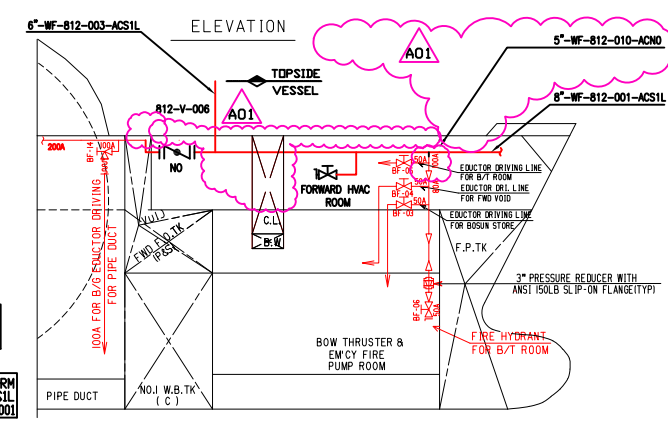
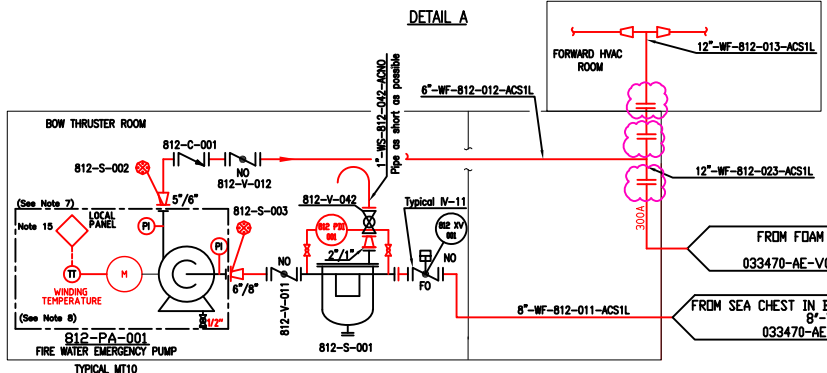
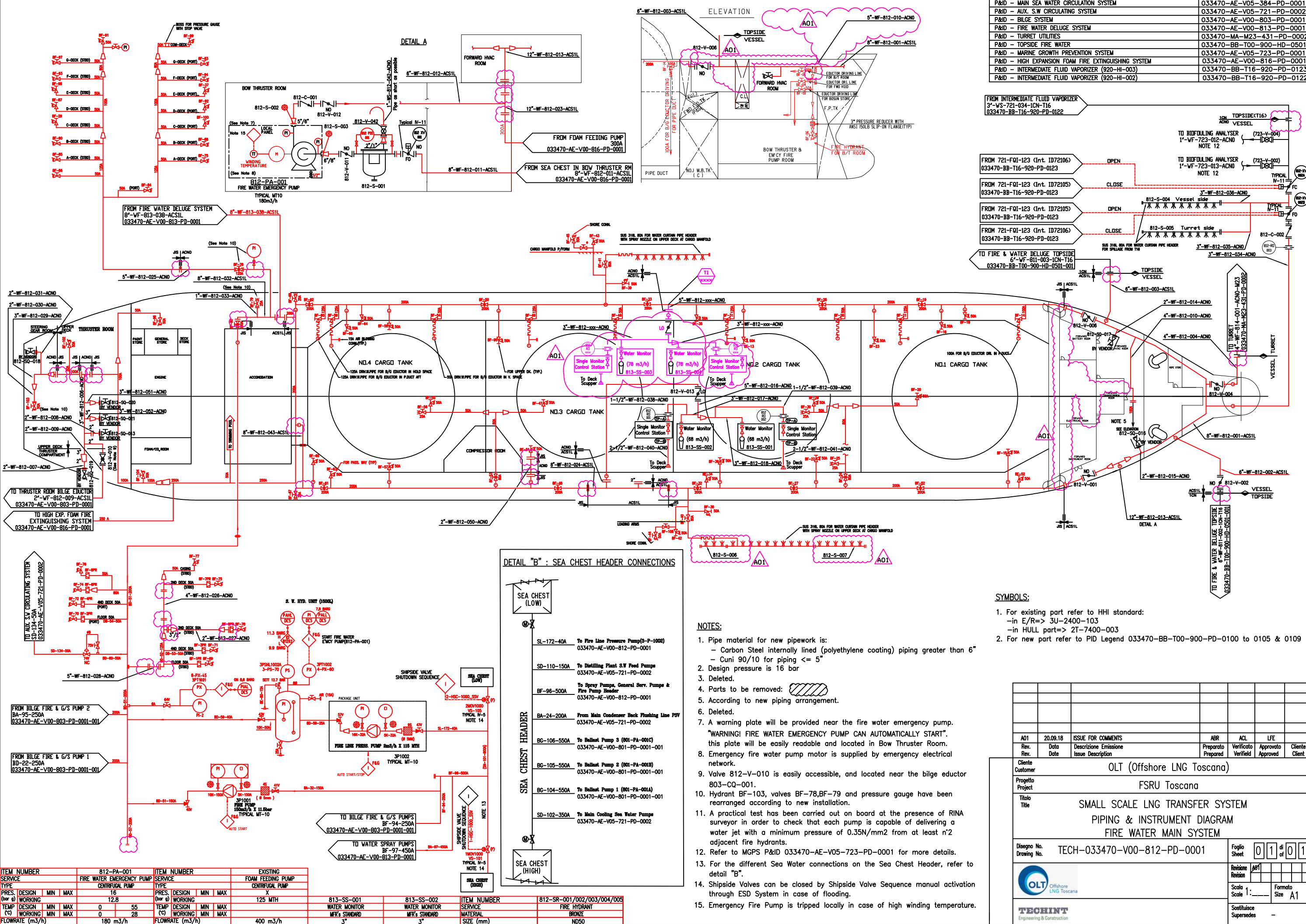
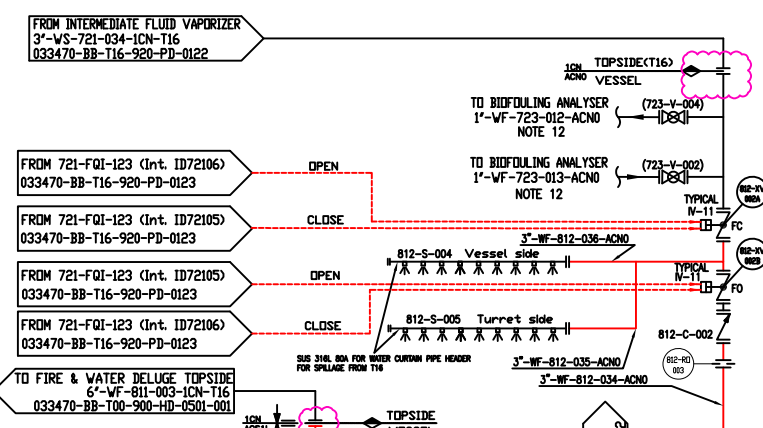
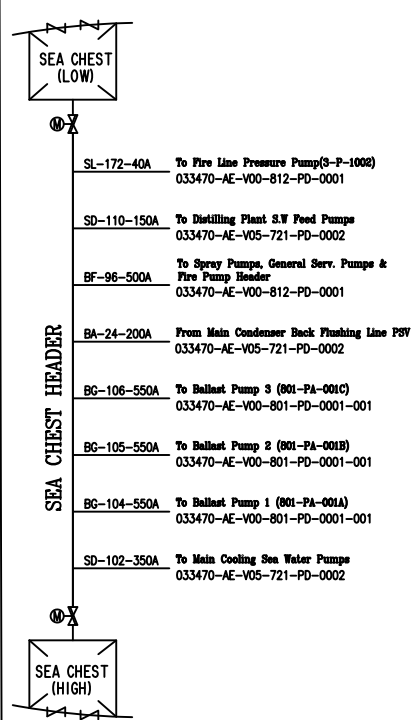


DISegni DI RIFERIMENTO / REFERENCE DRAWINGS	Nr. / No.
P&ID - MAIN SEA WATER CIRCULATION SYSTEM	033470-AE-V05-384-PD-0001
P&ID - AUX. SW CIRCULATING SYSTEM	033470-AE-V05-721-PD-0002
P&ID - BILGE SYSTEM	033470-AE-V00-803-PD-0001
P&ID - FIRE WATER DELUGE SYSTEM	033470-AE-V00-813-PD-0001
P&ID - TURRET UTILITIES	033470-MA-M23-431-PD-0002
P&ID - TOPSIDE FIRE WATER	033470-BB-T00-900-HD-0501
P&ID - MARINE GROWTH PREVENTION SYSTEM	033470-AE-V05-723-PD-0001
P&ID - HIGH EXPANSION FOAM FIRE EXTINGUISHING SYSTEM	033470-AE-V00-816-PD-0001
P&ID - INTERMEDIATE FLUID VAPORIZER (920-HI-003)	033470-BB-T16-920-PD-0123
P&ID - INTERMEDIATE FLUID VAPORIZER (920-HI-002)	033470-BB-T16-920-PD-0122



DETAIL "B" : SEA CHEST HEADER CONNECTIONS



SYMBOLS:

- For existing part refer to HHI standard:
  - in E/R => 3U-2400-103
  - in HULL part => 2T-7400-003
- For new part refer to PID Legend 033470-BB-T00-900-PD-0100 to 0105 & 0109

NOTES:

- Pipe material for new pipework is:
  - Carbon Steel internally lined (polyethylene coating) piping greater than 6"
  - Cuni 90/10 for piping <= 5"
- Design pressure is 16 bar
- Deleted.
- Parts to be removed:
- According to new piping arrangement.
- Deleted.
- A warning plate will be provided near the fire water emergency pump. "WARNING! FIRE WATER EMERGENCY PUMP CAN AUTOMATICALLY START". this plate will be easily readable and located in Bow Thruster Room.
- Emergency fire water pump motor is supplied by emergency electrical network.
- Valve 812-V-010 is easily accessible, and located near the bilge eductor 803-CQ-001.
- Hydrant BF-103, valves BF-78, BF-79 and pressure gauge have been rearranged according to new installation.
- A practical test has been carried out on board at the presence of RINA surveyor in order to check that each pump is capable of delivering a water jet with a minimum pressure of 0.35N/mm<sup>2</sup> from at least n°2 adjacent fire hydrants.
- Refer to MGPS 033470-AE-V05-723-PD-0001 for more details.
- For the different Sea Water connections on the Sea Chest Header, refer to detail "B".
- Shipside Valves can be closed by Shipside Valve Sequence manual activation through ESD System in case of flooding.
- Emergency Fire Pump is tripped locally in case of high winding temperature.

Rev.	Date	Descrizione Emisione Issue Description	Preparato Prepared	Verificato Verified	Approvato Approved	Cliente Client
A01	20.09.18	ISSUE FOR COMMENTS	ABR	ACL	LFE	

Client: OLT (Offshore LNG Toscana)

Project: FSRU Toscana

Title: SMALL SCALE LNG TRANSFER SYSTEM PIPING & INSTRUMENT DIAGRAM FIRE WATER MAIN SYSTEM

Disegno No. TECH-033470-V00-812-PD-0001

Foglio Sheet 01 di 01

Scale: 1:1

Formato: A1

Sostituisce: Supersedes

ITEM NUMBER	812-PA-001	ITEM NUMBER	813-SS-001	813-SS-002	ITEM NUMBER	812-SR-001/002/003/004/005	
SERVICE	FIRE WATER EMERGENCY PUMP	SERVICE	FOAM FEEDING PUMP	SERVICE	WATER MONITOR	SERVICE	FIRE HYDRANT
TYPE	CENTRIFUGAL PUMP	TYPE	CENTRIFUGAL PUMP	TYPE	MFR'S STANDARD	TYPE	BRONZE
PRES. (bar)	16	PRES. (bar)	125 MTH	PRES. (bar)	3"	PRES. (bar)	NDSO
WORKING MIN	12.8	WORKING MIN		WORKING MIN		WORKING MIN	
WORKING MAX	0	WORKING MAX		WORKING MAX		WORKING MAX	
TEMP (°C)	55	TEMP (°C)		TEMP (°C)		TEMP (°C)	
FLOWRATE (m <sup>3</sup> /h)	180	FLOWRATE (m <sup>3</sup> /h)	400	FLOWRATE (m <sup>3</sup> /h)		FLOWRATE (m <sup>3</sup> /h)	