of all NDT inspections shall be filed with either the Weld Instruction or Contract specific reports i.e. overhauls.

Where required, additional copies shall be kept with the Welder Qualification and performance records.

3.7 Division of Workplace Health and Safety

All dealings with the Division of WH & S shall be made through the Technical Resource Manager which will enable a uniform and consistent approach to Corporate matters.

3.8 Contractors

Before commencing work, a contract welder shall produce certification and/or qualification records and if required, carry out a qualification test to the satisfaction of the Power Station Welding Supervisor or the CS Energy Welding Officer's representative.

Welder qualification records shall be kept for all subcontract welders qualified to CS Energy procedures.

If contractors wish to use their own welding procedures, they shall require approval of the CS Energy Welding Officer. In addition, Welder qualifications shall also be required to their proposed welding procedure.

Records of these procedures shall be kept in the appropriate files.

3.9 Reviews

The responsibility for periodic reviews of this procedure lies with the CS Energy Welding Officer.

4. Definitions

Welding Supervisor is a person qualified as a "Welding Supervisor" within the meaning of AS1796 and nominated by the Power Station Manager.

Welding Officer is a person qualified as a Welding Supervisor within the meaning of AS1796 and nominated by the General Manager Production as Welding Officer.

Where a CS Energy site does not have a permanent Welding Supervisor or Welding Officer, the CS Energy Welding Officer and General Manager Production may nominate a “Welding Officer’s representative”, who is considered to have sufficient skills and experience to perform limited duties normally undertaken by the Welding Officer or Welding Supervisor.

5. Reference Documentation

- Callide ‘B’ File 370/80/1003 (Unit 1)
- Callide ‘B’ File 370/80/1005 (Unit 2)
- Callide ‘B’ File 370/80/1006 (Station)
- Swanbank File SW375/50/43
- Form S1583 - Welder Qualification
- Form S1585 - Welding Procedure
- Form S1588 - Weld Instruction/Non Destructive Testing Request
- AS1210 - SAA Unfired Pressure Vessel Code
- AS1228 - Boilers - Water Tube
- AS1796 - Certification of Welding and Welding Supervisors
- AS3992 - Boilers and Pressure Vessels Welding and Brazing Qualification
- AS4037 - Boiler and Pressure Vessels Examination and Testing
- AS4041 - Pressure Piping
- Workplace Health and Safety Act and Regulations
- CS-WELD - Corporate Welding Manual

6. Attachments

None

7. Document History

Issue Date	Nature of Changes
5/2/98	Original Issue
14/8/98 Rev. 1	Reference to Plant Responsible Officer changed to Welding Officer. Rewording of last paragraph in 3.3. Callide File numbers changed in 3.5. Rewording of Paragraphs 3.6 and 3.8. Paragraph added to 4. Definitions.