-**CCONTPIIA.CBTOIIS**

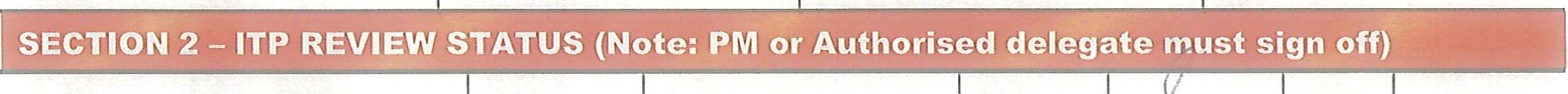
Inspection & Test Plan (ITP) Review Checklist

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| --- | --- | --- | --- | --- |
| **Project:** | NZ1005 |  | **Contract Package:** | TP-30220 |
| **Contractor:** | AE Smith |  | **Work Pack Reference** | NZ1005-CS-WPK-051 |
|  |  |  | **No:** | Combined Services - |
|  |  |  |  | Rev4 |
| **Date Submitted:** | I 211112023 |  | I **Submitted By:** | Corrina Bilski |
| **ITP Title:** | I Combined Services Diesel Fuel Lines |  | **lTP Ref No:** | AES-NZ1005-STE-ITP- PMT-0016 |
| **Date Reviewed:** | I 09/01/2024 |  | I **Date of Next Review:** | NA |



***1***

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **1st Review: PE or SPE**  (Contract Requirements Compliance) | **Name:** I Rajesh Sreedharan | | **Signed:** | *i*  *I* | **Date:** | 9/01/2024 |
|  |  |
| **2nd Review: QA Rep**  (Quality Critical Item Compliance) | **Name:** | ***v /Mcl/\/i f7n?***  I | **Signed:**  1 | a--- | **Date:**  1 I | *0 / /z¥.* |
| **3rd Review: Completions Rep**  Completions Critical Item Compliance | **Name:** | I A ,1·t | **Signed:** | | **Date:** q**l**·1)1/., | |

**ITP** @ • This ITP has been reviewed against the Management System criteria

**3rd Review: Project Manager**

**Reviewed** • All workers must read this ITP and understand activity sequence and inspection points

* CPB has no objection to work commencing

**ITP**

**Rejected**

**Project Manager**

**/Construction**

D • Please review actions / comments detailed in Section 5 below, revise accordingly and re-submit

* If clarification is needed regardin any of the commynts raised, c ntact the reviewer(s)

**Name: !lnd.-D.,***{Vk. nyv-cS* **Signed: *cA,***b • **Date: C** °'i/o*t* /7.li

(Or Authorised DeleQate)



**List the SWTC, Contract or Standards requirements documentation references and clauses that this ITP has been reviewed against.**

|  |  |  |
| --- | --- | --- |
| Scope of Work Technical Criteria | Contract Conditions | **1S0/AS/NZS** Requirements |
|  |  |  |
|  |  |  |
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**Title:** Inspection and Test Plan Review Checklist

ID: NZ1005-MSID-4-1295 Version: 2.0 Date Published: 29/11/2022

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**!ICIMIC**



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| --- | --- | --- |
|  | **Item No.** | **Comments** |
|  |  |  |
|  |  |  |
|  |  |  |

**Title:** Inspection and Test Plan Review Checklist

**ID: NZ10O5-MSID-4-1295** Version: 2.0 **Date Published:** 29/11/2022



Waikeria Prison Development - Inspection & Test Plan (ITP)

**Process / Sub - Process:** Combined Services – Diesel Fuel Lines

**WP Number:** NZ1005-CS-WPK-051

**ITP No.:** AES-NZ1005-STE-ITP-PMT-0016 **Rev: 1**

**Date:** 02/11/2023

###### THIS INSPECTION & TEST PLAN COMPRISES THE FOLLOWING DOCUMENTS AND IS APPROVED FOR USE:

**PART 1** Inspection and Test Plan

**PART 2** Check Sheet

**PART 3** Lot Verification Checklist

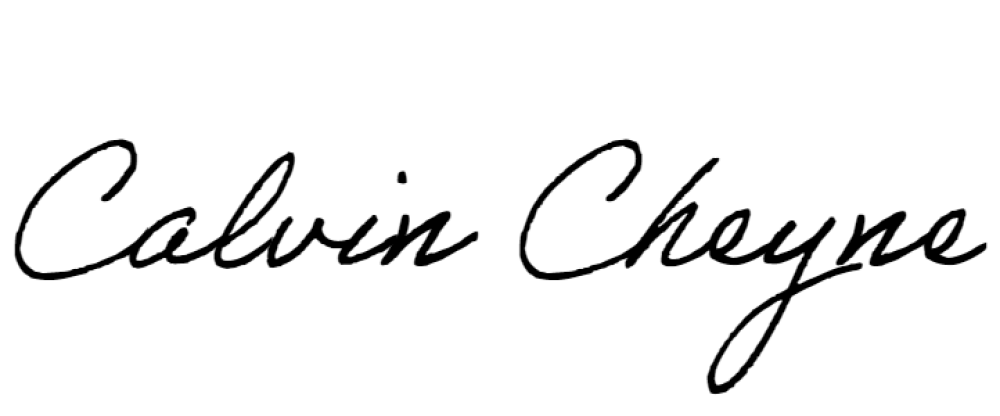
**Reference Documentation:**

**Project Specifications: Drawings:**

### Standard: AS/NZS 3500.1:2018

##### NZT5007-STE-HSSP-0001

###### AES-NZ1005-TNK-SHD-MEC-0001- TO 0004 , AES-NZ1005-TNK-SHD-COS-0004

**Prepared by:** AE Smith **(signature)**

## 02/11/2023

**(date)**

|  |  |  |
| --- | --- | --- |
| **Reviewed by:** CPB Engineer | **(signature)** | **(date)** |
| **Reviewed by:** CPB QA Rep | **(signature)** | **(date)** |
| **Reviewed by:** CPB Completions Rep | **(signature)** | **(date)** |
| **Reviewed by:** Consultant  (If applicable. N/A for Architects) | **(signature)** | **(date)** |
| **Approved by:** CPB SPE or higher | **(signature)** | **(date)** |

**Title:** WPD Inspection and Test Plan - Template

**ID:** MSID-298162371-1209 Version: 3.0 **Date Published:** 20/08/2020 Waikeria Prison Development / WPDP - Uncontrolled Document when Printed Project Specific Document

**INSPECTION and** TEST PLAN

**Diesel Fuel Lines**

**ITP** # **AES-NZlOOS-STE-ITP-PMT-0016**

**Rev.1**

|  |  |
| --- | --- |
| **Contract** | Diesel Fuel Lines UTl to Tank Farm |
| **Document Title** | Diesel Line installation |
| **Document No.** | AES-NZl00S-STE-ITP-PMT-0016 |
| **Process** | Combined Services Diesel Piping including leak detection installation and testing |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Action** | **Position** | **Name** | **Signature** | **Date** |
| **Prepared by** | AE Smith | Calvin Cheyne | *r'..1......*  - *ff* | 02/11/2023 |
| **Reviewed by** | AE Smith Site Manager | Michael Simpson |  | 02/11/2023 |
| **Approved by** | AE Smith Registered Plumber | *S{?()Ae/lr>11ilet1* | */11{1* | *fJ 2/I!/2oc*\ |
| **Reviewed by** | CPB Quality Team |  |  | I |
| **Approved by** | CPB Services Manger |  |  |  |
| **Accepted by** | CPB Engineer |  |  |  |

**SCOPE OF WORKS:**

This scope of works comprises the provision of: equipment & documentation for the:

Inground Diesel PLX pipe work from TNK to UTl

Above ground Stainless steel pipe work to equipment in UTl Leak detection system

Transition sumps

Quality records, test results, reports and measurements

AE Smith - HVAC, Refrigeration & Electrical Waikeria Prison Development Project Project No. NZC10013

**REFERENCED DOCUMENTATION:**

**Specifications:**

|  |  |  |  |
| --- | --- | --- | --- |
|  | NZT5007-STE-SPC- ELEC--0001 |  | Electrical Services Specification |
|  | CPB-NZ1005-STE-SOW-PMT-0023 |  | Execution – Schedule 11 Works completion tests |

**Drawings:**

|  |  |  |  |
| --- | --- | --- | --- |
|  | AES-NZ1005-UT1-SHD-ELE-0003 AES-NZ1005-STE-SHD-ELE-6011 AES-NZ1005-STE-SHD-ELE-6015 AES-NZ1005-STE-SHD-ELE-6101 AEL-NZT5007-UT1-ESDG-0052  KCL-NZ1005-UT1-DWG-NSS-0016-FC-1  KCL-NZ1005-UT1-DWG-NSS-0017-FC-1 |  | DIESEL PIPING UTILITIES LAYOUTS  Diesel fuel lines Piping Layout Area 11 Diesel fuel lines Piping Layout Area 15 Diesel fuel lines Piping Trench Sequence Fuel System Schematic  UT1 pipe support system  UT1 pipe support system |

**Associated documentation:**

|  |  |  |  |
| --- | --- | --- | --- |
|  | AES-NZ1005-STE-DSH-SEI-0001 |  | Diesel Seismic joint submission |
| AES-NZ1005-STE-DSH-ELE-011 | Diesel Pipework Transition Sump |
| AES-NZ1005-STE-DSH-ELE-0002 | Durapipe PLX Diesel Fuel Pipe - Technical submission |
| AES-NZ1005-UT1-DSH-ELE-0001 | Stainless steel Valves |
| AES-NZ1005-STE-DSH-ELE-0030 | VLR 410E Vacuum Leak Detection System |

Pipework and storage

Stainless Steel Pickling

316L stainless steel fittings 316L Stainless steel tube

NZ HEALTH AND SAFETY AT WORK (HAZARDOUS SUBSTANCES) REGULATIONS 2017

SWP56 -V2- 2020

STM A182 -17, ASME SA182-2017 ED, F316/F316L, ASME B16.11 - 2016

#### DEFINITION OF TERMS:

|  |  |
| --- | --- |
| Conformance Record | Record submitted by AE Smith to CPB of the evidence pertaining to each lot which demonstrates that the specified requirements for that lot have been met |
| Hold Point | An identified point in a process past which AE Smith shall not proceed without a direction from CPB |
| Lot | A portion of material or a section of the Works which has been constructed and/or supplied under essentially uniform conditions and contains material of essentially uniform quality, or  A single finished item of work which includes several materials and/or work types (e.g. a pit in place) |
| Witness Point | An identified point in a construction process at which an activity is observed |

**INSPECTION AND TEST PLAN:**

Responsible: SE-AE Smith / Downer Site Engineer, SUP-AE Smith / Downer Supervisor, SRV-Surveyor Method: DR-Document review, FM-Field measure, FT-Field test, M-Monitoring, S-Survey, V-Visual

Record: FTR-Field test report, LTR-Laboratory test report, TDS-Technical data sheet, QCC-Quality control checklist

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **#** | **Inspection and Test Control Point** | **Resp.** | **Referenced Documentation** | **Conformance Criteria** | **Method** | **Frequency** | **Ctrl Point** | | **Records** |
| **WP** | **HP** |
| **1.0 MATERIAL COMPLIANCE** | | | | | | | | | |
| 1.1 | RDM & Consent Approval | CPB | RDM Tracker Consent Tracker | RDM approval tracker Consent approval tracker | Documen t Review | By Building/ Site Wide | AE Smith |  | Receipt of Approval by Client |
| 1.2 | General | SE | NZT5007-STE-SPC-ELEC-0001 | For all materials, a certificate of compliance shall be provided to the Client Rep. before the materials are incorporated into the works.   * Diesel Duel Pipe, jointing, Including electrofusion couplers and fittings. * Stainless steel piping * Specifications & QA Documents Approved * Drawings are confirmed * Equipment fit for purpose | DR | Each material | AE Smith |  | Aconex approval  Incoming Inspection Checklists  Drawing Register |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **#** | **Inspection and Test Control Point** | **Resp.** | **Referenced Documentation** | **Conformance Criteria** | **Method** | **Frequency** | **Ctrl Point** | | **Records** |
| **WP** | **HP** |
| **2.0 Installation** | | | | | | | | | |
| 2.1 | Inspect trench depth, width and pipe alignment | SRV | NZT5007-STE-SPC-ELEC-0001 | * Confirm trench depth, width and pipe alignment shall be as shown on drawing. * Ensure Trench complies with HSNO Regulations. * Trench Inspection Check Sheet to be completed. | V | Once | AES (MEL) | CPB | Check Sheet  +  Trench Inspection Check Sheet |
| 2.2 | Number of pipes and  dimensions of pipes and location | SUP | AES-NZ1005-STE-SHD-ELE-6011 AES-NZ1005-STE-SHD-ELE-6015 AES-NZ1005-STE-SHD-ELE-6101 | Shall be as shown on drawings. | V + FM | Each section | AES (MEL) |  | Check Sheet |
| 2.3 | Location | SRV | AES-NZ1005-STE-SHD-ELE-6011 AES-NZ1005-STE-SHD-ELE-6015 AES-NZ1005-STE-SHD-ELE-6101 | Shall be as shown on drawings. or as agreed on site with CPB | S | Every 20 m or change in direction | AES (MEL) |  | Check Sheet |
| 2.4 | Location UT1 |  | AES-NZ1005-UT1-SHD-ELE-0003 | Shall be as shown on drawings or as agreed on site with CPB | V |  |  |  | Check sheet/  As Built |
| 2.5 | Jointing of Pipework ( PLX) | SUP | NZT5007-STE-SPC-ELEC-0001  AES-NZ1005-STE-DSH-ELE- 0002 | 1. Jointing of pipes shall be completed in accordance with the manufacturers requirements | V+M | Each Weld/ Joint | AES (MEL) |  | Check Sheet |
| 2.6 | Welding of Pipework ( SS) | SUP | NZT5007-STE-SPC-ELEC-0001 | Jointing of stainless steel pipes shall be welded by a certified welder | V+ | Each Weld/ Joint | AES (MEL) |  | Check Sheet  Welders certificate |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **#** | **Inspection and Test Control Point** | **Resp.** | **Referenced Documentation** | **Conformance Criteria** | **Method** | **Frequency** | **Ctrl Point** | | **Records** |
| **WP** | **HP** |
| 2.7 | Seismic Joints |  | AES-NZ1005-STE-DSH-SEI- 0001 | 1. Confirm seismic joint is as approved submission 2. Joints are installed as detailed on the drawings 3. Pipe work connections are complete tightened in accordance with manufacturers requirements and without leak | V | Once | AES (MEL) |  | Check Sheet |
| 2.8 | Transition Sump | SUP | AES-NZ1005-STE-DSH-ELE- 011 | 1. Confirm sumps are as the approved submission 2. Confirm sumps are installed to the manufacturers requirements | V FT | Once | AES (MEL) |  | Check Sheet |
| 2.6 | Leak Detection System | SUP | AES-NZ1005-STE-DSH-HYD-011  VLR 410E installation manual | 1. Confirm Leak detection components are as the approved submission 2. System is installed in accordance with the installation instructions 3. Confirm equipment is adequately supported | V FT | Once | AES (MEL) |  | Check Sheet |
| 2.7 | Bracketing UT1 | SUP | KCL-NZ1005-UT1-DWG-NSS- 0016-FC-1  KCL-NZ1005-UT1-DWG-NSS- 0017-FC-1 | 1. Confirm Bracketing has been installed as per KCL documentation 2. Variance in pipe work routes / bracketing shall be reviewed by KCL | V | Once | AES (MEL) KCL |  | Check sheet KCL report |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2.8 | Stainless steel valves | SUP | AES-NZ1005-UT1-DSH-ELE- 0001 | Confirm valves are as approved submission  Valves are located as per approved drawings  Pressure reducing valve(s) is set to the nominated out put pressure  Valve connections are tightened and without leak | V |  | AES (MEL) |  | Check Sheet |
| 2.9 | Mechanical Joints | SUP |  | Confirm all joints are secure and tightened in accordance with  manufacturers/ industry practice |  |  |  |  | Check Sheet |
| 3.0 | Pipe Markers | SUP | NZT5007-STE-SPC-ELEC-0001 | 1. Mark pipe route by markers set flush inground above. 2. Markers shall by minimum 200 x 200 x 50thick concrete slab with a brass plate fixed to top surface engraved: "FUEL PIPES UNDER" and directional arrows to indicate route. 3. Marker Installation: Install at maximum 15m intervals and at all changes in direction.   (Pipe Markers are not required where pipe route is covered by a concrete slab) | V |  | AES (MEL) |  | Check sheet |
| 2.10 | Pipework Purge |  |  | Purge pipework with compressed air to confirm conduits are clear of debris. | V | Each circuit | AES (MEL) |  | Check sheet |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **3.0 PLX PIPEWORK FIELD ELECTROFUSION WELDING -** | | | | | | | | | |  |
|  | | | | | | | | | |  |
| **#** | **Inspection and Test Control Point** | **Resp.** | **Referenced Documentation** | **Conformance Criteria** | **Method** | **Frequency** | **Ctrl Point** | | **Records** |
| **WP** | **HP** |
| 3.1 | Electrofusion Welding | SUP | NZT5007-STE- FSSP-0001 3.4.2. | Welding details completed | M+V+FTR | Each Weld | AES |  | Check Sheet |
|  |  | SUP |  | EF Coupler completed by and recorded. | M+V+FTR | Each Weld | AES |  | Check Sheet |
|  |  | SUP |  | Fusion Machine Used | M+V+FTR | Each Weld | AES |  | Check Sheet |
|  |  | SUP |  | EF Coupler No. (Add picture) | M+V+FTR | Each Weld | AES |  | Check Sheet |
|  |  | SUP |  | Materials Used (Size) | M+V+FTR | Each Weld | AES |  | Check Sheet |
|  |  | SUP |  | Pipe surface free from scratches, deeper than 10% of the wall thickness? | M+V+FTR | Each Weld | AES |  | Check Sheet |
|  |  | SUP |  | Pipe scraped and marked? | M+V+FTR | Each Weld | AES |  | Check Sheet |
|  |  | SUP |  | Pipe surface cleaned with Isopropyl alcohol? | M+V+FTR | Each Weld | AES |  | Check Sheet |
|  |  | SUP |  | Barcode scanned by machine. | M+V+FTR | Each Weld | AES |  | Check Sheet |
|  |  | SUP |  | Record cooling time achieved. | M+V+FTR | Each Weld | AES |  | Check Sheet |
|  |  | SUP |  | Cooling time - start time/finish time: | M+V+FTR | Each Weld | AES |  | Check Sheet |
|  |  | SUP |  | E.F Coupler Operator Signature Required | M+V+FTR | Each Weld | AES |  | Check Sheet |
| 3.2 | Final Inspection of Weld | SUP |  | CPB and AE Smith to inspect completed welds. | M+V+FTR | Each Weld | AES |  | Check Sheet |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **4.0 Completion Testing** | | | | | | | | | |  |
| **#** | **Inspection and Test Control Point** | **Resp.** | **Referenced Documentation** | **Conformance Criteria** | **Method** | **Frequency** | **Control point** | | **Records** |  |
| **WP** | **HP** |
| 4.1 | Pneumatic pipework pressure testing |  | NZT5007-STE-SPC-ELE-0001  AES-NZ1005-STE-DSH-ELE-0002  PLX installation Guide | 1. Pressure test to 1.5 times working pressure or not less than 350kPa | V+FTR | Each test | AES (MEL) |  | Check Sheet |
| 4.2 | Primary pipe Pre-Pipework Pressure Testing  Inspection. |  | NZT5007-STE-SPC-ELEC-0001  AES-NZ1005-STE-DSH-ELE-0002  PLX installation Guide | 1. 1. Conduct a visual inspection of pipework to be tested, checking all connections to ensure they are tight. 2. Ensure all valves in the system are in the correct position and tagged “DO NOT OPEN” or “DO NOT CLOSE” 3. Secondary containment pipe work shall be open to atmosphere 4. Test heads are fixed to transition fittings (at the dispenser) to allow   pressure to be introduced and for the internal pressure to be measured  The other end (at the tank) must be closed off using spade connections  between the compact flange/ flange connections to ensure that the tank  is both isolated and that the pressure test is not also being applied to the | V | Once | AES (MEL) |  | Check Sheet |

4.3

Introduction of air to 50 kPa

###### SUP

###### NZT5007-STE-SPC-ELEC-0001 AES-NZ1005-STE-DSH-ELE-0002

PLX installation Guide

tank

5. All installation Hold Points have been signed off by CPB & AECOM prior to pressure testing commencing

1. • Introduce air/nitrogen to an initial V pressure of 0.5bar (10psi).
   * Examine all the electrofusion joints and threaded joints for any leakage using soap solution (where possible).

Each Circuit AES

##### (MEL)

Check Sheet

4.4

4.5

Increasing Test Pressure to 350 kPa

Pipework Pressure Testing (Line Test Data Sheet)

SUP

SUP

NZT5007-STE-SPC-ELEC-0001

AES-NZ1005-STE-DSH-ELE-0002

PLX installation Guide

MEL Line test data sheet

The pressure may then be raised in 0.5bar increments over

15 minute intervals to a maximum pressure of 4.0bar (60psi

Once the target pressure is reached, measurements should be taken

from the pressure gauge:

- The minimum duration of test shall be 1 hour.

1. Complete pressure test to verify no leaks and complete Line Test Data Sheet.

Each circuit

Each circuit

##### AES (MEL)

AES (MEL) CBR

Check Sheet

Line Test Data Sheet

4.6

Pressure testing procedure for the secondary containment lines

###### NZT5007-STE-SPC-ELEC-0001

AES-NZ1005-STE-DSH-ELE-0002

PLX Installation Guide

* Introduce air to an initial pressure

of 0.5bar (10psi).

* Examine all the electrofusion joints and threaded joints for any leakage

Each Circuit AES

##### (MEL)

Check Sheet

4.6

4.7

Secondary Containment Pipework Pressure Testing

Line Test Data Sheet)

Leak Detection system Proving

###### SUP

MEL Line test data sheet

using soap solution (where possible).

* + The pressure may then be raised

in 0.5bar increments over

15 minute intervals to a maximum pressure of 2.0bar (30psi).

* + Once the target pressure is reached, measurements should be taken from the pressure gauge:

- The minimum duration of test shall be 1 hour.

Complete pressure test to verify no leaks and complete Line Test Data Sheet.

Simulate leak to prove system

* + Local audible visual alarm activated
  + Output to shut down diesel transfer pumps

##### V, FT

Each circuit

Once

##### AES (MEL) CBR AES (MEL) CBR

Line Test Data Sheet

##### FTR

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **5.0 As Constructed Survey** | | | | | | | | | |
| **#** | **Inspection and Test Control Point** | **Resp.** | **Referenced Documentation** | **Conformance Criteria** | **Method** | **Frequency** | **Ctrl Point** | | **Records** |
| **WP** | **HP** |
| 5.1 | As-constructed survey | AES | NZT5007-STE-SPC-ELEC- 0001 | As-constructed survey must capture the horizontal and vertical locations of all newly constructed or relocated underground trenches and pipework. | S | Each Lot | CPB |  | Survey drgs |
| 5.2 | As Built Drawings  Above Ground installation | AES | NZT5007-STE-SPC-ELEC- 0001 | Mark up construction drawings with as constructed changes | S | UT1 TNK | AES |  | As built drgs |
| **6.0 Completion Records** | | | | | | | | | |
| 6.1 | Test results |  |  | Line Test Data Sheets shall be provided FTRs will be provided | DR | Witness | AES | CPB/ AEC |  |
| 6.2 | Conformance records | SUP | NZT5007-STE-HSSP- 0001 | As Built drawings with constructed changes. | V | Each Lot UTI  TNK | AES | CPB / AEC | Calibration Register, Individual calibration  certificates |
| 6.3 | HSNO Certification | SE | HSNO Regulations | HSNO Certification | FTR | On completion of  installation | AES |  | HSNO  certificate |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 6.4 | As-built survey |  | NZT5007-STE-SPC-ELEC- 0001 | As built completed. | DR | Once | AES | CPB | Survey Drawings UT1 as constructed |
| 6.5 | Schedule WCT 12 Penetrations |  | Schedule 11 | All penetrations from and between secure areas, above and below ground, are less than 125mm in at least one plane, and in circular ducts no greater than 225mm in diameter (or have high tensile steel bars to reduce the aperture to no greater than 125mm in at  least one plane). | DR | On completion  of the installation if  applicable. |  | CPB | WCT  Inspection by IR |

Inspection and Test Plan Lot Verification Checklist

###### PART 3 OF INSPECTION & TEST PLAN

|  |  |
| --- | --- |
| **Lot Number:** |  |
| **Lot Description:** |  |

*Note: Item / # records to be filled out by CPB Engineer - minimum is to match ITP, extra documents can be added*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **Item** | **Number of Records Required** | **LOT Subfolder No:** | **Remarks (initial / date)** |
| **ITP / Quality Control Checklists** | | | | |
| 1.0 |  |  |  |  |
| 1.1 |  |  |  |  |
| **Survey Results** | | | | |
| 2.0 |  |  |  |  |
| 2.1 |  |  |  |  |
| **Test Results** | | | | |
| 3.0 |  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Conformance of Work Statement *(if required ie if some docs not signed*):**  The works for this construction lot conforms in respects to the ITP. | | | |
| **Name:** | **Signed:** | ***Subcontractor:*** | **Date:** |
| **Conformance of Work Statement:**  The works for this construction lot conforms in respects to the ITP. | | | |
| **Name:** | **Signed:** | ***Foreman/Supervisor*** | **Date:** |
| **Conformance / Verification of Construction Lot Statement:**  This closed lot conforms in all respects with the standards and requirements specified in the Contract Documents. The lot verification records are complete and attached. Any non-conformances have been dispositioned in accordance with the contract requirements. | | | |
| **Name:** | **Signed:** | ***Project Engineer/Senior Project Engineer*** | **Date:** |
| **Quality Review:** | | | |
| **Name:** | **Signed:** | ***Quality Manager / Rep.*** | Date: |



**Title:** WPD Inspection and Test Plan - Template

**ID:** MSID-298162371-1209 Version: 3.0 **Date Published:** 20/08/2020 Waikeria Prison Development / WPDP - Uncontrolled Document when Printed

Project Specific Document Page 4 of 4



NZC10013 - Waikeria - Combined Services In- ground Pipework

## QA - Mechanical Inspections Combined Services In-ground Pipework

Diesel Line **ITP Page**



NZC10013 - Waikeria - Combined Services In-ground Pipework

Report summary

|  |  |
| --- | --- |
| Name | Status Last Activity |
| Diesel Line Installation | |
|  | Diesel Fuel Line Installation [- page 3](#_bookmark0) |
| Electrofusion Welding [- page 6](#_bookmark1) |
| Electrical In-ground Conduits and cable pits [- page 8](#_bookmark2) |

# Diesel Fuel Line Installation



**NZC10013** **-** **Waikeria** **-** **Combined** **Services** **In-ground** **Pipework**

Diesel Fuel Installation

**QA** **-** **Mechanical** **Inspections** **-** **Combined** **Services** **In-ground** **Pipework** **-** **Diesel** **Line** **Installation** **-** **Diesel** **Fuel** **Line** **Installation**

**Checklist:**

**Passed:** **Failed:** **N/A:**

Pass / Failed/ N/A

**First** **Activity:** **Last** **Activity:**

Date report Started Date report Finished

ROM & Consent Approval received by the client and approved?

Status Pass / Fail / N/A

AES Rep

Date

All material certi昀椀cates of compliance are provided to the client before the materials are incorporated into the works.

Status

Pass / Fail / N/A

AES Rep

Date

Inspect trench depth, width and pipe alignment

Status

Pass / Fail / N/A

AES Rep

Date

Con昀椀rm trench depth, width and pipe alignment shall be as shown on drawing. Ensure Trench complies with HSNO Regulations.

Trench Inspection Check Sheet to be completed.

Number of pipes and dimensions of pipes shall be shown on the drawing

Status

Pass / Fail / N/A

AES Rep

Date

Location of pipes shall be shown on the drawing

Status

Pass / Fail / N/A

AES Rep

Date

Electrofusion Welding Checklist completed for each joint ?

Status

Pass / Fail / N/A

AES Rep

Date

Pneumatic Pipework Pressure Testing.

Status

Pass / Fail / N/A

AES Rep

Date

To be pressure tested to 1.5 times working pressure or not less than 350 kPa.

Pre-Pipework Pressure Testing Inspection

Status Pass / Fail / N/A AES Rep Date

 Powered by [conqa.com](https://conqa.com/) Date of report **3**

Pre-Pipework Pressure Testing Inspection

Conduct a visual inspection of pipework to be tested, checking all connections to ensure they are tight. Ensure each test length is capped and ball valve installed.

Ensure all valves in the system are in the correct position and tagged “DO NOT OPEN” or “DO NOT CLOSE” All installation Hold Points have been signed o昀昀 by CPB & AECOM prior to pressure testing commencing.

Introduction of Air to 300 kPa

Status

Pass / Fail / N/A AES Rep Date

Gradually introduce air into the system to a pressure of 300 kPa and hold for 1 hour. Monitor for any drop-in pressure.

If a leak is identi昀椀ed discharge the air prior to rectifying any leaks.

Increasing Test Pressure

Status

Pass / Fail / N/A AES Rep Date

If no leaks are identi昀椀ed Increase pressure by 10% increments until test pressure is achieved.

Line Test Data Sheet Completed

Status

Pass / Fail / N/A AES Rep Date

Pipe Markers

Status

Pass / Fail / N/A AES Rep Date

Mark pipe route by markers set 昀氀ush in ground above.

Markers shall by minimum 200 x 200 x 50 thick concrete slab with a brass plate 昀椀xed to top surface engraved: "FUEL PIPES UNDER" and directional arrows to indicate route.

Marker Installation: Install at maximum 15m intervals and at all changes in direction. Note: Pipe Markers are not required where pipe route is covered by a concrete slab

As-Builts Completed.

Status

Signature

Signatory

Pass / Fail / N/A

AES Rep Date

AES Rep Date

AES Rep Date

As-Builts Completed.

Signature

CPB Rep

Date

Signatory

CPB Rep

Date

# Electrofusion Welding



NZC10013 - Waikeria - Combined Services In-ground Pipework

Electrofusion Welding

QA - Mechanical Inspections - Combined Services In-ground Pipework - Diesel Line Installation - Electrofusion Welding

Pass / Failed/ N/A

First Activity: Last Activity:

Date Report Started Date Report completed

Checklist:

Passed: Failed: N/A:

Welding details

Status

Pass/ Fail / N/A

AES Rep

Date

EF Coupler completed by and recorded.

Fusion Machine Used - SR No 402-1348 Caldertech EF welder Record EF Coupler Used

(Size)

Pipe surface free from scratches, deeper than 10% of the wall thickness ?

Status

Pass/ Fail / N/A

AES Rep

Date

Pipe scraped and marked ?

Status

Pass/ Fail / N/A

AES Rep

Date

Pipe surface cleaned with Isopropyl alcohol?

Status

Pass/ Fail / N/A

AES Rep

Date

Barcode scanned by machine?

Status

Pass/ Fail / N/A

AES Rep

Date

Record cooling time achieved?

Status

Pass/ Fail / N/A

AES Rep

Date

Details of E.F Coupler Operator

Status

Pass/ Fail / N/A

AES Rep

Date

Name

QA - Mechanical Inspections - Combined Services In-ground Pipework - Diesel Line Installation - Electrofusion Welding

NZC10013 - Waikeria - Combined Services In-ground

Pipework

Post weld checks completed

Status

Pass/ Fail / N/A

AES Rep

Date

Signature

AES Rep

Date

Signatory

AES Rep

Date

Signature

CPB Rep

Date

Signatory

CPB Rep

Date

Electrical In-ground Conduits and cable pits



NZC10013 - Waikeria - Combined Services In-ground Pipework

Electrical In-ground Conduits and cable pits

QA - Mechanical Inspections - Combined Services In-ground Pipework - Diesel Line Installation - Electrical In-ground Conduits and cable pits

Checklist:

Passed: Failed: N/A:

Pass/ Failed/ N/A

First Activity: Last Activity:

Date Report Started Date Report Finished

ROM & Consent Approval received by the client and approved?

Status Pass/ Fail / N/A AES Rep Date

All material certi昀椀cates of compliance are provided to the client before the materials are incorporated into the works.

Status

Pass/ Fail / N/A AES Rep Date

Location

Status

Pass/ Fail / N/A AES Rep Date

Shall be as shown on the drawings,

Shall be as instructed by CPB Rep. as to best suit the conditions on the Site at the time of construction.

Con昀椀rm trench depth, width and pipe alignment

Status

Pass/ Fail / N/A AES Rep Date

Trench depth, width and conduit alignment shall be as shown on drawing Excavation Checklist to be completed prior to installing services.

Bottom of the trench shall be compacted to form a 昀椀rm uniform surface free from loose material.

Status

Number of conduit dimensions shall be shown on drawings.

Status

Pass/ Fail / N/A AES Rep Date

Location of conduits shall be shown on the drawings.

Status

Pass/ Fail / N/A AES Rep Date

After Installation all conduits shall be free from foreign matter and from rough edges which could damage the cable during Installation.

Status

Pass/ Fail / N/A AES Rep Date

After Installation all conduits shall be free from foreign matter and from rough edges which could damage the cable during Installation.

Status Pass/ Fail / N/A

AES Rep Date

Where practicable conduits shall enter and exit the pit at the same height and orientation.

Status

Pass/ Fail / N/A AES Rep Date

Bedding of Conduit and Pit

Status

Pass/ Fail / N/A AES Rep Date

Conduits and pits shall be bedded on approved bedding material. Bedding material shall be 150mm above top of conduit

Orange marker tape installed with the words DANGER Electrical Cable buried below, laid in the trench 150mm below ground level.

Conduit Pits

Status

Pass/ Fail / N/A AES Rep Date

Conduit entering and exiting a pit shall conform to the locations and dimensions shown on construction drawings and speci昀椀cations. Conduits shall protrude into pits at least 50 mm and not more than 100 mm.

Where practicable, conduits shall enter and exit a pit at the same height and orientation.

Sealing around conduits where they enter the pit is to be undertaken on the inside and outside of the pit. All pit lids to be labelled �ELECTRIC CABLES� and directional arrows set 昀氀ush in the ground.

All pits to be recessed with removable lids (Class B Steel Lids) to accommodate a padlock.

Bell mouths to be installed where possible and correctly colour coded.

Status

Pass/ Fail / N/A AES Rep Date

Draw Rope Installation

Status

Pass/ Fail / N/A AES Rep Date

Draw rope shall be installed in each conduit run and shall extend a minimum of 500 mm above the top of pit collar. Rope ends shall be 昀椀rmly secured to prevent the ends being lost in a conduit.

As-built drawings completed.

Status

Pass/ Fail / N/A AES Rep Date

As-built drawings completed.

Signature

AES Rep

Date

Signatory

AES Rep

Date

Signature

AES Rep

Date

Signatory

AES Rep

Date



NZC10013 - Waikeria - Combined Services In-ground Pipework

Attachments