



KM Best Practice

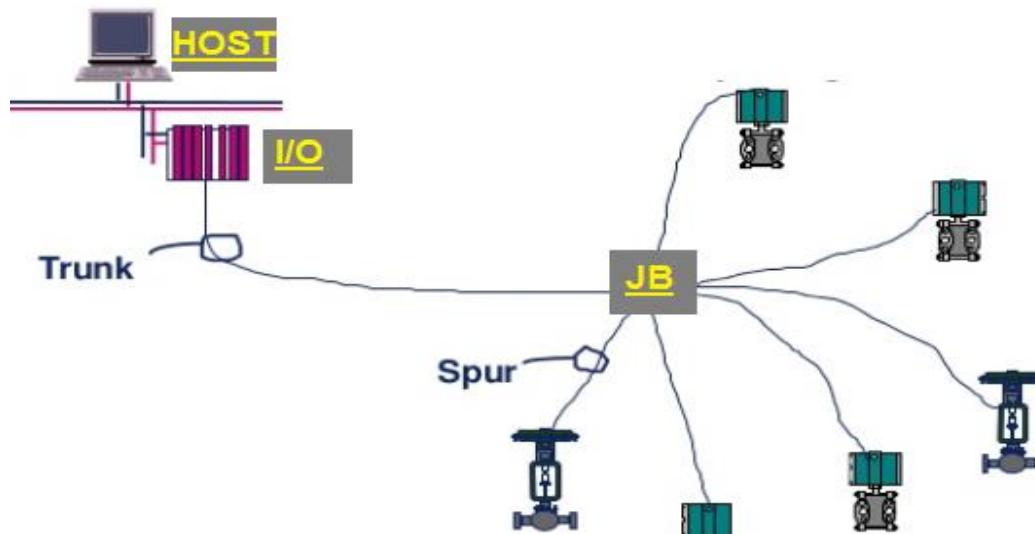
GC5 TANKFARM SEQUENCE TABLE / FLOWCHART MONITORING ON DCS SYSTEM

BY _NARIS.T



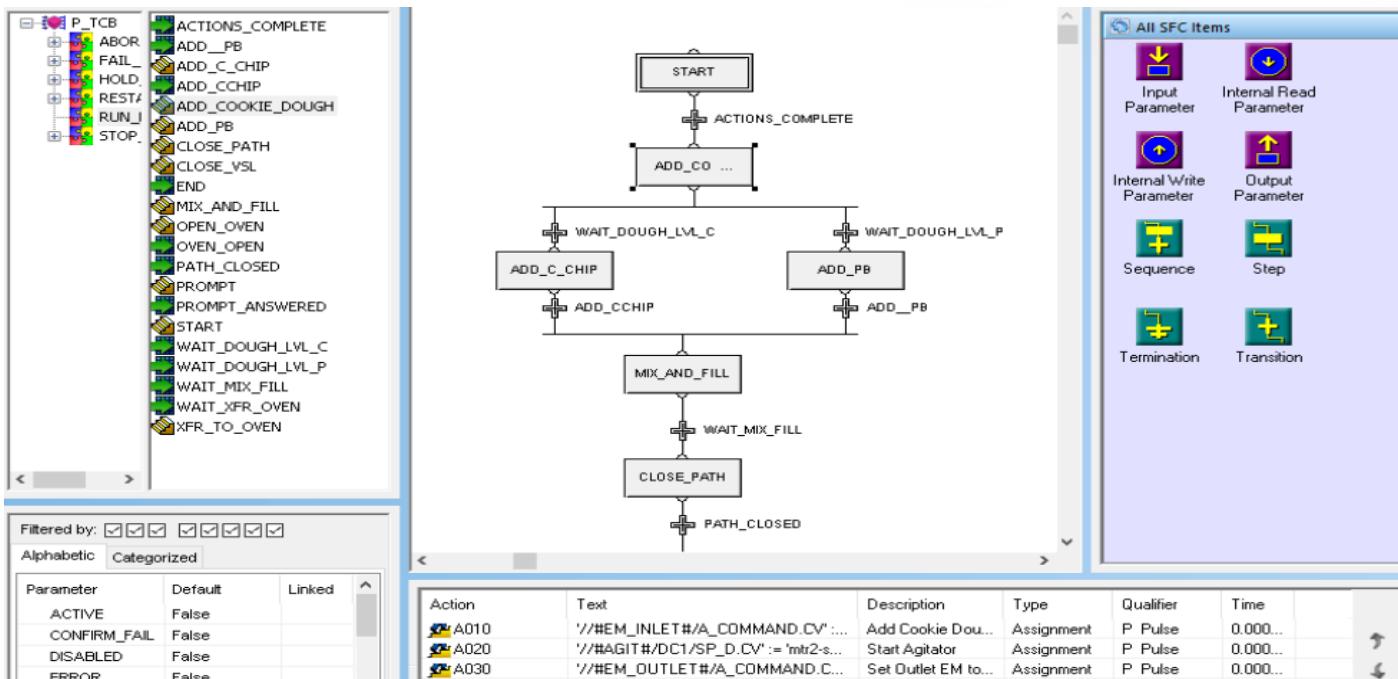
Background

- Fieldbus FOUNDATION : IEC 61158-2
- Increase I/O capacity while reducing wiring
- Increase your quality and throughput by taking advantage of the added diagnostics of FOUNDATION fieldbus I/O devices
- System Size 7000 DSTs : **5237**
- Control in the Field.....



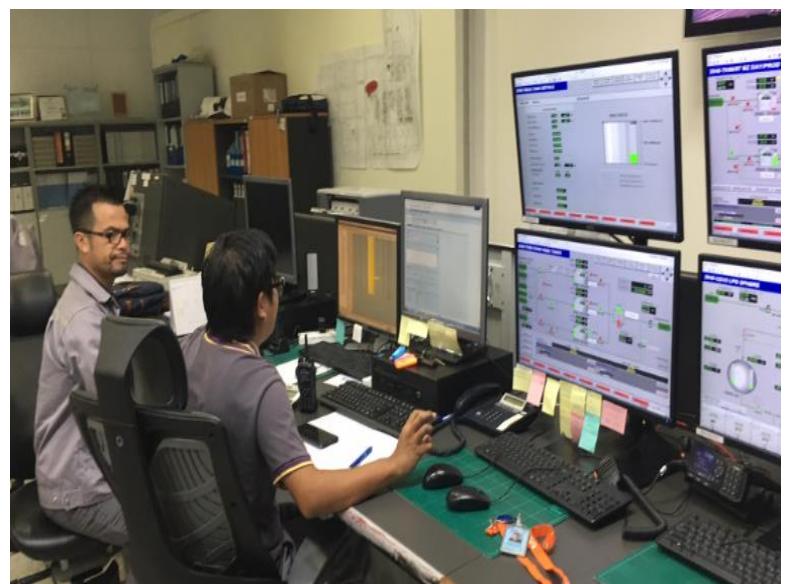
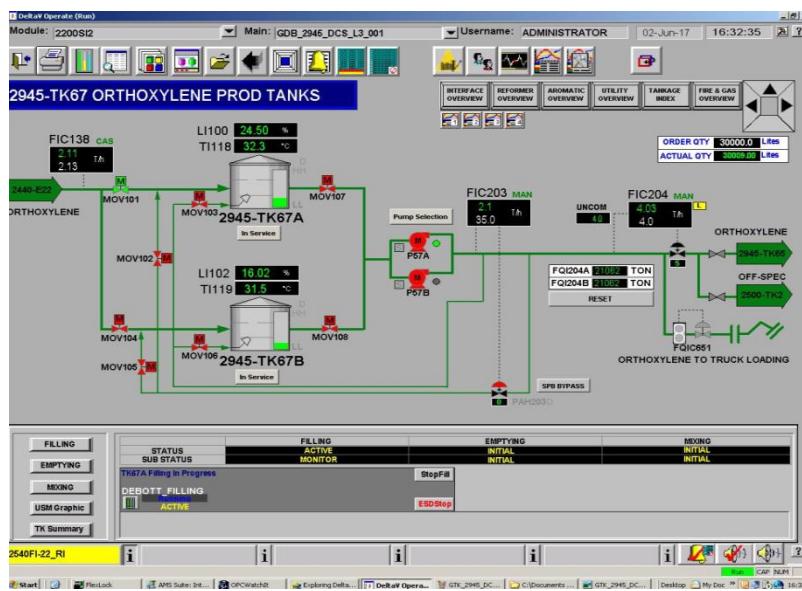
Background

- Tank Farm : (SFCs) Sequential Function Charts IEC 61131-3
 - Easy to understand
 - Clearly and simply represent the steps of the process.
 - Startup/shutdown/ control Batch sequences (fill, mix, heat, dump)



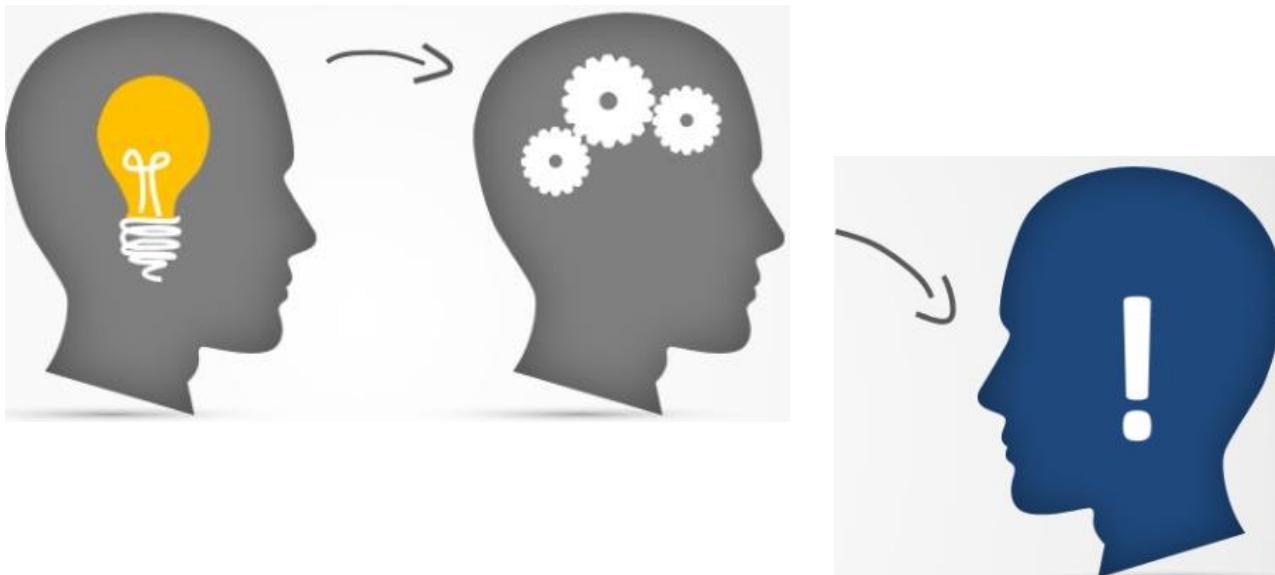
PROBLEM

- Equipment Function Failure / Interrupt ?
- What is go wrong?
- What is a root cause ?
- Who can support ?



INITIATIVE IDEAS

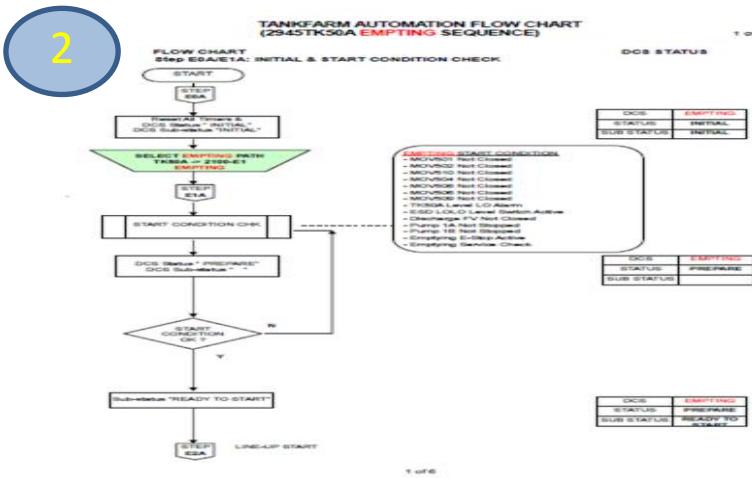
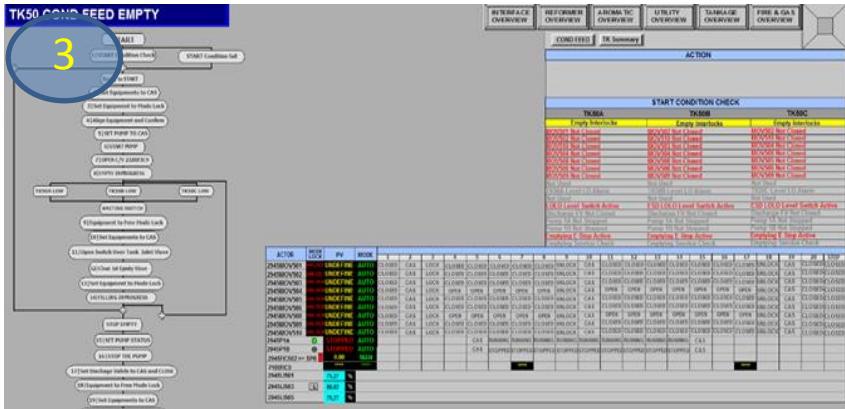
- R & I (Resourcefulness and initiative) to break through barriers.
- Develop an “outcome-oriented”
- Focusing and executing



INITIATIVE IDEAS

- Flowchart and Sequence table list (29 Tanks / 16 Products)

SEQ NO.	PRODUCT	PATH	MODE	PUMP	Tank SW over	Custody Meter	REMARK
1	TRANSEATE FEED	TTT -> TK50A TTT -> TK50B TTT -> TK50C	FILLING FILLING FILLING		TK50A -> 50C TK50B -> 50C, 50A TK50C -> 50A, 50B	NO CUST METER NO CUST METER NO CUST METER	TTT ORD REQD TTT ORD REQD TTT ORD REQD
		TK50A -> 2100-E VV1 TK50B -> 2100-E VV1 TK50C -> 2100-E VV1	EMPTYING EMPTYING EMPTYING	2945P1A/B 2945P1A/B 2945P1A/B	TK50B -> 50C, 50A TK50C -> 50A, 50B		
		TK50A TK50B TK50C	EMPT EMPT EMPT	2945P1A/B 2945P1A/B 2945P1A/B			
		RE CIRCULATION (SPILLBACK) RE CIRCULATION (SPILLBACK) RE CIRCULATION (SPILLBACK)	2945P1A/B 2945P1A/B 2945P1A/B			NOT REQUIRED NOT REQUIRED NOT REQUIRED	
2	CONDENSATE RESIDUE	TK51 -> TTT DR RPC	FILLING				
		TK51	EMPTYING	2945P2A/B	FQC-651	TTT/RPC ORD REQD	
		TK51	RE CIRCULATION (SPILLBACK)	2945P2A/B			
3	PYROLYSIS GASOLINE	TOC -> TK53	FILLING		FQC-671	TOC ORD REQD	
		TK53 -> 2380E V3/V3	EMPTYING	2945P12A/B			
		TK53	RE CIRCULATION (SPILLBACK)	2945P12A/B		NOT REQUIRED	
4	PARAXYLENE	TK54P7 -> TK54A 2900-E/P7 -> TK4B	FILLING (DAY/TK) FILLING (DAY/TK)		TK54A -> 54B TK4B -> 54A		
		TK54A -> 2650-TK2	EMPTYING (INVENT TK)	2945P4A/B			
		TK54A -> 2650-TK3	EMPTYING (OFF SPEC)	2945P4A/B			
		TK54B -> TK45	EMPTYING (OFF SPEC)	2945P4A/B			
		TK54A -> TK55A	FILLING (PROD TK)	2945P5A/B			
		TK54B -> TK55B	FILLING (PROD TK)	2945P5A/B			
		TK54A -> TK55A	FILLING (PROD TK)	2945P5A/B			
		TK54B -> TK55B	FILLING (PROD TK)	2945P5A/B			
		TK55A -> 55B	EMPTYING	2945P5A/B	FQC-611	ORD REQD	
		TK55B -> 55A	EMPTYING	2945P5A/B	FQC-611	ORD REQD	
		TK54A TK54B	RE CIRCULATION (SPILLBACK) RE CIRCULATION (SPILLBACK)	2945P4A/B 2945P4A/B			
		TK54A TK54B	MIXING (ETM/TX)	2945P4A/B			
		TK55A TK55B	RE CIRCULATION (SPILLBACK)	2945P4A/B		NOT REQUIRED	
5	BENZENE	TK56P17 -> TK56A 2540-P17 -> TK56B TK56A -> TK56	FILLING (DAY/TK) FILLING (DAY/TK) EMPTYING (OFF SPEC)		TK56A -> 55B TK56B -> 55A		
		TK56A	MOV	2945P6A/B		MANUAL OPER	



Flowchart



PROTOTYPE



Graphic design



Benefits

- Able to analyze the problem accurately
- Helps to reduce the time to solve problems
- Knowledge & Understand
- Sustainability



Lesson Learned

- Different Data information and Knowledge sharing
- It is hard to become a Flowchart / Sequence table graphic

