FACTORY ACCEPTANCE TEST REPORT

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1. INTRODUCTION

This document details the Factory Acceptance Testing(FAT) migration existing System to TAS and PLC Modification

1.1. Glossary of Terms & Acronyms Used In This Manual

Term or Acronym	Context	Meaning
N/A	Not application	The test or check that not applicable to specify items
PLC	Control system	Programmable Logic Control
HMI	Control system	Human Machine Interface
TAS	Control system	Terminal Automation System
OPC	Communication protocol	Open Platform Communications
FAT		Factory Acceptance Test

1.2. FAT Location

The FAT Location will be at : Salad House (iPlace Laem Chabang)

1.3. Procedure for Non-Conformities

After the test and verification of each item then it shall be marked as completed. If any malfunction is detected, the test sequence shall be repeated. If the malfunction cannot be reproduced, the error shall be investigated after the completion of the FAT - with an entry to be made into the FAT Configuration query file. If the error can be reproduced, the test will be continued and the error logged on the punch-list sheets. Where possible the fault will be corrected prior to being re-tested on the next day or prior to the completion of the FAT. If this is not possible, a further entry shall be made into the FAT Configuration query file. G-innovation will rectify and re-test these defects after the FAT has been completed.

Once the FAT has been successfully completed, the nominated customer and G-innovation representatives shall sign the FAT Completion Certificate. At this point the FAT shall be deemed to be complete and commissioning contingent upon any defects noted in the FAT Configuration query index being rectified.

1.4. FAT Objectives

The objectives of the FAT are to establish within reasonable time and cost that the control systems can be commissioned on site for plant operations with minimum of problems, and that they will perform as defined in the approved documents.

1.5. FAT Test Architecture

There is limitation of prepare hardware to be the same as real design control system. So the FAT cannot prepare all hardware to be same as real use. The system overview as below is prepare for FAT.

Figure1 System Configuration for FAT

1.6. BOM Check List

3rd Hardware

Item	Catalog no	Description	Quantity	Unit	Pass/Fail or Data
1	HPE ProLiant DL360	TAS Server/Database	1	Set	
2	Laptop	PLC Simulation/TAS Client	2	Set	
3	Switch Hub TP-link	Communication	1	Set	
4	Mercury 2 + Terminal	Card Reader	1	Set	
5	Smitch Meter AccuLoad III	Accuload 3 .net	1	Set	
6	DeviceMaster ® RTS 4-Port DB9	Serial Hub Communication	1	Set	
7	Martel beta mc-1200	Pulse Generator	1	Set	

Software

Item	Catalog no	Description	Quantity	Unit	Pass/Fail or Data
1	KEPServerEx6.9	OPC Server	1	License	
2	Oracle 11G R2	TAS Database Server	2	License	
3	Visual Studio 2019	Code Editing	1	License	
4	Comtrol Device Management Console	Serial Hub Communication	1	License	

1.7. TAS Interface Test with 3rd Party Device

Description : Connect Device

Item	Function	Result		Remark
		Pass	Fail	
1.	TAS Connect to Kepware OPC	☐	☐	
2.	Kepware OPC Connect to PLC	☐	☐	
3.	Connect to Card Reader	☐	☐	
4.	Connect to AccuLoad 3	☐	☐	
5.	Connect to Database Server	☐	☐	

Note :

1.8. PLC IO Module Test

Description : PLC Module Test

Item	Function		Result		Remark
	IO Address	PLC Tag	Pass	Fail	
1	Local:3:I.DATA.23	C_3600L-HZA096	☐	☐	
2	Local:3:I.DATA.30	C_3600L-GZS093	☐	☐	
3	Local:3:I.DATA.31	C_3600L-GZS094	☐	☐	
4		C_CARD_READER_BAY5	☐	☐	
5	Local:5:O.Data.29	C_PERMISSIVE_TO_ACL12	☐	☐	

Note :

1.9. Kepware OPC Data Test

Title: PLC Module Test

Item	Function		Result		Remark
	OPC TAG	Description	Pass	Fail	
1	C_3600L-HZA096	ESD Gantry A S/D PD (BAY5)	☐	☐	
2	C_3600L-GZS093	Ball Valve Open Side A(102C)	☐	☐	
3	C_3600L-GZS094	Earth A (Gantry A) PD (BAY5)	☐	☐	
4	C_CARD_READER_BAY5	Change Over Card Reader Bay5	☐	☐	
5	C_PERMISSIVE_TO_ACL12	Permissive (to ACL12)	☐	☐	

Note :

Check-list sign-off	
Tester (Name)	Signature and Date
Customer Approver (Name)	Signature and Date

2. TAS FUNCTIONAL TEST

2.1. Create a Ticket Delivery Order (Create DO)

Creation product ticket from the TAS system is used as the default information to create order.

Description : Create DO				
Item	**Function**	**Result**		**Remark**
		Pass	**Fail**	
1.	DO Number :	☐	☐	
2.	Product :	☐	☐	
3.	Quality :	☐	☐	

2.2. Create Load

The product and quantity obtained from the tickets creation. The system will (DO) arrange the compartment for the truck and check the vehicle information and permission for driver and card (Black List, Expiration Date) before creating a settlement and printing a filly guide. Then after the payment is created successfully, Driver can use the fill rate to create a filling invoice and payout.

Description : Create Load				
Item	**Function**	**Result**		**Remark**
		Pass	**Fail**	
1.	Load Number :	☐	☐	
2.	Product Volume:	☐	☐	
3.	Truck Number :	☐	☐	
4.	Driver Name :	☐	☐	
5.	Card No :	☐	☐	

2.3. Tap The Entrance Gate

The driver must tap the card on card reader (Entrance Gate) before truck through to loading area for receive the product, The system will check the load status. In case the entrance card is not reached when touching the card, the Gate Barrier will not open. Tapping the card at the entrance is as follows:

Description : Tap The Entrance Gate				
Item	**Function**	**Result**		**Remark**
		Pass	**Fail**	
1.	Tap The Entrance Gate Success :	☐	☐	

2.4. Tap the Card at Bay

the driver must tap the card at the payer card reader to begin the process of receiving the product according to the refill instructions. Tapping a card at the bay is as follows:

a) The driver takes the truck to the pay plant as specified in the refill instructions.

b) The driver connects the ground line and puts the proboscis into the vehicle's inlet.

c) The driver taps the card at the payer card reader. Interlock Inspection System

- EARTH C
- BALL VALVE C
- ESD CCR
- ESD BAY 5
- ESD FIRE ALARM
- ESD GATE HOUSE
- PERMISSIVE C

Description : Interlock Bay

Item	Function	Result		Remark
		Pass	Fail	
Interlock Bay				
1	EARTH C	☐	☐	
2	BALL VALVE C	☐	☐	
3	ESD CCR	☐	☐	
4	ESD BAY 5	☐	☐	
5	ESD FIRE ALARM	☐	☐	
6	ESD GATE HOUSE	☐	☐	
7	PERMISSIVE C	☐	☐	
AB Normal				
8	Start Load at Bay 5, Meter 12 while loading products at Bay 2, Meter 12	☐	☐	
9	Permissive C OFF	☐	☐	
10	Ball Valve C OFF	☐	☐	

Note:

2.5. Tap The Exit Gate

The driver must tap the card on the balance card reader to record the weight out before taking the vehicle to the exit to finish receiving the product. Tapping a heavy weight card is as follows:

a) The driver puts the car on the scale in the correct position according to the type of vehicle.

b) The driver taps the car card at the card reader.

c) Monitoring System

- If you tap Pass Time Recording, Heavy Weight and Print Delivery Report
- In case of failing to touch the card The system displays a warning message, the driver contacts the staff for further examination and correction.

Description : Tap The Exit Gate				
Item	**Function**	**Result**		**Remark**
		Pass	**Fail**	
1.	Tap The Exit Gate Success :	☐	☐	

2.6. Show invoice report

Description : Show invoice report				
Item	**Function**	**Result**		**Remark**
		Pass	**Fail**	
1.	Show invoice report:	☐	☐	

Check-list sign-off	
Tester (Name)	Signature and Date
Customer Approver (Name)	Signature and Date

3. PUNCH LIST

Log No	Description	Date	Signed	Retested and OK Signed	Comments
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
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