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SMARTShip SYSTEM

VESSEL NAME: EL SEGUNDO VOYAGER

NAME	REV.	DATE	REMARKS
SLP	R03	26-09-2019	UPDATED AS PER COMMENTS
SLP	R02	13-09-2019	-
SLP	R01	10-09-2019	-
SLP	R00	06-05-2019	-

ALPHA ORI TECHNOLOGIES

ARCHITECTURE OF SMARTShip SYSTEM

CLIENT : CHEVRON

DRG. NO. : EL SEGUNDO VOYAGER-AO-SS-01

REV. : R03

SCALE	DRAWN	CHD.	APPD.	HULL NO.	DATE	SHEET NO.	PROJECT NO.	SIZE
NTS	SLP	SARAV	JEROME	-	26-09-2019	01 OF 04	-	A4

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ARCHITECTURE OF SMARTShip SYSTEM

NAVIGATION DECK

24V POWER DISTRIBUTION BOARD (CIRCUIT NO.5) FROM SECTION A OF BRIDGE CONSOLE

SS-PWR-06 3x0.75

*Supply from Ship 230V-10A Distribution Board

230VAC SUPPLY FROM SHIP

COMMUNICATION CONVERTER SERIAL -RTU TO TCP/IP CONVERTER
Location: Console inside STBD BRIDGE CONSOLE

SECTION C OF BRIDGE CONSOLE

SS-LAN-05 CAT 6 SF

A09418 2X2X0.5 (S)

PCNSE1 SWITCH
Location: ELECTRICAL EQUIP. ROOM

N1633 LAN SIGNAL

VDR (JRC)
Location: ELECTRICAL EQUIP. ROOM

ELECTRICAL EQUIPMENT ROOM (E/E/R)

A-DECK

CCR CONSOLE

CARGO MONITORING SYSTEM (PORT 10) (EMERSON)
Location: Console inside Cargo Control room

*46 LAN SIGNAL

E/R SECOND DECK

ECR CONSOLE

COMMUNICATION CONVERTER MODBUS TCP/IP
LOCATION: CONSOLE INSIDE ENGINE CONTROL ROOM

SS-LAN-04 CAT 6 SF

SERVER RACK*
ALL THE EQUIPMENTS ARE FITTED INSIDE THE SERVER RACK
SUBJECT TO THE SPACE AVAILABILITY

*52 LAN SIGNAL

PCNSE2 SWITCH
Location: ECR NETWORK RACK

SS-LAN-01 CAT 6 SF

SS-LAN-02 CAT 6 SF

SS-LAN-03 CAT 6 SF

SERVER-1 MAIN SERVER

SERVER-2 BACK UP SERVER

SERVER-3 SPARE SERVER

BATTERY
Location: ELECTRICAL EQUIP. ROOM

SS-PWR-01 3x0.75

UPS UNIT
Location: ECR NETWORK RACK

PSU UNIT
Location: ECR NETWORK RACK

SS-PWR-02 3x0.75

TB-1

SS-PWR-05 3x0.75

SS-PWR-04 3x0.75

SS-PWR-03 3x0.75

ECR NETWORK RACK

LEGENDS
- EXISTING SHIP CABLE
- LAN CABLE (CAT 6 SF)
- SERIAL CABLE 2X2X0.5(S) sq.mm
- POWER CABLE 3X0.75 (S) sq.mm
- SHIP'S EQUIPMENTS
- ALPHA ORI'S EQUIPMENT

*-Optional
BCC-Wheel House/Bridge
CCR-CARGO CONTROL ROOM
ECR- ENGINE CONTROL ROOM

PWR- POWER
LAN- LAN SIGNAL
SR- SERIAL SIGNAL

ALPHA ORI TECHNOLOGIES						ARCHITECTURE OF SMARTShip SYSTEM	
CLIENT : CHEVRON						DRG. NO. : EL SEGUNDO VOYAGER-AO-SD-01	REV. : R03
SCALE	DRAWN	CHD.	APPD.	HULL NO.	DATE	SHEET NO.	PROJECT NO.	SIZE
NTS	SLP	SARAV	JEROME		26-09-2019	02 OF 04		A1

BILL OF MATERIAL

LOCATION	ITEM NO.	ITEM	DESCRIPTION	MAKE/TYPE	Q'TY	REMARK
ECR NETWORK RACK	EN01	UPS	24VDC UPS 20A 7.2 Ah		1	
	EN02	TB-1	TERMINAL BOX		1	
	EN03	BATTERY	7.2 Ah		1	
	EN04	SERVER-1	CORE I7, 6TH GEN,32GB RAM, 500GB SSD		1	
	EN05	SERVER-2 (BACK UP)	CORE I7, 6TH GEN,32GB RAM, 500GB SSD		1	
	EN06	SERVER-3 (SPARE)	CORE I7, 6TH GEN,32GB RAM, 500GB SSD		1	
ENGINE CONTROL ROOM	ER01	COMMUNICATION CONVERTER MODBUS TCP/IP	COMMUNICATION CONVERTER MODBUS TCP/IP		1	
STBD BRIDGE CONSOLE	SC01	COMMUNICATION CONVERTER SERIAL -RTU TO TCP/IP CONVERTER	SERIAL -RTU TO TCP/IP CONVERTER		1	

CABLE SCHEDULE

S.no	Cable Code	Cable Type	Cable size	From		To		REMARKS
				Equipment	Location	Equipment	Location	
1	NFB10 - 08	SCREENED / ARMOURED CABLE	3X0.75	PSU UNIT	ECR NETWORK RACK	UPS	ECR NETWORK RACK	EXISTING CABLE
2	SS-PWR-01	SCREENED / ARMOURED CABLE	3X0.75	UPS	ECR NETWORK RACK	BATTERY	ECR NETWORK RACK	NEW CABLE
3	SS-PWR-02	SCREENED / ARMOURED CABLE	3X0.75	UPS	ECR NETWORK RACK	TB-1	ECR NETWORK RACK	NEW CABLE
4	SS-PWR-03	SCREENED / ARMOURED CABLE	3X0.75	TB-1	ECR NETWORK RACK	SERVER-1	ECR NETWORK RACK	NEW CABLE
5	SS-PWR-04	SCREENED / ARMOURED CABLE	3X0.75	TB-1	ECR NETWORK RACK	SERVER-2 (BACK UP)	ECR NETWORK RACK	NEW CABLE
6	SS-PWR-05	SCREENED / ARMOURED CABLE	3X0.75	TB-1	ECR NETWORK RACK	SERVER-3 (SPARE)	ECR NETWORK RACK	NEW CABLE
7	SS-PWR-06	SCREENED / ARMOURED CABLE	3X0.75	24V POWER DISTRIBUTION BOARD (CIRCUIT NO.5	SECTION A OF BRIDGE CONSOLE	COMMUNICATION CONVERTER SERIAL -RTU TO TCP/IP CONVERTER	SECTION C OF BRIDGE CONSOLE	NEW CABLE
8	A09418	SCREENED / ARMOURED CABLE	2X2X0.5	COMMUNICATION CONVERTER SERIAL -RTU TO TCP/IP CONVERTER	SECTION C OF BRIDGE CONSOLE	CARGO MONITORING SYSTEM	CCR CONSOLE	EXISTING CABLE
9	SS-LAN-01	LAN CABLE	CAT 6 SF	PCNSE2 SWITCH	ECR NETWORK RACK	SERVER-1	ECR NETWORK RACK	NEW CABLE
10	SS-LAN-02	LAN CABLE	CAT 6 SF	PCNSE2 SWITCH	ECR NETWORK RACK	SERVER-2 (BACK UP)	ECR NETWORK RACK	NEW CABLE
11	SS-LAN-03	LAN CABLE	CAT 6 SF	PCNSE2 SWITCH	ECR NETWORK RACK	SERVER-3 (SPARE)	ECR NETWORK RACK	NEW CABLE
12	SS-LAN-04	LAN CABLE	CAT 6 SF	SHIP RJ45 NETWORK PORT	ENGINE CONTROL ROOM	COMMUNICATION CONVERTER MODBUS TCP/IP	ENGINE CONTROL ROOM	NEW CABLE
13	SS-LAN-05	LAN CABLE	CAT 6 SF	SHIP RJ45 NETWORK PORT	STBD BRIDGE CONSOLE	COMMUNICATION CONVERTER SERIAL -RTU TO TCP/IP CONVERTER	STBD BRIDGE CONSOLE	NEW CABLE
14	N1633	LAN CABLE	SHIP CABLE	PCNSE1 SWITCH	ELECTRICAL EQUIP. ROOM	VDR	ELECTRICAL EQUIP. ROOM	EXISTING CABLE
15	N3704	LAN CABLE	SHIP CABLE	PCNSE1 SWITCH	ELECTRICAL EQUIP. ROOM	SHIP RJ45 NETWORK PORT	STBD BRIDGE CONSOLE	EXISTING CABLE
16	*46	LAN CABLE	SHIP CABLE	PCNSE1 SWITCH	ELECTRICAL EQUIP. ROOM	PCNSE2 SWITCH	ECR NETWORK RACK	EXISTING CABLE
17	*52	LAN CABLE	SHIP CABLE	PCNSE2 SWITCH	ECR NETWORK RACK	SHIP RJ45 NETWORK PORT	ENGINE CONTROL ROOM	EXISTING CABLE