# FACTORY ACCEPTANCE TEST (FAT)
# FOR ACCELERATOR ODH DETECTION SYSTEM

| | Name | Role/Title |
|---|---|---|
| **Owner** | <<Alberto Toral Diez>> | <<Technician for Protection Systems>> |
| **Reviewer** | <<Morteza Mansouri>> | <<Engineer for Safety Critical Systems>> |
| **Approver** | <<Stuart Birch>> | <<Senior Engineer for Personnel Safety Systems>> |

**VALIDATION DATA**

**SYSTEM NAME:** <<ESS.ACC.F02>> ESS Accelerator ODH detection system

**CONTACTS**

**Test and Validation Coordinators: Morteza Mansouri & Alberto Toral Diez**

**Test Leaders: Processkontroll AB & Alberto Toral Diez**

**PLC Programmer: Yong Kian Sin**

**ROLES & RESPONSIBILITIES**

| | **RESPONSIBILITIES** | | |
|---|---|---|---|
| | **Tests to be performed** | **SIGNATURE** | **DATE** |
| **Test team** | **clause** | | |
| *1. Test and Validation Coordinator* | *None* | | |
| *2. Test Leader* | *1, 2, 3, 4 & 5* | | |
| *3. PLC Programmer* | *6* | | |
| *4.* | | | |
| *5.* | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |
| 10. | | | |

| **LIST OF EQUIPMENT FOR TEST** |
|---|
| SIGN: |
| DATE: |
| *1. PLC Electrical control rack (*ACC.F02.K-U1*) →* ***Appendix 1*** |
| *2. RIO 1 Electrical control rack (*ACC.F02.K-U2*) →* ***Appendix 2*** |
| *3. RIO 2 Electrical control rack (*ACC.F02.K-U3*) →* ***Appendix 3*** |
| *4.* |
| *5.* |
| *6.* |
| *7.* |
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| *18.* |
| *19.* |
| *20.* |

| **LIST OF REFERENCE DOCUMENTATION** |
|---|
| SIGN: |
| DATE: |
| *1. Circuit diagrams* |
| *2. Cabinet lay-out* |
| *3. Parts list* |
| *4. Cable lists* |
| *5.* |
| *6.* |
| *7.* |
| *8.* |
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| *10.* |
| *11.* |
| *12.* |
| *13.* |
| *14.* |
| *15.* |
| *16.* |
| *17.* |
| *18.* |
| *19.* |
| *20.* |

# APPENDIX 1: ODH PLC ELECTRICAL CONTROL RACK

- **Facility Breakdown Structure designation name:**

  =ACC.F02.K01-U1

  ACC → Accelerator System

  F02→ ODH detection system

  K01 → Electrical-control equipment's

  U1 → ODH PLC rack

- **Location Breakdown Structure:**

  +ESS.G02.100.1001 → Gallery building. Gallery technical area

- **ESS naming convention identifier:**

  TS2-020Row: CNPW-U-1 → Test Stand 2, 020ROW, ODH PLC Rack, 1

| **VALIDATION APPROVAL** | **Appendix 1: FAT** for **ACC.F02.K-U1** |
|---|---|
| ☐ APPROVED | ☐ REJECTED |
| SIGN: | SIGN: |
| DATE: | DATE: |

| | **SUMMARY FINDINGS** | | |
|---|---|---|---|
| | **Passed** | **Not Passed** | **NA** |
| 1. ***Check that the electrical equipment complies with the documentation for manufacturing. (according SS EN 60204-1)*** | ☐ | ☐ | ☐ |
| 2. ***Check that conditions for protection against indirect contact by automatic disconnection are fulfilled. (according SS EN 60204-1)*** | ☐ | ☐ | ☐ |
| 3. ***Check insulation resistance. (according SS EN 60204-1)*** | ☐ | ☐ | ☐ |
| 4. ***Check for disruptive discharge occurrence by voltage tests. (according SS EN 60204-1)*** | ☐ | ☐ | ☐ |
| 5. ***Check for residual voltages. (according SS EN 60204-1)*** | ☐ | ☐ | ☐ |
| 6. ***Check functions. (according SS EN 60204-1)*** | ☐ | ☐ | ☐ |
| 7. ***Punch list*** | ☐ | ☐ | ☐ |
| 8. | ☐ | ☐ | ☐ |
| 9. | ☐ | ☐ | ☐ |
| 10. | ☐ | ☐ | ☐ |

| **DETAILED FINDINGS APPROVAL**<br><br>***1. Check that the electrical equipment complies with the documentation for manufacturing*** | **Appendix 1: FAT** for **ACC.F02.K-U1** |
|---|---|
| ☐ APPROVED | ☐ REJECTED |
| SIGN: | SIGN: |
| DATE: | DATE: |

## *1. Check that the electrical equipment complies with the documentation for manufacturing*

## *Tests to be performed may be adjusted as applicable*

1.1 *Conductors inside control cabinets (colour, type, end sleeves) mounted according to the documentation for manufacturing*
☐N/A ☐Remark ☐Approved

1.2 *Marking of components shall be according to manufacturing documentation. The marking shall still be present even if the component is replaced, which means that the marking is to be located beside the component.*
☐N/A ☐Remark ☐Approved

1.3 *Function Markings e.g. above the actuators, operator panel, instruments, etc. performed according to manufacturing documentation.*
☐N/A ☐Remark ☐Approved

1.4 *Components selected according to the manufacturing documentation.*
☐N/A ☐Remark ☐Approved

1.5 *Placement of components inside control cabinets made according to production documentation. Mounting layout shall be compared with the control cabinet. For approval the components shall be positioned so that no confusion of components can be made in comparison with the mounting layout.*
☐N/A ☐Remark ☐Approved

1.6 *Functional separation inside control cabinets made according to production documentation. Mounting layout shall be compared with the control cabinet. For approval conductors shall be located in the designated conduit / cable path.*
☐N/A ☐Remark ☐Approved

1.7 *Marking of equipment a nameplate shall be mounted adjacent to the incoming supply point (main switch or terminal), according ESS-0015433 Rules for electrical design, Clause regarding Marking of cabinets.*
☐N/A ☐Remark ☐Approved

1.8 *IP-class shall comply with documentation for manufacturing*
☐N/A ☐Remark ☐Approved

1.9 *IP-class 21 (touch-proof) shall be fulfilled inside control cabinet.*
☐N/A ☐Remark ☐Approved

| **DETAILED FINDINGS APPROVAL**<br><br>***1. Check that the electrical equipment complies with the documentation for manufacturing*** | **Appendix 1: FAT** for **ACC.F02.K-U1** |
|---|---|

1.10 *Functional bonding. Mounting plate shall be galvanized. Colour at connection points for functional bonding must be removed. Connection points for functional bonding shall be threaded and spring washer positioned adjacent to the screw head.*
☐N/A ☐Remark ☐Approved

1.11 *Cable Markings shall comply with documentation for manufacturing.*
☐N/A ☐Remark ☐Approved

1.12 *Routing of installed cables shall comply with documentation for manufacturing.*
☐N/A ☐Remark ☐Approved

1.13 *Cable types shall comply with documentation for manufacturing.*
☐N/A ☐Remark ☐Approved

1.14 *Connections of installed cables shall comply with documentation for manufacturing.*
☐N/A ☐Remark ☐Approved

Additional Remarks

1.15 ……☐ Not approved ☐ Approved
1.16 ……☐ Not approved ☐ Approved
1.17 ……☐ Not approved ☐ Approved
1.18 ……☐ Not approved ☐ Approved
1.19 ……☐ Not approved ☐ Approved
1.20 ……☐ Not approved ☐ Approved
1.21 ……☐ Not approved ☐ Approved
1.22 ……☐ Not approved ☐ Approved
1.23 ……☐ Not approved ☐ Approved
1.24 ……☐ Not approved ☐ Approved
1.25 ……☐ Not approved ☐ Approved
1.26 ……☐ Not approved ☐ Approved
1.27 ……☐ Not approved ☐ Approved
1.28 ……☐ Not approved ☐ Approved
1.29 ……☐ Not approved ☐ Approved
1.30 ……☐ Not approved ☐ Approved
1.31 ……☐ Not approved ☐ Approved
1.32 ……☐ Not approved ☐ Approved
1.33 ……☐ Not approved ☐ Approved
1.34 ……☐ Not approved ☐ Approved
1.35 ……☐ Not approved ☐ Approved
1.36 ……☐ Not approved ☐ Approved

| **DETAILED FINDINGS APPROVAL**<br><br>***2. Check that conditions for protection against indirect contact by automatic disconnection are fulfilled.*** | **Appendix 1: FAT** for **ACC.F02.K-U1** |
|---|---|
| ☐ APPROVED | ☐ REJECTED |
| SIGN: | SIGN: |
| DATE: | DATE: |

## *2. Check that conditions for protection against indirect contact by automatic disconnection are fulfilled.*

*2.1 Check continuity of the protective bonding circuits*

☐*N/A* ☐*Approved* ☐*Remark*

*2.2 Check conditions for fault loop impedance by checking that conductor length and area comply with calculation*

☐*N/A* ☐*Approved* ☐*Remark*

*2.3 Check settings and characteristics of the associated overcurrent protective devices*

☐*N/A* ☐*Approved* ☐*Remark*

*2.4 Check conditions for protection by reducing the touch voltage below 50V by checking that conductor length and area comply with calculation.*
***NOTE – Equipotential protective bonding conductor area do not need to be larger than 25mm$^2$Cu.***

☐*N/A* ☐*Approved* ☐*Remark*

Additional Remarks

2.5 ……..…. ☐ Not approved ☐ Approved
2.6 ……..…. ☐ Not approved ☐ Approved
2.7 ……..…. ☐ Not approved ☐ Approved
2.8 ……..…. ☐ Not approved ☐ Approved
2.9 ……..…. ☐ Not approved ☐ Approved
2.10 ……..…. ☐ Not approved ☐ Approved
2.11 ……..…. ☐ Not approved ☐ Approved
2.12 ……..…. ☐ Not approved ☐ Approved
2.13 ……..…. ☐ Not approved ☐ Approved
2.14 ……..…. ☐ Not approved ☐ Approved
2.15 ……..…. ☐ Not approved ☐ Approved

| **DETAILED FINDINGS APPROVAL**<br><br>***3. Check insulation resistance.*** | **Appendix 1: FAT** for **ACC.F02.K-U1** |
|---|---|
| ☐ APPROVED | ☐ REJECTED |
| SIGN: | SIGN: |
| DATE: | DATE: |

# *3. Check insulation resistance.*

*3.1 Check insulation resistance*
☐*N/A* ☐*Approved* ☐*Remark*

Additional Remarks

3.2 ……☐ Not approved ☐ Approved
3.3 ……☐ Not approved ☐ Approved
3.4 ……☐ Not approved ☐ Approved
3.5 ……☐ Not approved ☐ Approved
3.6 ……☐ Not approved ☐ Approved
3.7 ……☐ Not approved ☐ Approved
3.8 ……☐ Not approved ☐ Approved
3.9 ……☐ Not approved ☐ Approved
3.10 ……☐ Not approved ☐ Approved
3.11 ……☐ Not approved ☐ Approved
3.12 ……☐ Not approved ☐ Approved
3.13 ……☐ Not approved ☐ Approved
3.14 ……☐ Not approved ☐ Approved
3.15 ……☐ Not approved ☐ Approved
3.16 ……☐ Not approved ☐ Approved
3.17 ……☐ Not approved ☐ Approved
3.18 ……☐ Not approved ☐ Approved
3.19 ……☐ Not approved ☐ Approved
3.20 ……☐ Not approved ☐ Approved
3.21 ……☐ Not approved ☐ Approved
3.22 ……☐ Not approved ☐ Approved
3.23 ……☐ Not approved ☐ Approved
3.24 ……☐ Not approved ☐ Approved
3.25 ……☐ Not approved ☐ Approved

| **DETAILED FINDINGS APPROVAL**<br><br>***4. Check for disruptive discharge occurrence by voltage tests.*** | **Appendix 1: FAT** for **ACC.F02.K-U1** |
|---|---|
| ☐ APPROVED | ☐ REJECTED |
| SIGN: | SIGN: |
| DATE: | DATE: |

# *4. Check for disruptive discharge occurrence by voltage tests.*

*4.1 Check for disruptive discharge*
☐*N/A* ☐*Approved* ☐*Remark*

Additional Remarks

4.2 ……☐ Not approved ☐ Approved
4.3 ……☐ Not approved ☐ Approved
4.4 ……☐ Not approved ☐ Approved
4.5 ……☐ Not approved ☐ Approved
4.6 ……☐ Not approved ☐ Approved
4.7 ……☐ Not approved ☐ Approved
4.8 ……☐ Not approved ☐ Approved
4.9 ……☐ Not approved ☐ Approved
4.10 ……☐ Not approved ☐ Approved
4.11 ……☐ Not approved ☐ Approved
4.12 ……☐ Not approved ☐ Approved
4.13 ……☐ Not approved ☐ Approved
4.14 ……☐ Not approved ☐ Approved
4.15 ……☐ Not approved ☐ Approved
4.16 ……☐ Not approved ☐ Approved
4.17 ……☐ Not approved ☐ Approved
4.18 ……☐ Not approved ☐ Approved
4.19 ……☐ Not approved ☐ Approved
4.20 ……☐ Not approved ☐ Approved
4.21 ……☐ Not approved ☐ Approved
4.22 ……☐ Not approved ☐ Approved
4.23 ……☐ Not approved ☐ Approved
4.24 ……☐ Not approved ☐ Approved
4.25 ……☐ Not approved ☐ Approved

| **DETAILED FINDINGS APPROVAL**<br><br>***5. Check for residual voltages.*** | **Appendix 1: FAT** for **ACC.F02.K-U1** |
|---|---|
| ☐ APPROVED | ☐ REJECTED |
| SIGN: | SIGN: |
| DATE: | DATE: |

# *5. Check for residual voltages.*

*5.1 Check for residual voltages*
☒*N/A* ☐*Approved* ☐*Remark*

Additional Remarks

5.2 ……..☐ Not approved ☐ Approved
5.3 ……..☐ Not approved ☐ Approved
5.4 ……..☐ Not approved ☐ Approved
5.5 ……..☐ Not approved ☐ Approved
5.6 ……..☐ Not approved ☐ Approved
5.7 ……..☐ Not approved ☐ Approved
5.8 ……..☐ Not approved ☐ Approved
5.9 ……..☐ Not approved ☐ Approved
5.10 ……..☐ Not approved ☐ Approved
5.11 ……..☐ Not approved ☐ Approved
5.12 ……..☐ Not approved ☐ Approved
5.13 ……..☐ Not approved ☐ Approved
5.14 ……..☐ Not approved ☐ Approved
5.15 ……..☐ Not approved ☐ Approved
5.16 ……..☐ Not approved ☐ Approved
5.17 ……..☐ Not approved ☐ Approved
5.18 ……..☐ Not approved ☐ Approved
5.19 ……..☐ Not approved ☐ Approved
5.20 ……..☐ Not approved ☐ Approved
5.21 ……..☐ Not approved ☐ Approved
5.22 ……..☐ Not approved ☐ Approved
5.23 ……..☐ Not approved ☐ Approved
5.24 ……..☐ Not approved ☐ Approved
5.25 ……..☐ Not approved ☐ Approved

| **DETAILED FINDINGS APPROVAL**<br><br>***6. Check functions.*** | **Appendix 1: FAT** for **ACC.F02.K-U1** |
|---|---|
| ☐ APPROVED | ☐ REJECTED |
| SIGN: | SIGN: |
| DATE: | DATE: |

## *6. Check functions.*

## *Tests to be performed may be adjusted as applicable*

*6.1 Test Supply disconnecting device by switching on and off. In off position, all electrical supply to the controlled equipment shall be isolated. Selected electrical points are measured and checked that no electrical voltage is present. In on position, all electrical components shall be electrically supplied, and CPU, OP, etc. shall automatically go into RUN mode. (Orange conductors are not covered by the test).*
☐*N/A* ☐*Approved* ☐*Remark*

*6.2 Emergency Stop Function shall disconnect electric supply to equipment according to risk assessment.*
☒*N/A* ☐*Approved* ☐*Remark*

*6.3 Active-unacknowledged, active-acknowledged, acknowledged inactive- alarm is indicated.*
☒*N/A* ☐*Approved* ☐*Remark*

*6.4 Equipment shall not restart automatically after power failure. Example, if a local disconnecting device to a motor is operated, etc.*
☒*N/A* ☐*Approved* ☐*Remark*

Additional Remarks

6.5 ……..… ☐ Not approved ☐ Approved
6.6 ……..… ☐ Not approved ☐ Approved
6.7 ……..… ☐ Not approved ☐ Approved
6.8 ……..… ☐ Not approved ☐ Approved
6.9 ……..… ☐ Not approved ☐ Approved
6.10 ……..… ☐ Not approved ☐ Approved
6.11 ……..… ☐ Not approved ☐ Approved
6.12 ……..… ☐ Not approved ☐ Approved
6.13 ……..… ☐ Not approved ☐ Approved
6.14 ……..… ☐ Not approved ☐ Approved
6.15 ……..… ☐ Not approved ☐ Approved
6.16 ……..… ☐ Not approved ☐ Approved
6.17 ……..… ☐ Not approved ☐ Approved

| **DETAILED FINDINGS APPROVAL**<br><br>***6. Check functions.*** | **Appendix 1: FAT** for **ACC.F02.K-U1** |
|---|---|

*6.18 PLC Test of digital inputs* ☐*N/A*

*The digital inputs are activated by simulating an activation via the terminals, push buttons, turn feedbacks on solenoids, pumps (contactors), etc.*
*The activation of a digital input is controlled via the programming tool by checking its status and the applicable functions via the operator panel (e.g. alarms).*

| Physical address | Description | Approval |
|---|---|---|
| *I0.0* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I0.1* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I0.2* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I0.3* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I0.4* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I0.5* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I0.6* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I0.7* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I1.0* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I1.1* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I1.2* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I1.3* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I1.4* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I1.5* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I1.6* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I1.7* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I2.0* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I2.1* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I2.2* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I2.3* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I2.4* | *Reserve* | ☐N/A ☐Approved ☐Remark |

| | | |
|---|---|---|
| *I2.5* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I2.6* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I2.7* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I3.0* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I3.1* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I3.2* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I3.3* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I3.4* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I3.5* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I3.6* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I3.7* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I4.0* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I4.1* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I4.2* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I4.3* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I4.4* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I4.5* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I4.6* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I4.7* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I5.0* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I5.1* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I5.2* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I5.3* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I5.4* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I5.5* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I5.6* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I5.7* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I6.0* | *Reserve* | ☐N/A ☐Approved ☐Remark |

| | | |
|---|---|---|
| *I6.1* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I6.2* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I6.3* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I6.4* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I6.5* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I6.6* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I6.7* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I7.0* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I7.1* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I7.2* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I7.3* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I7.4* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I7.5* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I7.6* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I7.7* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I8.0* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I8.1* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I8.2* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I8.3* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I8.4* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I8.5* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I8.6* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I8.7* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I9.0* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I9.1* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I9.2* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I9.3* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I9.4* | *Reserve* | ☐N/A ☐Approved ☐Remark |

| | | |
|---|---|---|
| *I9.5* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I9.6* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I9.7* | *Reserve* | ☐N/A ☐Approved ☐Remark |

| **DETAILED FINDINGS APPROVAL**<br><br>***6. Check functions.*** | **Appendix 1: FAT** for **ACC.F02.K-U1** |
|---|---|

*6.19 PLC Test of digital outputs* ☐*N/A*

*By forcing the digital outputs via the programming tool, the corresponding objects connected to the digital output are activated. Is no object connected to the digital output, the output's activation is controlled by a multimeter connected to the last junction of the output.*

| Physical address | Description | Approval |
|---|---|---|
| *Q0.0* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q0.1* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q0.2* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q0.3* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q0.4* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q0.5* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q0.6* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q0.7* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q1.0* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q1.1* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q1.2* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q1.3* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q1.4* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q1.5* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q1.6* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q1.7* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q2.0* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q2.1* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q2.2* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q2.3* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q2.4* | *Reserve* | ☐N/A ☐Approved ☐Remark |

| | | |
|---|---|---|
| *Q2.5* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q2.6* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q2.7* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q3.0* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q3.1* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q3.2* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q3.3* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q3.4* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q3.5* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q3.6* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q3.7* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q4.0* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q4.1* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q4.2* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q4.3* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q4.4* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q4.5* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q4.6* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q4.7* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q5.0* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q5.1* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q5.2* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q5.3* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q5.4* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q5.5* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q5.6* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q5.7* | *Reserve* | ☐N/A ☐Approved ☐Remark |

| **DETAILED FINDINGS APPROVAL**<br><br>***6. Check functions.*** | **Appendix 1: FAT** for **ACC.F02.K-U1** |
|---|---|

*6.20 PLC Test of analog inputs* ☐*N/A*

*Via a current generator, the analog input signals are simulated. (e.g. If a generated signal of 12mA is applied, the system (e.g. the operator panel) shall indicate 50% (50℃ degrees shall be indicated at a temperature input range of 0-100℃). Maximum value, minimum value, and center value is to be simulated for each signal.*

| **Physical address** | **Simulated value** | **Measured value** | **Description** | **Approval** |
|---|---|---|---|---|
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |

| | | | | |
|---|---|---|---|---|
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |

| | | | | |
|---|---|---|---|---|
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |

| | | | | |
|---|---|---|---|---|
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |

**Appendix 1: FAT for ACC.F02.K-U1 PUNCH LIST**

## *7. Punch list.*

Any incomplete work or nonconformities shall be recorded on the FAT punch list and categorized as follows:

a) To be cleared on the spot, FAT to be continue after rectification;
b) Ongoing rectification during FAT;
c) FAT to be repeated;
d) Modifications to be made after FAT, before the system/cabinet/controllers are shipped to site;
e) Remaining work to be rectified i.e. at site;

| ITEM | DESCRIPTION | RESPONSIBLE | TYPE | COMPLETE |
|---|---|---|---|---|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |
| 10 | | | | |
| 11 | | | | |
| 12 | | | | |
| 13 | | | | |
| 14 | | | | |

| | | | | |
|---|---|---|---|---|
| 15 | | | | |
| 16 | | | | |
| 17 | | | | |
| 18 | | | | |
| 19 | | | | |
| 20 | | | | |
| 21 | | | | |
| 22 | | | | |
| 23 | | | | |
| 24 | | | | |
| 25 | | | | |

# Appendix 2: ODH Remote IO Electrical control rack 1

- **Facility Breakdown Structure designation name:**

  =ACC.F02.K01-U2

  ACC → Accelerator System

  F02→ ODH detection system

  K01 → Electrical-control equipment's

  U2 → ODH Remote IO rack 1

- **Location Breakdown Structure:**

  +ESS.G04.100.7002 → He Compressor Building, ACCP Comp. Hall

- **ESS naming convention identifier:**

  HCB-ACH: ODH-RIO-1 → He Compressor Building, ACCP Compressor Hall, ODH, Remote IO Rack 1

| **VALIDATION APPROVAL** | **Appendix 2: FAT** for **ACC.F02.K-U2** |
|---|---|
| ☐ APPROVED | ☐ REJECTED |
| SIGN: | SIGN: |
| DATE: | DATE: |

| | **SUMMARY FINDINGS** | | |
|---|---|---|---|
| | **Passed** | **Not Passed** | **NA** |
| 1. ***Check that the electrical equipment complies with the documentation for manufacturing. (according SS EN 60204-1)*** | ☐ | ☐ | ☐ |
| 2. ***Check that conditions for protection against indirect contact by automatic disconnection are fulfilled. (according SS EN 60204-1)*** | ☐ | ☐ | ☐ |
| 3. ***Check insulation resistance. (according SS EN 60204-1)*** | ☐ | ☐ | ☐ |
| 4. ***Check for disruptive discharge occurrence by voltage tests. (according SS EN 60204-1)*** | ☐ | ☐ | ☐ |
| 5. ***Check for residual voltages. (according SS EN 60204-1)*** | ☐ | ☐ | ☐ |
| 6. ***Check functions. (according SS EN 60204-1)*** | ☐ | ☐ | ☐ |
| 7. ***Punch list*** | ☐ | ☐ | ☐ |
| 8. | ☐ | ☐ | ☐ |
| 9. | ☐ | ☐ | ☐ |
| 10. | ☐ | ☐ | ☐ |

| **DETAILED FINDINGS APPROVAL**<br><br>***1. Check that the electrical equipment complies with the documentation for manufacturing*** | **Appendix 2: FAT** for **ACC.F02.K-U2** |
|---|---|
| ☐ APPROVED | ☐ REJECTED |
| SIGN: | SIGN: |
| DATE: | DATE: |

## *1. Check that the electrical equipment complies with the documentation for manufacturing*

## *Tests to be performed may be adjusted as applicable*

1.1 *Conductors inside control cabinets (colour, type, end sleeves) mounted according to the documentation for manufacturing*
☐N/A ☐Remark ☐Approved

1.2 *Marking of components shall be according to manufacturing documentation. The marking shall still be present even if the component is replaced, which means that the marking is to be located beside the component.*
☐N/A ☐Remark ☐Approved

1.3 *Function Markings e.g. above the actuators, operator panel, instruments, etc. performed according to manufacturing documentation.*
☐N/A ☐Remark ☐Approved

1.4 *Components selected according to the manufacturing documentation.*
☐N/A ☐Remark ☐Approved

1.5 *Placement of components inside control cabinets made according to production documentation. Mounting layout shall be compared with the control cabinet. For approval the components shall be positioned so that no confusion of components can be made in comparison with the mounting layout.*
☐N/A ☐Remark ☐Approved

1.6 *Functional separation inside control cabinets made according to production documentation. Mounting layout shall be compared with the control cabinet. For approval conductors shall be located in the designated conduit / cable path.*
☐N/A ☐Remark ☐Approved

1.7 *Marking of equipment a nameplate shall be mounted adjacent to the incoming supply point (main switch or terminal), according ESS-0015433 Rules for electrical design, Clause regarding Marking of cabinets.*
☐N/A ☐Remark ☐Approved

1.8 *IP-class shall comply with documentation for manufacturing*
☐N/A ☐Remark ☐Approved

1.9 *IP-class 21 (touch-proof) shall be fulfilled inside control cabinet.*
☐N/A ☐Remark ☐Approved

| **DETAILED FINDINGS APPROVAL**<br><br>***1. Check that the electrical equipment complies with the documentation for manufacturing*** | **Appendix 2: FAT** for **ACC.F02.K-U2** |
|---|---|

1.10 *Functional bonding. Mounting plate shall be galvanized. Colour at connection points for functional bonding must be removed. Connection points for functional bonding shall be threaded and spring washer positioned adjacent to the screw head.*
☐N/A ☐Remark ☐Approved

1.11 *Cable Markings shall comply with documentation for manufacturing.*
☐N/A ☐Remark ☐Approved

1.12 *Routing of installed cables shall comply with documentation for manufacturing.*
☐N/A ☐Remark ☐Approved

1.13 *Cable types shall comply with documentation for manufacturing.*
☐N/A ☐Remark ☐Approved

1.14 *Connections of installed cables shall comply with documentation for manufacturing.*
☐N/A ☐Remark ☐Approved

Additional Remarks

1.15 ……☐ Not approved ☐ Approved
1.16 ……☐ Not approved ☐ Approved
1.17 ……☐ Not approved ☐ Approved
1.18 ……☐ Not approved ☐ Approved
1.19 ……☐ Not approved ☐ Approved
1.20 ……☐ Not approved ☐ Approved
1.21 ……☐ Not approved ☐ Approved
1.22 ……☐ Not approved ☐ Approved
1.23 ……☐ Not approved ☐ Approved
1.24 ……☐ Not approved ☐ Approved
1.25 ……☐ Not approved ☐ Approved
1.26 ……☐ Not approved ☐ Approved
1.27 ……☐ Not approved ☐ Approved
1.28 ……☐ Not approved ☐ Approved
1.29 ……☐ Not approved ☐ Approved
1.30 ……☐ Not approved ☐ Approved
1.31 ……☐ Not approved ☐ Approved
1.32 ……☐ Not approved ☐ Approved
1.33 ……☐ Not approved ☐ Approved
1.34 ……☐ Not approved ☐ Approved
1.35 ……☐ Not approved ☐ Approved
1.36 ……☐ Not approved ☐ Approved

| **DETAILED FINDINGS APPROVAL**<br><br>***2. Check that conditions for protection against indirect contact by automatic disconnection are fulfilled.*** | **Appendix 2: FAT** for **ACC.F02.K-U2** |
|---|---|
| ☐ APPROVED | ☐ REJECTED |
| SIGN: | SIGN: |
| DATE: | DATE: |

## *2. Check that conditions for protection against indirect contact by automatic disconnection are fulfilled.*

*2.1 Check continuity of the protective bonding circuits*

☐*N/A* ☐*Approved* ☐*Remark*

*2.2 Check conditions for fault loop impedance by checking that conductor length and area comply with calculation*

☐*N/A* ☐*Approved* ☐*Remark*

*2.3 Check settings and characteristics of the associated overcurrent protective devices*

☐*N/A* ☐*Approved* ☐*Remark*

*2.4 Check conditions for protection by reducing the touch voltage below 50V by checking that conductor length and area comply with calculation.*
***NOTE – Equipotential protective bonding conductor area do not need to be larger than 25mm$^2$Cu.***

☐*N/A* ☐*Approved* ☐*Remark*

Additional Remarks

2.5 ……..…. ☐ Not approved ☐ Approved
2.6 ……..…. ☐ Not approved ☐ Approved
2.7 ……..…. ☐ Not approved ☐ Approved
2.8 ……..…. ☐ Not approved ☐ Approved
2.9 ……..…. ☐ Not approved ☐ Approved
2.10 ……..…. ☐ Not approved ☐ Approved
2.11 ……..…. ☐ Not approved ☐ Approved
2.12 ……..…. ☐ Not approved ☐ Approved
2.13 ……..…. ☐ Not approved ☐ Approved
2.14 ……..…. ☐ Not approved ☐ Approved
2.15 ……..…. ☐ Not approved ☐ Approved

| **DETAILED FINDINGS APPROVAL**<br><br>***3. Check insulation resistance.*** | **Appendix 2: FAT** for **ACC.F02.K-U2** |
|---|---|
| ☐ APPROVED | ☐ REJECTED |
| SIGN: | SIGN: |
| DATE: | DATE: |

# *3. Check insulation resistance.*

*3.1 Check insulation resistance*
☐*N/A* ☐*Approved* ☐*Remark*

Additional Remarks

3.2 ……..☐ Not approved ☐ Approved
3.3 ……..☐ Not approved ☐ Approved
3.4 ……..☐ Not approved ☐ Approved
3.5 ……..☐ Not approved ☐ Approved
3.6 ……..☐ Not approved ☐ Approved
3.7 ……..☐ Not approved ☐ Approved
3.8 ……..☐ Not approved ☐ Approved
3.9 ……..☐ Not approved ☐ Approved
3.10 ……..☐ Not approved ☐ Approved
3.11 ……..☐ Not approved ☐ Approved
3.12 ……..☐ Not approved ☐ Approved
3.13 ……..☐ Not approved ☐ Approved
3.14 ……..☐ Not approved ☐ Approved
3.15 ……..☐ Not approved ☐ Approved
3.16 ……..☐ Not approved ☐ Approved
3.17 ……..☐ Not approved ☐ Approved
3.18 ……..☐ Not approved ☐ Approved
3.19 ……..☐ Not approved ☐ Approved
3.20 ……..☐ Not approved ☐ Approved
3.21 ……..☐ Not approved ☐ Approved
3.22 ……..☐ Not approved ☐ Approved
3.23 ……..☐ Not approved ☐ Approved
3.24 ……..☐ Not approved ☐ Approved
3.25 ……..☐ Not approved ☐ Approved

| **DETAILED FINDINGS APPROVAL**<br><br>***4. Check for disruptive discharge occurrence by voltage tests.*** | **Appendix 2: FAT** for **ACC.F02.K-U2** |
|---|---|
| ☐ APPROVED | ☐ REJECTED |
| SIGN: | SIGN: |
| DATE: | DATE: |

# *4. Check for disruptive discharge occurrence by voltage tests.*

*4.1 Check for disruptive discharge*
☐*N/A* ☐*Approved* ☐*Remark*

Additional Remarks

4.2 ……☐ Not approved ☐ Approved
4.3 ……☐ Not approved ☐ Approved
4.4 ……☐ Not approved ☐ Approved
4.5 ……☐ Not approved ☐ Approved
4.6 ……☐ Not approved ☐ Approved
4.7 ……☐ Not approved ☐ Approved
4.8 ……☐ Not approved ☐ Approved
4.9 ……☐ Not approved ☐ Approved
4.10 ……☐ Not approved ☐ Approved
4.11 ……☐ Not approved ☐ Approved
4.12 ……☐ Not approved ☐ Approved
4.13 ……☐ Not approved ☐ Approved
4.14 ……☐ Not approved ☐ Approved
4.15 ……☐ Not approved ☐ Approved
4.16 ……☐ Not approved ☐ Approved
4.17 ……☐ Not approved ☐ Approved
4.18 ……☐ Not approved ☐ Approved
4.19 ……☐ Not approved ☐ Approved
4.20 ……☐ Not approved ☐ Approved
4.21 ……☐ Not approved ☐ Approved
4.22 ……☐ Not approved ☐ Approved
4.23 ……☐ Not approved ☐ Approved
4.24 ……☐ Not approved ☐ Approved
4.25 ……☐ Not approved ☐ Approved

| **DETAILED FINDINGS APPROVAL**<br><br>***5. Check for residual voltages.*** | **Appendix 2: FAT** for **ACC.F02.K-U2** |
|---|---|
| ☐ APPROVED | ☐ REJECTED |
| SIGN: | SIGN: |
| DATE: | DATE: |

# *5. Check for residual voltages.*

*5.1 Check for residual voltages*
☒*N/A* ☐*Approved* ☐*Remark*

Additional Remarks

5.2 ..... ☐ Not approved ☐ Approved
5.3 ..... ☐ Not approved ☐ Approved
5.4 ..... ☐ Not approved ☐ Approved
5.5 ..... ☐ Not approved ☐ Approved
5.6 ..... ☐ Not approved ☐ Approved
5.7 ..... ☐ Not approved ☐ Approved
5.8 ..... ☐ Not approved ☐ Approved
5.9 ..... ☐ Not approved ☐ Approved
5.10 ..... ☐ Not approved ☐ Approved
5.11 ..... ☐ Not approved ☐ Approved
5.12 ..... ☐ Not approved ☐ Approved
5.13 ..... ☐ Not approved ☐ Approved
5.14 ..... ☐ Not approved ☐ Approved
5.15 ..... ☐ Not approved ☐ Approved
5.16 ..... ☐ Not approved ☐ Approved
5.17 ..... ☐ Not approved ☐ Approved
5.18 ..... ☐ Not approved ☐ Approved
5.19 ..... ☐ Not approved ☐ Approved
5.20 ..... ☐ Not approved ☐ Approved
5.21 ..... ☐ Not approved ☐ Approved
5.22 ..... ☐ Not approved ☐ Approved
5.23 ..... ☐ Not approved ☐ Approved
5.24 ..... ☐ Not approved ☐ Approved
5.25 ..... ☐ Not approved ☐ Approved

| **DETAILED FINDINGS APPROVAL**<br><br>***6. Check functions.*** | **Appendix 2: FAT** for **ACC.F02.K-U2** |
|---|---|
| ☐ APPROVED | ☐ REJECTED |
| SIGN: | SIGN: |
| DATE: | DATE: |

## *6. Check functions.*

## *Tests to be performed may be adjusted as applicable*

*6.1 Test Supply disconnecting device by switching on and off. In off position, all electrical supply to the controlled equipment shall be isolated. Selected electrical points are measured and checked that no electrical voltage is present. In on position, all electrical components shall be electrically supplied, and CPU, OP, etc. shall automatically go into RUN mode. (Orange conductors are not covered by the test).*
☐*N/A* ☐*Approved* ☐*Remark*

*6.2 Emergency Stop Function shall disconnect electric supply to equipment according to risk assessment.*
☒*N/A* ☐*Approved* ☐*Remark*

*6.3 Active-unacknowledged, active-acknowledged, acknowledged inactive- alarm is indicated.*
☒*N/A* ☐*Approved* ☐*Remark*

*6.4 Equipment shall not restart automatically after power failure. Example, if a local disconnecting device to a motor is operated, etc.*
☐*N/A* ☐*Approved* ☐*Remark*

Additional Remarks

6.5 ……..… ☐ Not approved ☐ Approved
6.6 ……..… ☐ Not approved ☐ Approved
6.7 ……..… ☐ Not approved ☐ Approved
6.8 ……..… ☐ Not approved ☐ Approved
6.9 ……..… ☐ Not approved ☐ Approved
6.10 ……..… ☐ Not approved ☐ Approved
6.11 ……..… ☐ Not approved ☐ Approved
6.12 ……..… ☐ Not approved ☐ Approved
6.13 ……..… ☐ Not approved ☐ Approved
6.14 ……..… ☐ Not approved ☐ Approved
6.15 ……..… ☐ Not approved ☐ Approved
6.16 ……..… ☐ Not approved ☐ Approved
6.17 ……..… ☐ Not approved ☐ Approved

| **DETAILED FINDINGS APPROVAL**<br><br>***6. Check functions.*** | **Appendix 2: FAT** for **ACC.F02.K-U2** |
|---|---|

*6.18 PLC Test of digital inputs* ☐*N/A*

*The digital inputs are activated by simulating an activation via the terminals, push buttons, turn feedbacks on solenoids, pumps (contactors), etc.*
*The activation of a digital input is controlled via the programming tool by checking its status and the applicable functions via the operator panel (e.g. alarms).*

| Physical address | Description | Approval |
|---|---|---|
| *I0.0* | *O2iM1-ALARM* | ☐N/A ☐Approved ☐Remark |
| *I0.1* | *O2iM1-SYSTEM OK* | ☐N/A ☐Approved ☐Remark |
| *I0.2* | *O2iM1-WARNING* | ☐N/A ☐Approved ☐Remark |
| *I0.3* | *O2iM1-LIMIT A* | ☐N/A ☐Approved ☐Remark |
| *I0.4* | *O2iM1-LIMIT B* | ☐N/A ☐Approved ☐Remark |
| *I0.5* | *O2iM2-ALARM* | ☐N/A ☐Approved ☐Remark |
| *I0.6* | *O2iM2-SYSTEM OK* | ☐N/A ☐Approved ☐Remark |
| *I0.7* | *O2iM2-WARNING* | ☐N/A ☐Approved ☐Remark |
| *I1.0* | *O2iM2-LIMIT A* | ☐N/A ☐Approved ☐Remark |
| *I1.1* | *O2iM2-LIMIT B* | ☐N/A ☐Approved ☐Remark |
| *I1.2* | *O2iM3-ALARM* | ☐N/A ☐Approved ☐Remark |
| *I1.3* | *O2iM3-SYSTEM OK* | ☐N/A ☐Approved ☐Remark |
| *I1.4* | *O2iM3-WARNING* | ☐N/A ☐Approved ☐Remark |
| *I1.5* | *O2iM3-LIMIT A* | ☐N/A ☐Approved ☐Remark |
| *I1.6* | *O2iM3-LIMIT B* | ☐N/A ☐Approved ☐Remark |
| *I1.7* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I2.0* | *O2iM4-ALARM* | ☐N/A ☐Approved ☐Remark |
| *I2.1* | *O2iM4-SYSTEM OK* | ☐N/A ☐Approved ☐Remark |
| *I2.2* | *O2iM4-WARNING* | ☐N/A ☐Approved ☐Remark |
| *I2.3* | *O2iM4-LIMIT A* | ☐N/A ☐Approved ☐Remark |
| *I2.4* | *O2iM4-LIMIT B* | ☐N/A ☐Approved ☐Remark |

| | | |
|---|---|---|
| *I2.5* | *O2iM5-ALARM* | ☐N/A ☐Approved ☐Remark |
| *I2.6* | *O2iM5-SYSTEM OK* | ☐N/A ☐Approved ☐Remark |
| *I2.7* | *O2iM5-WARNING* | ☐N/A ☐Approved ☐Remark |
| *I3.0* | *O2iM5-LIMIT A* | ☐N/A ☐Approved ☐Remark |
| *I3.1* | *O2iM5-LIMIT B* | ☐N/A ☐Approved ☐Remark |
| *I3.2* | *O2iM6-ALARM* | ☐N/A ☐Approved ☐Remark |
| *I3.3* | *O2iM6-SYSTEM OK* | ☐N/A ☐Approved ☐Remark |
| *I3.4* | *O2iM6-WARNING* | ☐N/A ☐Approved ☐Remark |
| *I3.5* | *O2iM6-LIMIT A* | ☐N/A ☐Approved ☐Remark |
| *I3.6* | *O2iM6-LIMIT B* | ☐N/A ☐Approved ☐Remark |
| *I3.7* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I4.0* | *O2iM7-ALARM* | ☐N/A ☐Approved ☐Remark |
| *I4.1* | *O2iM7-SYSTEM OK* | ☐N/A ☐Approved ☐Remark |
| *I4.2* | *O2iM7-WARNING* | ☐N/A ☐Approved ☐Remark |
| *I4.3* | *O2iM7-LIMIT A* | ☐N/A ☐Approved ☐Remark |
| *I4.4* | *O2iM7-LIMIT B* | ☐N/A ☐Approved ☐Remark |
| *I4.5* | *O2iM8-ALARM* | ☐N/A ☐Approved ☐Remark |
| *I4.6* | *O2iM8-SYSTEM OK* | ☐N/A ☐Approved ☐Remark |
| *I4.7* | *O2iM8-WARNING* | ☐N/A ☐Approved ☐Remark |
| *I5.0* | *O2iM8-LIMIT A* | ☐N/A ☐Approved ☐Remark |
| *I5.1* | *O2iM8-LIMIT B* | ☐N/A ☐Approved ☐Remark |
| *I5.2* | *O2iM9-ALARM* | ☐N/A ☐Approved ☐Remark |
| *I5.3* | *O2iM9-SYSTEM OK* | ☐N/A ☐Approved ☐Remark |
| *I5.4* | *O2iM9-WARNING* | ☐N/A ☐Approved ☐Remark |
| *I5.5* | *O2iM9-LIMIT A* | ☐N/A ☐Approved ☐Remark |
| *I5.6* | *O2iM9-LIMIT B* | ☐N/A ☐Approved ☐Remark |
| *I5.7* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I6.0* | *O2iM10-ALARM* | ☐N/A ☐Approved ☐Remark |

| | | |
|---|---|---|
| *I6.1* | *O2iM10-SYSTEM OK* | ☐N/A ☐Approved ☐Remark |
| *I6.2* | *O2iM10-WARNING* | ☐N/A ☐Approved ☐Remark |
| *I6.3* | *O2iM10-LIMIT A* | ☐N/A ☐Approved ☐Remark |
| *I6.4* | *O2iM10-LIMIT B* | ☐N/A ☐Approved ☐Remark |
| *I6.5* | *O2iM11-ALARM* | ☐N/A ☐Approved ☐Remark |
| *I6.6* | *O2iM11-SYSTEM OK* | ☐N/A ☐Approved ☐Remark |
| *I6.7* | *O2iM11-WARNING* | ☐N/A ☐Approved ☐Remark |
| *I7.0* | *O2iM11-LIMIT A* | ☐N/A ☐Approved ☐Remark |
| *I7.1* | *O2iM11-LIMIT B* | ☐N/A ☐Approved ☐Remark |
| *I7.2* | *O2iM12-ALARM* | ☐N/A ☐Approved ☐Remark |
| *I7.3* | *O2iM12-SYSTEM OK* | ☐N/A ☐Approved ☐Remark |
| *I7.4* | *O2iM12-WARNING* | ☐N/A ☐Approved ☐Remark |
| *I7.5* | *O2iM12-LIMIT A* | ☐N/A ☐Approved ☐Remark |
| *I7.6* | *O2iM12-LIMIT B* | ☐N/A ☐Approved ☐Remark |
| *I7.7* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I8.0* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I8.1* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I8.2* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I8.3* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I8.4* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I8.5* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I8.6* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I8.7* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I9.0* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I9.1* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I9.2* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I9.3* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I9.4* | *Reserve* | ☐N/A ☐Approved ☐Remark |

| | | |
|---|---|---|
| *I9.5* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I9.6* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I9.7* | *Reserve* | ☐N/A ☐Approved ☐Remark |

| **DETAILED FINDINGS APPROVAL**<br><br>***6. Check functions.*** | **Appendix 2: FAT** for **ACC.F02.K-U2** |
|---|---|

*6.19 PLC Test of digital outputs* ☐*N/A*

*By forcing the digital outputs via the programming tool, the corresponding objects connected to the digital output are activated. Is no object connected to the digital output, the output's activation is controlled by a multimeter connected to the last junction of the output.*

| Physical address | Description | Approval |
|---|---|---|
| *Q0.0* | *O2iM1-ALARM ACK SWITCH* | ☐N/A ☐Approved ☐Remark |
| *Q0.1* | *O2iM2-ALARM ACK SWITCH* | ☐N/A ☐Approved ☐Remark |
| *Q0.2* | *O2iM3-ALARM ACK SWITCH* | ☐N/A ☐Approved ☐Remark |
| *Q0.3* | *O2iM4-ALARM ACK SWITCH* | ☐N/A ☐Approved ☐Remark |
| *Q0.4* | *O2iM5-ALARM ACK SWITCH* | ☐N/A ☐Approved ☐Remark |
| *Q0.5* | *O2iM6-ALARM ACK SWITCH* | ☐N/A ☐Approved ☐Remark |
| *Q0.6* | *O2iM7-ALARM ACK SWITCH* | ☐N/A ☐Approved ☐Remark |
| *Q0.7* | *O2iM8-ALARM ACK SWITCH* | ☐N/A ☐Approved ☐Remark |
| *Q1.0* | *O2iM9-ALARM ACK SWITCH* | ☐N/A ☐Approved ☐Remark |
| *Q1.1* | *O2iM10-ALARM ACK SWITCH* | ☐N/A ☐Approved ☐Remark |
| *Q1.2* | *O2iM11-ALARM ACK SWITCH* | ☐N/A ☐Approved ☐Remark |
| *Q1.3* | *O2iM12-ALARM ACK SWITCH* | ☐N/A ☐Approved ☐Remark |
| *Q1.4* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q1.5* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q1.6* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q1.7* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q2.0* | *ACCP Hall; Red Strobe Lights 01,02,03,04* | ☐N/A ☐Approved ☐Remark |
| *Q2.1* | *ACCP Hall; Acoustic Sirens 01,02,03,04* | ☐N/A ☐Approved ☐Remark |
| *Q2.2* | *ACCP Hall; Red Strobe Lights 05,06* | ☐N/A ☐Approved ☐Remark |
| *Q2.3* | *TMCP Hall; Red Strobe Lights 07,08,09,10* | ☐N/A ☐Approved ☐Remark |
| *Q2.4* | *TMCP Hall; Acoustic Sirens 05,06,07,08* | ☐N/A ☐Approved ☐Remark |

| | | |
|---|---|---|
| *Q2.5* | *TMCP Hall; Red Strobe Lights 11,12* | ☐N/A ☐Approved ☐Remark |
| *Q2.6* | *HPGS Room; Red Strobe Lights 13,14,15* | ☐N/A ☐Approved ☐Remark |
| *Q2.7* | *HPGS Room; Acoustic Sirens 09,10* | ☐N/A ☐Approved ☐Remark |
| *Q3.0* | *ACCP Hall (Outside); Red Strobe Lights 16,17* | ☐N/A ☐Approved ☐Remark |
| *Q3.1* | *ACCP Hall (Outside); Acoustic Sirens 11,12* | ☐N/A ☐Approved ☐Remark |
| *Q3.2* | *ACCP Hall (Outside); Red Strobe Lights 18,19* | ☐N/A ☐Approved ☐Remark |
| *Q3.3* | *ACCP Hall (Outside); Acoustic Sirens 13,14* | ☐N/A ☐Approved ☐Remark |
| *Q3.4* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q3.5* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q3.6* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q3.7* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q4.0* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q4.1* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q4.2* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q4.3* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q4.4* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q4.5* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q4.6* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q4.7* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q5.0* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q5.1* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q5.2* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q5.3* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q5.4* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q5.5* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q5.6* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q5.7* | *Reserve* | ☐N/A ☐Approved ☐Remark |

| **DETAILED FINDINGS APPROVAL**<br><br>***6. Check functions.*** | **Appendix 2: FAT** for **ACC.F02.K-U2** |
|---|---|

*6.20 PLC Test of analog inputs* ☐*N/A*

*Via a current generator, the analog input signals are simulated. (e.g. If a generated signal of 12mA is applied, the system (e.g. the operator panel) shall indicate 50% (50℃ degrees shall be indicated at a temperature input range of 0-100℃). Maximum value, minimum value, and center value is to be simulated for each signal.*

| **Physical address** | **Simulated value** | **Measured value** | **Description** | **Approval** |
|---|---|---|---|---|
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | *%* | *O2iM1-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | *%* | *O2iM1-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | *%* | *O2iM1-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | *%* | *O2iM2-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | *%* | *O2iM2-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | *%* | *O2iM2-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | *%* | *O2iM3-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | *%* | *O2iM3-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | *%* | *O2iM3-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |

| | | | | |
|---|---|---|---|---|
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | *%* | *O2iM4-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | *%* | *O2iM4-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | *%* | *O2iM4-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | % | *O2iM5-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | % | *O2iM5-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | % | *O2iM5-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | % | *O2iM6-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | % | *O2iM6-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | % | *O2iM6-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | % | *O2iM7-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | % | *O2iM7-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | % | *O2iM7-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | % | *O2iM8-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | % | *O2iM8-O2 level* | ☐N/A ☐Approved ☐Remark |

| | | | | |
|---|---|---|---|---|
| *IW* | *20mA* | % | *O2iM8-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | % | *O2iM9-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | % | *O2iM9-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | % | *O2iM9-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | % | *O2iM10-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | % | *O2iM10-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | % | *O2iM10-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | % | *O2iM11-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | % | *O2iM11-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | % | *O2iM11-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | % | *O2iM12-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | % | *O2iM12-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | % | *O2iM12-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |

| | | | | |
|---|---|---|---|---|
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |

**Appendix 2: FAT for ACC.F02.K-U2 PUNCH LIST**

## *7. Punch list.*

Any incomplete work or nonconformities shall be recorded on the FAT punch list and categorized as follows:

f) To be cleared on the spot, FAT to be continue after rectification;
g) Ongoing rectification during FAT;
h) FAT to be repeated;
i) Modifications to be made after FAT, before the system/cabinet/controllers are shipped to site;
j) Remaining work to be rectified i.e. at site;

| ITEM | DESCRIPTION | RESPONSIBLE | TYPE | COMPLETE |
|---|---|---|---|---|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |
| 10 | | | | |
| 11 | | | | |
| 12 | | | | |
| 13 | | | | |
| 14 | | | | |

| | | | | |
|---|---|---|---|---|
| 15 | | | | |
| 16 | | | | |
| 17 | | | | |
| 18 | | | | |
| 19 | | | | |
| 20 | | | | |
| 21 | | | | |
| 22 | | | | |
| 23 | | | | |
| 24 | | | | |
| 25 | | | | |

# Appendix 3: ODH Remote IO Electrical control rack 2

- **Facility Breakdown Structure designation name:**

  =ACC.F02.K01-U3

  ACC → Accelerator System

  F02→ ODH detection system

  K01 → Electrical-control equipment's

  U1 → ODH Remote IO rack 2

- **Location Breakdown Structure:**

  +ESS.G02.100.2002 → Gallery building, Coldbox Hall.

- **ESS naming convention identifier:**

  CXB-CXH: ODH-RIO-2 → Coldbox Building, Coldbox Hall, ODH, Remote IO Rack, 2

| **VALIDATION APPROVAL** | **Appendix 3: FAT** for **ACC.F02.K-U3** |
|---|---|
| ☐ APPROVED | ☐ REJECTED |
| SIGN: | SIGN: |
| DATE: | DATE: |

| | **SUMMARY FINDINGS** | | |
|---|---|---|---|
| | **Passed** | **Not Passed** | **NA** |
| 1. ***Check that the electrical equipment complies with the documentation for manufacturing. (according SS EN 60204-1)*** | ☐ | ☐ | ☐ |
| 2. ***Check that conditions for protection against indirect contact by automatic disconnection are fulfilled. (according SS EN 60204-1)*** | ☐ | ☐ | ☐ |
| 3. ***Check insulation resistance. (according SS EN 60204-1)*** | ☐ | ☐ | ☐ |
| 4. ***Check for disruptive discharge occurrence by voltage tests. (according SS EN 60204-1)*** | ☐ | ☐ | ☐ |
| 5. ***Check for residual voltages. (according SS EN 60204-1)*** | ☐ | ☐ | ☐ |
| 6. ***Check functions. (according SS EN 60204-1)*** | ☐ | ☐ | ☐ |
| 7. ***Punch list*** | ☐ | ☐ | ☐ |
| 8. | ☐ | ☐ | ☐ |
| 9. | ☐ | ☐ | ☐ |
| 10. | ☐ | ☐ | ☐ |

| **DETAILED FINDINGS APPROVAL**<br><br>***1. Check that the electrical equipment complies with the documentation for manufacturing*** | **Appendix 3: FAT** for **ACC.F02.K-U3** |
|---|---|
| ☐ APPROVED | ☐ REJECTED |
| SIGN: | SIGN: |
| DATE: | DATE: |

## *1. Check that the electrical equipment complies with the documentation for manufacturing*

## *Tests to be performed may be adjusted as applicable*

1.1 *Conductors inside control cabinets (colour, type, end sleeves) mounted according to the documentation for manufacturing*
☐N/A ☐Remark ☐Approved

1.2 *Marking of components shall be according to manufacturing documentation. The marking shall still be present even if the component is replaced, which means that the marking is to be located beside the component.*
☐N/A ☐Remark ☐Approved

1.3 *Function Markings e.g. above the actuators, operator panel, instruments, etc. performed according to manufacturing documentation.*
☐N/A ☐Remark ☐Approved

1.4 *Components selected according to the manufacturing documentation.*
☐N/A ☐Remark ☐Approved

1.5 *Placement of components inside control cabinets made according to production documentation. Mounting layout shall be compared with the control cabinet. For approval the components shall be positioned so that no confusion of components can be made in comparison with the mounting layout.*
☐N/A ☐Remark ☐Approved

1.6 *Functional separation inside control cabinets made according to production documentation. Mounting layout shall be compared with the control cabinet. For approval conductors shall be located in the designated conduit / cable path.*
☐N/A ☐Remark ☐Approved

1.7 *Marking of equipment a nameplate shall be mounted adjacent to the incoming supply point (main switch or terminal), according ESS-0015433 Rules for electrical design, Clause regarding Marking of cabinets.*
☐N/A ☐Remark ☐Approved

1.8 *IP-class shall comply with documentation for manufacturing*
☐N/A ☐Remark ☐Approved

1.9 *IP-class 21 (touch-proof) shall be fulfilled inside control cabinet.*
☐N/A ☐Remark ☐Approved

| **DETAILED FINDINGS APPROVAL**<br><br>***1. Check that the electrical equipment complies with the documentation for manufacturing*** | **Appendix 3: FAT** for **ACC.F02.K-U3** |
|---|---|

1.10 *Functional bonding. Mounting plate shall be galvanized. Colour at connection points for functional bonding must be removed. Connection points for functional bonding shall be threaded and spring washer positioned adjacent to the screw head.*
☐N/A ☐Remark ☐Approved

1.11 *Cable Markings shall comply with documentation for manufacturing.*
☐N/A ☐Remark ☐Approved

1.12 *Routing of installed cables shall comply with documentation for manufacturing.*
☐N/A ☐Remark ☐Approved

1.13 *Cable types shall comply with documentation for manufacturing.*
☐N/A ☐Remark ☐Approved

1.14 *Connections of installed cables shall comply with documentation for manufacturing.*
☐N/A ☐Remark ☐Approved

Additional Remarks

1.15 ……☐ Not approved ☐ Approved
1.16 ……☐ Not approved ☐ Approved
1.17 ……☐ Not approved ☐ Approved
1.18 ……☐ Not approved ☐ Approved
1.19 ……☐ Not approved ☐ Approved
1.20 ……☐ Not approved ☐ Approved
1.21 ……☐ Not approved ☐ Approved
1.22 ……☐ Not approved ☐ Approved
1.23 ……☐ Not approved ☐ Approved
1.24 ……☐ Not approved ☐ Approved
1.25 ……☐ Not approved ☐ Approved
1.26 ……☐ Not approved ☐ Approved
1.27 ……☐ Not approved ☐ Approved
1.28 ……☐ Not approved ☐ Approved
1.29 ……☐ Not approved ☐ Approved
1.30 ……☐ Not approved ☐ Approved
1.31 ……☐ Not approved ☐ Approved
1.32 ……☐ Not approved ☐ Approved
1.33 ……☐ Not approved ☐ Approved
1.34 ……☐ Not approved ☐ Approved
1.35 ……☐ Not approved ☐ Approved
1.36 ……☐ Not approved ☐ Approved

| **DETAILED FINDINGS APPROVAL**<br><br>***2. Check that conditions for protection against indirect contact by automatic disconnection are fulfilled.*** | **Appendix 3: FAT** for **ACC.F02.K-U3** |
|---|---|
| ☐ APPROVED | ☐ REJECTED |
| SIGN: | SIGN: |
| DATE: | DATE: |

## *2. Check that conditions for protection against indirect contact by automatic disconnection are fulfilled.*

*2.1 Check continuity of the protective bonding circuits*

☐*N/A* ☐*Approved* ☐*Remark*

*2.2 Check conditions for fault loop impedance by checking that conductor length and area comply with calculation*

☐*N/A* ☐*Approved* ☐*Remark*

*2.3 Check settings and characteristics of the associated overcurrent protective devices*

☐*N/A* ☐*Approved* ☐*Remark*

*2.4 Check conditions for protection by reducing the touch voltage below 50V by checking that conductor length and area comply with calculation.*
***NOTE – Equipotential protective bonding conductor area do not need to be larger than 25mm$^2$Cu.***

☐*N/A* ☐*Approved* ☐*Remark*

Additional Remarks

2.5 ……..…. ☐ Not approved ☐ Approved
2.6 ……..…. ☐ Not approved ☐ Approved
2.7 ……..…. ☐ Not approved ☐ Approved
2.8 ……..…. ☐ Not approved ☐ Approved
2.9 ……..…. ☐ Not approved ☐ Approved
2.10 ……..…. ☐ Not approved ☐ Approved
2.11 ……..…. ☐ Not approved ☐ Approved
2.12 ……..…. ☐ Not approved ☐ Approved
2.13 ……..…. ☐ Not approved ☐ Approved
2.14 ……..…. ☐ Not approved ☐ Approved
2.15 ……..…. ☐ Not approved ☐ Approved

| **DETAILED FINDINGS APPROVAL**<br><br>***3. Check insulation resistance.*** | **Appendix 3: FAT** for **ACC.F02.K-U3** |
|---|---|
| ☐ APPROVED | ☐ REJECTED |
| SIGN: | SIGN: |
| DATE: | DATE: |

# *3. Check insulation resistance.*

*3.1 Check insulation resistance*
☐*N/A* ☐*Approved* ☐*Remark*

Additional Remarks

3.2 ……☐ Not approved ☐ Approved
3.3 ……☐ Not approved ☐ Approved
3.4 ……☐ Not approved ☐ Approved
3.5 ……☐ Not approved ☐ Approved
3.6 ……☐ Not approved ☐ Approved
3.7 ……☐ Not approved ☐ Approved
3.8 ……☐ Not approved ☐ Approved
3.9 ……☐ Not approved ☐ Approved
3.10 ……☐ Not approved ☐ Approved
3.11 ……☐ Not approved ☐ Approved
3.12 ……☐ Not approved ☐ Approved
3.13 ……☐ Not approved ☐ Approved
3.14 ……☐ Not approved ☐ Approved
3.15 ……☐ Not approved ☐ Approved
3.16 ……☐ Not approved ☐ Approved
3.17 ……☐ Not approved ☐ Approved
3.18 ……☐ Not approved ☐ Approved
3.19 ……☐ Not approved ☐ Approved
3.20 ……☐ Not approved ☐ Approved
3.21 ……☐ Not approved ☐ Approved
3.22 ……☐ Not approved ☐ Approved
3.23 ……☐ Not approved ☐ Approved
3.24 ……☐ Not approved ☐ Approved
3.25 ……☐ Not approved ☐ Approved

| **DETAILED FINDINGS APPROVAL**<br><br>***4. Check for disruptive discharge occurrence by voltage tests.*** | **Appendix 3: FAT** for **ACC.F02.K-U3** |
|---|---|
| ☐ APPROVED | ☐ REJECTED |
| SIGN: | SIGN: |
| DATE: | DATE: |

# *4. Check for disruptive discharge occurrence by voltage tests.*

*4.1 Check for disruptive discharge*
☐*N/A* ☐*Approved* ☐*Remark*

Additional Remarks

4.2 ……☐ Not approved ☐ Approved
4.3 ……☐ Not approved ☐ Approved
4.4 ……☐ Not approved ☐ Approved
4.5 ……☐ Not approved ☐ Approved
4.6 ……☐ Not approved ☐ Approved
4.7 ……☐ Not approved ☐ Approved
4.8 ……☐ Not approved ☐ Approved
4.9 ……☐ Not approved ☐ Approved
4.10 ……☐ Not approved ☐ Approved
4.11 ……☐ Not approved ☐ Approved
4.12 ……☐ Not approved ☐ Approved
4.13 ……☐ Not approved ☐ Approved
4.14 ……☐ Not approved ☐ Approved
4.15 ……☐ Not approved ☐ Approved
4.16 ……☐ Not approved ☐ Approved
4.17 ……☐ Not approved ☐ Approved
4.18 ……☐ Not approved ☐ Approved
4.19 ……☐ Not approved ☐ Approved
4.20 ……☐ Not approved ☐ Approved
4.21 ……☐ Not approved ☐ Approved
4.22 ……☐ Not approved ☐ Approved
4.23 ……☐ Not approved ☐ Approved
4.24 ……☐ Not approved ☐ Approved
4.25 ……☐ Not approved ☐ Approved

| **DETAILED FINDINGS APPROVAL**<br><br>***5. Check for residual voltages.*** | **Appendix 3: FAT** for **ACC.F02.K-U3** |
|---|---|
| ☐ APPROVED | ☐ REJECTED |
| SIGN: | SIGN: |
| DATE: | DATE: |

# *5. Check for residual voltages.*

*5.1 Check for residual voltages*
☒*N/A* ☐*Approved* ☐*Remark*

Additional Remarks

5.2 ..... ☐ Not approved ☐ Approved
5.3 ..... ☐ Not approved ☐ Approved
5.4 ..... ☐ Not approved ☐ Approved
5.5 ..... ☐ Not approved ☐ Approved
5.6 ..... ☐ Not approved ☐ Approved
5.7 ..... ☐ Not approved ☐ Approved
5.8 ..... ☐ Not approved ☐ Approved
5.9 ..... ☐ Not approved ☐ Approved
5.10 ..... ☐ Not approved ☐ Approved
5.11 ..... ☐ Not approved ☐ Approved
5.12 ..... ☐ Not approved ☐ Approved
5.13 ..... ☐ Not approved ☐ Approved
5.14 ..... ☐ Not approved ☐ Approved
5.15 ..... ☐ Not approved ☐ Approved
5.16 ..... ☐ Not approved ☐ Approved
5.17 ..... ☐ Not approved ☐ Approved
5.18 ..... ☐ Not approved ☐ Approved
5.19 ..... ☐ Not approved ☐ Approved
5.20 ..... ☐ Not approved ☐ Approved
5.21 ..... ☐ Not approved ☐ Approved
5.22 ..... ☐ Not approved ☐ Approved
5.23 ..... ☐ Not approved ☐ Approved
5.24 ..... ☐ Not approved ☐ Approved
5.25 ..... ☐ Not approved ☐ Approved

| **DETAILED FINDINGS APPROVAL**<br><br>***6. Check functions.*** | **Appendix 3: FAT** for **ACC.F02.K-U3** |
|---|---|
| ☐ APPROVED | ☐ REJECTED |
| SIGN: | SIGN: |
| DATE: | DATE: |

## *6. Check functions.*

## *Tests to be performed may be adjusted as applicable*

*6.1 Test Supply disconnecting device by switching on and off. In off position, all electrical supply to the controlled equipment shall be isolated. Selected electrical points are measured and checked that no electrical voltage is present. In on position, all electrical components shall be electrically supplied, and CPU, OP, etc. shall automatically go into RUN mode. (Orange conductors are not covered by the test).*
☐*N/A* ☐*Approved* ☐*Remark*

*6.2 Emergency Stop Function shall disconnect electric supply to equipment according to risk assessment.*
☒*N/A* ☐*Approved* ☐*Remark*

*6.3 Active-unacknowledged, active-acknowledged, acknowledged inactive- alarm is indicated.*
☒*N/A* ☐*Approved* ☐*Remark*

*6.4 Equipment shall not restart automatically after power failure. Example, if a local disconnecting device to a motor is operated, etc.*
☒*N/A* ☐*Approved* ☐*Remark*

Additional Remarks

6.5 ……..…. ☐ Not approved ☐ Approved
6.6 ……..…. ☐ Not approved ☐ Approved
6.7 ……..…. ☐ Not approved ☐ Approved
6.8 ……..…. ☐ Not approved ☐ Approved
6.9 ……..…. ☐ Not approved ☐ Approved
6.10 ……..…. ☐ Not approved ☐ Approved
6.11 ……..…. ☐ Not approved ☐ Approved
6.12 ……..…. ☐ Not approved ☐ Approved
6.13 ……..…. ☐ Not approved ☐ Approved
6.14 ……..…. ☐ Not approved ☐ Approved
6.15 ……..…. ☐ Not approved ☐ Approved
6.16 ……..…. ☐ Not approved ☐ Approved
6.17 ……..…. ☐ Not approved ☐ Approved

| **DETAILED FINDINGS APPROVAL**<br><br>***6. Check functions.*** | **Appendix 3: FAT** for **ACC.F02.K-U3** |
|---|---|

*6.18 PLC Test of digital inputs* ☐*N/A*

*The digital inputs are activated by simulating an activation via the terminals, push buttons, turn feedbacks on solenoids, pumps (contactors), etc.*
*The activation of a digital input is controlled via the programming tool by checking its status and the applicable functions via the operator panel (e.g. alarms).*

| Physical address | Description | Approval |
|---|---|---|
| *I0.0* | *O2iM13-ALARM* | ☐N/A ☐Approved ☐Remark |
| *I0.1* | *O2iM13-SYSTEM OK* | ☐N/A ☐Approved ☐Remark |
| *I0.2* | *O2iM13-WARNING* | ☐N/A ☐Approved ☐Remark |
| *I0.3* | *O2iM13-LIMIT A* | ☐N/A ☐Approved ☐Remark |
| *I0.4* | *O2iM13-LIMIT B* | ☐N/A ☐Approved ☐Remark |
| *I0.5* | *O2iM14-ALARM* | ☐N/A ☐Approved ☐Remark |
| *I0.6* | *O2iM14-SYSTEM OK* | ☐N/A ☐Approved ☐Remark |
| *I0.7* | *O2iM14-WARNING* | ☐N/A ☐Approved ☐Remark |
| *I1.0* | *O2iM14-LIMIT A* | ☐N/A ☐Approved ☐Remark |
| *I1.1* | *O2iM14-LIMIT B* | ☐N/A ☐Approved ☐Remark |
| *I1.2* | *O2iM15-ALARM* | ☐N/A ☐Approved ☐Remark |
| *I1.3* | *O2iM15-SYSTEM OK* | ☐N/A ☐Approved ☐Remark |
| *I1.4* | *O2iM15-WARNING* | ☐N/A ☐Approved ☐Remark |
| *I1.5* | *O2iM15-LIMIT A* | ☐N/A ☐Approved ☐Remark |
| *I1.6* | *O2iM15-LIMIT B* | ☐N/A ☐Approved ☐Remark |
| *I1.7* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I2.0* | *O2iM16-ALARM* | ☐N/A ☐Approved ☐Remark |
| *I2.1* | *O2iM16-SYSTEM OK* | ☐N/A ☐Approved ☐Remark |
| *I2.2* | *O2iM16-WARNING* | ☐N/A ☐Approved ☐Remark |
| *I2.3* | *O2iM16-LIMIT A* | ☐N/A ☐Approved ☐Remark |
| *I2.4* | *O2iM16-LIMIT B* | ☐N/A ☐Approved ☐Remark |
| *I2.5* | *O2iM17-ALARM* | ☐N/A ☐Approved ☐Remark |
| *I2.6* | *O2iM17-SYSTEM OK* | ☐N/A ☐Approved ☐Remark |
| *I2.7* | *O2iM17-WARNING* | ☐N/A ☐Approved ☐Remark |

| | | |
|---|---|---|
| *I3.0* | *O2iM17-LIMIT A* | ☐N/A ☐Approved ☐Remark |
| *I3.1* | *O2iM17-LIMIT B* | ☐N/A ☐Approved ☐Remark |
| *I3.2* | *O2iM18-ALARM* | ☐N/A ☐Approved ☐Remark |
| *I3.3* | *O2iM18-SYSTEM OK* | ☐N/A ☐Approved ☐Remark |
| *I3.4* | *O2iM18-WARNING* | ☐N/A ☐Approved ☐Remark |
| *I3.5* | *O2iM18-LIMIT A* | ☐N/A ☐Approved ☐Remark |
| *I3.6* | *O2iM18-LIMIT B* | ☐N/A ☐Approved ☐Remark |
| *I3.7* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I4.0* | *O2iM19-ALARM* | ☐N/A ☐Approved ☐Remark |
| *I4.1* | *O2iM19-SYSTEM OK* | ☐N/A ☐Approved ☐Remark |
| *I4.2* | *O2iM19-WARNING* | ☐N/A ☐Approved ☐Remark |
| *I4.3* | *O2iM19-LIMIT A* | ☐N/A ☐Approved ☐Remark |
| *I4.4* | *O2iM19-LIMIT B* | ☐N/A ☐Approved ☐Remark |
| *I4.5* | *O2iM20-ALARM* | ☐N/A ☐Approved ☐Remark |
| *I4.6* | *O2iM20-SYSTEM OK* | ☐N/A ☐Approved ☐Remark |
| *I4.7* | *O2iM20-WARNING* | ☐N/A ☐Approved ☐Remark |
| *I5.0* | *O2iM20-LIMIT A* | ☐N/A ☐Approved ☐Remark |
| *I5.1* | *O2iM20-LIMIT B* | ☐N/A ☐Approved ☐Remark |
| *I5.2* | *O2iM21-ALARM* | ☐N/A ☐Approved ☐Remark |
| *I5.3* | *O2iM21-SYSTEM OK* | ☐N/A ☐Approved ☐Remark |
| *I5.4* | *O2iM21-WARNING* | ☐N/A ☐Approved ☐Remark |
| *I5.5* | *O2iM21-LIMIT A* | ☐N/A ☐Approved ☐Remark |
| *I5.6* | *O2iM21-LIMIT B* | ☐N/A ☐Approved ☐Remark |
| *I5.7* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I6.0* | *O2iM22-ALARM* | ☐N/A ☐Approved ☐Remark |
| *I6.1* | *O2iM22-SYSTEM OK* | ☐N/A ☐Approved ☐Remark |
| *I6.2* | *O2iM22-WARNING* | ☐N/A ☐Approved ☐Remark |
| *I6.3* | *O2iM22-LIMIT A* | ☐N/A ☐Approved ☐Remark |
| *I6.4* | *O2iM22-LIMIT B* | ☐N/A ☐Approved ☐Remark |
| *I6.5* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I6.6* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I6.7* | *Reserve* | ☐N/A ☐Approved ☐Remark |

| | | |
|---|---|---|
| *I7.0* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I7.1* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I7.2* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I7.3* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I7.4* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I7.5* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I7.6* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I7.7* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I8.0* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I8.1* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I8.2* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I8.3* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I8.4* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I8.5* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I8.6* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I8.7* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I9.0* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I9.1* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I9.2* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I9.3* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I9.4* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I9.5* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I9.6* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *I9.7* | *Reserve* | ☐N/A ☐Approved ☐Remark |

| **DETAILED FINDINGS APPROVAL**<br><br>***6. Check functions.*** | **Appendix 3: FAT** for **ACC.F02.K-U3** |
|---|---|

*6.19 PLC Test of digital outputs* ☐*N/A*

*By forcing the digital outputs via the programming tool, the corresponding objects connected to the digital output are activated. Is no object connected to the digital output, the output's activation is controlled by a multimeter connected to the last junction of the output.*

| Physical address | Description | Approval |
|---|---|---|
| *Q0.0* | *O2iM13-ALARM ACK SWITCH* | ☐N/A ☐Approved ☐Remark |
| *Q0.1* | *O2iM14-ALARM ACK SWITCH* | ☐N/A ☐Approved ☐Remark |
| *Q0.2* | *O2iM15-ALARM ACK SWITCH* | ☐N/A ☐Approved ☐Remark |
| *Q0.3* | *O2iM16-ALARM ACK SWITCH* | ☐N/A ☐Approved ☐Remark |
| *Q0.4* | *O2iM17-ALARM ACK SWITCH* | ☐N/A ☐Approved ☐Remark |
| *Q0.5* | *O2iM18-ALARM ACK SWITCH* | ☐N/A ☐Approved ☐Remark |
| *Q0.6* | *O2iM19-ALARM ACK SWITCH* | ☐N/A ☐Approved ☐Remark |
| *Q0.7* | *O2iM20-ALARM ACK SWITCH* | ☐N/A ☐Approved ☐Remark |
| *Q1.0* | *O2iM21-ALARM ACK SWITCH* | ☐N/A ☐Approved ☐Remark |
| *Q1.1* | *O2iM22-ALARM ACK SWITCH* | ☐N/A ☐Approved ☐Remark |
| *Q1.2* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q1.3* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q1.4* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q1.5* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q1.6* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q1.7* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q2.0* | *CXH Hall; Red Strobe Lights 20,21* | ☐N/A ☐Approved ☐Remark |
| *Q2.1* | *CXH Hall; Acoustic Sirens 15,16* | ☐N/A ☐Approved ☐Remark |
| *Q2.2* | *CXH Hall; Red Strobe Lights 25,26* | ☐N/A ☐Approved ☐Remark |
| *Q2.3* | *CXH Hall; Acoustic Sirens 17,18* | ☐N/A ☐Approved ☐Remark |
| *Q2.4* | *CXH Hall; Red Strobe Lights 22,23,24* | ☐N/A ☐Approved ☐Remark |
| *Q2.5* | *CXH Hall (Outside); Red Strobe Lights 27,28* | ☐N/A ☐Approved ☐Remark |

| | | |
|---|---|---|
| *Q2.6* | *CXH Hall (Outside); Acoustic Sirens 19,20* | ☐N/A ☐Approved ☐Remark |
| *Q2.7* | *CXH Hall (Outside); Red Strobe Lights 29,30,31* | ☐N/A ☐Approved ☐Remark |
| *Q3.0* | *CXH Hall (Outside); Acoustic Sirens 21,22,23* | ☐N/A ☐Approved ☐Remark |
| *Q3.1* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q3.2* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q3.3* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q3.4* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q3.5* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q3.6* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q3.7* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q4.0* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q4.1* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q4.2* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q4.3* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q4.4* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q4.5* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q4.6* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q4.7* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q5.0* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q5.1* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q5.2* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q5.3* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q5.4* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q5.5* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q5.6* | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *Q5.7* | *Reserve* | ☐N/A ☐Approved ☐Remark |

| **DETAILED FINDINGS APPROVAL**<br><br>***6. Check functions.*** | **Appendix 3: FAT** for **ACC.F02.K-U3** |
|---|---|

*6.20 PLC Test of analog inputs* ☐*N/A*

*Via a current generator, the analog input signals are simulated. (e.g. If a generated signal of 12mA is applied, the system (e.g. the operator panel) shall indicate 50% (50℃ degrees shall be indicated at a temperature input range of 0-100℃). Maximum value, minimum value, and center value is to be simulated for each signal.*

| **Physical address** | **Simulated value** | **Measured value** | **Description** | **Approval** |
|---|---|---|---|---|
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | *%* | *O2iM13-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | *%* | *O2iM13-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | *%* | *O2iM13-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | *%* | *O2iM14-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | *%* | *O2iM14-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | *%* | *O2iM14-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | *%* | *O2iM15-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | *%* | *O2iM15-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | *%* | *O2iM15-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |

| | | | | |
|---|---|---|---|---|
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | *%* | *O2iM16-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | *%* | *O2iM16-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | *%* | *O2iM16-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | *%* | *O2iM17-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | *%* | *O2iM17-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | *%* | *O2iM17-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | *%* | *O2iM18-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | *%* | *O2iM18-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | *%* | *O2iM18-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | *%* | *O2iM19-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | *%* | *O2iM19-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | *%* | *O2iM19-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | *%* | *O2iM20-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | *%* | *O2iM20-O2 level* | ☐N/A ☐Approved ☐Remark |

| | | | | |
|---|---|---|---|---|
| *IW* | *20mA* | *%* | *O2iM20-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | *%* | *O2iM21-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | *%* | *O2iM21-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | *%* | *O2iM21-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | *%* | *O2iM22-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | *%* | *O2iM22-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | *%* | *O2iM22-O2 level* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |

| | | | | |
|---|---|---|---|---|
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *4mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *12mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |
| *IW* | *20mA* | | *Reserve* | ☐N/A ☐Approved ☐Remark |

**Appendix 3: FAT for ACC.F02.K-U3 PUNCH LIST**

## *7. Punch list.*

Any incomplete work or nonconformities shall be recorded on the FAT punch list and categorized as follows:

k) To be cleared on the spot, FAT to be continue after rectification;
l) Ongoing rectification during FAT;
m) FAT to be repeated;
n) Modifications to be made after FAT, before the system/cabinet/controllers are shipped to site;
o) Remaining work to be rectified i.e. at site;

| ITEM | DESCRIPTION | RESPONSIBLE | TYPE | COMPLETE |
|---|---|---|---|---|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |
| 10 | | | | |
| 11 | | | | |
| 12 | | | | |
| 13 | | | | |
| 14 | | | | |
| 15 | | | | |

| | | | | |
|---|---|---|---|---|
| 16 | | | | |
| 17 | | | | |
| 18 | | | | |
| 19 | | | | |
| 20 | | | | |
| 21 | | | | |
| 22 | | | | |
| 23 | | | | |
| 24 | | | | |
| 25 | | | | |

# FAT CERTIFICATE

ACCEPTED ☐ NOT ACCEPTED ☐

| | | | |
|---|---|---|---|
| **Customer** | *European Spallation Source ERIC* | *ICS Division, PS Group, PSS - WP14.9* | |
| **Project** | *Accelerator ODH Detection System* | **High level function** | *=ESS.ACC.F02* |
| **Physical location** | *ESS.G02.100*<br>*ESS.G04.090 & .100* | **Equipment's tested** | =ACC.F02.K01-U1<br>=ACC.F02.K01-U2<br>=ACC.F02.K01-U3 |
| **Vendor** | *Processkontroll AB* | **Venue of FAT** | *SE- 444 02 Stora Höga, Sweden* |
| **FAT finished on** | | | |

| | | | |
|---|---|---|---|
| **Special requirements** | | | |
| **No punch list items were found** ☐ | | **Punch list items were found** ☐<br>(See remarks at punch list) | |
| **Re-Check necessary** ☐ | | **Re-Check NOT necessary** ☐ | |
| **System ready for shipment** ☐ | **Remarks** | | |

## Authorized representatives/Signatures:

| | | | |
|---|---|---|---|
| **Customer** | | | |
| **Vendor** | | | |