



**Process Control & Integration Technology**

**FHS, TCS, LMS, Hydrocarbon Facilities and  
UPS Maintenance**

**MONTHLY REPORT**

**May 2025**

**Airport Company South Africa**

**O.R. Tambo International Airport**

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**Rockwell  
Automation**



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## 1 OVERVIEW

The team installing the new fibre at Delta has ran into issues with the sleeving, it seems the sleeve is pinched in one or maybe two place. They are unable to get the fibre to VCD1. Jan has contacted Mohlalifi at ACSA civil to assist but it seems we need you to also assist with the urgency of the matter.

We have damaged AD Converters after the extreme weather we empierced earlier this year and the big power issues in January. Jacques will be sending a quote for replacement AD Converters. Until the fibre is installed and the AD Converters replaced, we will not be able to calibrate the TCS. Quote submitted awaiting feedback. RFQ received on 28/05/2025

The TCS server in the tank farm is also in dire need of replacement, the lag of the system is causing errors and issues when we need to calibrate and perform tcs tests.

### TCS

The team installing the new fibre at Delta has ran into issues with the sleeving, it seems the sleeve is pinched in one or maybe two place. They are unable to get the fibre to VCD1. Jan has contacted Mohlalifi at ACSA civil to assist but it seems we need you to also assist with the urgency of the matter. New contractor for civil has not reached out.

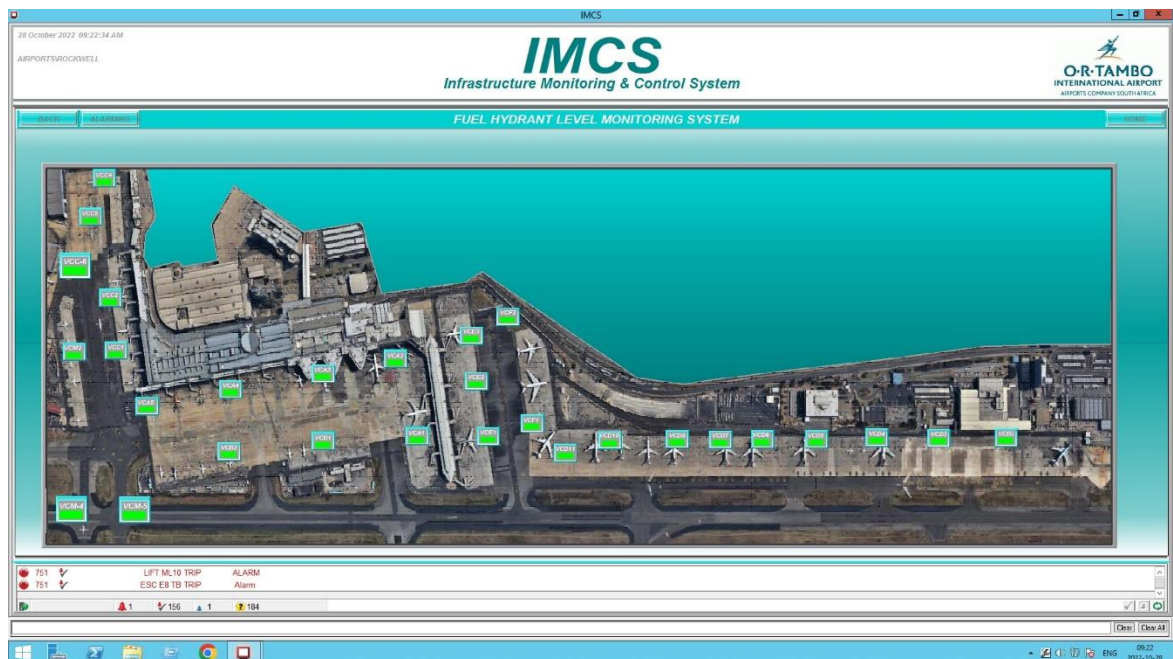
We have damaged AD Converters after the extreme weather we empierced earlier this year and the big power issues in January. Jacques will be sending a quote for replacement AD Converters. Until the fibre is installed and the AD Converters replaced, we will not be able to calibrate the TCS.

The TCS server in the tank farm is also in dire need of replacement, the lag of the system is causing errors and issues when we need to calibrate and perform tcs tests.

### Level Monitoring

No Issues to report.

As per the below screenshot all the level monitoring is up and functioning.



## UPS

The 6 UPSs are in working condition and has been inspected and repaired as per the 6 monthly inspection by the OEM. Two stations require new sntp modules and the UPS in sub 10 has a damaged cpu. I have asked for quotations from EATON. This causes a lack of communication to the ups, but other than that the ups is functioning as it should.

## Hydrocarbon Facilities

- There is 3 hydrocarbon sensors that needs to be refurbished. Quote submitted, please push this RFQ it is a high risk for ACSA.
- On the other sensors the next calibration is due Feb 2026.
- Hydrocarbon sensors and panels were cleaned and inspected weekly and all pm's submitted.

## ESD SYSTEM

- No Issues to report.
- Golf ESD system still offline due the the siemens IO rack issues. We have quoted to incorporate this to the HIMA. Awaiting feedback.
- All ESD sleeves has been installed as per quote. Looks like it is going much better.

## VALVE CHAMBERS

- All valve chambers have been cleaned and inspected the past month.
- Paintwork in 90% of these chambers need to be re-done. Corrosion is present in all chambers. **TENDER HAS BEEN AWARDED TO ANOTHER COMPANY, I HAVE OFFERED OUR PROFESSIONAL SERVICES TO THEM AND HAVE ALREADY TAKEN THEM FOR A SITE VISIT AND EXPLAINED THE OPERATIONAL DIFFICULTIES ETC.**
- VCD6 valve replacement quotation has been completed and submitted. I have included NDT on the bellow for the annual bellow inspection in the costing. **AS PER ELDON HAMILTON THIS WILL FORM PART OF THE CHAMBER REFURB TENDER.**
- A quotation to assess the electrical panels to issue a C.O.C. has been submitted. Awaiting PO. **(FEEDBACK RECEIVED FROM E HAMILTON IS THAT ACSA ELECTRICAL WILL UNDERTAKE THIS PROJECT THEMSELVES)(CHAMBER REFURB PROJECT TO REPLACE ALL ELECTRICAL LIGHTS, BOXES, GLANDS, EARTHING AND ACTUATORS)**
- VCA5 gaskets needs to be replaced to conform to standards, also the DBB valves needs to be refurbished/replaced. These valves are known to be bypassing some fluid when closed, this affects the TCS system performance. **MUST BE RESOLVED WITH CHAMBER REFURB PROJECT**
- Cost estimation on valve chamber refurbishment has been submitted to you on 25/11/22. **TENDER AWARDED NOT TO PCIT. Sign over of responsibility should be arranged between maintenance and projects for these chambers. Nhlanhla please advise.**

#### HYDRANT PIT VALVES/BOXES

- As per OEM recommendations Carter pit valves should be refurbished every 5 years, we are way past this. We have completed 10 Refurbs in total from 2020. In total we have around 180 active valves. I have put together a quotation for the refurbishment of 10 x Carter valves, I believe we should compare the pricing with replacing the Carter valves with CLA-VAL pit valves. PC&IT cannot be held liable for internal seal breakdowns of these valves until the pit valves has been refurbished, this is an ongoing issue, and these valves were due for refurbishment years ago. **Tender submitted. Tender awarded awaiting PO. PO received and valves ordered. Expected deliver date is end April 2025. Update: Ship has docked at Durban port. Pit valves on-site. Awaiting feedback from Sandile at Skytanking to commence project. No reply as on 28/05/25. So far Sandile has delayed the project with 3 weeks.**
- Painting on the concrete surface around the hydrant pit boxes and numbering is deteriorating and needs to be re-done. Previously ACSA surface maintenance took care of this, I am certain we can also put a team together to tackle this task. Please let me know if we are allowed to this instead of surface maintenance, if that is the case I can put costing together.
- Skytanking is still battling to keep the pit boxes clean and free of slops, I am afraid this will worsen significantly in the coming rain season. It seems they are short staffed; I will appreciate you communicating the issue with them, and for them supplying a resolve for the problems foreseen in the near future. **Ongoing issue, Skytanking cannot keep the pits clean and dry, we are called in to assist daily. I recommend ACSA invest in a**

**hydrant Pit cleaning truck as used by ST and appoint staff to clean the pit boxes every day.**

- Quotes for pit valve replacement, chamber refurbishment, PLC Upgrade, Golf cleaning, Golf plc replacement and paintwork has been issued again in January 2023. Awaiting PO/RFQ. **GOLF LOOP STILL CLOSED, CLEANING SHOULD ENSUE WHILE CONTRACTOR REFURBISHING CHAMBERS ARE WORKING IN VCD1.**

## **2 PREVENTATIVE MAINTENANCE**

UPS 6 monthly maintenance was completed in Jan 2025. Next service June 2025.

## **3 SPARES**

12 X AD Converters for TCS required. Jacques has sent quote.  
Quote for 100 lid seal to follow.

## **4 REPORTS**

### **i) Availability**

#### **(1) TCS**

The TCS System was not available due to the fibre outage and the AD Converters that needs to be replaced.

#### **(2) Level Monitoring**

There are 28 level monitoring chambers on the new Phoenix equipment.  
28/28 chambers are working, which equates to 100 % availability.

### **ii) Top 5 Failures**

#### **(1) TCS**

#### **(2) Level Monitoring**

None

#### **(3) Hydrant pit valves**

none

#### **(4) ESD system**

New sample for accidental prevention delivered to site on the 24<sup>th</sup> of Feb 2025.

## 5 TCS Reports

| Tightness Control System (TCS) Report |                      |               |            |          |
|---------------------------------------|----------------------|---------------|------------|----------|
| VCM1                                  | Description          | Communication | TCS Status | Comments |
| TT1                                   | Temperature Sensor 1 | x             | x          |          |
| PT1                                   | Pressure Sensor 1    | x             | x          |          |
| PT2                                   | Pressure Sensor 2    | x             | x          |          |
| Level H                               | Level Tuning Fork    | x             | √          |          |

| VCC3    | Description          | Communication | TCS Status | Comments |
|---------|----------------------|---------------|------------|----------|
| TT1     | Temperature Sensor 1 | x             | x          |          |
| PT1     | Pressure Sensor 1    | x             | x          |          |
| PT2     | Pressure Sensor 2    | x             | x          |          |
| Level H | Level Tuning Fork    | x             | x          |          |

| VCM3    | Description          | Communication | TCS Status | Comments |
|---------|----------------------|---------------|------------|----------|
| TT1     | Temperature Sensor 1 | X             | X          |          |
| PT1     | Pressure Sensor 1    | x             | x          |          |
| PT2     | Pressure Sensor 2    | x             | x          |          |
| Level H | Level Tuning Fork    | x             | x          |          |

| VCD9    | Description          | Communication | TCS Status | Comments |
|---------|----------------------|---------------|------------|----------|
| TT1     | Temperature Sensor 1 | X             | X          |          |
| PT1     | Pressure Sensor 1    | X             | x          |          |
| PT2     | Pressure Sensor 2    | X             | x          |          |
| Level H | Level Tuning Fork    | X             | x          |          |

| VCD1    | Description          | Communication | TCS Status | Comments |
|---------|----------------------|---------------|------------|----------|
| TT1     | Temperature Sensor 1 | x             | x          |          |
| PT1     | Pressure Sensor 1    | x             | √          |          |
| PT2     | Pressure Sensor 2    | x             | √          |          |
| Level H | Level Tuning Fork    | x             | √          |          |

| VCE1    | Description          | Communication | TCS Status | Comments |
|---------|----------------------|---------------|------------|----------|
| TT1     | Temperature Sensor 1 | x             | x          |          |
| PT1     | Pressure Sensor 1    | x             | x          |          |
| PT2     | Pressure Sensor 2    | x             | x          |          |
| Level H | Level Tuning Fork    | x             | x          |          |

## 6 Level Monitoring Report

| Level Monitoring Stations |              |          |
|---------------------------|--------------|----------|
| VCE2                      | SCADA Status | Comments |
| Comms Fail                | √            |          |
| Level Hi                  | √            |          |

| VCF1       | SCADA Status | Comments |
|------------|--------------|----------|
| Comms Fail | √            |          |
| Level Hi   | √            |          |

| VCD11      | SCADA Status | Comments |
|------------|--------------|----------|
| Comms Fail | √            |          |
| Level Hi   | √            |          |

| VCF2       | SCADA Status | Comments |
|------------|--------------|----------|
| Comms Fail | √            |          |
| Level Hi   | √            |          |

| VCD8       | SCADA Status | Comments |
|------------|--------------|----------|
| Comms Fail | √            |          |
| Level Hi   | √            |          |

| VCA4       | SCADA Status | Comments |
|------------|--------------|----------|
| Comms Fail | √            |          |
| Level Hi   | √            |          |

| VCA3       | SCADA Status | Comments |
|------------|--------------|----------|
| Comms Fail | √            |          |
| Level Hi   | √            |          |

| VCA2       | SCADA Status | Comments |
|------------|--------------|----------|
| Comms Fail | √            |          |
| Level Hi   | √            |          |

| VCB2       | SCADA Status | Comments |
|------------|--------------|----------|
| Comms Fail | √            |          |



|          |   |  |
|----------|---|--|
| Level Hi | √ |  |
|----------|---|--|

| VCB1       | SCADA Status | Comments |
|------------|--------------|----------|
| Comms Fail | √            |          |
| Level Hi   | √            |          |

| VCA5       | SCADA Status | Comments |
|------------|--------------|----------|
| Comms Fail | √            |          |
| Level Hi   | √            |          |

| VCC1       | SCADA Status | Comments |
|------------|--------------|----------|
| Comms Fail | √            |          |
| Level Hi   | √            |          |

| VCC2       | SCADA Status | Comments |
|------------|--------------|----------|
| Comms Fail | √            |          |
| Level Hi   | √            |          |

| VCC4       | SCADA Status | Comments |
|------------|--------------|----------|
| Comms Fail | √            |          |
| Level Hi   | √            |          |

| VCC5       | SCADA Status | Comments |
|------------|--------------|----------|
| Comms Fail | √            |          |
| Level Hi   | √            |          |

| VCA1       | SCADA Status | Comments |
|------------|--------------|----------|
| Comms Fail | √            |          |
| Level Hi   | √            |          |

| VCC6       | SCADA Status | Comments |
|------------|--------------|----------|
| Comms Fail | √            |          |
| Level Hi   | √            |          |

| VCE1       | SCADA Status | Comments |
|------------|--------------|----------|
| Comms Fail | √            |          |
| Level Hi   | √            |          |

| VCD2       | SCADA Status | Comments |
|------------|--------------|----------|
| Comms Fail | √            |          |
| Level Hi   | √            |          |

| VCD3       | SCADA Status | Comments |
|------------|--------------|----------|
| Comms Fail | √            |          |
| Level Hi   | √            |          |

| VCD5       | SCADA Status | Comments |
|------------|--------------|----------|
| Comms Fail | √            |          |
| Level Hi   | √            |          |

| VCD6       | SCADA Status | Comments |
|------------|--------------|----------|
| Comms Fail | √            |          |
| Level Hi   | √            |          |

| VCD7       | SCADA Status | Comments |
|------------|--------------|----------|
| Comms Fail | √            |          |
| Level Hi   | √            |          |

| VCD10      | SCADA Status | Comments |
|------------|--------------|----------|
| Comms Fail | √            |          |
| Level Hi   | √            |          |

| VCD4       | SCADA Status | Comments |
|------------|--------------|----------|
| Comms Fail | √            |          |
| Level Hi   | √            |          |

## 7 UPS

| UPS |
|-----|
|-----|

| Depot         | SCADA Status | Comments |
|---------------|--------------|----------|
| Mains Failure | √            |          |
| Comms Fail    | √            |          |
| Status        | √            |          |

| MainSat       | SCADA Status | Comments |
|---------------|--------------|----------|
| Mains Failure | √            |          |
| Comms Fail    | √            |          |
| Status        | √            |          |

| CharlieSat    | SCADA Status | Comments                                          |
|---------------|--------------|---------------------------------------------------|
| Mains Failure | x            | Comms currently down, ribbon cable to be replaced |
| Comms Fail    | x            |                                                   |
| Status        | x            |                                                   |

| PierSat       | SCADA Status | Comments |
|---------------|--------------|----------|
| Mains Failure | √            |          |
| Comms Fail    | √            |          |
| Status        | √            |          |

| EchoSat       | SCADA Status | Comments |
|---------------|--------------|----------|
| Mains Failure | √            |          |
| Comms Fail    | √            |          |
| Status        | √            |          |

| SATF          | SCADA Status | Comments |
|---------------|--------------|----------|
| Mains Failure | √            |          |
| Comms Fail    | √            |          |
| Status        | √            |          |

## 8 Hydrocarbon

| Hydrocarbon |        |          |
|-------------|--------|----------|
| Golf        | Status | Comments |
| Datalogger  | √      |          |
| Comms Fail  | √      |          |
| Status      | √      |          |

| SW04          | Status | Comments                     |
|---------------|--------|------------------------------|
| Mains Failure | √      |                              |
| Comms Fail    | √      |                              |
| Status        | x      | Awaiting Xenon bulb from USA |

| SW07          | Status | Comments |
|---------------|--------|----------|
| Mains Failure | √      |          |
| Comms Fail    | √      |          |
| Status        | √      |          |

## 9 Valve chambers and Actuators

| Valve No     | Check Gearbox                                             | Check Actuator | Check Condition of valve | Check all bolts are tight | Check any fuel leaks | Check leaks on body bleed valve | Check leaks on seats | Chambers clean |
|--------------|-----------------------------------------------------------|----------------|--------------------------|---------------------------|----------------------|---------------------------------|----------------------|----------------|
| VCM3         | OK                                                        | OK             | OK                       | OK                        | OK                   | OK                              | OK                   | OK             |
| VCC6         | OK                                                        | N/A            | OK                       | OK                        | OK                   | OK                              | OK                   | OK             |
| VCC5         | OK                                                        | OK             | OK                       | OK                        | OK                   | OK                              | OK                   | OK             |
| VCC4         | OK                                                        | N/A            | OK                       | OK                        | OK                   | OK                              | OK                   | OK             |
| VCC3         | OK                                                        | OK             | OK                       | OK                        | OK                   | OK                              | OK                   | OK             |
| VCC2         | OK                                                        | N/A            | OK                       | OK                        | OK                   | OK                              | OK                   | OK             |
| VCC1         | OK                                                        | N/A            | OK                       | OK                        | OK                   | OK                              | OK                   | OK             |
| VCA5 VADI A1 | OK                                                        | OK             | OK                       | X Wrong gaskets           | OK                   | OK                              | OK                   | OK             |
| VCA5 VAD3 C1 | OK                                                        | OK             | OK                       | X Wrong Gaskets           | OK                   | OK                              | OK                   | OK             |
| VCA4         | OK                                                        | N/A            | OK                       | OK                        | OK                   | OK                              | OK                   | OK             |
| VCA3         | OK                                                        | N/A            | OK                       | OK                        | OK                   | OK                              | OK                   | OK             |
| VCA0         | No valves in place, straight through pipe.                |                |                          |                           |                      |                                 |                      |                |
| VCA2         | OK                                                        | OK             | OK                       | OK                        | OK                   | OK                              | OK                   | OK             |
| VCA1         | OK                                                        | OK             | OK                       | OK                        | OK                   | OK                              | OK                   | OK             |
| VCM2         | Pipeline to depot locked-out and drained. Blanked in VCM2 |                |                          |                           |                      |                                 |                      |                |
| VCM1         | OK                                                        | OK             | OK                       | OK                        | OK                   | OK                              | OK                   | OK             |
| VCB2         | OK                                                        | N/A            | OK                       | OK                        | OK                   | OK                              | OK                   | OK             |
| VCB1         | OK                                                        | N/A            | OK                       | OK                        | OK                   | OK                              | OK                   | OK             |
| VCB0         | No valves in place, straight through pipe.                |                |                          |                           |                      |                                 |                      |                |
| VCE3(1 04)   | OK                                                        | OK             | OK                       | OK                        | OK                   | OK                              | OK                   | OK             |
| VCE3(1 05)   | OK                                                        | OK             | OK                       | OK                        | OK                   | OK                              | OK                   | OK             |
| VCE2         | OK                                                        | N/A            | OK                       | OK                        | OK                   | OK                              | OK                   | OK             |
| VCE1(1 06)   | OK                                                        | OK             | OK                       | OK                        | OK                   | OK                              | OK                   | OK             |
| VCE1(1 07)   | OK                                                        | OK             | OK                       | OK                        | OK                   | OK                              | OK                   | OK             |
| VCF2         | OK                                                        | N/A            | OK                       | OK                        | OK                   | OK                              | OK                   | OK             |

|             |                                            |     |    |    |    |    |    |     |
|-------------|--------------------------------------------|-----|----|----|----|----|----|-----|
| VCF1        | OK                                         | OK  | OK | OK | OK | OK | OK | OK  |
| VCD0        | No valves in place, straight through pipe. |     |    |    |    |    |    |     |
| VCD11       | OK                                         | N/A | OK | OK | OK | OK | OK | OK  |
| VCD10       | OK                                         | N/A | OK | OK | OK | OK | OK | OK  |
| VCD9        | OK                                         | OK  | OK | OK | OK | OK | OK | OK  |
| VCD8        | OK                                         | OK  | OK | OK | OK | OK | OK | OK  |
| VCD7        | OK                                         | N/A | OK | OK | OK | OK | OK | OK  |
| VCD6        | X                                          | OK  | X  | OK | OK | OK | OK | OK  |
| VCD5        | OK                                         | N/A | OK | OK | OK | OK | OK | OK  |
| VCD4        | OK                                         | N/A | OK | OK | OK | OK | OK | OK  |
| VCD3        | OK                                         | N/A | OK | OK | OK | OK | OK | OK  |
| VCD2        | OK                                         | N/A | OK | OK | OK | OK | OK | OK  |
| VCD1        | OK                                         | OK  | OK | OK | OK | OK | OK | OK  |
| VCD1<br>AO1 | LOCKED<br>OUT                              |     |    |    |    |    |    | N/A |
| VCD1<br>AO2 | LOCKED<br>OUT                              |     |    |    |    |    |    | N/A |
|             |                                            |     |    |    |    |    |    |     |
|             |                                            |     |    |    |    |    |    |     |

## 10 ESD Testing

| ITEM | TEST                                                                  | Zone | Comply (✓) /<br>Non-comply (x)           | SIGNED |
|------|-----------------------------------------------------------------------|------|------------------------------------------|--------|
| 1    | <b>Place Delta Satellite Station on override</b>                      |      |                                          |        |
|      | Check for noisy relays                                                |      | ✓                                        |        |
|      | Clean out control panels                                              |      | ✓                                        |        |
|      | Check zone bypass isolators                                           |      | ✓                                        |        |
|      | Check that no MCB's are tripped                                       |      | ✓                                        |        |
|      | Check for any visible damaged connections,<br>burned out relays, etc. |      | ✓                                        |        |
|      | <b>Place Echo Satellite Station on override</b>                       |      | No Override<br>function on VCE3<br>- 105 |        |
|      | Check for noisy relays                                                |      | ✓                                        |        |
|      | Clean out control panels                                              |      | ✓                                        |        |
|      | Check zone bypass isolators                                           |      | ✓                                        |        |
|      | Check that no MCB's are tripped                                       |      | ✓                                        |        |
|      | Check for any visible damaged connections,<br>burned out relays, etc. |      | ✓                                        |        |

|             |                                                                          |             |                                        |               |
|-------------|--------------------------------------------------------------------------|-------------|----------------------------------------|---------------|
|             | <b>Place Main Satellite Station on override</b>                          |             |                                        |               |
|             | Check for noisy relays                                                   |             | √                                      |               |
|             | Clean out control panels                                                 |             | √                                      |               |
|             | Check zone bypass isolators                                              |             | √                                      |               |
|             | Check that no MCB's are tripped                                          |             | √                                      |               |
|             | Check for any visible damaged connections, burned out relays, etc.       |             | √                                      |               |
|             | <b>Place Charlie Satellite Station on override (Pier)</b>                |             |                                        |               |
|             | Check for noisy relays                                                   |             | √                                      |               |
|             | Clean out control panels                                                 |             | √                                      |               |
|             | Check zone bypass isolators                                              |             | √                                      |               |
|             | Check that no MCB's are tripped                                          |             | √                                      |               |
|             | Check for any visible damaged connections, burned out relays, etc.       |             | √                                      |               |
|             | <b>Place Charlie Satellite Station at parking bay no. 18 on override</b> |             |                                        |               |
|             | Check for noisy relays                                                   |             | √                                      |               |
|             | Clean out control panels                                                 |             | √                                      |               |
|             | Check zone bypass isolators                                              |             | √                                      |               |
|             | Check that no MCB's are tripped                                          |             | √                                      |               |
|             | Check for any visible damaged connections, burned out relays, etc.       |             | √                                      |               |
|             | <b>Place Fuel Depot on override</b>                                      |             |                                        |               |
|             | Check for noisy relays                                                   |             | √                                      |               |
|             | Clean out control panels                                                 |             | √                                      |               |
|             | Check zone bypass isolators                                              |             | √                                      |               |
|             | Check that no MCB's are tripped                                          |             | √                                      |               |
|             | Check for any visible damaged connections, burned out relays, etc.       |             | √                                      |               |
| <b>ITEM</b> | <b>TEST</b>                                                              | <b>Zone</b> | <b>Comply ( √ ) / Non-comply ( x )</b> | <b>SIGNED</b> |
|             | <b>Select Golf Apron (LOCKED OUT)</b>                                    |             |                                        |               |
|             | Confirm as above for ESD EDG 1                                           |             | x                                      |               |
|             | Confirm as above for ESD EDG 2                                           |             | x                                      |               |
|             | Confirm as above for ESD EDG 3                                           |             | x                                      |               |
|             | Confirm as above for ESD EDG 4                                           |             | x                                      |               |
|             | Confirm as above for ESD EDG 5                                           |             | x                                      |               |
|             | Confirm as above for ESD EDG 6                                           |             | x                                      |               |
|             | Confirm as above for ESD EDG 7                                           |             | x                                      |               |

|          |                                                                             |              |               |  |
|----------|-----------------------------------------------------------------------------|--------------|---------------|--|
| <b>2</b> | <b>Check Valve Chamber VCD1 VALVE 1</b>                                     |              | <b>CLOSED</b> |  |
|          | Check condition of o-rings around the lids                                  |              | √             |  |
|          | Check all sealant at the valve chambers joints and at the pipe penetrations |              | √             |  |
|          | Maintenance override functioning                                            |              | X             |  |
|          | Light illuminated                                                           |              | X             |  |
|          | Confirm open & Green light illuminated on Scada                             |              | X             |  |
|          | Activate Valve to "close" on Scada                                          |              | X             |  |
|          | Confirm Valve closing at Valve chamber                                      |              | X             |  |
|          | Confirm moving & Blue light flashing on Scada                               |              | X             |  |
|          | Confirm Valve "closed" at Valve chamber                                     |              | X             |  |
|          | Confirm closed and Red light flashes on Scada                               |              | X             |  |
|          | Activate Valve to "open" on Scada                                           |              | X             |  |
|          | Confirm Valve opening at Valve chamber                                      |              | X             |  |
|          | Confirm moving and Blue light flashing on Scada                             |              | X             |  |
|          | Confirm Valve "open" at Valve chamber                                       |              | X             |  |
|          | Confirm "open" and Green light illuminated on Scada                         |              | X             |  |
|          | Manual override functioning (flashes)                                       |              | X             |  |
| <b>3</b> | <b>Check Valve Chamber VCD1 VALVE 2</b>                                     |              | <b>CLOSED</b> |  |
|          | Check condition of o-rings around the lids                                  |              | √             |  |
|          | Check all sealant at the valve chambers joints and at the pipe penetrations |              | √             |  |
|          | Maintenance override functioning                                            |              | X             |  |
|          | Light illuminated                                                           |              | X             |  |
|          | Confirm open & Green light illuminated on Scada                             |              | X             |  |
|          | Activate Valve to "close" on Scada                                          |              | X             |  |
|          | Confirm Valve closing at Valve chamber                                      |              | X             |  |
|          | Confirm moving & Blue light flashing on Scada                               |              | X             |  |
|          | Confirm Valve "closed" at Valve chamber                                     |              | X             |  |
|          | Confirm closed and Red light flashes on Scada                               |              | X             |  |
|          | Activate Valve to "open" on Scada                                           |              | X             |  |
|          | Confirm Valve opening at Valve chamber                                      |              | X             |  |
|          | Confirm moving and Blue light flashing on Scada                             |              | X             |  |
|          | Confirm Valve "open" at Valve chamber                                       |              | X             |  |
|          | Confirm "open" and Green light illuminated on Scada                         |              | X             |  |
|          | Manual override functioning (flashes)                                       |              | X             |  |
|          | <b>Select Delta Apron</b>                                                   |              |               |  |
| <b>4</b> | <b>Confirm ESD function for zone</b>                                        | <b>ED1-3</b> |               |  |
|          | Confirm as above for ESD ED1                                                |              | √             |  |



|           |                                                                             |                |                    |  |
|-----------|-----------------------------------------------------------------------------|----------------|--------------------|--|
|           | Confirm as above for ESD ED2                                                |                | √                  |  |
|           | Confirm as above for ESD ED3                                                |                | √                  |  |
| <b>5</b>  | <b>Confirm ESD function for zone</b>                                        | <b>ED4-6</b>   |                    |  |
|           | Confirm as above for ESD ED4                                                |                | √                  |  |
|           | Confirm as above for ESD ED5                                                |                | √                  |  |
|           | Confirm as above for ESD ED6                                                |                | √                  |  |
| <b>6</b>  | <b>Confirm ESD function for zone</b>                                        | <b>ED7-8</b>   |                    |  |
|           | Confirm as above for ESD ED7                                                |                | √                  |  |
|           | Confirm as above for ESD ED8                                                |                | √                  |  |
| <b>7</b>  | <b>Confirm ESD function for zone</b>                                        | <b>ED9-11</b>  |                    |  |
|           | Confirm as above for ESD ED9                                                |                | √                  |  |
|           | Confirm as above for ESD ED10                                               |                | √                  |  |
|           | Confirm as above for ESD ED11                                               |                | √                  |  |
| <b>8</b>  | <b>Confirm ESD function for zone</b>                                        | <b>ED12-13</b> |                    |  |
|           | Confirm as above for ESD ED12                                               |                | √                  |  |
| <b>9</b>  | <b>Check Valve Chamber VCD6 status (VCD6 – VA01)</b>                        |                | <b>VALVE STUCK</b> |  |
|           | Check condition of o-rings around the lids                                  |                | √                  |  |
|           | Check all sealant at the valve chambers joints and at the pipe penetrations |                | √                  |  |
|           | Maintenance override functioning                                            |                | X                  |  |
|           | Light illuminated                                                           |                | X                  |  |
|           | Confirm open & Green light illuminated on Scada                             |                | X                  |  |
|           | Activate Valve to "close" on Scada                                          |                | X                  |  |
|           | Confirm Valve closing at Valve chamber                                      |                | X                  |  |
|           | Confirm moving & Blue light flashing on Scada                               |                | X                  |  |
|           | Confirm Valve "closed" at Valve chamber                                     |                | X                  |  |
|           | Confirm closed and Red light flashes on Scada                               |                | X                  |  |
|           | Activate Valve to "open" on Scada                                           |                | X                  |  |
|           | Confirm Valve opening at Valve chamber                                      |                | X                  |  |
|           | Confirm moving and Blue light flashing on Scada                             |                | X                  |  |
|           | Confirm Valve "open" at Valve chamber                                       |                | X                  |  |
|           | Confirm "open" and Green light illuminated on Scada                         |                | X                  |  |
|           | Manual override functioning (flashes)                                       |                | X                  |  |
|           | Confirm as above for ESD ED13                                               |                | √                  |  |
| <b>10</b> | <b>Confirm ESD function for zone</b>                                        | <b>ED14-16</b> |                    |  |
|           | Confirm as above for ESD ED14                                               |                | √                  |  |
|           | Confirm as above for ESD ED15                                               |                | √                  |  |

|             |                                                                             |             |                                    |               |
|-------------|-----------------------------------------------------------------------------|-------------|------------------------------------|---------------|
|             | Confirm as above for ESD ED16                                               |             | √                                  |               |
| <b>11</b>   | <b>Confirm ESD function for zone</b>                                        | <b>ED17</b> |                                    |               |
|             | Confirm as above for ESD ED17                                               |             | √                                  |               |
|             | <b>Select Delta Apron</b>                                                   |             |                                    |               |
| <b>12</b>   | <b>Check Valve Chamber VCD8 valve 109</b>                                   |             |                                    |               |
|             | Check condition of o-rings around the lids                                  |             | √                                  |               |
|             | Check all sealant at the valve chambers joints and at the pipe penetrations |             | √                                  |               |
|             | Maintenance override functioning                                            |             | √                                  |               |
|             | Light illuminated                                                           |             | √                                  |               |
|             | Confirm open & Green light illuminated on Scada                             |             | √                                  |               |
|             | Activate Valve to "close" on Scada                                          |             | √                                  |               |
| <b>ITEM</b> | <b>TEST</b>                                                                 | <b>Zone</b> | <b>Comply (√) / Non-comply (x)</b> | <b>SIGNED</b> |
|             | Confirm Valve closing at Valve chamber                                      |             | √                                  |               |
|             | Confirm moving & Blue light flashing on Scada                               |             | √                                  |               |
|             | Confirm Valve "closed" at Valve chamber                                     |             | √                                  |               |
|             | Confirm closed and Red light flashes on Scada                               |             | √                                  |               |
|             | Activate Valve to "open" on Scada                                           |             | √                                  |               |
|             | Confirm Valve opening at Valve chamber                                      |             | √                                  |               |
|             | Confirm moving and Blue light flashing on Scada                             |             | √                                  |               |
|             | Confirm Valve "open" at Valve chamber                                       |             | √                                  |               |
|             | Confirm "open" and Green light illuminated on Scada                         |             | √                                  |               |
|             | Manual override functioning (flashes)                                       |             | √                                  |               |
|             | <b>Select Delta Apron</b>                                                   |             |                                    |               |
| <b>13</b>   | <b>Confirm ESD function for zone</b>                                        | <b>ED18</b> |                                    |               |
|             | Confirm as above for ESD ED18                                               |             | √                                  |               |
| <b>14</b>   | <b>Check Valve Chamber VCD9 (VA03) status</b>                               |             | √                                  |               |
|             | Check condition of o-rings around the lids                                  |             | √                                  |               |
|             | Check all sealant at the valve chambers joints and at the pipe penetrations |             | √                                  |               |
|             | Maintenance override functioning                                            |             | √                                  |               |
|             | Light illuminated                                                           |             | √                                  |               |
|             | Confirm open & Green light illuminated on Scada                             |             | √                                  |               |
|             | Activate Valve to "close" on Scada                                          |             | √                                  |               |
|             | Confirm Valve closing at Valve chamber                                      |             | √                                  |               |
|             | Confirm moving & Blue light flashing on Scada                               |             | √                                  |               |
|             | Confirm Valve "closed" at Valve chamber                                     |             | √                                  |               |

|             |                                                                             |             |                                    |               |
|-------------|-----------------------------------------------------------------------------|-------------|------------------------------------|---------------|
|             | Confirm closed and Red light flashes on Scada                               |             | √                                  |               |
|             | Activate Valve to "open" on Scada                                           |             | √                                  |               |
|             | Confirm Valve opening at Valve chamber                                      |             | √                                  |               |
|             | Confirm moving and Blue light flashing on Scada                             |             | √                                  |               |
|             | Confirm Valve "open" at Valve chamber                                       |             | √                                  |               |
|             | Confirm "open" and Green light illuminated on Scada                         |             | √                                  |               |
|             | Manual override functioning (flashes)                                       |             | √                                  |               |
| <b>15</b>   | <b>Confirm ESD function for zone</b>                                        | <b>ED19</b> |                                    |               |
|             | Confirm as above for ESD ED19                                               |             | √                                  |               |
| <b>16</b>   | <b>Confirm ESD function for zone</b>                                        | <b>ED20</b> |                                    |               |
|             | Confirm as above for ESD ED20                                               |             | √                                  |               |
| <b>17</b>   | <b>Confirm ESD function for zone</b>                                        | <b>ED21</b> |                                    |               |
|             | Confirm as above for ESD ED21                                               |             | √                                  |               |
|             | <b>Select Echo Apron</b>                                                    |             |                                    |               |
| <b>18</b>   | <b>Check Valve Chamber VCF1 Valve 108</b>                                   |             |                                    |               |
|             | Check condition of o-rings around the lids                                  |             | √                                  |               |
|             | Check all sealant at the valve chambers joints and at the pipe penetrations |             | √                                  |               |
|             | Maintenance override functioning                                            |             | √                                  |               |
|             | Light illuminated                                                           |             | √                                  |               |
|             | Confirm open & Green light illuminated on Scada                             |             | √                                  |               |
|             | Activate Valve to "close" on Scada                                          |             | √                                  |               |
|             | Confirm Valve closing at Valve chamber                                      |             | √                                  |               |
|             | Confirm moving & Blue light flashing on Scada                               |             | √                                  |               |
|             | Confirm Valve "closed" at Valve chamber                                     |             | √                                  |               |
|             | Confirm closed and Red light flashes on Scada                               |             | √                                  |               |
|             | Activate Valve to "open" on Scada                                           |             | √                                  |               |
| <b>ITEM</b> | <b>TEST</b>                                                                 | <b>Zone</b> | <b>Comply (√) / Non-comply (x)</b> | <b>SIGNED</b> |
|             | Confirm Valve opening at Valve chamber                                      |             | √                                  |               |
|             | Confirm moving and Blue light flashing on Scada                             |             | √                                  |               |
|             | Confirm Valve "open" at Valve chamber                                       |             | √                                  |               |
|             | Confirm "open" and Green light illuminated on Scada                         |             | √                                  |               |
|             | Manual override functioning (flashes)                                       |             | √                                  |               |
| <b>19</b>   | <b>Confirm ESD function for zone</b>                                        | <b>F1</b>   | √                                  |               |
| <b>20</b>   | <b>Confirm ESD function for zone</b>                                        | <b>F3</b>   | √                                  |               |
| <b>21</b>   | <b>Confirm ESD function for zone</b>                                        | <b>F6/5</b> | √                                  |               |

|           |                                                                             |  |   |  |
|-----------|-----------------------------------------------------------------------------|--|---|--|
| <b>22</b> | <b>Check Valve chamber VCE1 Valve 106</b>                                   |  |   |  |
|           | Check condition of o-rings around the lids                                  |  | √ |  |
|           | Check all sealant at the valve chambers joints and at the pipe penetrations |  | √ |  |
|           | Maintenance override functioning                                            |  | √ |  |
|           | Light illuminated                                                           |  | √ |  |
|           | Confirm open & Green light illuminated on Scada                             |  | √ |  |
|           | Activate Valve to "close" on Scada                                          |  | √ |  |
|           | Confirm Valve closing at Valve chamber                                      |  | √ |  |
|           | Confirm moving & Blue light flashing on Scada                               |  | √ |  |
|           | Confirm Valve "closed" at Valve chamber                                     |  | √ |  |
|           | Confirm closed and Red light flashing on Scada                              |  | √ |  |
|           | Activate Valve to "open" on Scada                                           |  | √ |  |
|           | Confirm Valve opening at Valve chamber                                      |  | √ |  |
|           | Confirm moving and Blue light flashing on Scada                             |  | √ |  |
|           | Confirm Valve "open" at Valve chamber                                       |  | √ |  |
|           | Confirm "open" and Green light illuminated on Scada                         |  | √ |  |
|           | Manual override functioning (flashes)                                       |  | √ |  |
| <b>23</b> | <b>Check Valve chamber VCE1 valve 107</b>                                   |  |   |  |
|           | Check condition of o-rings around the lids                                  |  | √ |  |
|           | Check all sealant at the valve chambers joints and at the pipe penetrations |  | √ |  |
|           | Maintenance override functioning                                            |  | √ |  |
|           | Light illuminated                                                           |  | √ |  |
|           | Confirm open & Green light illuminated on Scada                             |  | √ |  |
|           | Activate Valve to "close" on Scada                                          |  | √ |  |
|           | Confirm Valve closing at Valve chamber                                      |  | √ |  |
|           | Confirm moving & Blue light flashing on Scada                               |  | √ |  |
|           | Confirm Valve "closed" at Valve chamber                                     |  | √ |  |
|           | Confirm closed and Red light flashes on Scada                               |  | √ |  |
|           | Activate Valve to "open" on Scada                                           |  | √ |  |
|           | Confirm Valve opening at Valve chamber                                      |  | √ |  |
|           | Confirm moving and Blue light flashing on Scada                             |  | √ |  |
|           | Confirm Valve "open" at Valve chamber                                       |  | √ |  |
|           | Confirm "open" and Green light illuminated on Scada                         |  | √ |  |
|           | Manual override functioning (flashes)                                       |  | √ |  |
| <b>24</b> | <b>Confirm ESD function for E12 (on site 5E)</b>                            |  | √ |  |
|           | <b>Confirm ESD function for E9 (on site 4E)</b>                             |  | √ |  |

|             | <b>Confirm ESD function for E6 (on site 3E)</b>                             |             | √                                  |               |
|-------------|-----------------------------------------------------------------------------|-------------|------------------------------------|---------------|
|             | <b>Confirm ESD function for E3 (on site 2E)</b>                             |             | √                                  |               |
| <b>25</b>   | <b>Check Valve chamber VCE3 Valve 104</b>                                   |             |                                    |               |
|             | Check condition of o-rings around the lids                                  |             | √                                  |               |
| <b>ITEM</b> | <b>TEST</b>                                                                 | <b>Zone</b> | <b>Comply (√) / Non-comply (x)</b> | <b>SIGNED</b> |
|             | Check all sealant at the valve chambers joints and at the pipe penetrations |             | √                                  |               |
|             | Maintenance override functioning                                            |             | √                                  |               |
|             | Light illuminated                                                           |             | √                                  |               |
|             | Confirm open & Green light illuminated on Scada                             |             | √                                  |               |
|             | Activate Valve to "close" on Scada                                          |             | √                                  |               |
|             | Confirm Valve closing at Valve chamber                                      |             | √                                  |               |
|             | Confirm moving & Blue light flashing on Scada                               |             | √                                  |               |
|             | Confirm Valve "closed" at Valve chamber                                     |             | √                                  |               |
|             | Confirm closed and Red light illuminated on Scada                           |             | √                                  |               |
|             | Activate Valve to "open" on Scada                                           |             | √                                  |               |
|             | Confirm Valve opening at Valve chamber                                      |             | √                                  |               |
|             | Confirm moving and Blue light flashing on Scada                             |             | √                                  |               |
|             | Confirm Valve "open" at Valve chamber                                       |             | √                                  |               |
|             | Confirm "open" and Green light illuminated on Scada                         |             | √                                  |               |
|             | Manual override functioning (flashes)                                       |             | √                                  |               |
| <b>26</b>   | <b>Check Valve chamber VCE3 Valve 105</b>                                   |             |                                    |               |
|             | Check condition of o-rings around the lids                                  |             | √                                  |               |
|             | Check all sealant at the valve chambers joints and at the pipe penetrations |             | √                                  |               |
|             | Maintenance override functioning                                            |             | √                                  |               |
|             | Light illuminated                                                           |             | √                                  |               |
|             | Confirm open & Green light illuminated on Scada                             |             | √                                  |               |
|             | Activate Valve to "close" on Scada                                          |             | √                                  |               |
|             | Confirm Valve closing at Valve chamber                                      |             | √                                  |               |
|             | Confirm moving & Blue light flashing on Scada                               |             | √                                  |               |
|             | Confirm Valve "closed" at Valve chamber                                     |             | √                                  |               |
|             | Confirm closed and Red light illuminated on Scada                           |             | √                                  |               |
|             | Activate Valve to "open" on Mimic                                           |             | √                                  |               |
|             | Confirm Valve opening at Valve chamber                                      |             | √                                  |               |
|             | Confirm moving and Blue light flashing on Scada                             |             | √                                  |               |
|             | Confirm Valve "open" at Valve chamber                                       |             | √                                  |               |

|             |                                                                             |             |                                    |               |
|-------------|-----------------------------------------------------------------------------|-------------|------------------------------------|---------------|
|             | Confirm "open" and Green light illuminated on Scada                         |             | √                                  |               |
|             | Manual override functioning (flashes)                                       |             | √                                  |               |
| <b>27</b>   | <b>Confirm ESD function for E1 (on site 1E)</b>                             | <b>E1</b>   | √                                  |               |
|             | <b>Confirm ESD function for A1-R</b>                                        | <b>A1-R</b> | √                                  |               |
|             | <b>Select Alpha Apron – VCA1 – 103 &gt;&gt;</b>                             |             |                                    |               |
| <b>28</b>   | <b>Check Valve chamber VCA1 Valve 103</b>                                   |             |                                    |               |
|             | Check condition of o-rings around the lids                                  |             | √                                  |               |
|             | Check all sealant at the valve chambers joints and at the pipe penetrations |             | √                                  |               |
|             | Maintenance override functioning                                            |             | √                                  |               |
|             | Light illuminated                                                           |             | √                                  |               |
|             | Confirm open & Green light illuminated on Scada                             |             | √                                  |               |
|             | Activate Valve to "close" on Scada                                          |             | √                                  |               |
|             | Confirm Valve closing at Valve chamber                                      |             | √                                  |               |
|             | Confirm moving & Blue light flashing on Scada                               |             | √                                  |               |
|             | Confirm Valve "closed" at Valve chamber                                     |             | √                                  |               |
|             | Confirm closed and Red light flashes on Scada                               |             | √                                  |               |
|             | Activate Valve to "open" on Scada                                           |             | √                                  |               |
| <b>ITEM</b> | <b>TEST</b>                                                                 | <b>Zone</b> | <b>Comply (√) / Non-comply (x)</b> | <b>SIGNED</b> |
|             | Confirm Valve opening at Valve chamber                                      |             | √                                  |               |
|             | Confirm moving and Blue light flashing on Scada                             |             | √                                  |               |
|             | Confirm Valve "open" at Valve chamber                                       |             | √                                  |               |
|             | Confirm "open" and Green light illuminated on Scada                         |             | √                                  |               |
|             | Manual override functioning (flashes)                                       |             | √                                  |               |
| <b>29</b>   | <b>Confirm ESD function for A1</b>                                          | <b>A1</b>   | √                                  |               |
| <b>30</b>   | <b>Confirm ESD function for A2</b>                                          | <b>A2</b>   | √                                  |               |
| <b>31</b>   | <b>Confirm ESD function for A3</b>                                          | <b>A3</b>   | √                                  |               |
| <b>32</b>   | <b>Check Valve chamber VCA 2 – 1 Valve 101</b>                              |             | √                                  |               |
|             | Check condition of o-rings around the lids                                  |             | √                                  |               |
|             | Check all sealant at the valve chambers joints and at the pipe penetrations |             | √                                  |               |
|             | Maintenance override functioning                                            |             | √                                  |               |
|             | Light illuminated                                                           |             | √                                  |               |
|             | Confirm open & Green light illuminated on Scada                             |             | √                                  |               |
|             | Activate Valve to "close" on Scada                                          |             | √                                  |               |
|             | Confirm Valve closing at Valve chamber                                      |             | √                                  |               |

|                  |                                                                             |             |                                            |               |
|------------------|-----------------------------------------------------------------------------|-------------|--------------------------------------------|---------------|
|                  | Confirm moving & Blue light flashing on Scada                               |             | √                                          |               |
|                  | Confirm Valve "closed" at Valve chamber                                     |             | √                                          |               |
|                  | Confirm closed and Red light flashes on Scada                               |             | √                                          |               |
|                  | Activate Valve to "open" on Scada                                           |             | √                                          |               |
|                  | Confirm Valve opening at Valve chamber                                      |             | √                                          |               |
|                  | Confirm moving and Blue light flashing on Scada                             |             | √                                          |               |
|                  | Confirm Valve "open" at Valve chamber                                       |             | √                                          |               |
|                  | Confirm "open" and Green light illuminated on Scada                         |             | √                                          |               |
|                  | Manual override functioning (flashes)                                       |             | √                                          |               |
|                  | <b>Select Alpha Apron</b>                                                   |             |                                            |               |
|                  |                                                                             |             |                                            |               |
| <b>33</b>        | <b>Confirm ESD function for A4</b>                                          | <b>A4</b>   | √                                          |               |
| <b>34</b>        | <b>Confirm ESD function for A5</b>                                          | <b>A5</b>   | √                                          |               |
| <b>35</b>        | <b>Confirm ESD function for A6</b>                                          | <b>A6</b>   | √                                          |               |
| <b>36</b>        | <b>Confirm ESD function for A7</b>                                          | <b>A7</b>   | √                                          |               |
| <b>37</b>        | <b>Confirm ESD function for A8</b>                                          | <b>A8</b>   | √                                          |               |
| <b>38</b>        | <b>Confirm ESD function for A9</b>                                          | <b>A9</b>   | √                                          |               |
| <b>39</b>        | <b>Confirm ESD function for A10</b>                                         | <b>A10</b>  | √                                          |               |
| <b>40</b>        | <b>Confirm ESD function for A11</b>                                         | <b>A11</b>  | √                                          |               |
| <b>41</b>        | <b>Confirm ESD function for A12</b>                                         | <b>A12</b>  | √                                          |               |
| <b>42</b>        | <b>Confirm ESD function for A13</b>                                         | <b>A13</b>  | √                                          |               |
| <b>43</b>        | <b>Check Valve chamber VCA 5 (A13/ALPHA)</b>                                |             | √                                          |               |
|                  | Check condition of o-rings around the lids                                  |             | √                                          |               |
|                  | Check all sealant at the valve chambers joints and at the pipe penetrations |             | √                                          |               |
|                  | Maintenance override functioning                                            |             | √                                          |               |
|                  | Light illuminated                                                           |             | √                                          |               |
|                  | Confirm open & Green light illuminated on Scada                             |             | √                                          |               |
|                  | Activate Valve to "close" on Scada                                          |             | √                                          |               |
|                  | Confirm Valve closing at Valve chamber                                      |             | √                                          |               |
|                  | Confirm moving & Blue light flashing on Scada                               |             | √                                          |               |
| <b>IT<br/>EM</b> | <b>TEST</b>                                                                 | <b>Zone</b> | <b>Comply (√) /<br/>Non-comply<br/>(x)</b> | <b>SIGNED</b> |
|                  | Confirm Valve "closed" at Valve chamber                                     |             | √                                          |               |
|                  | Confirm closed and Red light flashes on Scada                               |             | √                                          |               |
|                  | Activate Valve to "open" on Scada                                           |             | √                                          |               |
|                  | Confirm Valve opening at Valve chamber                                      |             | √                                          |               |



|           |                                                                             |  |   |  |
|-----------|-----------------------------------------------------------------------------|--|---|--|
|           | Confirm moving and Blue light flashing on Scada                             |  | √ |  |
|           | Confirm Valve "open" at Valve chamber                                       |  | √ |  |
|           | Confirm "open" and Green light illuminated on Scada                         |  | √ |  |
|           | Manual override functioning (flashes)                                       |  | √ |  |
|           | <b>Select Charlie Apron</b>                                                 |  |   |  |
| <b>44</b> | <b>Check Valve chamber VCA5 (C1 / CHARLIE)</b>                              |  |   |  |
|           | Check condition of o-rings around the lids                                  |  | √ |  |
|           | Check all sealant at the valve chambers joints and at the pipe penetrations |  | √ |  |
|           | Maintenance override functioning                                            |  | √ |  |
|           | Light illuminated                                                           |  | √ |  |
|           | Confirm open & Green light illuminated on Scada                             |  | √ |  |
|           | Activate Valve to "close" on Scada                                          |  | √ |  |
|           | Confirm Valve closing at Valve chamber                                      |  | √ |  |
|           | Confirm moving & Blue light flashing on Scada                               |  | √ |  |
|           | Confirm Valve "closed" at Valve chamber                                     |  | √ |  |
|           | Confirm closed and Red light flashes on Scada                               |  | √ |  |
|           | Activate Valve to "open" on Scada                                           |  | √ |  |
|           | Confirm Valve opening at Valve chamber                                      |  | √ |  |
|           | Confirm moving and Blue light flashing on Scada                             |  | √ |  |
|           | Confirm Valve "open" at Valve chamber                                       |  | √ |  |
|           | Confirm "open" and Green light illuminated on Scada                         |  | √ |  |
|           | Manual override functioning (flashes)                                       |  | √ |  |
| <b>46</b> | <b>Confirm ESD function for C1</b>                                          |  | √ |  |
| <b>47</b> | <b>Confirm ESD function for C2</b>                                          |  | √ |  |
| <b>48</b> | <b>Confirm ESD function for C3</b>                                          |  | √ |  |
| <b>49</b> | <b>Confirm ESD function for C4</b>                                          |  | √ |  |
| <b>50</b> | <b>Confirm ESD function for C5</b>                                          |  | √ |  |
| <b>51</b> | <b>Confirm ESD function for C6</b>                                          |  | √ |  |
| <b>52</b> | <b>Confirm ESD function for C7</b>                                          |  | √ |  |
| <b>53</b> | <b>Confirm ESD function for C8</b>                                          |  | √ |  |
| <b>54</b> | <b>Check Valve chamber VCC3 (Charlie)</b>                                   |  | √ |  |
|           | Check condition of o-rings around the lids                                  |  | √ |  |
|           | Check all sealant at the valve chambers joints and at the pipe penetrations |  | √ |  |
|           | Maintenance override functioning                                            |  | √ |  |
|           | Light illuminated                                                           |  | √ |  |
|           | Confirm open & Green light illuminated on Scada                             |  | √ |  |



|           | Activate Valve to "close" on Scada                                          |      | √                                   |        |
|-----------|-----------------------------------------------------------------------------|------|-------------------------------------|--------|
|           | Confirm Valve closing at Valve chamber                                      |      | √                                   |        |
|           | Confirm moving & Blue light flashing on Scada                               |      | √                                   |        |
|           | Confirm Valve "closed" at Valve chamber                                     |      | √                                   |        |
|           | Confirm closed and Red light flashes on Scada                               |      | √                                   |        |
|           | Activate Valve to "open" on Scada                                           |      | √                                   |        |
|           | Confirm Valve opening at Valve chamber                                      |      | √                                   |        |
| IT<br>EM  | TEST                                                                        | Zone | Comply ( ✓ ) /<br>Non-comply<br>(x) | SIGNED |
|           | Confirm moving and Blue light flashing on Scada                             |      | √                                   |        |
|           | Confirm Valve "open" at Valve chamber                                       |      | √                                   |        |
|           | Confirm "open" and Green light illuminated on Scada                         |      | √                                   |        |
|           | Manual override functioning (flashes)                                       |      | √                                   |        |
| <b>55</b> | <b>Confirm ESD function for C9</b>                                          |      | √                                   |        |
| <b>56</b> | <b>Confirm ESD function for C10</b>                                         |      | √                                   |        |
| <b>57</b> | <b>Confirm ESD function for C11</b>                                         |      | √                                   |        |
| <b>58</b> | <b>Confirm ESD function for C13/C14</b>                                     |      | √                                   |        |
| <b>59</b> | <b>Confirm ESD function for C15/C16</b>                                     |      | √                                   |        |
| <b>60</b> | <b>Confirm ESD function for C17</b>                                         |      | √                                   |        |
| <b>61</b> | <b>Check Valve chamber VCC5 (Charlie)</b>                                   |      |                                     |        |
|           | Check condition of o-rings around the lids                                  |      | √                                   |        |
|           | Check all sealant at the valve chambers joints and at the pipe penetrations |      | √                                   |        |
|           | Maintenance override functioning                                            |      | √                                   |        |
|           | Light illuminated                                                           |      | √                                   |        |
|           | Confirm open & Green light illuminated on Scada                             |      | √                                   |        |
|           | Activate Valve to "close" on Scada                                          |      | √                                   |        |
|           | Confirm Valve closing at Valve chamber                                      |      | √                                   |        |
|           | Confirm moving & Blue light flashing on Scada                               |      | √                                   |        |
|           | Confirm Valve "closed" at Valve chamber                                     |      | √                                   |        |
|           | Confirm closed and Red light flashes on Scada                               |      | √                                   |        |
|           | Activate Valve to "open" on Scada                                           |      | √                                   |        |
|           | Confirm Valve opening at Valve chamber                                      |      | √                                   |        |
|           | Confirm moving and Blue light flashing on Scada                             |      | √                                   |        |
|           | Confirm Valve "open" at Valve chamber                                       |      | √                                   |        |
|           | Confirm "open" and Green light illuminated on Scada                         |      | √                                   |        |
|           | Manual override functioning (flashes)                                       |      | √                                   |        |

|    |                                                                             |      |   |  |
|----|-----------------------------------------------------------------------------|------|---|--|
| 62 | Confirm ESD function for C18                                                |      | √ |  |
| 63 | Confirm ESD function for C19                                                |      | √ |  |
| 64 | Confirm ESD function for C20                                                |      | √ |  |
| 65 | Confirm ESD function for C21                                                |      | √ |  |
| 66 | Confirm ESD function for C22                                                |      | √ |  |
| 67 | Confirm ESD function for C23                                                |      | √ |  |
| 68 | Confirm ESD function for C24                                                |      | √ |  |
| 69 | Check Valve chamber VCM3                                                    | VCA  |   |  |
|    | Check all sealant at the valve chambers joints and at the pipe penetrations |      | √ |  |
|    | Maintenance override functioning                                            |      | √ |  |
|    | Light illuminated                                                           |      | √ |  |
|    | Confirm open & Green light illuminated on Scada                             |      | √ |  |
|    | Activate Valve to "close" on Scada                                          |      | √ |  |
|    | Confirm Valve closing at Valve chamber                                      |      | √ |  |
|    | Confirm moving & Blue light flashing on Scada                               |      | √ |  |
|    | Confirm Valve "closed" at Valve chamber                                     |      | √ |  |
|    | Confirm closed and Red light flashes on Scada                               |      | √ |  |
|    | Activate Valve to "open" on Scada                                           |      | √ |  |
|    | Confirm Valve opening at Valve chamber                                      |      | √ |  |
|    | Confirm moving and Blue light flashing on Scada                             |      | √ |  |
|    | Confirm Valve "open" at Valve chamber                                       |      | √ |  |
|    | Confirm "open" and Green light illuminated on Scada                         |      | √ |  |
|    | Manual override functioning (flashes)                                       |      | √ |  |
|    | <b>Select Bravo Apron</b>                                                   |      |   |  |
| 70 | Check Valve chamber VCM1                                                    | VCM1 |   |  |
|    | Check all sealant at the valve chambers joints and at the pipe penetrations |      | √ |  |
|    | Maintenance override functioning                                            |      | √ |  |
|    | Light illuminated                                                           |      | √ |  |
|    | Confirm open & Green light illuminated on Scada                             |      | √ |  |
|    | Activate Valve to "close" on Scada                                          |      | √ |  |
|    | Confirm Valve closing at Valve chamber                                      |      | √ |  |
|    | Confirm moving & Blue light flashing on Scada                               |      | √ |  |
|    | Confirm Valve "closed" at Valve chamber                                     |      | √ |  |
|    | Confirm closed and Red light flashes on Scada                               |      | √ |  |
|    | Activate Valve to "open" on Scada                                           |      | √ |  |
|    | Confirm Valve opening at Valve chamber                                      |      | √ |  |
|    | Confirm moving and Blue light flashing on Scada                             |      | √ |  |

|              |                                                               |                |                                    |               |
|--------------|---------------------------------------------------------------|----------------|------------------------------------|---------------|
|              | Confirm Valve "open" at Valve chamber                         |                | √                                  |               |
|              | Confirm "open" and Green light illuminated on Scada           |                | √                                  |               |
|              | Manual override functioning (flashes)                         |                | √                                  |               |
| <b>71</b>    | <b>Confirm ESD function for B8 (on parking bay B13 SIDE)</b>  | <b>EB7 - 8</b> | √                                  |               |
| <b>72</b>    | <b>Confirm ESD function for B7 (on parking bay B13 FRONT)</b> | <b>EB7 - 8</b> | √                                  |               |
| <b>73</b>    | <b>Confirm ESD function for B6 (bay B10)</b>                  | <b>EB1 - 6</b> | √                                  |               |
| <b>74</b>    | <b>Confirm ESD function for B5 (bay B9)</b>                   | <b>EB1 - 6</b> | √                                  |               |
| <b>75</b>    | <b>Confirm ESD function for B4 (bay B8)</b>                   | <b>EB1 - 6</b> | √                                  |               |
| <b>76</b>    | <b>Confirm ESD function for B3 (bay B5 - 6)</b>               | <b>EB1 - 6</b> | √                                  |               |
| <b>77</b>    | <b>Confirm ESD function for B2 (bay B3)</b>                   | <b>EB1 - 6</b> | √                                  |               |
| <b>78</b>    | <b>Confirm ESD function for B1 (bay B1)</b>                   | <b>EB1 - 6</b> | √                                  |               |
| <b>79</b>    | <b>Place Delta Satellite Station on Normal</b>                |                | <b>Normal Override</b>             |               |
|              | Confirm VCD6 (E3)                                             |                | √                                  |               |
|              | Confirm VCD9 (E2)                                             |                | √                                  |               |
|              | Confirm VCF1 - Out                                            |                | √                                  |               |
|              | Confirm VCD1                                                  |                | √                                  |               |
| <b>80</b>    | <b>Place Echo Satellite Station on Normal</b>                 |                |                                    |               |
|              | Confirm VCA2 -1 (Valve 101)                                   |                | √                                  |               |
|              | Confirm VCA1 (Valve 103)                                      |                | √                                  |               |
|              | Confirm VCF1 (Valve 108)                                      |                | √                                  |               |
|              | Confirm VCD8 (Valve 109)                                      |                | √                                  |               |
|              | Confirm VCE1 (Valve 106)                                      |                | √                                  |               |
|              | Confirm VCE1 (Valve 107)                                      |                | √                                  |               |
|              | Confirm VCE3 (Valve 104)                                      |                | √                                  |               |
|              |                                                               |                | <b>Normal Override</b>             |               |
|              | Confirm VCE3 (Valve 105)                                      |                | √                                  |               |
| <b>81</b>    | <b>Place Main Satellite Station on Normal</b>                 |                |                                    |               |
|              | Confirm Alpha – VCA1                                          |                | √                                  |               |
|              | Confirm Bravo – VCB1                                          |                | √                                  |               |
| <b>82</b>    | <b>Place Charlie Satellite Station on Normal (Charlie 18)</b> |                | √                                  |               |
|              | Confirm VCA                                                   |                | √                                  |               |
| <b>IT EM</b> | <b>TEST</b>                                                   | <b>Zone</b>    | <b>Comply (✓) / Non-comply (x)</b> | <b>SIGNED</b> |
|              | Confirm VC5                                                   |                | √                                  |               |

|           |                                                                                                |  |                        |   |
|-----------|------------------------------------------------------------------------------------------------|--|------------------------|---|
| <b>83</b> | <b>Place Charlie Satellite Station on Normal (Pier)</b>                                        |  |                        |   |
|           | Confirm VC3                                                                                    |  | √                      |   |
|           | Confirm VCC                                                                                    |  | √                      |   |
|           | <b>Select Fuel Depot</b>                                                                       |  |                        |   |
| <b>84</b> | <b>Check Valve D2</b>                                                                          |  |                        |   |
|           | Confirm open                                                                                   |  | √                      |   |
|           |                                                                                                |  |                        |   |
| <b>85</b> | <b>Check Valve D1</b>                                                                          |  | Valve locked out       |   |
|           | Confirm open                                                                                   |  | x                      |   |
| <b>86</b> | <b>Place Fuel Depot on Normal</b>                                                              |  | <b>Normal Override</b> |   |
|           | Confirm D1                                                                                     |  | X                      | X |
|           | Confirm D2                                                                                     |  |                        | √ |
| <b>87</b> | <b>Re-Check Scada and ensure that all Valves are on "Normal" operation and "open" position</b> |  | √                      |   |

### **ACTIONS TO BE TAKEN**

|                                                                                         |
|-----------------------------------------------------------------------------------------|
| VCD6 VALVE STUCK IN OPEN POSITION, VALVE TO BE REPLACED                                 |
| All actuators expect vcm3 is on non-essential supply. Spreadsheet was submitted to you. |
| Fibre optic at Delta currently being replaced.                                          |
| AD Converters needs to be replaced for tcs                                              |
| Depot TCS server needs to be replaced                                                   |

#### **11 Hydrant Pit Inspections**

Inspections attached to monthly report.

#### **12 AIA 3 Monthly Inspection**

**Next inspection end May 2025**

#### **13 Storeroom**

Stock count sheet for storerooms attached for your perusal.