



Drillship F&G/ ESD F.A.T 준비를 통한 S/W 안정화 작업

2015. 01. 29

선박시운전그룹/ 류광현 사원





VANTAGE Cop Overview

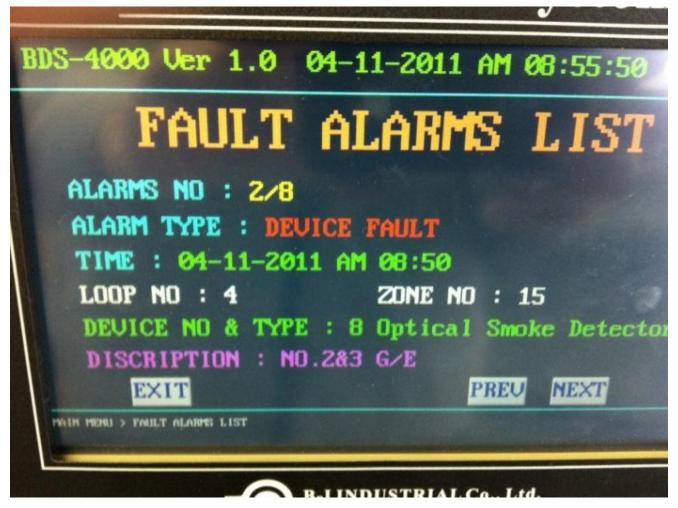
CoP 과제명		Drillship F&G/ ESD) F.A.T 사전준비를 통	한 S/W 안정화 작업					
스폰서	선박시운전	박상환 전문위원	멤버	선박시운전	박종환 대리				
지도위원	선박시운전 노진철 차장 멤버 선박시운전 배희원 대리								
과제리더	선박시운전 류광현 사원 멤버 시추선전장설계 설성국 대리								
간사	선박시운전 서기환 과장 멤버 시추선전장설계 최은주 대리								
과제 선정배경 2월중 실시되는 F&G/ ESD F.A.T에 대한 사전준비로 해당 시스템 S/W의 안정화에 기여한다. (H.3618 Vantage drillship, GE/Invensys)									
과제목표		사전검토 실시 토로 F.A.T 중 완벽 검 ommissioning 단축 병							



VANTAGE Outline

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Operations Management







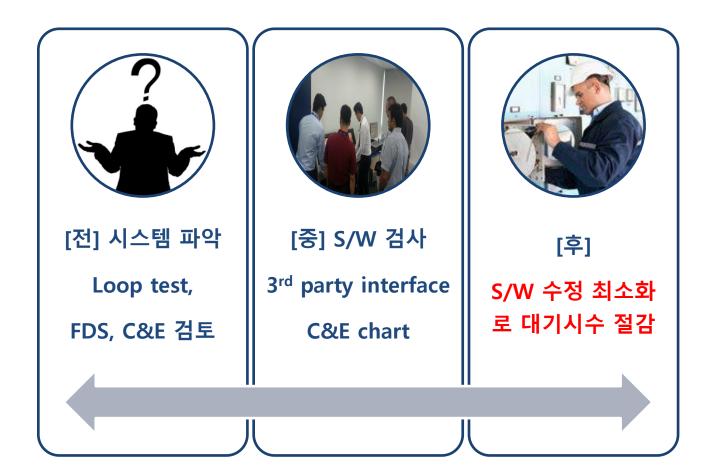
H.3603 Plan: 3weeks Fire zone 상이함 Tyco F&G/ ESD F.A.T Gas sensing level 미반영 ORIGINAL FAT SCHEDULE Punch 미반영 TEST START - I/O CHECKS 19-Apr 23-Apr ESD 미구축 C&E CHECKS AND ANY OTHER 26-Apr 30-Apr 현저히 느린 S/W PUNCH LIST ITEMS 30-Apr RETEST OF PUNCH LIST ITEMS 3/5 - 5/5 S/W engineer의 기량문제 REVISED FAT SCHEDULE F&G PRIORITY ▶ F.A.T 중단 및 장기화 TEST START - ADDRESSABLE I/O CHECKS 19-Apr 22-Apr COMPLETE F&G CHANGES (1,3,4,6,7,8,9) AND DEVELOPMENT 22-Apr F&G TESTING ZONE 100 17-May 19-May F&G TESTING ZONE 200 24-May 20-May F&G TESTING ZONE 300 25-May 27-May F&G TESTING ZONE 400 & 500 02-Jun PUNCHLIST ITEMS 22-Apr 02-Jun PUNCH LIST RETEST 08-Jun ESD CHANGES 2.5.10.11 ESD C&E TESTING 03-Jun 07-Jun

Result: 3months!!!





F.A.T 전/중/후 무엇을 해야 할 것인가?!





■ VANTAGE *Philosophy*



F&G(Fire and Gas)



ESD(Emergency shutdown)

Gas Detection and Alarm Systems (2013)

ixed automatic combustible gas detection and alarm systems are to be provided for the following areas:

-) Cellar deck
- i) Drill floor
- ii) Mud pit area
- v) Shale shaker area
- Enclosed spaces containing open components of the mud circulation system from the bell nipple to the mud pits.

Ventilation in Gas detection (HC) and alarm system out areas and containing internal combission engines and bottles, and alarm system of prill floor, Mud pit area, Shale shaker and muduc circulation system, E/R entilation intakes and rear other openings of accommodation spaces ventilation intakes, Accom.

The was detectors are to be connected by an audible my system with indicators on the drill Drill, floor 와 control station of alarm 및 위치정보 원활, 25% LEL alarmate he location and conc Portable gas detector 개공한 소개 :

_n addition to the fixed automatic gas detection system, two portable combustible gas detectors are to be provided on the unit.

5 Hydrogen Sulfide Detection and Alarm (2013)

5.1 Areas for Protection

A fixed automatic hydrogen sulfide gas detection and alarm system are to be provided for the following areas:

- i) Drill area
- Mud processing area, and

"Hydrogen Sulfide(H2S) detection and alarm system

Alarm Drill area, Mud processing area, Well test area.
The det Maine control room 에 alarm 및 의원 전 설로 대접 Control room. The system is 10ppm(H), 300ppm(H-H) alarm.
Low level plants at a till and analysish level plants set not higher than 300ppm(H-H). Low level plants are to be provided. The high level than 20min 등 heliciack status light alarm 말장.

If the alarm a Portable gas detector 제공 (최소대 2개) toxic gas (hydrogen sulfide)

alarm and the helideck status light is to be automatically activated.

5.5 Portable Hydrogen Sulfide Gas Detectors

At least two portable hydrogen sulfide gas monitoring devices should be provided on the unit.



프로젝트운영1팀

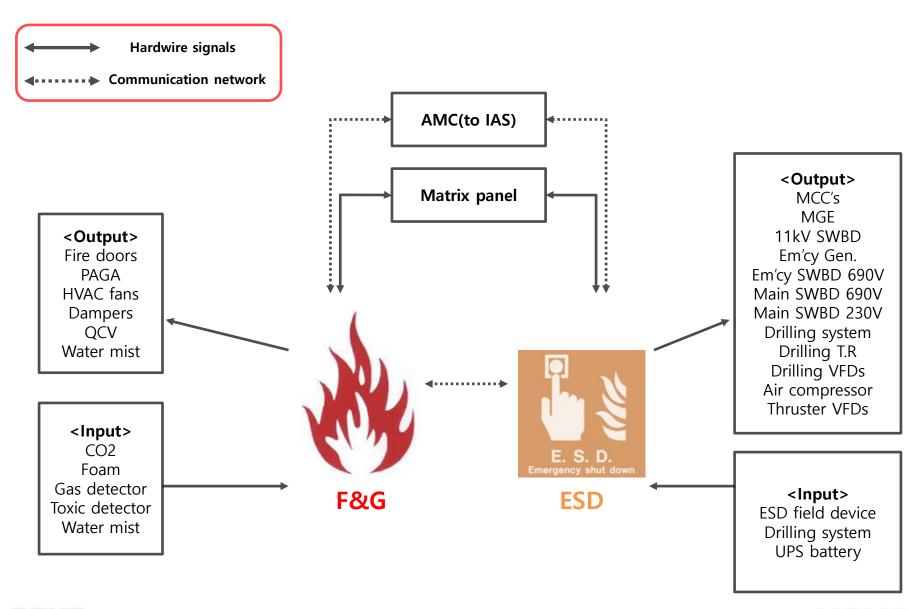
VANTAGE Philosophy

Description	Model	Q'ty
SMOKE DETECTOR	811PH	471
MANUAL CALL POINT	CP820	37
FLAME DETECTOR	S271f+	23
SMOKE DETECTOR	801PHEx	11
MANUAL CALL POINT	CP830EXN	92
CO DETECTOR	811CHEXN	27
HEAT DETECTOR	811H	1
SMOKE DETECTOR	811PHEXN	87
MANUAL CALL POINT	CP840Ex	6
CO DETECTOR	801CHEX	11
HEAT DETECTOR	801HExn	1
HEAT DETECTOR	801HEx	2
SMOKE DETECTOR	OWNER SUPPLY	16
SMOKE DETECTOR DUCT MOUNTING	811PH + DPK4	2
TOXIC GAS DETECTION	SPXCDALMFXSPXCDALMHX	56
COMBUSTIBLE GAS DETECTION	SPXCDALMHXSPXCDALMFX	95
HYDROGEN GAS DETECTION	SPXCDALMG1	3
TOXIC GAS DETECTION	SPXCDALMFX(WITH DUCT MOUNTING KIT)	6
COMBUSTIBLE GAS DETECTION	SPXCDALMHX(WITH DUCT MOUNTING KIT)	6
DELUGE PUSHBUTTON	PBEB5B4DSS7B	3
MAGNETIC DOOR HOLDER	Door Release Unit (518.004.005)	9
ESD LEVEL 0 PUSH BUTTON	PBEB4B6BBDSS7X	10
ESD LEVEL 5A PUSH BUTTON 1	PBEB5B4DSS7R	37
	IS Interface KFD0-CS-ES1.54 (517.001.245)	
	EXI800 Interface (577.800.006)	
IS BARRIER	DX Enclosure (517.001.247)	10
COLD ALARM EQUIPMENT PACKAGE	-	1 set (with 4EA Cold Unit Push Buttons)
HOSPITAL EQUIPMENT PACKAGE	-	1 set (with 4EA Hospital Alarm Push Buttons)



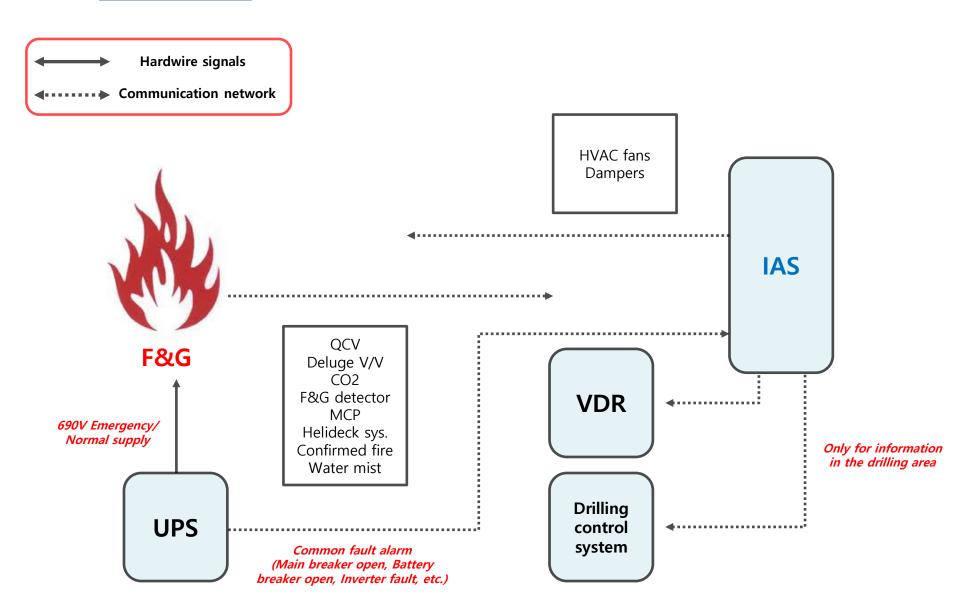
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VANTAGE *Interface*



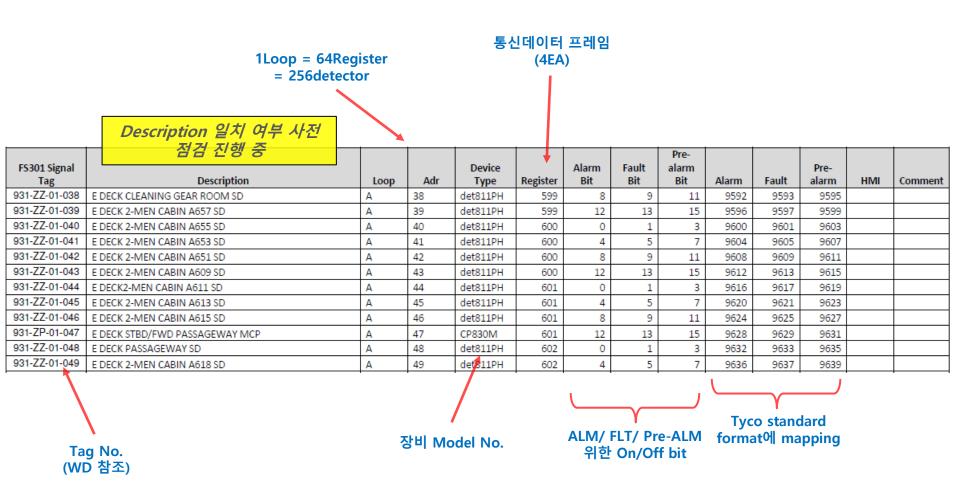


VANTAGE Interface



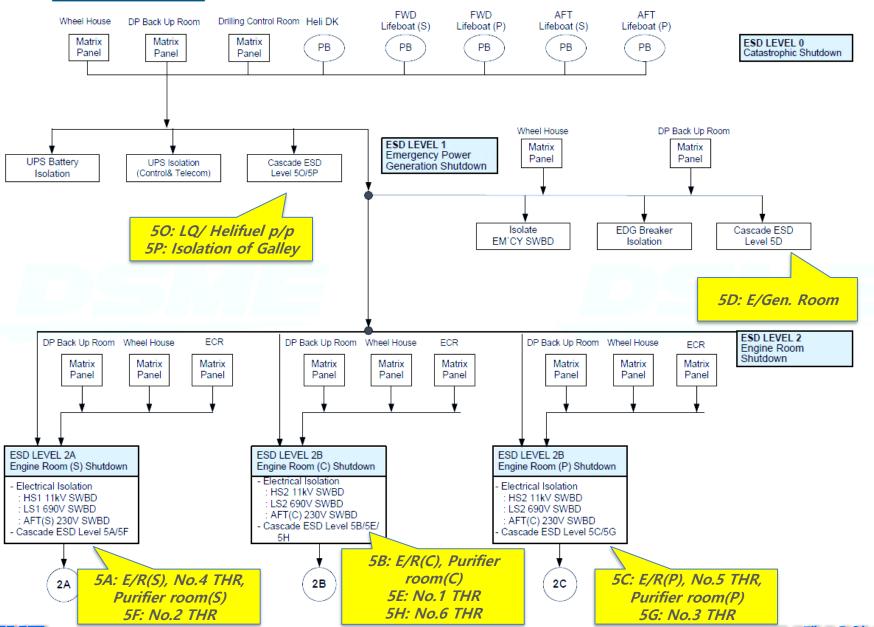


VANTAGE loop test



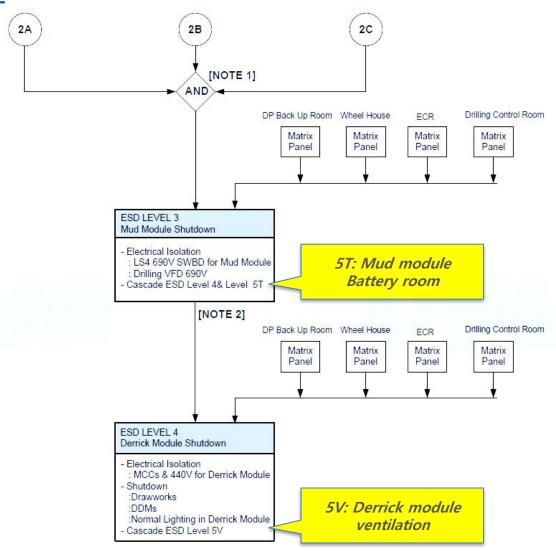


VANTAGE *ESD Level*



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VANTAGE ESD Level



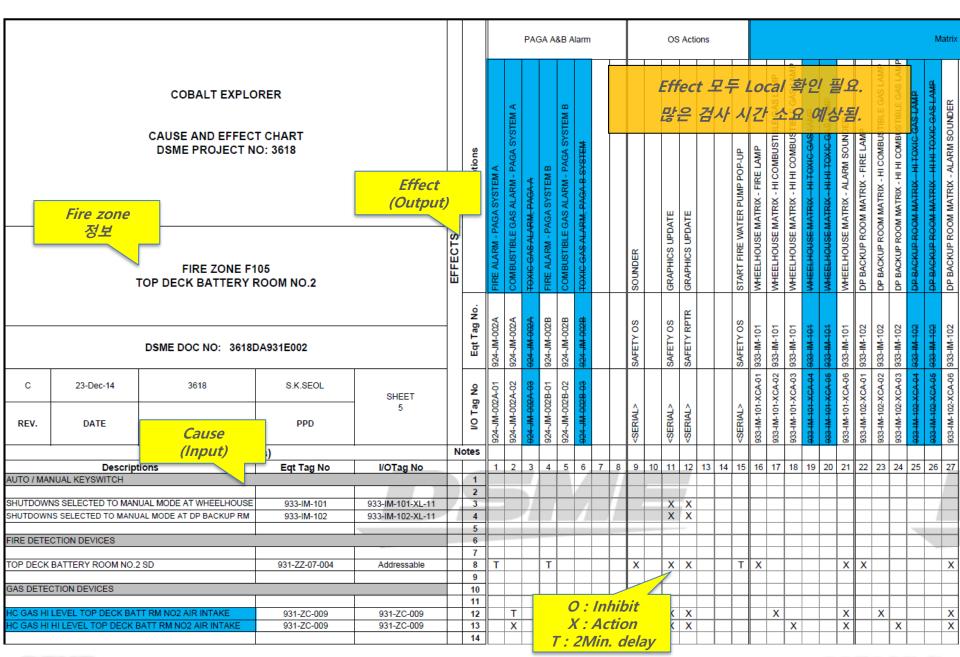
NOTE 1: An automatic Level 3 and Level 4 Shutdown are initiated by levels 2A, 2B and 2C cascading down simultaneously.

NOTE 2: An automatic Level 4 Shutdown is initiated by level 3 Shutdown cascading activation.



VANTAGE C&E test (F&G, ESD)







ı——																	п		
				l						ESD CA	ASCADE				OS A	ctions	Matrix	(Panel	
	E:	COBALT EXPLO CAUSE AND EFFECT DSME PROJECT N SD Level ESD Level CATASTROPHIC SH	CT CHART NO: 3618		EFFECTS (Outputs)	Descriptions	ESD Level 1 Emergency Power	ESD Level 5R Isolate Batts in Top Dk Batt Rm No.1	ESD Level 5S Isolate Batts in Top Dk Batt Rm No.2	ESD Level 5T Isolate Batts in Mud Module Batt Room	ESD Level 5-1 Isolate Batteries in Crane No.1	ESD Level 5-2 Isolate Batteries in Crane No.2	ESD Level 5-3 Isolate Batteries in Crane No.3	ESD Level 5-4 Isolate Batteries in Crane No.4	ESD Level 0 Status		ESD Level 0 Activated Status/Matrix Lamp	Matrix Panel Sounder Activation	ALL HVAC FANS & DAMPERS SHUTDOWN
		DSME DOC N	 NO:			Eqt Tag No.	<soft></soft>	<soft></soft>	<soft></soft>	<soft></soft>	<soft></soft>	<soft></soft>	<soft></soft>	<soft></soft>	<soft></soft>		<soft></soft>	<soft></soft>	<soft></soft>
C REV.	11-Nov-14	3618 PROJECT NO.	S.K.SEOL	SHEET 1		I/O Tag No													
REV.	DATE					Ш	<soft></soft>	<soft></soft>	<soft></soft>	<soft></soft>	<soft></soft>	<soft></soft>	<soft></soft>	<soft></soft>	<soft></soft>		<soft></soft>	<soft></soft>	<soft></soft>
ı		CAUSES (Inpo		'D 조건	No	otes													2
PB1 ESD LE	Descript EVEL 0	ions	Eqt		++	$\vdash\vdash$	1	2	3	4	5	6	7	8	9	10	11	12	13
	el in Wheelhouse		983-IM-101	93 -1M-101-XL-3A	1		-										ļ		-
<u> </u>			1A	ND	2	1	X	Х	Х	Х	Х	Х	Х	Х	Х		X	X	х
PB2 ESD LEVEL 0 Matrix Panel in Wheelhouse		983-IM-101	933-IM-101-XL-3B	3														1	
					4														
PB1 ESD LE Matrix Panel	LEVEL 0 el in DP Backup Room		983-IM-102	933-IM-102-XL-3A	5														
			A	ND	6	1	х	Х	Х	х	Х	х	Х	Х	Х		Х	x	х
PB2 ESD LE Matrix Panel	EVEL 0 el in DP Backup Room		9 3 3-IM-102	933-IM-102-XL-3B	7														
<u> </u>	<u> </u>		+	+	+	\vdash	1		-			-		\vdash	_	-	1		4

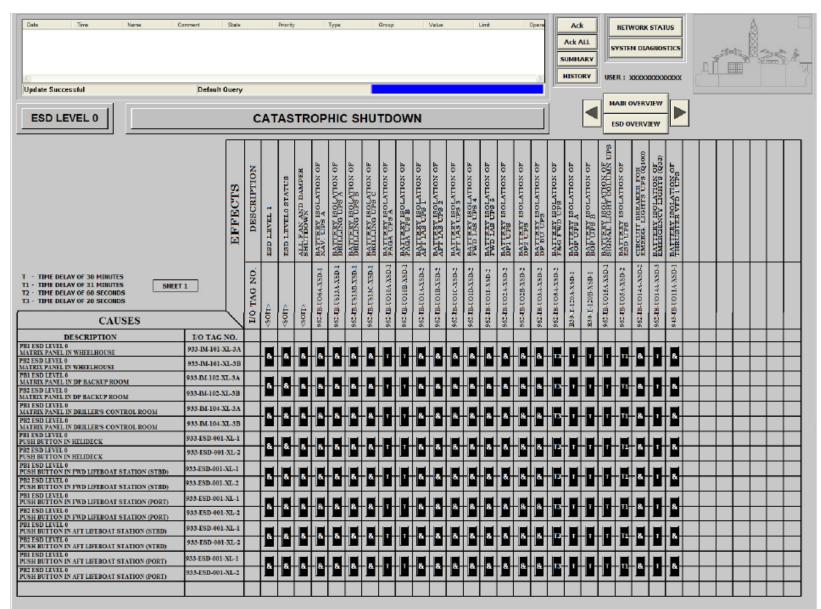


Shutdown effects

		BATTERIES	927-JM-007	927-JM-007-XSD-1	-	47	×		_	X
	82	BATTERIES	962 EB UO12A	962-EB-UO12A-XSD-2		46				
	.6 UPS B	ISOLATION OF THRUSTER NO	962-EB-UO11F	962-EB-UO11F-XSD-1		45	x			Х
		ISOLATION OF THRUSTER NO	962-EB-UO11E	962-EB-UO11E-XSD-1		44	X			X
	보면 당한 당한 당한 당한 당한 당한 당한 당한 당한 당한 당한 당한 당한	ISOLATION OF THRUSTER NO	962-EB-UO11D	962-EB-UO11D-XSD-1		43	X			X
	일 등 기 <u>전</u>	ISOLATION OF THRUSTER NO	962-EB-UO11C	962-EB-UO11C-XSD-1		42	х			X
	사 전, * 공, * 공,	ISOLATION OF THRUSTER NO	962-EB-UO11B	962-EB-UO11B-XSD-1		41	x			X
	記さ	ISOLATION OF THRUSTER NO	962-EB-UO11A	962-EB-UO11A-XSD-1		40	X			X
	O	ISOLATION OF EMCY LIGHTIN (Q33)	962-EB-UO14A	962-EB-U014A-XSD-3		39	30m			30m
	NEGOIP	ISOLATION OF NON ESSENTIA	962-EB-UO14A	962-EB-UO14A-XSD-2		38	X			X
		ISOLATION OF SAFETY SYSTEM UPS NO.2 BATTERIES	962-EB-UO5A	962-EB-UO5A-XSD-2		37	31m			31m
	COLUMN UPS	ISOLATION OF SIGNAL LIGHT COLUMN UPS BATTERIES	962-EB-UO15A	962-EB-UO15A-XSD-1		36	30m			30m
	BATTERIES	ISOLATION OF BOP UPS B BA	B30-IE-120B	B30-IE-120B-XSD-1		35	30m	 _		30m
	TTERIES	ISOLATION OF BOP UPS A BATTERIES	B30-IE-120A	B30-IE-120A-XSD-1		34	30m	ime		30m
	SYSTEM UPS NO.1	ISOLATION OF SAFETY SYST BATTERIES	962-EB-UO4A	962-EB-UO4A-XSD-2		33	20s	elay t		20s
	PS-BATTERIES	ISOLATION OF DP BACKUP UPS BATTERIES	962 EB UO3A	962-EB-U03A-XSD-2		32		De		
[3ATTERIES	ISOLATION OF DP UPS NO.2 BATTERIES	962-EB-UO2B	962-EB-UO2B-XSD-2		31	X			X
	BATTERIES	ISOLATION OF DP UPS NO.1 E	962-EB-UO2A	962-EB-UO2A-XSD-2		30	X			X
	BATTERIES	ISOLATION OF IAS UPS NO.5 BATTERIES	962-EB-UO1E	962-EB-U01E-XSD-2		29	X			X
_	BATTERIES	ISOLATION OF IAS UPS NO.4 BATTERIES	962-EB-UO1D	962-EB-UO1D-XSD-2		28	x			X
	BATTERIES	ISOLATION OF IAS UPS NO.3	962-EB-UO1C	962-EB-UO1C-XSD-2		27	x			X
	BATTERIES	ISOLATION OF IAS UPS NO.2 BATTERIES	962-EB-UO1B	962-EB-UO1B-XSD-2		26	X			X
	BATTERIES	ISOLATION OF IAS UPS NO.1 BATTERIES	962-EB-UO1A	962-EB-UO1A-XSD-2		25	X			X
	ATTERIES	ISOLATION OF PAGA UPS B BATTERIES	962-EB-UO10B	962-EB-UO10B-XSD-1		24	30m			30m
	A BATTERIES	ISOLATION OF PAGA UPS A B	962-EB-UO10A	962-EB-UO10A-XSD-1		23	30m			30m
	C BATTERIES	ISOLATION OF DRILLING UPS C BATTERIES	962 EB UO13C	962-EB-U013C-XSD-1		22				
	-B-BATTERIES	ISOLATION OF DRILLING UPS B BATTERIES	962 EB UO13B	962-EB-UO138-XSD-4		21				
	A BATTERIES	ISOLATION OF DRILLING UPS A BATTERIES	962 EB UO13A	962 EB UO13A XSD 4		20				
	UPS BATTERIES	ISOLATION OF NAV & COMMS	962-EB-UO6A	962 EB UO6A XSD 1		19				

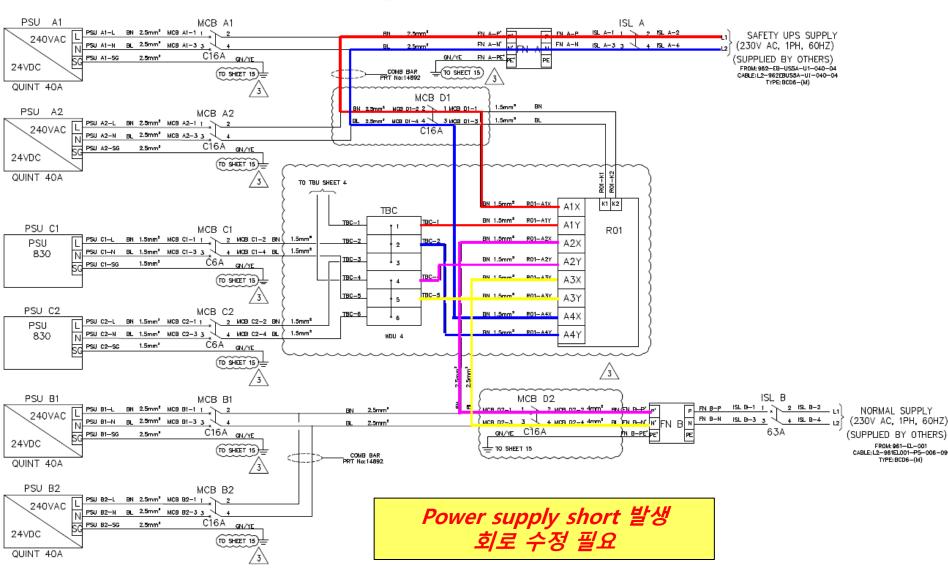






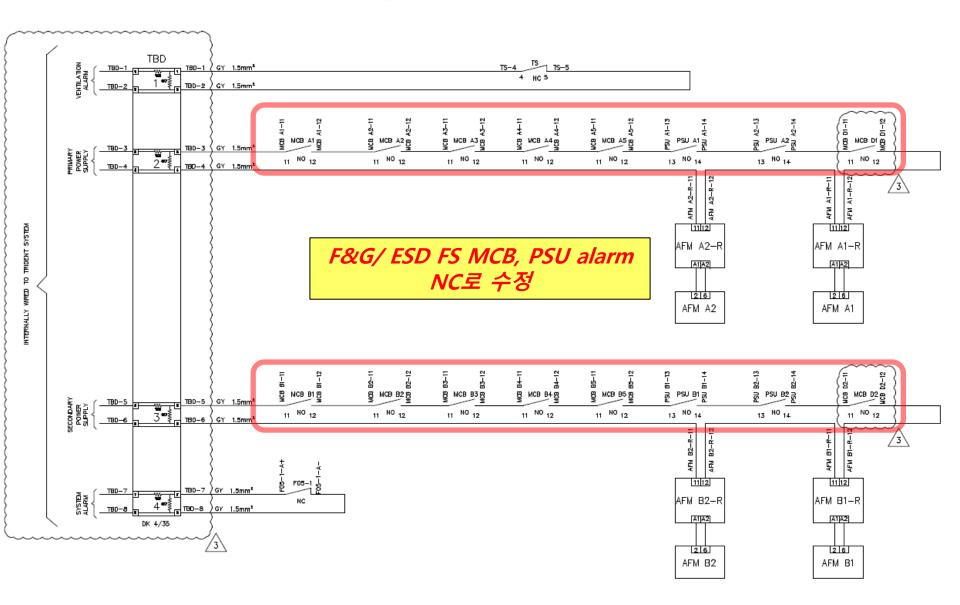


VANTAGE Drawing





VANTAGE Drawing





VANTAGE *Pre-F.A,T*

- Pre-alarm. Actual alarm간 description color 변경
- Alarm 발생시 해당 페이지로 바로 이동할 수 있는 function 추가
- Fire MIMIC-IAS-Matrix panel간 description 일치
- Gas 종류에 따라 색상 구분 (H2S: Blue, HC: Yellow) =
- Damper No/NC 상태 표기
- ESD Activation시 색상 표시
- 3rd party에 대한 signal output 확인
- 기타 H/W F.A.T 에 대한 punch 완료

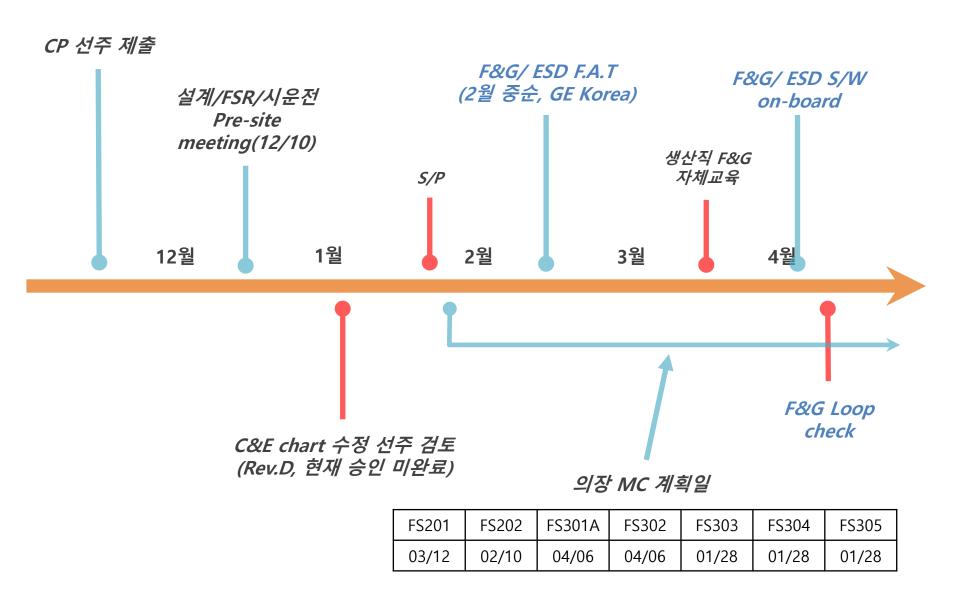
pera	00113 1110	nagemen				1EMORANDUM
			MINUTE OF MI	EETING		
Date	02.Jun.2014 to 18	Jun-2014				
Author	Karthik M – Schn	eider/Invensys				
Location	GE – Geoje Offic	e – South Korea				
	Company	Name	Sign.	Company	Name	Sign.
	Vantage	Graham Ralfe	Alta	Schneider	Karthik M	M. Kally 20 Junt
Attendee	DSME	SK Soel	A.	Schneider	S G Kim	the
	DSME	Attri Nishchal	olice U			

S.No	Comments	Action
1	The alarm banner, summary page and history page column title to be updated with Tag Name	Please refer to the attachment
1.	and Description and with sufficient width to allow reading the tag name and description.	of the sample pages.
	The alarm banner shall show only the current unack alarm and the new alarm shall register at	Agreed
2.	the top. Only the following columns shall be shown - time stamp, tag, description and	
	operator.	
	The room descriptions on the F&G level 3 layout are to be updated. DSME to provide the	DSME to provide
3.	updated F&G device GA drawing to update the same on the graphics.	





VANTAGE Schedule





VANTAGE Final

