WTIA GUIDANCE NOTE ON
YOUR CAREER AS A
RESPONSIBLE WELDING COORDINATOR (RWC)
1 Background
Ensuring the integrity of welded components for public safety reasons, engineering and operational excellence, reliability of welded plant etc. has been a well-documented activity since arc welding was first invented and became such a successful industrial enabling technology.

For example, some countries such as Germany, Japan, Canada and those in the European Union (EU) have placed great emphasis on the competency of personnel and companies producing welded products.

- Since 1926 Germany, initially through the German Railways standards and specifications, developed and implemented this approach and culture. Today, there are more than 15,000 welding engineers working in German industry.
- In 1947, Canada established the Canadian Welding Bureau (CWB), which today has certified over 7,000 companies, to assure customers, regulators and owners, of the integrity and reliability of welded structures.
- Since 1970, the Japan Welding Engineering Society (JWES) has introduced WES 8013 Standard for certification of welding coordination personnel. Today, there are more than 32,000 certified welding coordination personnel in Japan.
- In the 1980s EN 729 and EN 719, which were the forerunners of ISO 3834 and ISO 14731, were introduced in Europe. The EU has since introduced the Construction Products Regulation (CPR) No. 305/2011 and EN 1090.1 and .2 in the interests of public safety with steel and aluminium products, as well as many other standards calling up EN ISO 3834.

2 WTIA and IIW Initiatives on Integrity and Reliability of Welded Components
Australia, through the excellent work of the WTIA, industry associations and Standards Australia over many decades, implemented a range of world-class standards covering structural steel, pressure equipment, etc, including specifying the competency of welding, inspection, design and NDT personnel.

- In 1992, IIW established a working group for the global harmonisation of the education, training, qualification and certification of welding personnel. This international harmonised approach makes recognition of qualifications and certifications easier for customers, specifiers and employers across the world.
- Since 1999, IIW launched programs for welding engineers, technologists, specialists, practitioners, designers, welders and inspection personnel.
- 44 countries in the 56 member-country IIW are now authorised to hold the IIW qualification and certification personnel programmes for:

  - **Welding Coordination** International Welding Engineer (IWE), International Welding Technologist (IWT), International Welding Specialist (IWS), International Welding Practitioner (IWP) (IIW Guideline IAB-252r1-11)
  - **Welding Inspection** International Welding Inspector Comprehensive (IWI C), International Welding Inspector Standard (IWI S), International Welding Inspector Basic (IWI B) (IIW Guideline IAB-041r3-08-IWIP)
  - **Welding Design** International Welded Structures Designer, Comprehensive (IWSD C), International Welded Structures Designer, Standard (IWSD S) (IIW Guideline IAB-201r1-10-Guideline-IWSD)
  - **Welders** International Welders (IW) (SMAW, GTAW, GMAW, FCAW, OFW) (IIW Guideline IAB-089r4-12)

and 26 of the 56 countries are authorised to hold the IIW Company Certification Programme “IIW Manufacturer Certification Scheme According to ISO 3834” (IIW MCS ISO 3834).

3 Qualification and Certification
Qualification is evidence of education, training, and knowledge gained. A qualification is valid for life and cannot be withdrawn if earned correctly e.g. a degree or IIW Diploma.

Certification provides written assurance that an individual is competent to carry out a specified class of work. It is valid for a set period of time, and proof of ongoing competence is required to achieve the necessary regular
Certification gives both the individual and the industry the confidence to know the person can carry out the work professionally, in line with current regulations, standards and requirements, and that they continue to enhance and update their knowledge and skills on a regular basis.

4 ISO 3834, ISO 14731 and IIW Relationship

ISO 3834:2005 defines the various approaches of quality requirements in welded fabrication, construction and maintenance through the implementation of competent welding coordination.

In Parts 2 and 3, paragraph 7.3 (of each standard), it states that ‘the manufacturer shall have at his disposal appropriate welding coordination personnel’. Such personnel are defined in ISO Standard 14731:2006 Welding coordination – Tasks and responsibilities Section 4.2 Specification of tasks and responsibilities which also refers to Annex B, pages 5 to 9.

Section 4.2 page 2 states that ‘The manufacturer shall appoint at least one responsible welding coordinator’. Section 6 page 3 defines the specific knowledge requirements of responsible welding coordination personnel and refers to Annex A page 4.

Responsible Welding Coordinator (RWC) is therefore a job function/title specified by the employer. The RWC should have full responsibility and authority for quality related to welding.

The IIW International Welding Engineer (IWE), IIW International Welding Technologist (IWT) and the IIW International Welding Specialist (IWS) are the recommended minimum requirements for education, examination and qualification of welding coordination personnel.

This is shown in Annex A, page 4, in ISO 14731:2006 and Annex A, page 7, in ISO 3834-5:2005 where minimum requirements for inspection personnel are also stated (IIW International Welding Inspection Personnel (IWIP)).

5 IIW and WTIA

In conjunction with IIW and its International Authorisation Board (IAB), WTIA has established an IIW ANB in Australia to appoint IIW Approved Training Bodies (ATBs) to conduct training to IIW education and training guidelines.

The WTIA IIW ANB conducts the examinations and awards the IIW diplomas to successful candidates in accordance with IIW Guidelines. For welding coordination and in particular, the Responsible Welding Coordinator (RWC) depending upon the complexity of the welded products, IWE, IWT, IWS are available as qualifications and CIWE, CIWT and CIWS as certifications to show RWC personnel’s ongoing competency.

6 WTIA IIW ANB Routes to Obtain IIW Qualification

There are three routes to obtain the IIW Welding Coordination qualifications IWE, IWT or IWS. These are:

a) Training by the IIW Standard Route at an IIW ATB and then undertake the examinations at the IIW ANB;
b) Applying for partial or full exemption by the IIW Alternative Route for the training and then undertake the examinations at the IIW ANB;
c) Apply by the IIW Transitional Route to obtain the IWE, IWT or IWS qualifications without undertaking the final examinations.

Once a person has obtained the IIW IWE, IWT or IWS qualifications, certification can be applied for if the person has three years appropriate experience. Certification is renewed every three years.

7 Benefits of IIW Qualification and Certification for Welding Coordination

The benefits of IIW qualification and certification, the processes to be followed and application forms to obtain qualification and certification, the diplomas, certificates, rubber stamp, certificate schedule and employer endorsement as a RWC are covered below.

The benefits of IIW qualification and certification as a welding coordinator include:

- Qualification and hence recognition in international and national standards such as AS/NZS ISO 3834, ISO 14731, AS/NZS 1554, EN 1090.1, AS 3920 etc.;
- Framed IIW diploma as an IIW IWE, IWT, IWS;
- International recognition across the IIW 56-member countries and globally;
- Certification and hence recognition of your competency in the field of welding coordination;
- IIW certificate as an IIW Certified International Welding Engineer, Technologist or Specialist (CIWE, CIWT, CIWS) includes a special area for an employer to include information of you being its RWC; This special area is a full page on the certificate which specifies the welding processes, materials, product applications, codes etc covering your experience and responsibilities as the company RWC. If you change companies, or your RWC role in your company, this schedule and any future ones become a formalised, detailed record of your experience, job duties, responsibilities, etc. as a RWC;
• An IIW personalised stamp for your use as an IIW CIWE, CIWT, CIWS in your welding coordination role.

8 IIW Education, Training, Qualification, Certification Opportunities in Australia

The IWE, IWT, IWS, IWP, IWI C, IWI S, IWI B, IWSD S and C, CIWE, CIWT, CIWS, CIWP, WTIA CCWI, CSWI, CWI, and CQCWC are all available through WTIA across Australia.


WTIA is presently applying to the IIW International Authorisation Board (IAB) to introduce the International Welder (IW) into Australia in conjunction with Australian Registered Training Organisations (RTOs).

9 References

• Canadian Welding Bureau (CWB) website www.cwbgroup.org
• Japan Welding Engineering Society (JWES) website www.jwes.or.jp/en/
• WES 8103-2008 and JIS Z 3410 (ISO 14731) website www.jwes.or.jp/en/
• ISO 3834:2005 SAI Global website www.saiglobal.com
• AS/NZS ISO 3834:2008 SAI Global website www.saiglobal.com, in particular:
  o Paragraph 7.3 AS/NZS ISO 3834.2 and .3
  o Annex A page 7 ISO 3834-5:2006
• ISO 14731:2006 SAI Global website www.saiglobal.com, in particular:
  o Section 4.2 page 2
  o Annex B page 5
  o Section 6 page 3
  o Annex A page 4
• EU Construction Products Regulation (CPR) No. 305/2011 and EN 1090.1 and .2
• European Welding Federation (EWF) website www.ewf.be/
• IIW International Authorisation Board (IAB) website www.iiwelding.org
• WTIA Technical Note 19 Cost Effective Quality Management for Welding WTIA website www.wtia.com.au
• WTIA IIW Transitional Arrangements WTIA website www.wtia.com.au

Figure 1. The Welding Coordination Team

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