ESDS Operation Check Sheet																																	
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ESD system	function checksheet for135,0	00m3 LNG Carrier																													i '		
1. Catagories in Action part mean the following - ESD: ESD related action - TPS1: Tank Protection Action Type 1 - TPS2: Tank Protection Action Type 2 2. Symbols  O: On at activated condition, : Off at activated condition  3. ESD Cause Time Delay; Time delay to be adjustable - Manual switch : Time delay 0 sec Fusible plug : Time delay 5 sec S/S link : Time delay 5 sec Tank Level : Time delay 5 sec Press. Low : Time delay 5 sec Prower fail : Time delay 0 sec. Preliminary check list for test 1. Cable wiring condition of ESDS local panel. 2. Operating condition of VRC, IAS and all Equipments related ESDS.			*1 Cargo Tank Level Extremely High Override (#1 Cargo Tank ~ #4 Cargo Tank)  *2 Cargo Tank Level Very High Override (#1 Cargo Tank ~ #4 Cargo Tank)  *3 When Both CPUs are failed, ESD is acticated and all output signals are turned off.  **YTS: Trip Pressure Set Point which can be set by "PNEU. PRESS. SETTING SWITCH (TRIP)" in CCR.			#1 Cargo Tank Cargo Pump #1 Stop		#2 Cargo Tank Cargo Pump #1 Stop			#3 Cargo Tank Cargo Pump #2 Stop	#4 Cargo Tank Cargo Pump #1 Stop		#1 Cargo 1 ank Spray Pump Stop #2 Cargo Tank Spray Pump Ston	#2 Cargo Lank Spray Fump Stop	#3 Cargo Tank Spray Pump Stop #4 Cargo Tank Spray Pump Stop	No. 1 H/D Comp Stop	No. 2 H/D Comp Stop	No. 1 L/D Comp Stop	No. 2 L/D Comp Stop	Emergency Cargo Pump Stop	ESD Signal To Shore	Master Gas V/V Close	STBD Manifold Valve Close	PORT Manifold Valve Close	Air Release Valve	#1 Cargo Tank Fill Valve Close	#2 Cargo Tank Fill Valve Close	#3 Cargo Tank Fill Valve Close	#4 Cargo Tank Fill Valve Close	TPS-1 Activation	TPS-2 Activation	ESD Total Alarm
Supplied power for ESDS		=					==		-	==	=	_	= :		= =		_												I	7	E 18	î	
			ESD, TPS1	ESD, TPS1	ESD, TPS1	ESD, TPS1	ESD, TPS1	ESD, TPS1	ESD, TPS1	ESD, TPS1	ESD, TPS1	ESD, TPS1	ESD, TPS1	ESD,TPS1	ESD,TPS1	ESD	ESD	ESD, TPS1	ESD	ESD	ESD	ESD	ESD	IPS2	TPS2	TPS2	IPS2	ALAR	OUTPUT SIGNAL (TO IAS)	5			
	Category	Cause	Signal condition	Result	Set Value																												
E S D	ESD TEST ESD RESET	ESD Test	ON																														
		ESD Reset	ON																											$\Box$			_
		Sol V/V Box Acc. P.L	N.C	Required (	Condition for ESD Reset																										i		
	MANUAL SWITCH	I.S zone	OFF		Reset																									i	$\Box$		_
		ccc	OFF																											1			
		Wheel House	OFF																												i		
		FCS	OFF																											i			
	FUSIBLE PLUG	I.S zone	OFF																											i			
	SHIP / SHORE LINK	Optical Interface Failure from Shore	OFF																											ı	i i		
		Electrical Interface Failure from Shore	OFF																												i i		
		Pneumatic Pressure Low at Ship / Shore Comm.	< Set Value		P <sub>TS</sub>																									L			
	TANK LEVEL EXTREME HIGH	#1 Cargo Tank (EH 99.5%)	OFF		99.5%																									ı			
		#2 Cargo Tank (EH 99.5%)	OFF		99.5%																									<b>.</b>	<b>└</b>	$\sqcup \bot$	
		#3 Cargo Tank (EH 99.5%)	OFF		99.5%																									<b></b>	<u> </u>	$\vdash$	
		#4 Cargo Tank (EH 99.5%)	OFF		99.5%																									$\longrightarrow$	$\vdash$	$\vdash$	
	PRESSURE LOW	Vapor Main line Pressure Low	<0.0kPa		0.0kPa																										$\vdash$		
		Hydraulic Oil Pressure Low Control Air Pressure Low	OFF <320kPaG		1,000 kPaG 320 kPaG																										$\vdash \vdash$	$\vdash$	_
	POWER FAIL	No.1 CSBD BLACKOUT			320 KPaG																									-	$\vdash \vdash$	$\vdash$	
		No.2 CSBD BLACKOUT	OFF (OR)																													$\vdash$	_
		Sol V/V Box ESD Sol V/V Power Fail	OFF																												$\Box$		_
	ESD LLOGIC FAIL		011																											<del></del>	$\Box$		
	PLC FAIL	Both CPUs Failure*3																													$\sqcap$		_
TPS1	TANK PRESSURE	#1 Carge Tank Press. Low Low	<1kPaG	IAS	1kPaG																										-	$\vdash$	_
		#1 Carge Tank Press. Low Low #2 Carge Tank Press. Low Low	<1kPaG	IAS	1kPaG							-	-		+															,	$\vdash$	$\vdash$	_
		#3 Carge Tank Press. Low Low	<1kPaG	IAS	1kPaG																										$\cap$		
		#4 Carge Tank Press. Low Low	<1kPaG	IAS	1kPaG										+															1	i		_
TPS2	TANK LEVEL VERY HIGH*2	#1 Cargo Tank (VH 99.0%)	99.0%		99.0%																									$\Box$	$\Box$		_
		#2 Cargo Tank (VH 99.0%)	99.0%		99.0%																										ᆸ		
		#3 Cargo Tank (VH 99.0%)	99.0%		99.0%																												
		#4 Cargo Tank (VH 99.0%)	99.0%		99.0%																	_			Ī	Ī		T			ı <sup>7</sup>	ı [	