Division / Business Unit:	Enterprise Services
Function:	Track & Civil
Document Type:	Procedure

Re-certification of Rail Welder Competency

ETT-00-01

Applicability

ARTC Network Wide

SMS

Publication Requirement

Internal / External

Primary Source

(Reference to previous source version of same document that has been superseded, such as new name or number, or consolidation of number of procedures into one version. Leave blank if not applicable)

Document Status

Version #	Date Reviewed	Prepared by	Reviewed by	Endorsed	Approved
1.1	31 Aug 22	Standards Engineer	Standards	Manager Technical Standards	Acting General Manager Technical Standards 05/09/2022

Amendment Record

Amendment Version #	Date Reviewed	Clause	Description of Amendment
1.0	01 Mar 17		First Issue
1.1	31 Aug 22	3.1	Clarified this is an alternate process for re-assessment

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1 Introduction

1.1 Purpose

The purpose of this procedure is to detail a currency based approach to the recertification of the Rail Welder competency.

Rail Safety Worker Competencies are defined by ARTC under the Rail Industry Worker Program (RIW).

1.2 Scope

This procedure defines the specific requirements for adopting currency based recertification for the Rail Welder competency

1.3 Document Owner

The Manager Standards is the document owner and is the initial point of contact for all queries relating to this procedure.

1.4 Responsibilities

The Manager Learning and Development is responsible for managing the process.

1.5 Reference Documents

The following documents are supported by this procedure:

- All ARTC Welding Standards, including;
- RTS3602 Aluminothermic Welding Manual
- RAP5391 Aluminothermic Welds – Identification, recording and reporting

1.6 Definitions

The following terms and acronyms are used within this document:

Term or acronym	Description
ARTC	Australian Rail Track Corporation Ltd.
Competency	An accredited or non-accredited record of training, that may be linked to a RIW role
Currency	Requirement for periodic or ongoing assessment of competency to main competence
Onsite	Onsite database containing RIW competency records
NDT	Non Destructive Testing
NUT	National Unit of Training
PWB	Pre Work Brief
Rail Welder	RIW competency required to fabricate welds in rail or produce CFW rail

Term or acronym	Description
RIW	Rail Industry Worker / Rail Industry Worker Program
Role	A work activity competency as defined in Onsite
RTO	Registered Training Organisation

2 Overview

Most ARTC work activities produce data as part of the process. This data can take the form of documentation produced during the work activity or be generated from quality assurance or acceptance testing processes.

Currency based re-certification is founded on the on-going review and assessment of this data to verify that the worker is performing the prescribed work activity to a satisfactory level. Currency based re-certification allows the Rail Welder's competency to remain in-effect based on review of evidence of continued satisfactory performance, as opposed to periodic reassessment of the workers knowledge and skills.

This procedure specifies how to apply the principles of currency based re-certification to the Rail Welder competency. The Rail Welder competency is defined in the ARTC Track and Civil Matrix under Rail Safety Worker Competence Scheme. The matrix can be found on the ARTC internet page.

3 Assessment of Competency

3.1 Certification of Competency

The Rail Worker must initially achieve the Rail Welder competency by gaining the training units specified for the competency in the ARTC Track and Civil matrix.

Once the Rail Welder competency has been achieved, on-going assessment and re-certification of the competency may be managed as per this procedure, as an alternative to RTO re-certification.

3.2 Eligibility

A Rail Welder must satisfy the following criteria to be eligible for currency based re-certification of their competency;

- Be an ARTC employee (only ARTC employees are eligible)
- The employee must hold a position that is directly related to the work activity
- The employee must have already attained the competency related to the work activity
- The qualifications (e.g. NUT's) used to originally achieve the competency must still meet current industry requirements

4 Controls

For currency based re-certification to be effective it must correspond to a work activity that produces controllable outputs. The levels of controllable output for Rail Welder are;

- A physical product (the weld)
- Administrative controls (the weld data, recorded in an auditable format)
- QA controls (Ultrasonic NDT inspection of weld)

The work activity (i.e. producing a rail weld) must be performed frequently enough that the Rail Welder's skill can reasonably be considered to be current.

The controls listed above shall be utilised to demonstrate the Rail Welder's performance meets acceptable quality and quantity targets.

4.1 On-going review of control evidence

Currency based re-certification is founded on the continuous review of the control evidence by the Approver. This should ideally be performed for each weld after they have been completed. The Approver (or their nominated representative) shall review the control evidence on an on-going basis to ensure that the work activity is being performed satisfactorily. If this is not practicable then the work activity evidence may be reviewed in batch. Batch review of role work activity evidence shall be performed at intervals not greater than 3 months.

The controls should be assessed as per the criteria defined in Table 1 below.

Control	Criteria
Weld	The weld has been performed in accordance with ARTC procedures (and verified by a qualified supervisor if available), the weld has been identified correctly, and there are no visible defects (or defects have been self-reported by the welder).
Weld data required by ARTC Standards and recorded in an auditable format	The weld data has been documented correctly and processed by the welder as required.
Ultrasonic NDT Inspection	Weld is ultrasonically inspected and no external or internal rail flaws are detected.

Table 1 - Criteria for on-going review of controls

4.2 Periodic review of control evidence

Management of competences in the Onsite system is based on periodic assessment of the workers competency. AS1085.20 requires a minimum number of welds to be performed over a 12 or 24 month period; or else the welder will be required to re-qualify by performing a test weld whilst being observed by a qualified supervisor.

These requirements are satisfied through the periodic review of a Rail Welder's competency. A periodic review will be performed for each rail welder every 12 months.

The purpose of the periodic review is to confirm that the criteria specified in have been satisfied;

Control	Criteria
Verification of on-going review	Confirm that the on-going reviews have been performed and that a sample of the controls meets the on-going review criteria. This control is not required if the approver performs both the on-going and periodic reviews.
Witnessed weld obtained	The Rail Welder has performed at least one weld whilst supervised by a similarly competent supervisor in the last 12 months. The supervisor must be able to confirm that the relevant ARTC Procedures were followed, there were no visible rail flaws, and that the work site was properly cleared.
Minimum number of welds completed	Minimum of 30 welds must have been performed by the Rail Welder in the last 12 months

Table 2 - Criteria for periodic review of controls

On the successful outcome of a periodic review the Approver should notify the manager responsible for this procedure; who will lodge a certificate in Onsite to satisfy this requirement.

4.3 Approver

The Approver is the manager with overall responsibility for the implementation of currency based competency re-certification for Rail Welders under their control.

The Approver must have sufficient qualifications and industry experience to allow them to;

- Review and interpret the provided control evidence
- Re-certify the competence of the worker to perform the role
- Apply the withdrawal of certification process as detailed in clause 5 below and determine any remedial requirements

4.3.1 Delegation of responsibilities

Where the Approver does not have sufficient qualifications and industry experience to perform the above tasks, they may delegate these responsibilities to a suitable person acting under their supervision.

Note: for practicality it is recommended that responsibility is delegated in terms of on-going and periodic review.

On-going review of the controls can be performed by Provisioning Centre management, who are responsible for recording and managing this data in the Asset Management System.

Periodic review of the controls can be performed by the approver, to verify the controls have been completed correctly and the minimum number of work activities has been performed during the review period.

5 Withdrawal of Certification

Further review of a Rail Welder's certification shall be undertaken by the Approver if evidence of the following is discovered;

- Non-conformance with procedures (e.g. weld data not being recorded correctly)
- Number of unsatisfactory welds exceeds the defined threshold
- Failure to comply with the PWB or work activity process as witnessed during the performance of the work activity
- The work activity is not current for the workers position (i.e. no longer regularly performs the work activity)
- Significant changes to the technical discipline, technology, best practice etc.
- Significant changes to the defined RIW role and the prerequisite qualifications and industrial experience.

The Approver shall review the Rail Welder's competency and recommend (to the person responsible for managing this procedure's process) whether;

- The worker should retain their competency certification
- The worker requires additional training or supervision before re-commencing the work activity
- The worker's competency certification should be withdrawn. If the worker is required to perform the work activity in the future they shall be required to repeat the requirements of the initial certification.

6 Transition Plan

6.1 Overview

Prior to 1st September 2016 the Rail Welder competency was re-certified periodically, i.e. the Rail Welder periodically (typically every 2 years) repeated the original training course and/or performed test welds under the supervision of an RTO Trainer and Assessor.

A Rail Welder will transition to currency based re-certification when their current competency expires.

6.2 Transition Criteria

Rail Welders should accumulate the following control materials in advance of their current certification expiring;

- Have a weld witnessed and countersigned by the site supervisor (as long as the Supervisor is competent to determine that the welder followed the qualified welding procedure)
- Provide 12 weld returns, or the weld returns for the last 12 months (whichever is least) for review by the Approver

The Approver shall cross-reference weld returns with the ultrasonic testing results.

If the Rail Welder cannot demonstrate the above evidence at the time of their re-certification;

- The Rail Welder shall follow the same process as above, except that the first weld performed must be witnessed by the site supervisor.
- Currency based re-certification for welder won't commence for the welder until the witnessed weld has passed ultrasonic tests.
- Ability to perform welds in the interim (between witnessed weld and the weld passing ultrasonics) will be based on providing satisfactory evidence (weld returns, ultrasonic test results) to the Approver

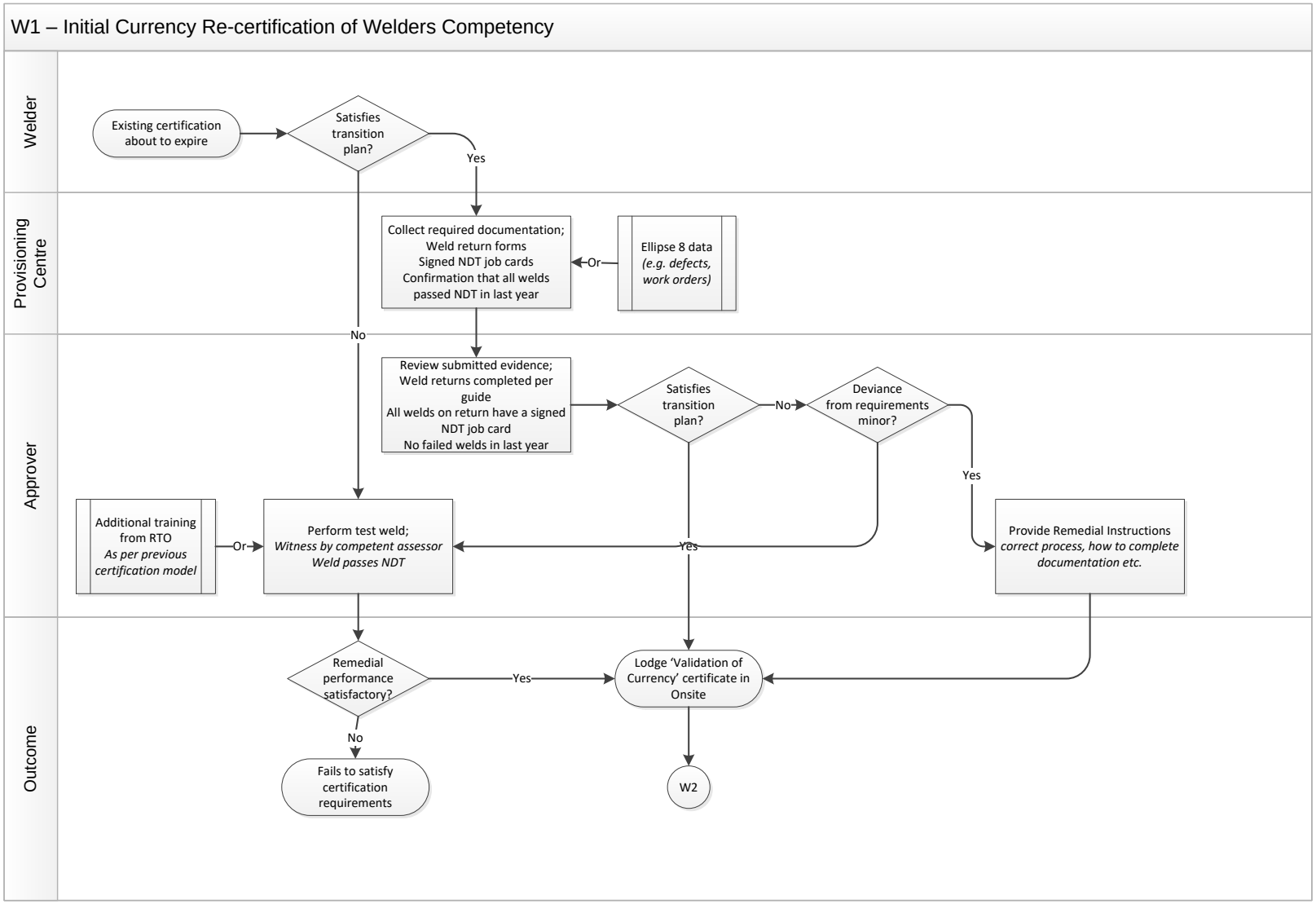
A test weld will need to be produced by the welder that passes ultrasonics testing before welding in a live environment if, at the time of re-certification;

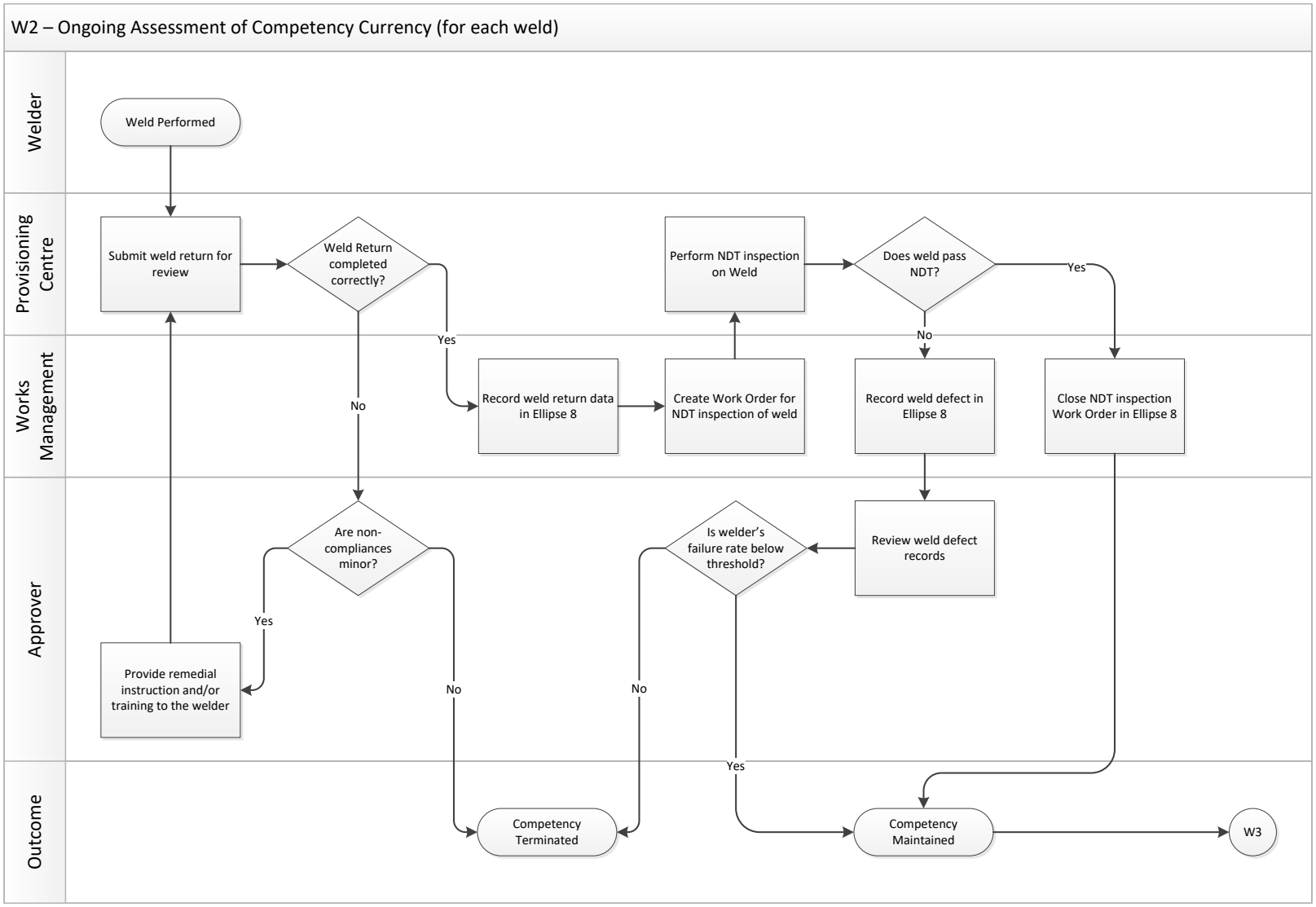
- The Rail Welder has not produced a weld in the last 6 months
- The Rail Welder has produced fewer than 30 welds in the last 12 months

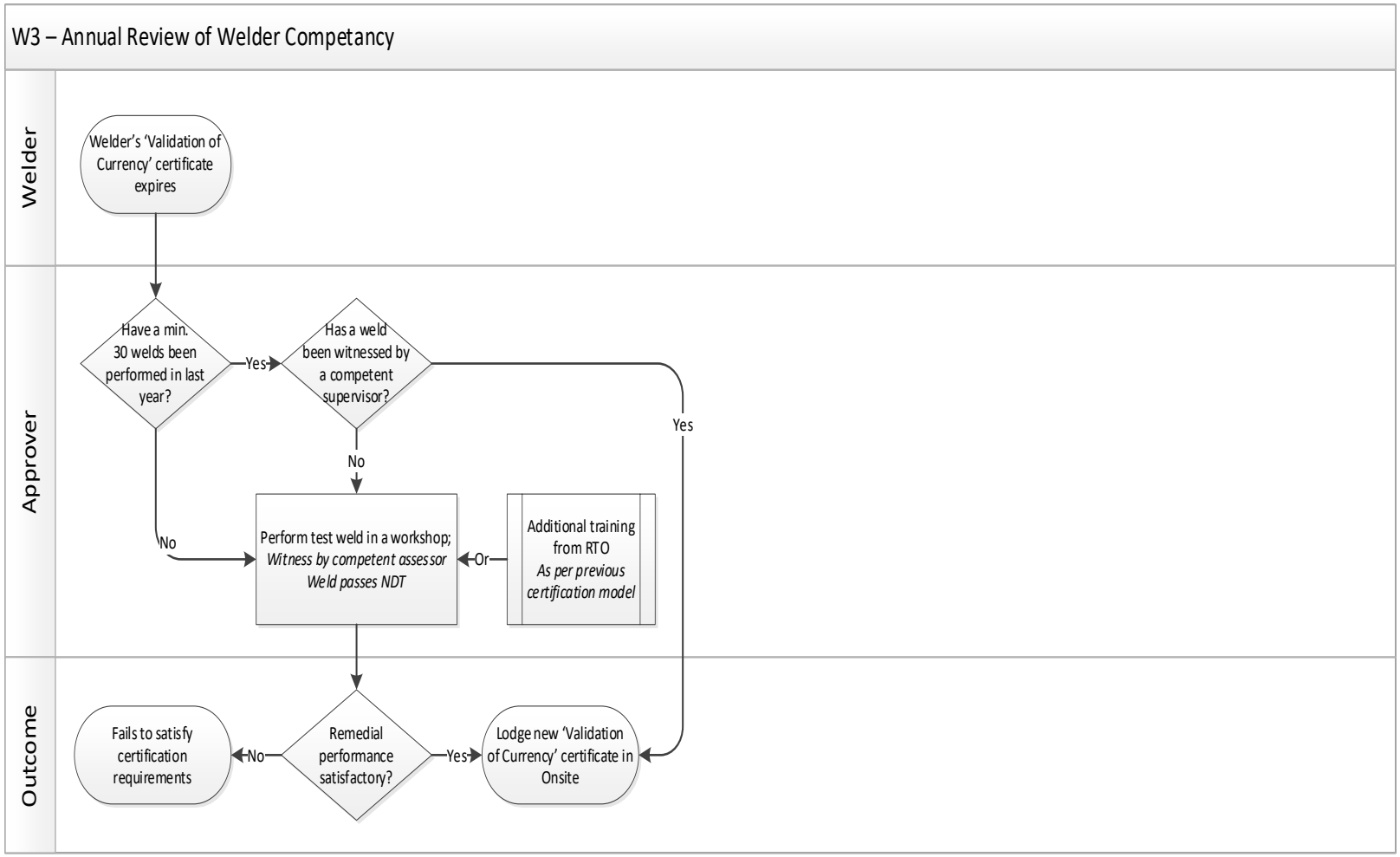
If the Rail Welder has produced a weld in the last 12 months that has failed ultrasonics testing (and the rail flaw was visible by eye);

- Their circumstances (re: qualifying for currency based re-certification without additional training) will need to be assessed by the Approver.

Appendix A – Workflow Diagrams




W2 – Ongoing Assessment of Competency Currency (for each weld)
Welder
Provisioning Centre
Works Management
Approver
Outcome
Weld Performed
Submit weld return for review
Weld Return completed correctly?
Yes
No
Record weld return data in Ellipse 8
Create Work Order for NDT inspection of weld
Perform NDT inspection on Weld
Does weld pass NDT?
Yes
No
Record weld defect in Ellipse 8
Close NDT inspection Work Order in Ellipse 8
Review weld defect records
Is welder's failure rate below threshold?
No
Yes
Are non-compliances minor?
Yes
No
Provide remedial instruction and/or training to the welder
Competency Terminated
Competency Maintained
W3


W3 – Annual Review of Welder Competancy
Welder
Approver
Outcome
Welder's 'Validation of Currency' certificate expires
Have a min. 30 welds been performed in last year?
Yes
Has a weld been witnessed by a competent supervisor?
Yes
No
No
Perform test weld in a workshop;
Witness by competent assessor
Weld passes NDT
Or
Additional training from RTO
As per previous certification model
Fails to satisfy certification requirements
No
Remedial performance satisfactory?
Yes
Lodge new 'Validation of Currency' certificate in Onsite

Appendix B – Annotated Weekly Weld Return Form

Engineering Practices Manual
Civil Engineering
Aluminothermic Welds – Identification, Recording and Reporting

RAP 5391

General advice for completion of the Weld Return
1. Welder should not use shorthand, fill-down marks etc. to complete the weld return.
2. All dimensions should be in mm, temperature in Celsius as per the table headers.
3. Area Manger and/or ADA should review the weld return when it is submitted, and return to the welder if all sections not completed as per this guide
4. ADA should promptly transfer the information provided in a correct weld return into Ellipse 8

Appendix 1

Weekly Return - Aluminothermic Welding / Adjustment

Note: *Preprinted forms should be printed in "Foolscap*

Welder's Name	
Licence No.	
Week Ending	

Welder's Signature	
Welder's Home Station	
Supervisor's Signature	

Orange
Supervisors signature only required for 'witnessed' welds (refer to memo)

Date	
Date	

Ultrasonic Operator	
Name	
Signature	

WELDER TO COMPLETE																	PERSON IN CHARGE OF ADJUSTMENT TO COMPLETE								RAIL FLAW DETECTION OFFICER TO COMPLETE			
Weld Location					Weld Detail												Adjustment Details								Ultrasonic and Alignment Test			Punch Mark Check
			Track	Km							Site Conditions /Codes			Steel in-Steel out			Km		Rail									
														Punch Marks														
Line No.	Date	Code			Rail (U/D)	Rail Size	Weld Reason (Code)	Batch No.	Weld No.	Weld Type (Code)	Weld	Weather	Track	Before	After	Rail Temp °C	From	To	Rail Temp °C	Actual Gap mm	Required Gap mm	Add(A) or Remove (R) mm	Team Leader to sign	Date	OK Y/N	Rail Flaw Report Completed Y/N OR Align't Failure No.		
1																												
2																												
3																												
4																												
5																												
6																												
7																												
8																												
9																												
10																												

EXAMPLE ONLY

Red
Mandatory for all weld returns, regardless of the activity or weld reason.

Blue
Required for the following weld reasons;
(6) Adjustment

Green
Required for all weld returns.
or;
MST job cards for each weld signed by the NDT

Note
Blue section does not need to be completed for welds if rail was adjusted per ETW-01-05
(ETW0105F-01 captures this data,)

Yellow
Required for the following weld reasons;
(4) Stock rail
(5) Closure
(6) Adjustment
(11) Rail defect

NOTES

Completion of the Notes
The welder must complete the notes section, identifying why the work was performed (what project, possession etc.) and when any related works will be performed (rail adjustment etc.)

Associated Work		*Signature*	*Comments*
Have welds been packed?	YES NO		
Are rail ends & closures crowed to correct curvature? (where radius is < 800m)	YES NO		
Was track on design alignment when adjusted? If NO, attach Detailed alignment measurements	YES NO		
Have creep marks been established or reset? If NO, attach details	YES NO		

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Revision 2
9 April 2013

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