

# Using Ellipse for Configuration Change Management

EGW-03-02

## Applicability

ARTC Network Wide
SMS

## Publication Requirement

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## 1 Introduction

### 1.1 Purpose

The purpose of this work instruction is to provide instruction on how to use Ellipse for configuration change management.

Configuration change management covers the requirement for the advice, approval (if required) and notification of network alterations which change the asset type, operational capability, configuration, documentation or safe working requirements of the ARTC network and the maintenance of ARTC operational systems.

A network alteration can be any software component, release, tool, documentation or hardware unit required for the purpose of creating or supporting ARTC network deliverables.

### 1.2 Scope

IN SCOPE – The following items are in scope for this Work Instruction :

- Instructions on how Ellipse may be used for configuration change management.
- All network alterations undertaken by ARTC, Alliance Partners and/or Contractors are required to conform to *EGP-03-01 Rail Network Configuration Management*.

OUT OF SCOPE – The following items are out of scope for this Work Instruction :

- This work instruction will assume prior knowledge and skills in using the Enterprise Asset Management System, Ellipse, and the creation and management of work requests / orders using Standard Job Estimate Templates. This procedure will not be providing detailed step-by-step instructions in the use of Ellipse. For further information refer to :
  - Procedure EGP-10-01 Asset Management System
  - Work Instruction EGW-10-06 Work Order Management
  - Work Instruction EGW-10-10 Annual Works Program – Project Work Orders
  - ARTC SharePoint Tech Learning Centre – AMIP Support - Training Materials

### 1.3 Risks Controlled

This work instruction is a control for the change management risks associated with altering the rail network configuration and ensuring the associated systems, documents, etc, are updated as a result of the alteration and stakeholders notified.

## 1.4 Responsibilities

<i>Role</i>	<i>Responsibility</i>
General Manager Asset Management	Responsible for the implementation of configuration change management within their area of responsibility in accordance with procedure <i>EGP-03-01 Rail Network Configuration Management</i> .
Work Request Initiator	Responsible for initially entering the work request into Ellipse for planning purposes and approval. This is generally, but not limited to, the role of the <i>Asset Planning Engineers, Works Planners, Area Managers, etc.</i>
Work Request Acceptor	Responsible for accepting the work request as valid once the details of the request have been reviewed.
Work Request Scoping / Estimating	Responsible for progressing the Work Request through to more detailed scoping and estimating for the work required. This is generally, but not limited to, the role of the <i>Project Manager, Project Engineer, Maintainer, Works Planner</i> .
Work Plan Approver	Responsible for approving that the work plan has been scoped and estimated accurately, budgets are available, and ensuring that it's been correctly setup for configuration change management in Ellipse for that particular type of work activity. This is generally, but not limited to, the role of the <i>Project Delivery Manager</i> .
Work Order Delivery	Responsible for packaging the work request into actionable work orders and managing the delivery of the project through to close-out as per <i>EGW-10-06 Work Order Management</i> . This is generally, but not limited to, the role of the <i>Project Manager, Project Engineer, Maintainer, Works Planner</i> .
System Owners	Once advised of a configuration change, the owners of the systems / documents that require updating are required to promptly perform the changes to their relevant systems/documents and provide written verification back that the change has been implemented or is pending.
Configuration Manager	Responsible for the development of the Configuration Management system and processes, and the provision of training in configuration management.

## 1.5 Parent Procedure

*EGP-03-01 Rail Network Configuration Management.* - This is the parent procedure and must be read and used in conjunction with this work instruction.

*EGN-03-01 Configuration Management Manual* – This manual will provide a higher-level overview of all aspects of configuration management.

## 1.6 Reference Documents

The following documents support this work instruction:

- AS10007–2003 Guidelines for Configuration Management
- EGN-03-01 Configuration Management Manual
- EGP-03-01 Rail Network Configuration Management
- EGW-03-01 Using Network Alteration Notices (NANs) for Configuration Change Management
- EGP0301F-01 Network Alteration Notice (Form)
- EGP-20-01 Project Management
- EGH-20-01 Project Management Data Deliverable Descriptions
- RSK-PR-001 Risk Management Procedure
- EGP-03-02 Equipment Register Updating and Maintenance
- EGP-21-01 New Equipment and System Approvals
- EGP-10-01 Asset Management System
- EGW-10-06 Work Order Management
- EGW-10-10 Annual Works Program – Project Work Orders
- ARTC SharePoint Tech Learning Centre – AMIP Support - Training Materials

## 1.7 Definitions

The following terms and acronyms are used within this document:

Term or acronym	Description
Approved Alternative Item	An item that has been type approved in accordance with <i>EGP-21-01 New Equipment and System Approvals</i> and that fulfils the function of the original item that it replaces.
ARTC	Australian Rail Track Corporation Ltd

Configuration	The Functional and Physical characteristics of an existing or planned product, or a combination of products. One of a series of sequentially created variations of a product.
Configurable Item	A non-specific term used to denote any product, including systems, materials, parts, software, subassemblies, sets, accessories, etc.
Configuration Management	<p>Technical and organisational activities comprising of configuration identification, configuration control, configuration status accounting and configuration auditing and provides the necessary management controls that enable:</p> <ul style="list-style-type: none"> <li>▪ The orderly establishment, recording, and maintenance of a product's performance, functional and physical characteristics.</li> <li>▪ Orderly management and control of changes to the product's characteristics.</li> </ul>
Equipment Register (Ellipse)	A register of all items of network equipment and data within the ARTC network. Refer to <i>EGP-03-02 Equipment Register Updating &amp; Maintenance</i> .
Network Information Books and Diagrams	Network Information Books (NIBs) and associated line diagrams can be found on the ARTC website at <a href="https://www.artc.com.au/customers/operations/nib/">https://www.artc.com.au/customers/operations/nib/</a>
Network	Any defined infrastructure or operational system, on/off track maintenance/measuring equipment that's required for the purpose of creating or supporting ARTC deliverables.
Network Alteration Notice (NAN)	The form used to coordinate the notification and approval of a configuration change. Refer to <i>EGW-03-01 Using Network Alteration Notices (NANs) for Configuration Change Management</i> .
Product	Something that is used or produced to satisfy a need or is as a result of a process (e.g. documents, facilities, firmware, hardware, materials, processes, services, software, systems,).

## 2 Overview

### 2.1 When can Ellipse be used for Configuration Change Management ?

Ellipse may be used as the configuration change management tool when :

- The configuration change **does not require approval** (as per *Section 2.2 Is Approval for the Change Required ?*), **and**,
- The works are being managed via Ellipse using Work Requests/Orders.

It's generally the Annual Works Plan (AWP) that will utilise this method, however it's available for any project to use provided it meets the above criteria (e.g. major projects, third party).

*If the configuration change does require approval*, then Ellipse may be used to track configuration management system updates if desired, however the **Network Alteration Notice (NAN) process must be followed in order to obtain approvals** as per work instruction *EGW-03-01 Using Network Alteration Notices (NANs) for Configuration Change Management*.

### 2.2 Is Approval for the Change Required ?

There are some circumstances where a configuration change may not require the full Approval Authority process to be conducted (as per EGP-03-01 Rail Network Configuration Management), however still requires the configuration management process be undertaken to ensure systems are updated and stakeholders are informed.

Approval Authority is not required when :

- **Exactly the same manufacturer and part number item** is replaced during maintenance or projects. Generally, this is only an asset management change and it's the Asset Management System that may be required to be updated. *This is not considered a configuration change and hence does not need to adhere to this process.*
- **Type Approved Alternative items** are used as a replacement during maintenance or projects **PROVIDED they don't result in any changes in asset type (e.g. underbridge to culvert; timber to concrete turnout), or changes to the operational capability, network configuration, or safe-working requirements of the ARTC Network.** *Whilst approval authority is not required, this is still considered to be a configuration change and is required to adhere to this procedure for communicating the change and updating the relevant systems.*

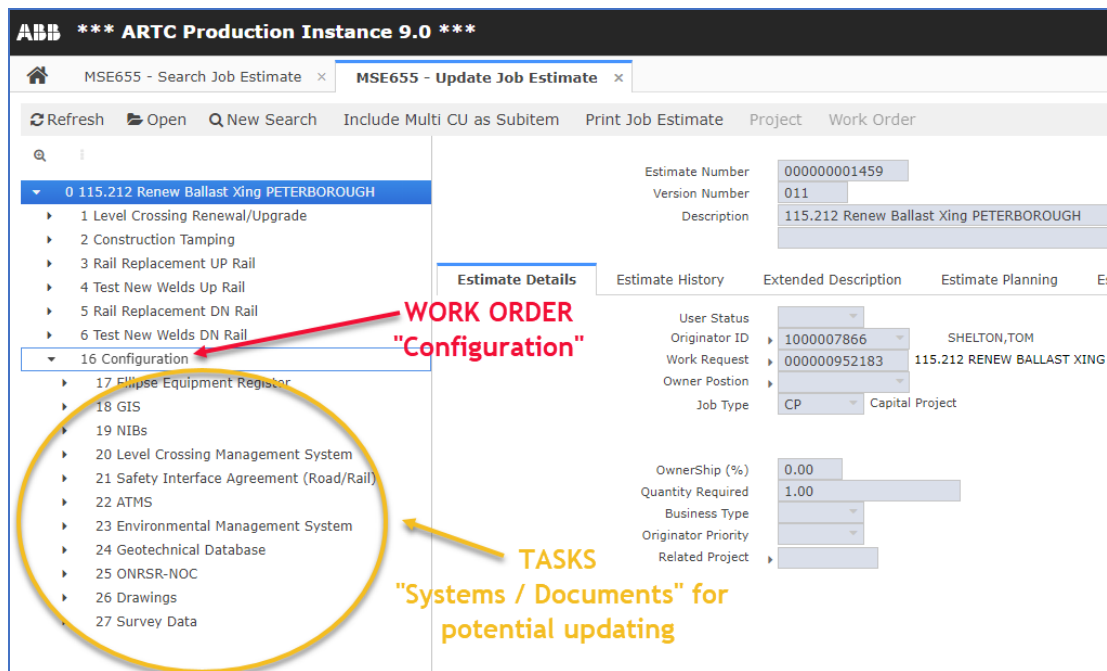
**NOTE :** *If the Type Approved Alternative does change asset type, or affect operational capability, network configuration, or safe-working, then approval authority will be required and the Network Alteration Notice process will be required to be followed as per Work Instruction *EGW-03-01 Using Network Alteration Notices (NANs) for Configuration Management*.*

### 2.3 How's it Work ?

A network alteration can be any software component, release, tool, documentation or hardware unit required for the purpose of creating or supporting ARTC network deliverables.

All network alterations undertaken by ARTC, Alliance Partners and/or Contractors are required to conform to EGP-03-01 Rail Network Configuration Management.

If using Ellipse for configuration change management for a job or work request within Ellipse, then an additional work order is added called "Configuration" which contains the configuration tasks within the work order. These configuration tasks are the actual "systems / documents" that may require updating as a result of that particular type of work activity.



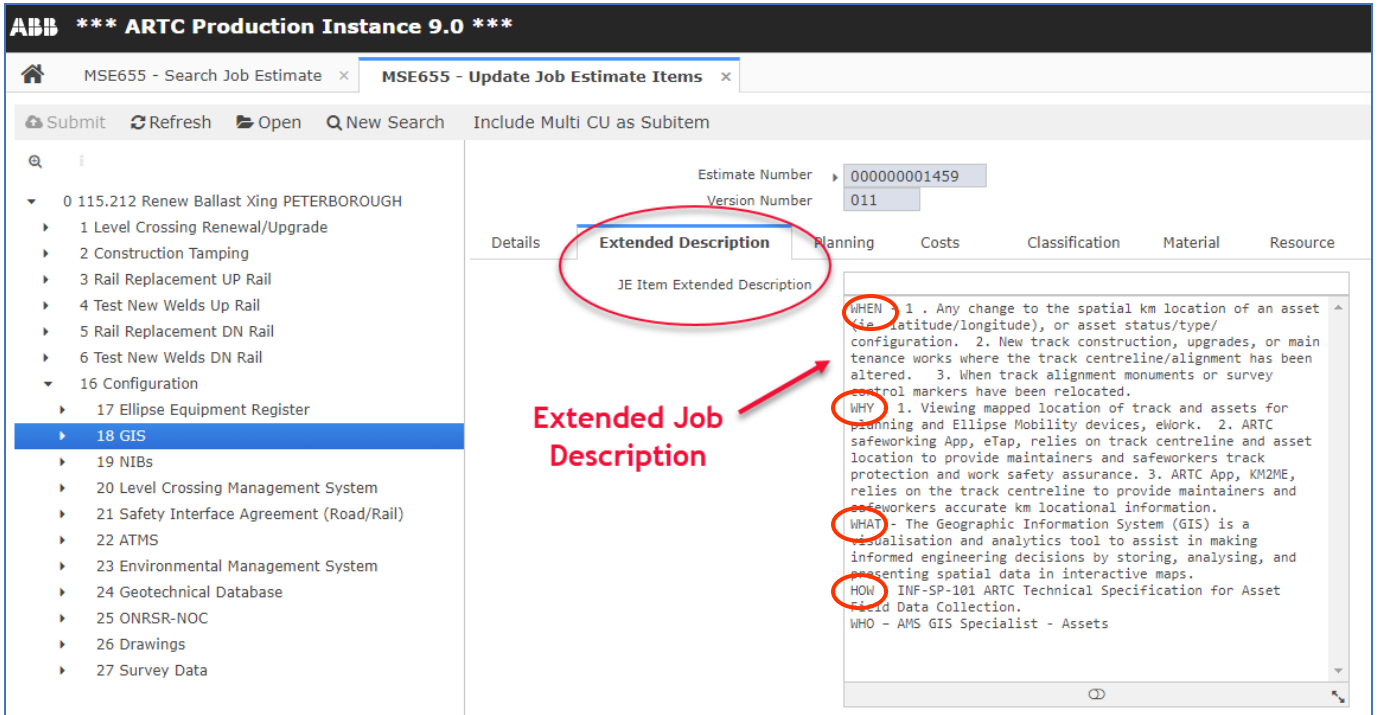
The creation in Ellipse of jobs or work requests, either as part of the Asset Management Plan / Annual Works Plan process or separate individual projects, are created using *Standard Job Estimate Templates*.

*Standard Job Estimate Templates* will already be pre-configured in Ellipse with all the potential configuration management systems that may require updating as a result of that type of work activity. (e.g. Annual Works Plan Projects). If more are required, then they may be added using Compatible Units.

Each "system / document" task will also have an *Extended Description* to assist the user in understanding :

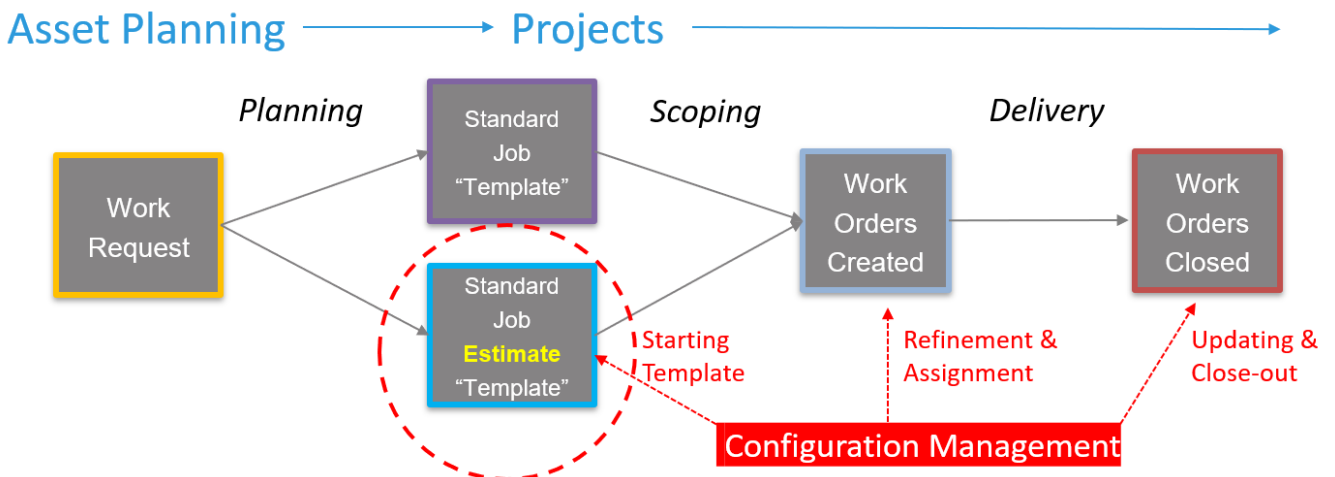
- *WHEN* it may need updating.
- *WHY* it needs updating.
- *WHAT* the system / document is.
- *HOW* it's updated.
- *WHO* to contact to get the update implemented.





The following diagrams shows the general workflow and *Work Request User Status* associated with developing and delivering the *Annual Works Plan (AWP)* starting with Asset Planning and progressing all the way through to completion by Project Delivery.

# AWP Workflow



# Work Request - Workflow



Updated by	Work Request - USER STATUS			Work Request - WORK GROUP
	Table Code	Description		Details
Requester	01	New Request for Work	Planning	Program Planning Group e.g. ISPLAN or HVPLAN
Asset Planning Manager / Engineer	02	Work Request - Accepted		
Asset Planning Manager / Engineer	03	Work Request - Rejected		
Project Manager / Engineer	10	Engineer Plan - Required	Scoping	Delivery Group E.g. KSIDEL/MSADEL/TARDEL/ SIADEL/ ISMPEL/HVDEL01,02,03,04
Project Manager / Engineer	13	Engineer Plan - Completed		
Project Manager / Engineer / Approver	16	Work Plan - Approved		
Project Manager / Engineer	19	Work Order - Created	Delivery	Delivery Group E.g. KSIDEL/MSADEL/TARDEL/ SIADEL/ ISMPEL/HVDEL01,02,03,04 OR PM/PE as individual
Project Manager / Engineer	20	Work Order - Planned		
Project Manager / Engineer	30	Work Order - Scheduled		
Project Manager / Engineer	40	Work Order - Packaged		

## 3 Process

### 3.1 Create the Work Request

- A new *Work Request* is created in Ellipse. This may be created from a range of different job roles within ARTC.

### 3.2 Link the Work Request to a Standard Job Estimate Template

- The new Work Request is to be linked to a *Standard Job Estimate Template* relevant to that work activity.
- If the work activity type for the new Work Request has been deemed to have a high potential for requiring configuration management, then the “Configuration” work order and associated “System / Documents” tasks for updating will already be included in the work request.

Refer to *Appendix A - Work Activity Standard Job Estimates for Configuration Management* for a list of all the work activity types and associated standard job estimate templates where the configuration tasks are pre-assigned. (Note : Not all templates will contain “Configuration” work orders)

- If the Standard Job Estimate Template does not contain the required configuration setup for the work request being created, and it's deemed that a configuration work order and tasks should be included, then this may be added to the work request using *Compatible Units* (See *Appendix B – Adding Configuration Work Entities using Compatible Units*)

### 3.3 Edit the Job Estimate

- Once the work request has been accepted, it moves to the scoping stage for Project Managers / Engineers to further refine the estimate. The default configuration setup may now be edited and further refined.
- The Project Managers / Engineers will scope and estimate the physical work to be undertaken. In addition, they should also be assessing which of the configuration tasks (ie. systems / documents) will need to be updated as a result of the work undertaken. Each Configuration task will hold information in the *Extended Description* that may assist them in identifying if the task is required.
- Delete any of the configuration tasks for the systems / documents that are not relevant to the change in configurable items for the scope of work being undertaken. This will leave only the list of configuration tasks that are relevant.
- If more systems / documents are required that weren't on the original default list from the Standard Job Estimate Template, then they may be added using *Compatible Units* (See *Appendix B – Adding Configuration Work Entities using Compatible Units* ).

### 3.4 Review the Configuration Tasks

For the configuration tasks that remain - review the text in the *Extended Job Description* to determine *HOW* the change alteration is to be performed.

Ensure that it doesn't advise that a *Network Notification Advice (NAN)* is required – this may indicate that this change may require Approval Authority prior to any works commencing.

If so, complete the NAN process as per procedure *EGP-03-01 Rail Network Configuration Management* and work instruction *EGW-03-01 Using Network Alteration Notices (NANs) for Configuration Management*.

### 3.5 Execute and Deliver the Work Order / Request

Once the job estimate (work plan) is approved it may continue to follow the process for managing, assigning, packaging and executing Work Order / Requests to deliver the physical project / maintenance as per work instruction *EGW-10-06 Work Order Management*.

### 3.6 Close Out the Configuration Work Order / Tasks

- Once the actual physical activity of delivering the work is complete, then the configuration tasks are required to be completed by advising the system / document owners as per the *HOW* and *WHO* advice in the Extended Description for that particular task.
- **The configuration task may not be closed-out until the system / document change has been performed and verified in writing by the system / document owner that the change has been made.**

*NOTE : It's acknowledged that some changes may take time to implement, hence it's at the discretion of the system / document owner whether to provide verification of the change prior to it being fully implemented in the system / document.*

*Therefore, if the system owner provides written verification that the change is pending and will occur subsequently, then the configuration task may be considered as being completed and the task closed-out in Ellipse. It's the responsibility of the system / document owner to then ensure the updates occur.*

- Once verification from the system / document owner has been received in writing, the configuration tasks may be closed-out as per work instruction *EGW-10-06 Work Order Management*.

These written verifications must be stored as evidence of the change being performed in the event of audits or investigations being performed. It may be stored in any of the following methods :

1. The task may be assigned directly to the system / document owner within Ellipse and they close off the task as evidence that it's been updated.

2. A copy of the email be stored as an attachment to the “Configuration” work order within Ellipse.
3. A copy of the email be stored with project records.

Once all configuration tasks are closed-out with either status 50 or 55 the parent “Configuration” work order will close out automatically.

## 4 Frequently Asked Questions

### 4.1 What if my Project Scope Changes ?

If configuration Tasks have already been packaged into Work Orders, and then the scope of the project changes, the Task Work Order may be cancelled and a close out comment inserted as to the reason for the cancellation.

If the scope changes such that more configuration Tasks are required once the project is underway, then additional Tasks may be added using Compatible Units as per *APPENDIX B – Adding Configuration Work Entities using Compatible Units*.

### 4.2 Grouping Multiple Job Estimates into a Single Project

Multiple job estimates may be grouped into a single project for multiple assets for ease of managing the project of similar work activities.

Multiple Configuration Work Orders will be required to be setup for each individual asset in the group, rather than only one single Configuration Work Order to cover all assets in the group.

The Configuration Work Order will need to align and match the asset and schedule with the physical completion of each individual assets works.

These multiple assets are generally completed as separate projects over an extended period (e.g. a financial year) and it's important that the configuration tasks are completed in alignment with when the works are physically completed rather than waiting until the end of the year.

It's important that ARTCs configuration systems are kept up to date with what's physically on track as soon as the change has occurred.

## APPENDIX A – Work Activity Standard Job Estimate Templates for Configuration Management

Work Activity	Activity Description	Activity Type	Std Job Estimate Template
158	Rail Lubricator Replacement (CAP)	CAP	<b>AWP-LUBRI01</b>
159	Rail Lubrication - `new` Unit (CAP)	CAP	<b>AWP-LUBRI01</b>
250	Overbridge Renewal or Upgrade	CAP	<b>AWP-STRUC02</b>
253	Underbridge Renewal or Upgrade	CAP	<b>AWP-TRANS01</b> <b>AWP-RECON02</b>
254	Culvert Installation, Renewal or Upgrade	CAP	<b>AWP-STRUC02</b>
259	Concrete or Masonry Underbridge Repairs (MPM)	MPM	<b>AWP-STRUC01</b>
262	Level Crossing Upgrade or Renewal	CAP	<b>AWP-LXING02</b>
287	Cutting and Embankment Works	CAP	<b>AWP-EMBAN01</b>
335	Removal Redundant infrastructure (MPM)	MPM	<b>AWP-REDUN01</b>
759	Point Machine Replacement	CAP	<b>AWP-SANDC02</b>
764	Level Crossing Upgrade (Signals)	CAP	<b>AWP-SANDC02</b>
772	Signalling System Upgrades	CAP	<b>AWP-SANDC02</b>
815	Power Supply Upgrade	CAP	<b>AWP-SANDC02</b>
816	Lamp Upgrades (CAP)	CAP	<b>AWP-SANDC02</b>
817	Communications System Upgrade	CAP	<b>AWP-SANDC02</b>
822	Signage Installation or Upgrade (CAP)	CAP	<b>AWP-SANDC02</b>

## APPENDIX B – Adding Configuration Work Entities using Compatible Units

A Compatible Unit (CU) in Ellipse is a template item. It's included into existing Job Estimates to build detailed and/or consistent Work Breakdown Structures (WBS). Whilst some Standard Estimates already have the items for the configuration work entities included, there will be instances where the CU will be used to build a specific WBS, not previously defined in the Standard Estimates.

### How to review existing Compatible Units

To view what CU's are available for inclusion in a job estimate, use the following search criteria from the compatible Units application (MSE635):

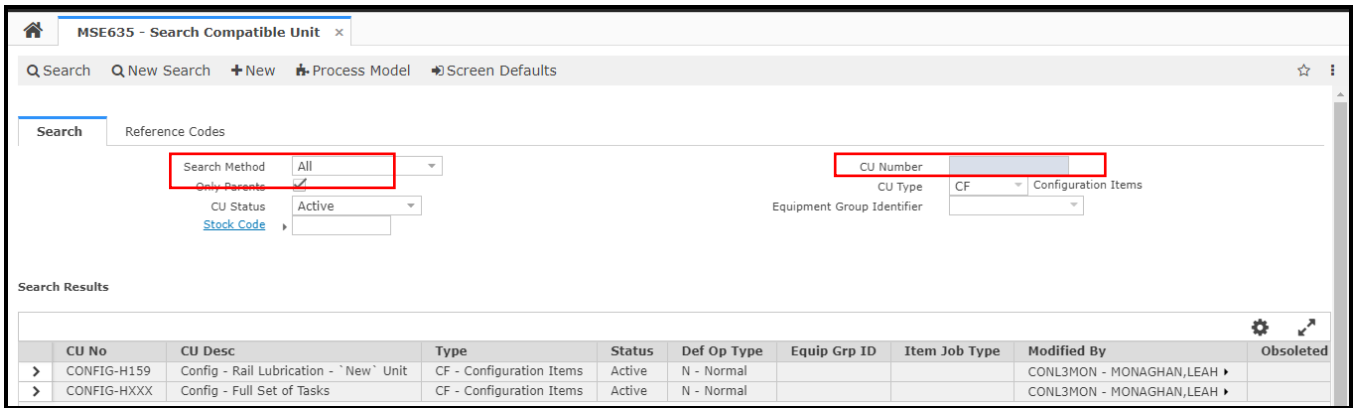


Figure 1: Example of current active CU's that can be used to include into a Job Estimate to define the Configuration Work Entities.

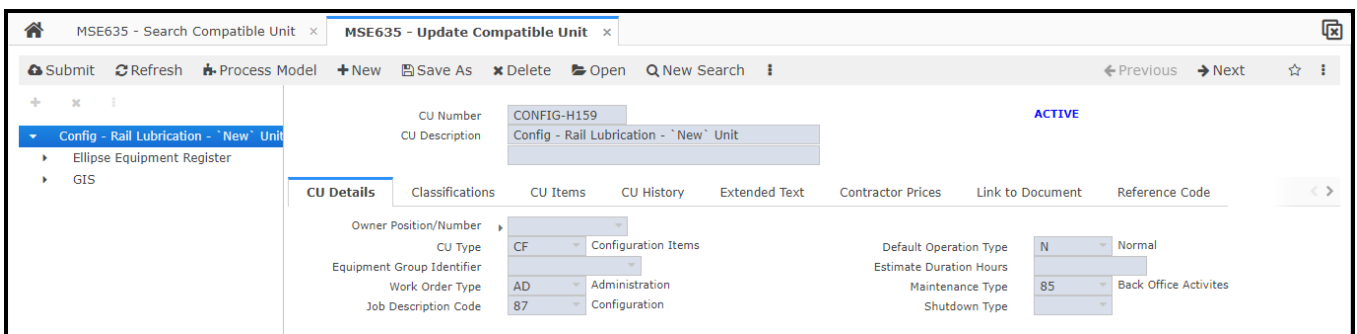


Figure 2: Example only, the CU that defines the Configuration Work Entities for a new Rail Lubricator.

**Including Compatible Units in a Job Estimate**

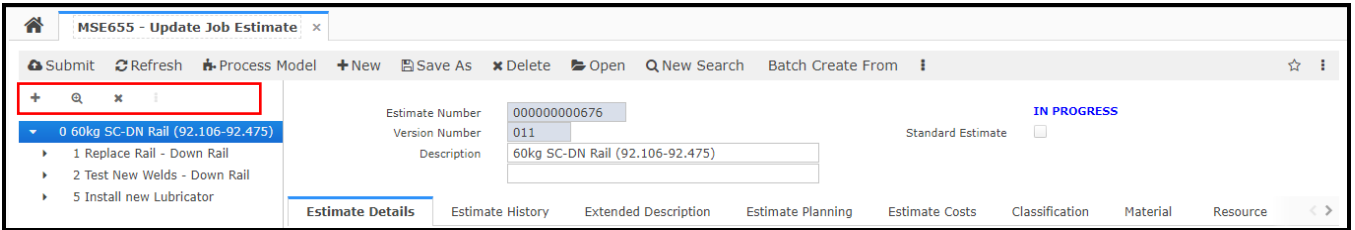


Figure 3: An “In Progress” Job Estimate for a Project to complete Rerailing and the installation of a new Rail Lubricator.

In the example shown in Figure 3, the additional configuration work entities are required for the installation of a New Rail Lubricator. It is important to position in the Tree View on the item which will be the parent item of the CU items to be included, which in the above example is Item Zero.

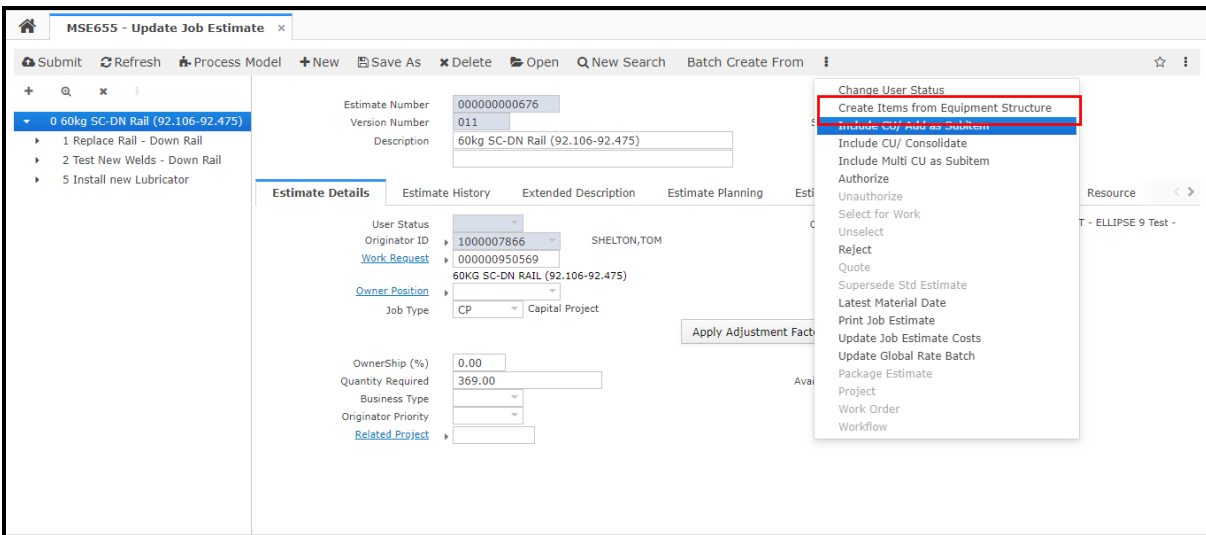


Figure 4: Showing the selection of menu option “Include CU/Add as Subitem”

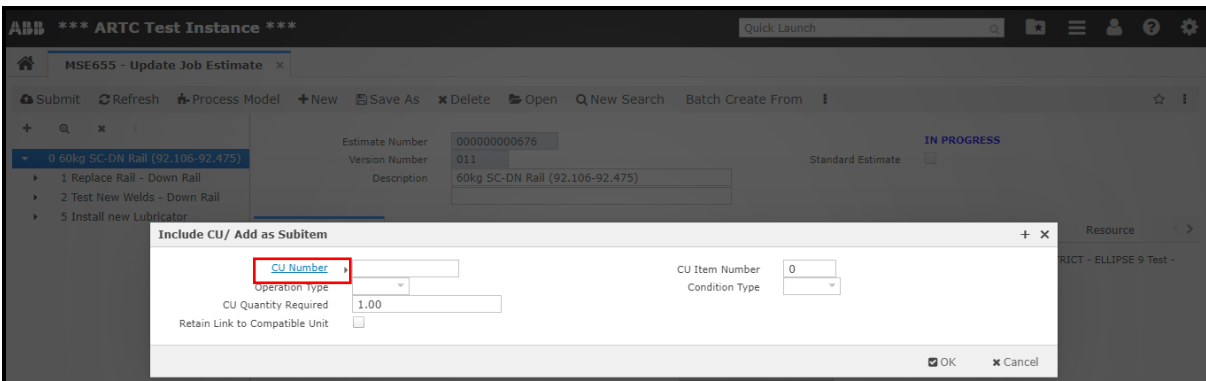


Figure 5: Showing the Include CU/Add as Subitem Screen. If the CU Number is not known, use the Detailed Search to review and select available Active Compatible Units.



APPENDIX B – Adding Configuration Work Entities using Compatible Units

Follow the search criteria as detailed in Figure 1 and 2 to locate the required CU and then use the



icon to return the CU number to the screen as showing in figure 6.

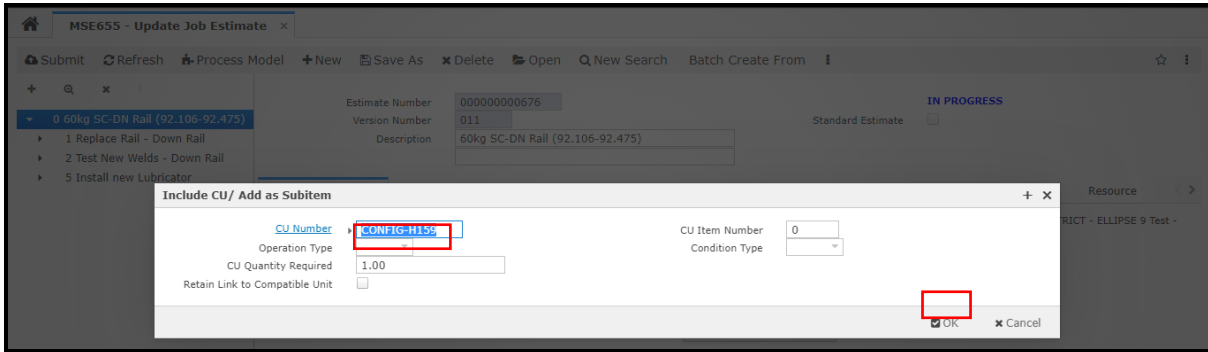


Figure 6. Showing the Include CU/Add as Subitem Screen with the CU Number populated.

In figure 6, all other fields should remain as per default values as shown and the OK Button selected.

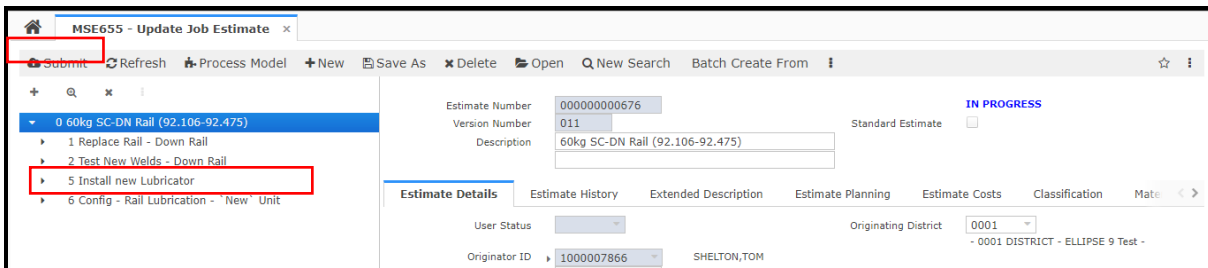


Figure 7: Showing the Configuration Item(s) included in the tree view of the Job Estimate.

Select Submit to save the entry.

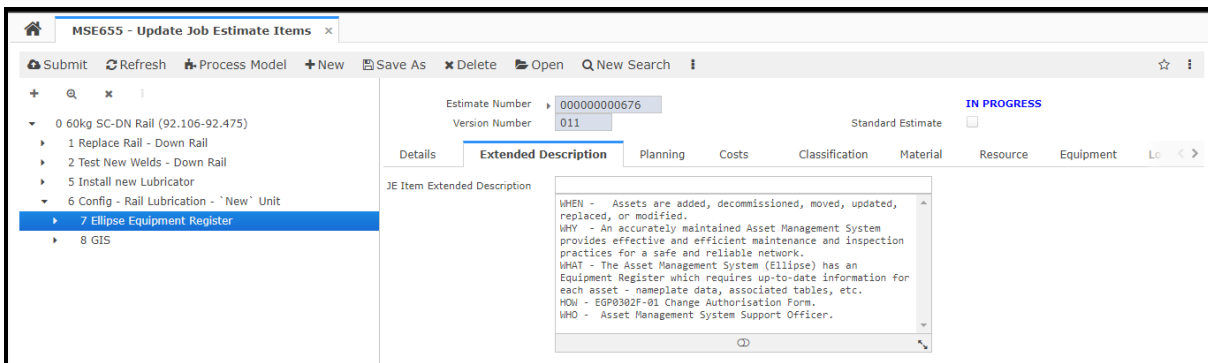


Figure 8: Showing an example of the detail that was copied from the CU to the Job Estimate.

The job estimate details should now be amended/edited as per normal processes.

In instances where Configuration Work Entities need to be added to a Job Estimate, compatible units will be copied into the Job Estimate to define the intended Configuration Work Order and Tasks, which includes the intended Description of the tasks which need to be undertaken.