LAPORAN HASIL PEKERJAAN DOCKING REPAIR

MV. GAS NURI ARIZONA

PD 18 431 69

10 Juli 2018 s/d 04 Agustus 2018



SHIP BUILDING & REPAIR

JL. Deli No. 17, Tanjung Emas, Semarang-50129

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LAPORAN HASIL PEKERJAAN DOCKING REPORT

Nomor : SC1717548/LHP/YWTS

Kepada

Tanggal : April 2018

Yth. PT Pelayaran Eka Nuri Indra Pratama C.o. PT. Samudera Indonesia Ship Management

Jakarta

Name of Ship : MV GAS NURI ARIZONA

Ship Owner : PT Pelayaran Eka Nuri Indra Pratama
Ship Manager : PT Samudera Indonesia Ship Management

 Length Overall (LOA)
 :
 105 m

 Length Perpendicular (LPP)
 :
 98.4 m

 Breadth (B)
 :
 19.8 m

 Depth (D)
 :
 8.6 m

 Draft (Design) (T)
 :
 5.976 m

 Gross Tonnage
 :
 5,087 GT

No./A/C	Job Description	Keterangan
3	GENERAL SERVICE	
3.1	Dry Docking and Dock Preparation	
144002	• Ship to be drydocked on soft topped blocks of suitable height for cleaning and examination and	
	then undocked upon completion of listed underwater work including damage discovered on the	
	underwater area upon docking of ship.	
	Cost for 1st and 2nd day	
	Cost per day for each Subsequent Day (Total 16 days)	
	Realisasi :)
	Tanggal 10 Juli s/d 16 Juli 2018)
	Kapal dinaikkan dock 1 kali untuk pemeriksaan dan perbaikan selama 7 hari) Selesai
3.2	Mooring and Unmooring	
147002	• Mooring and Unmooring of ship including installation and removal of gangway together with	
	the assistance of yard's tugs, line handlers and dock master / pilot for berthing, unberthing,	
	docking and undocking operations.	
	Condition of Mooring and Unmooring:	
	1 st Mooring - Direct berthing on arrival and docking	
	2 nd Unmooring - Unberthing for undocking and sailing	
	There shall be no additional cost for movement of the ship purely for the convenience of the shipyard.	
	Realisasi :)
	Diberikan assistensi line handling pada saat kapal masuk di areal Galangan, naik dock)
	dan turun dock serta pada saat keluar dari areal Galangan) Selesai
3.3	Tugboat	
144002	• To provide necessary services of tugboats to assist ship on arrival from anchorage to dock,	
	from dock to yard wharfage or sea trial. Agency attendance during docking.	Agen
3.4	Fire Protection	
122026	• To make all necessary shore fire hoses to the ship with maintaining pressure fore Fire	
	Precaution at Main Deck and inside the Engine Room for 3 lines. Fire protection i.e. fire hoses	
	to be kept under minimum pressure of 3 bar during repair period.	
	To quote unit price per line per day. Allowed for 3 lines	
	Labour cost for connecting and disconnecting fire hoses. To quote unit price for connection and	
	disconnection. Allowed for 3 connections and disconnections.	
	Realisasi:)
	Diberikan sambungan selang pemadam ke atas kapal selama kapal docking & floating di JMI 7 hari)

No./A/C	Job Description	Keterangan
	Asistensi connect dan disconnect 3 conn)
	Disediakan APAR selama kapal di area dock YWTS 17 Juli - 4 Agustus 2018 19 hari)) Selesai
3.5 147001	 Wharfage To provide wharf facility for 4 days for ship berthing alongside to undergo afloat repairs. Note: 	
	Owner do not prefer double banking anytime when alongside berth. Damages to hull painting shall be on yard's account. Damages to the ship hull in case of any double banking to be on Yard's Account.	
	Realisasi :)
	Kapal sandar YWTS tanggal 7 Juli 2018 sd 9 Juli 2018 Kapal sandar YWTS kembali tanggal 17 Juli 2018 sd 5 Agustus 2018 20 hari)) Selesai
3.6	<u>Pilotage</u>	
144004	 To provide pilotage service during ship movement from anchorage to dock area, from dock to yard wharf to sea trial or sail out. Dock Master 	Agen
27	Fire Wetchman	
3.7 122025	 Fire Watchman To provide fire watchman to patrol and make regular inspection of the entire ship during repair period. Fire watchman to report to the duty officer at regular interval. 	
	 To furnish Fireman to be standby at Location on Deck, in Accommodation in adjacent in the Pump Room and Engine Room where "Hot Work" where carried out. 	
	To quote unit price per man per day.	
	Realisasi : Disediakan tenaga petugas pemadam kebakaran 5 orang selama kapal di area dock YWTS 19 hari)))
	Disiapkan petugas pemadam kebakaran yang selalu stand by di kapal, 7 hari selama kapal docking dan floating repair di JMI)) Selesai
3.8	Security Watchman	
122030	To provide security watchman onboard the ship round the clock, carry out regular inspection,	
	and patrol throughout the repair period. To quote unit price watchman per day. Allowed for 2 men x 20 days.	
	Realisasi : Disediakan tenaga security 1 orang diatas kapal selama kapal di area dock 27 hari)) Selesai
3.9	Shore Power Supply	
135001	 To make all necessary connection and disconnection to the ship shore power connection box and supply electric shore power 440 V, AC 3 Phase, 50 Hz, 125 A during docking pe Shore power supply at YWTS 440 Electric power reading shall be acknowledge by Chief Engineer before and after 	0 V 50 Hz 3Phase 100 A
	electric supply. To quote unit price for connection / disconnection. Allowed for 2 connection and disconnection. Telephone service	
	Realisasi : <u>Tanggal 10 Juli s/d 16 Juli 2018</u>))
	Disupply aliran listrik 440 Volt, 100 Amp, 3 phase, 50 Hz selama 7 hari Assistensi connect dan disconnect)
	Sewa trafo step up 380 V ke 440 V, 100 A, mulai hari senin tanggal 16 Juli s/d 29 Juli 2018 selama 14 hari)))
	Disupply listrik 440V 3 Phase 100 A tanggal 17 Juli s.d 29 Juli 2018 14 hari)) Selesai

No./A/C	Job Description	Keterangan
3.10	Cooling Water	
136001	To provide, maintain, and supply of cooling water at adequate pressre to ship's air	
	conditioning system, domestic reefer system, and engine control room air condition system	
	during docking period. Pressure shall not exceed 2.5 bar.	
	To furnish labor for connecting and disconnecting shore water supply hoses.	
	To furnish labor for connecting and disconnecting discharge hoses.	
	Total quote unit per line / day. Allowed for 6 lines (3 inlet and 3 outlet) during vessel in	
	drydock	
	Total quote unit cost per connection / disconnection. Allowed for 3 connections and disconnections.	
	disconnections.	
	Realisasi:)
	Tanggal 10 Juli s/d 16 Juli 2018)
	Diberikan sambungan air pendingin untuk AC selama kapal di dalam dock selama 7 hari)
	Asistensi connect dan disconnect) Selesai
	Tanggal 23 Juli s/d 30 Juli 2018)
	Diberikan sambungan air pendingin untuk AC selama kapal di dalam dock selama 8 hari)
	Asistensi connect dan disconnect) Selesai
3.11	Compressed Air	
137001	To provide compressed air manifolds on deck and engine room for general use and also for	
	ship's crew maintenance work. Air pressure to maintain at 5 bar.	
	To quote unit cost per manifold per day. Allowed for 2 manifolds during vessel in drydock. To be quoted unit cost for connection and disconnection manifold. Allowed for 2 connections and disconnections.	Patal
	To be quoted unit cost for connection and disconnection mainfold. Allowed for 2 connections and disconnections.	Batal
3.12	Fresh Water	
136002	To supply fresh water to the ship 200 tons later as instructed by Owner Surveyor. Furnish	
	labor for connect and disconnect shore hoses.	
	To quote unit price / ton. Allowed to supply for 200 tons.	
	To quote cost per connection and disconnection. Allowed for 2 connection and disconnection.	
	Paralises:	\
	Realisasi : Disupply air tawar sebanyak 200 Ton)) Selesai
	Disupply all tawal seballyak 200 foll) Selesai
3.13	Bilge Pump	
171002	35 To arrange yard's portable pneumatic pump to pump bilge water from Engine Room, Pump	
	Room, and location indicated during repair period, or as per O/S Instruction.	
	a) Chain locker x 1 pump x 1 day and connection / disconnection:	
	b) Engine room x 1 pump x 1 days and connection / disconnection:	
	c) Oily bilge pumping in Engine room (Sludge tank / Bilge tank / Stuffing box tank).	Batal
344	Staging Unstaging	
3.14 171003	Staging – Unstaging To arrange staging and unstaging for work assistance as follows:	
1/1003	1. Ultrasonic Thickness Measurement for Class Survey	
	2. High and Low Sea Chest	
	3. Propeller	
	4. Propeller Shaft	
	5. Rudder	
	6. Funnel Painting	
	7. Replating, if applicable	
	8. Others if needed, Superstructure Painting, Cargo Hose Crane, Masthead, etc.	
	35 Est. total scaffolding = 1,500 m3	
	Realisasi :)
	Realisasi : Dilaksanakan pemasangan dan pembongkaran perancak untuk pekerjaan :))
	- Di Kemudi kanan / kiri	,)
. 1	Section Condity Mil	'

/A/C			Job Des	ription							K	eterangan
		4	х	2	х	6	М	х	2	Unit)	
)	
	- Di Propeller)	
		4	x	2	x	4	M	х	2	Unit)	
)	
	- Di Kotak Sea Chest kanan kiri)	
		4	Х	2	х	4	М	Х	3	Unit)	
)	
	- Di Bul bows untuk cat dan blasting kanan / kiri	4	.,	2	.,	_		.,	2	l lmit	(
		4	X	2	х	6	М	х	2	Unit	ľ	
	- Di Ship name belakang untuk replating										(
	. p	8	x	2	x	6	М	х	1	Unit	6	
)	
	- Di Plimsol kanan / kiri)	
		3	х	2	x	6	М	х	2	Unit)	
)	
	- Di Urlup kanan / kiri)	
		3	Х	3	Х	6	М	Х	2	Unit)	
	Pangkar nacang parancah/coeffedding abb.										()	
	Bongkar pasang perancah/scaffolding, sbb: - Perancah/scaffolding di forecastle u/ pekerjaar	n nina uk	uran ·								ľ	
	. craneary scarrolaing at forecastic up peacifadi	5 pipa, uki	иган . Х	5	x	2	М	х	1	Unit	ľ	
	- Perancah/scaffolding dalam tangki void 1 & 2 k					_		•	_		6	
		5	x	5	х	2	М	х	4	Unit)	
	- Perancah/scaffolding antara doom 1 & doom 2	di deck u	/ pekerja	an pipa, uk	uran :)	
		5	х	5	X	2	М	х	2	Unit)	Selesai
	- Perancah/scaffolding di forecastle u/ pekerjaar		uran :)	
		5	. x	5	Х	2	M	Х	1	Unit)	
	- Perancah/scaffolding dalam tangki void 1 & 2 k	iri u/ рекі 5	erjaan pip x	a, ukuran : 5	x	2	M	x	1	Unit	ľ	
	- Perancah/scaffolding antara doom 1 & doom 2					_	141	^	-	Offic	(
	g	5	х	5	x	2	М	х	4	Unit	6	Selesai
.15	Temporary Lighting											
5002	To provide additional cables with lights as reque	ested by C	O/S to spa	ces as need	led by							
	veesel's crew or owner's contractor during the rep	air period	l. Electric	power cons	sumptio	n						
	include.											
	To quote unit cost per lighting per day during vessor	ei in arya	DCK									
	Realisasi :										ļ	
	Diberikan penerangan dengan listrik dan lampu da	ri darat se	elama kap	al masih		2	7 hari				ľ,	
	berada di areal dock dan belum bisa menggunakar)	Selesai
.16	Ventilation Fans, Blowers, and Lights											
6003	To provide and maintain forced ventilation fans	, blowers,	and light	s to confine	space s	such						
	as All LPG Cargo Tanks, All Ballast Water Tanks, Col	fferdam, a	and/or Pu	mp Room o	during							
	repair period.											
	To confirm the graphine of blowers and lighting				s and bi	ower.						
	To confirm the quantity of blowers and lighting	io O/S be	iore arrai	igernent.								
	To quote unit cost / day (including cables and duct:	s). Allowe	d for 16 d	avs.								
	(Power consumption based on actual meter reading			-	under it	em						
	"Shore Power Supply").	-	J- *	/								
	To quote unit cost for connection and disconnection	n.										
ı											I	

No./A/C			Job Description		К	eterangan
	Disediakan sistem ventilasi / blowe	er dan penyinara	an / lampu untuk ruangan k	kerja)	
	untuk replating LPG Cargo Tanks, A	All Ballast Water	Tanks, Cofferdam, dan Pui	mp Room)	
1	(dari tgl 10 Juli s/d 30 Juli 2018)			21 hari)	Selesai
3.17	Crane Service					
125002	To furnish yard shore crane service.	ice for loading a	nd unloading of ships provi	ision and running		
	store as required by O/S.		O to proper	•		
	To quote unit price / hour usage. A	Allowed for 10 h	ours usage.			
	Realisasi :)	
	Diberikan pelayanan pemakaian ci	rane untuk peke	rjaan :)	
	- Replating)	
	Pengecatan dan sanblastLoading unloading pipa				(
	- Loading unloading pipa - Loading unloading cooler ME, AE				ľ	
	- Loading unloading Lifeboat				6	Selesai
	0.000				ĺ	
3.18	Ballasting and De-Ballasting					
	PIC: Chief Officer					
144003	To connect and later disconnec					
	water tank for undocking purpose	and adjust vess	el trim for undocking as pe	r calculation		
	from C/O.					
	Estimated quantity = 1,000 tons	•				
	To quote cost per ton of sea water	for ballasting. A	Allowed for 1,000 tons.			
	To deballasting quote cost per ton	_				
	To quote cost per connection and	disconnection. A	Allowed for 4 connections a	and disconnections.		
	Realisasi :)	
	Disupply air laut dari dock untuk p	engapungan seb)	
	- FPT	=	135 m3)	
	- WBT 3 C	=	250 m3)	
	- WBT 4 C - WBT 5 C	=	250 m3 250 m3		(
		TAL =	885 m3		6	
					ĺ	
	connect & disconnect			4 conn.)	Selesai
3.19	Gas Free Inspection					
146001	Table Burker Oil Table Backle B	•	•			
	Tanks, Bunker Oil Tanks, Double Bo Cofferdam during repair period.	ottoiii Taliks, Pu	mp room, void space rank	,		
	35 The gas free inspection shall be	carried out at le	east two time each day the	mean morning		
	time before working progress and		•			
	35 To arrange gas free certificate f	or hot works an	d issue certificate, include y	yard's chemist		
	for subsequent days.					
1	Realisasi :	تا التاجية مام	. 9. COT)	Cole:
	Dilaksanakan freegas setiap hari p	aua tanki baliast	. & CUI		,	Selesai
3.20	Port Chemist Inspection					
146002	> To arrange Government or Indep	pendent surveyo	or certified chemist to detec	ct Gas condition and		
	check compartments and surround	-				
	"Fit For Hot Work Certificate".					
	Realisasi :)	
	Diberikan pelayanan pengawasan	freegas oleh sya	hbandar & dibuatkan serti	fikat .)	Selesai
i I					1	

No./A/C	Job Description	Keterangan
3.21	Alleyway Covering	
123006	> To provide Covering Accommodation alleyway during repair with waterial of cartoon and tapes,	
	detail position at main deck and 1st Deck.	
	Realisasi :	
	Menutupi & melindungi lantai ruangan dg kertas karton & plastik mica posisi main deck & 1 st deck sebanyak 1 lot) Selesai
3.22	Garbage and Galley Refuse Disposal	
171001	35 To keep clean during repair period. Garbage and refuse to be removed from the galley	
	daily.	
	³⁵ ₁₇ Deck (including Cargo Holds and Tanks), Engine Room, Accommodation and other	
	compartments, specially the areas where repair works were carried out to be thoroughly	
	cleaned, after completion of the job.	
	Furnish a receptacle on board for garbage at poop deck, collection and disposed off daily To quote unit price per day. Allowed for 16 days.	
	To quote unit price per day. Anomed for 10 days.	
	Realisasi :)
	Disediakan bak sampah diatas kapal = 2 bh)
	Bak sampah dan isi sampah diturunkan ke darat untuk dibuang ke penampungan akhir darat 3 m3	
	Dibuang limbah Engine room sebanyak 5 M³	
	Dibuang limbah maindeck sebanyak 6 M³	Selesai
3.23	Final Cleaning	
123001	 The ship will arrive at the yard with a clean machinery space and dry bilges. During repair, all rubbish to be removed daily and on completion of repairs, all areas on deck, 	
	accompletion space, cargo tanks, pump rooms, engine room and any other locations dirtied by	
	yard as a result of repair work are to be cleaned up and ship to sail out with above spaces	
	mentioned in a state at least to that on arrival.	
	If it is yard's policy to charge for above, then yard to quote as follows:	
	To provide labours and materials to maintain all decks, accommodation, cargo tanks, pump	
	rooms and engine room in a clean and dry state during entire period ship in shipyard. Final	
	cleaning to carry out upon completion of all repairs.	
	Realisasi :	
	- Dilaksanakan final cleaning di ruang akomodasi crew , main deck , forcstle deck, poop deck, void space 1, & void space 2,)
	Engine room) Selesai
3.24	Engine Room Bilges and Sludge	
123005	To furnish labour, material and equipment to pump out engine room bilge water during	
	entire repair period. To provide oil tank at the dock bottom and quay side for storing bilge	
	water as deemed necessary. To provide certificates of proof indicating bilges and sludge removed from ship stating	
	quantity, time, date, location, tank from which fluid was pumped and any other associated	
	information.	
	To quote unit price / day for rental of pump.	
	To quote unit price / ton for sludge disposal. Allowed for disposal 1 ton of sludge.	
	To quote cost / ton for bilge water disposal. Allowed for disposal 1 ton of bilge water.	
	To quote unit cost for connection / disconnection.	
	Realisasi :	
	Diberikan sertifikat garbage removal deck departement 1 set)
	Diberikan sertifikat waste removal engine departement 1 set) Selesai
3.25	Bottom Plugs	
262001	> To remove only plugs at the expressed instruction of Owner's Representative and to be re-fitted	
	and cemented before flooding. The screw thread on plug and socket to be thoroughly inspected	
•		

No./A/C Job Description Keterangan prior to reinstalling of plug. If screw thread found damaged, same to be brought to the Attention of O/S. > To quote unit price for removal and refitting. Allowed for removing and refitting a total of 22 drain plugs. Note: Do not open drain plugs of Fuel oil tanks. Removal of any bottom plugs, shall be recorded and witnessed by a ship's officer. No plugs are to be removed from tanks containing fuel oil or lubricating oil unless specifically required and this is to be carefully checked and recorded. Material SUS-304 • After refitting, the plugs is subjected to vacumn test to confirm tightness and integrity, thereafter covered with cement. • To quote unit price to carry out vacuum test. Allowed for testing of 22 plugs. Quantity | Mark (Bead No Tanks Name Frame. No Capacity Plugs weld) 1 FPT 133-F.E 136.15 FPT NO.1 WBT-P 2 118-133 211.44 1 1WB 3 NO.1 WBT-S 118-133 211.44 1 1WB 4 NO.2 WBT-P 96-107 73 1 2WB NO.2 WBT-S 5 96-107 73 1 2WB 244.65 2 NO.3 WBT-C 85-96 6 2WB NO.4 WBT-C 1 74-85 279.24 4WB 2 8 NO.5 WBT-C 63-74 289.96 5WB NO.6 WBT-C 9 52-63 285.6 1 6WB NO.7 WBT-C 264.77 2 10 41-52 7WB 11 NO.8 WBT-C 30-41 213.49 1 8WB No.1 FWT (P) 1FW 12 1 No.1 FWT (S) 13 1 1FW 14 APT-P A.E-8 (F.W) 40.56 1 APT 15 A.E-8 (F.W) 1 APT-S 48 APT 16 Rudder (C) 2 RUDD 17 C.W.T (C) 1 CWT STERN FRAME 18 SE - Dibuka / ditutup / divacum test dan disemen bottom plug di FPT = 1 bh, WBT 1 PS/SB = 2 bh, WBT 2 PS/SB = 2 bh, WBT 3 C = 1 bh, WBT 4 C = 1 bh, WBT 5 C = 1 bh, WBT 6 C = 1 bh, WBT 7 C = 1 bh, WBT 8 C = 1 bh, jumlah 11 bh Air laut dibuang lewat bottom plug = 1000 ton Selesai 3.26 **Drawings** 108002 • To submit drawing to owner showing shell, included ultrasonic gauge test as requested by class (6 copy each). Realisasi: Dibuatkan record pengukuran dan gambar repair plan sesuai permintaan class dalam 6 rangkap. Selesai 3.27 **Basin Trial** 151002 To be arranged Basin Trial as requested by O/S and provide tugs and insurance wire for above operation. 3.28 Sea Trial & Compass Adjuster 151003 • To furnish labour, necessary tools, equipment and material in order to carry out sea trial after completion of all repairs to the satisfaction of the O/S. • All machineries repaired by shipyard personnel to be thoroughly checked for working and to make any final adjustment as found necessary. • Workers to be stationed around the Main Engine, Turbo chargers, Fuel Pump, and Exhaust

No./A/C	Job Description	Keterangan
	Valves during sea trial. Any leakage or defect to be corrected accordingly.	
	• To provide work boat to send O/S and yard workers back to yard premises on completion of sea trial	
	• The shipyard shall provide Satisfaction Report of Sea Trial Result signed by O/S, Master, and C/E	
	Realisasi:)
	Dilaksanakan timbal kompas & diberikan sertifikat dari syahbandar) Calassi
	Dilaksanakan sea trial) Selesai
4	DRY DOCKING	
4.1	Ultrasonic Measurement Test	
205006	PIC: Chief Officer and Technical Superintendent	
	To be measured plate thickness by ultrasonic gauge as instructed by Class Surveyor as per	
	Class Requirement for Intermediate Survey VI.	
	To be measured est. 5000 spots as suspected area and submit record for class and owner	
	copies each.	Owner
4.2 203002	Hull Cleaning Preparation PIC: Chief Officer	
203002	PIC: Chief Officer To be provided labour, necessary tools, material, and cranage to accomplish the following works:	
	To be carried out hand scrap the barnacle on ship's hull from keel to light load line.	
	75 To be washed down ship hull from keel to deep load line including rudder blade, stern	
	frame and sea chest with High Pressure Fresh Water Washing (HPFWW) about 350 - 700	
	bar prior to painting include consumption of fresh water for above jobs. The standard and	
	result of HPFWW shall be accepted by O/S prior to further work on the Hull Coatings.	
	To be installed wooden plugs to ship side scupper openings to keep hull dry during	
	painting and remove prior to completion.	
	The area shall be covided out the Util Desperation of follows:	
	The area shall be carried out the Hull Preparation as follows: Flat Bottom Area = 1172 m2	
	Vertical side Area =1591 m ₂	
	Realisasi:)
	Flat Bottom)
	Plat Bottom area luas 1172 M2, dilaksanakan :)
	- Di Skrap luas : 1172 m3)
	- 2 x Di Cuci air tawar luas : 2344 m3)
	Realisasi :)
	Vertical Side)
	Vertical Side area luas 1591 M2, dilaksanakan :)
	- 2 x Di Cuci air tawar luas : 3182 m3) Selesai
4.3	Bottom Area, 1172 m2	
203003	PIC: Chief Officer	
	To be provided labour, necessary tools, material, and cranage to accomplish the following works:	
	To be carried out Sweep – Spot Sand-blasting to min. SA 2 30 % of total area as appointed. Paint Specification (Refer to Last Docking) as follows: Fullblast	
	★ 1 x F/C Anti-Corrosive	
	★ 1 x F/C Sealer Coat	
	★ 1 x F/C Anti-Fouling System	
	To be carried out fresh water washing cleaning upon completion of Anti-Corrosive Coat	
	and Sealer Coat.	
	Paint supply by Owner.	
	Note:	
	Coating Advisor, as on behalf the Owner, with Shipyard Representatives shall check actual	
	condition after the ship has been docked in graving dock immediately. The result of arrival	
	condition checking will be highly considered to be main specification of coating at this area and shall be reported and approved by O/S. To take photograph as evidence.	
	and shan se reported and approved by 6/3. To take priotograph as evidence.	
• '		

./A/C		Job Desc	ription	Keterangan
	Realisasi :			
	Flat Bottom area luas 1172 M2, dilaksanakan :			b
	- Di Sweeblast luas	:	820,4 m3	b
	- Di Sandblast luas	:	351,6 m3)
)
	Dilakukan pengecatan sesuai Spec Paint Maker sbb:	:		5
	- 1 x Cat Primer luas	:	1172 m3	Ś
	- 1 x Cat AC luas	:	1172 m3	Ĺ
	- 1 x Cat Anti Fouling luas	:	1172 m3) Selesai
	1 x cat Anti i odning idas	•	11/2 1113	, Sciesai
1.4	Vertical side Area = 1591 m ₂			
3003	PIC: Chief Officer			
3003				
	To be provided labour, necessary tools, material, and	_	· ·	
	To be carried out Sweep – Spot Sand-blasting to m		otal area as appointed.	
	Paint Specification (Refer to Last Docking) as follows:			
	★ 1 x F/C Anti-Corrosive			
	★ 1 x F/C Sealer Coat			
	★ 1 x F/C Anti-Fouling System			
	★ 1 x F/C Anti-Fouling System	Paint supply by O	wner.	
	$^{35}_{17}$ To be carried out fresh water washing cleaning up	on completion of	Anti-Corrosive Coat	
	and Sealer Coat.			
	Note:			
	Coating Advisor, as on behalf the Owner, with Shipya	ırd Representative	es shall check actual	
	condition after the ship has been docked in graving do	•		
	condition checking will be highly considered to be ma	•		
	shall be reported and approved by O/S. To take photo		_	
	onali de reported una approved dy o, or re take priote	grupn us erruene		
	Realisasi :			,
	Vertical Side area luas 1591 M2, dilaksanakan :			K .
	- Di Sweeblast luas		1239 m3	ľ,
		:		ľ,
	- Di Sandblast luas	:	352 m3	ľ
	811.1			ľ
	Dilakukan pengecatan sesuai Spec Paint Maker sbb:			ľ
	- 1 x Cat Primer luas	:	1591 m3	ľ
	- 1 x Cat AC luas	:	1591 m3	P
	- 1 x Cat Anti Fouling luas	:	1591 m3)
)
	Realisasi :			þ
	Sirip PS/SB area luas 60 M2, dilaksanakan:)
	- Di Skrap luas	:	60 m3)
	- 2 x Di Cuci air tawar luas	:	120 m3)
	- Di Sweeblast luas	:	40 m3	þ
	- Di Sandblast luas	:	20 m3)
)
	Dilakukan pengecatan sesuai Spec Paint Maker sbb :	:)
	- 1 x Cat Primer luas	:	60 m3	Б
	- 1 x Cat AC luas	:	60 m3	5
	- 1 x Cat Anti Fouling luas	:	1591 m3) Selesai
		-		ľ
4.5	Top Side and Bulwark Area 1051 m2			
3003	PIC: Chief Officer			
5003		l cranago to case	nalish the following works:	
	To be provided labour, necessary tools, material, and	_	· ·	
	To be carried out Sweep – Spot Sand-blasting to m		otal area as appointed.	
	Paint Specification (Refer to Last Docking) as follows:			
	★ 1 x F/C Anti-Corrosive			
	★ 1 x F/C Polyurethane Coat		Paint supply by Owner.	
	$^{35}_{17}$ To be carried out fresh water washing cleaning up	on completion of	Anti-Corrosive Coat.	
I.				

No./A/C	Job Description			Keterangan
	Coating Advisor, as on behalf the Owner, with Shipyard Representatives shall check actual			
	condition after the ship has been docked in graving dock immediately. The result of arrival			
	condition checking will be highly considered to be main specification of coating at this area and			
	shall be reported and approved by O/S. To take photograph as evidence.			
	Realisasi :			
	Plat top side seluas 736 m², dikerjakan sebagai berikut :		2)
	a. Water jet	800	M ²)
	Ketok	60	M ²	
	Powertool	60	M²	
	b. Pengecatan :		_)
	- Cat Primer x 1 lapis	60	M²)
	- Cat Finish x 1 lapis	262	M ²)
	* Material cat supply owner)
	Plat bulwark seluas 105 m², dikerjakan sebagai berikut :)
	a. Water jet	105	M²) Selesai
4.6	Mark Painting			
203003	PIC: Chief Officer			
75023	To be provided labour, necessary tools, material, and cranage to accomplish the following works:			
	To be carried out repainting while all hull marks to be painted in using paint compatible with			
	the coating underneath as follows:			
	★ Draft marks P/S forward and After			
	★ Midship P/S			
	★ Plimsol and class mark P/S			
	★ The ship name P/S forward includes ship registry and IMO number			
	★ Ekanuri (EIP) logo for funnel.			
	Realisasi :)
	- Di lis Bottom dengan top side keliling kapal)
	- Dicat putih draft angka 6 set ps / sb , haluan, tengah, buritan dan lambung timbul)
	- Dicat kaki anode setelah dilas, jumlah 86 bh)
	- Dicat nama pelabuhan pendaftaran "TANJUNG PRIOK"	15	set) Selesai
4.7	Sea Chest and Gratings			
262010	PIC: Chief Engineer			
	To be provided labour, necessary tools, material, and cranage to accomplish the following work			
	Port and starboard 2.0 sqm x 2 sets Port 0.5 sqm x 1 set			
	To be removed sea chest gratings 3 pcs (466 mm x 416 mm of each). To be washed down			
	gratings and interior of sea chests with high pressure fresh water with 175 kg/cm2 and			
	thorougly scrapped, cleaned, and removed of marine growth. To be sand-blasted rusty			
	areas in the sea chest. To be painted sea chests and gratings as per under water hull painting scheme.			
	paniang serience.			
	To be replaced Anode inside Sea Chest. If required bolts used for grating to be renewed.			
	Yard to be supplied the necessary bolts, Stainless Steel (SUS), and split pins for locking.			
	.a.a to 20 supplied the necessary soits, stanness steel (500), and split pins for locking.			
	To be carried out lapping test and prepare press test 5 bar witnessed by Class Surveyor. To be issued certificate after job completion.			
	$^{35}_{17}$ To be applied special paint by apexion for internal surface of valve and strainer.			
	To be erected and removed necessary staging for above work and shall be confirmed by O/S			
	To be erected and removed necessary staging for above work and shall be confirmed by O/S Note:			

No./A/C	C Job Description						Keterangan
	2. The renewed material should be confirmed by	/ O/S					
	Realisasi:)
	Dilaksanakan pekerjaan pembersihan Kotak Sea	unest & sea greating	g, rincian :				<u> </u>
	- Dibuka tutupnya - Disekrap						<u> </u>
	- Disekrap - Dibersihkan lumpurnya.						<u> </u>
	- Disweepblast)
	- Dicat 2 kali cat AC)
	- Dicat 2 kali cat AF)
	Son Greating distance bounds to the second	on have be					P
	Sea Greating ditutup kembali, disegel dan disem Sea Greating ukuran :	en baut-bautnya 90 cm x	75 cm	v	4 bh		,
	Sea Greating araidi.	90 cm x Dia.	75 cm 66 cm		4 bh 1 bh		ľ,
		Dia.	55 CIII	**	= ****		<u> </u>
	Kotak sea chest ukuran :	110 cm x	130 cm	x	4 bh)
		65 cm x	70 cm	x	1 bh) Selesai
4.8	Sea Discharge and Scupper Values (CLASS II	ection)					
4.8 227001	Sea, Discharge, and Scupper Valves (CLASS Insp PIC: Chief Engineer	<u>.ccuoiij</u>					
	J						
	To be provided labour, necessary tools, material	, and cranage to acc	omplish the	following			
	works:						
	35 To be opened up valves for overhaul and surv						
	To be cleaned internally all globe valves by scr		ing to sound	metal and			
	then coated with two coats of yard supply ape	· ·) hov up ······	25 With	N		
	To be allowed for grinding or lapping of valve gland packing and jointing.	iius aiiu seats and to	oux up valv	cs with net	νv		
	To be replaced damaged nuts and bolts accor	dingly and same to h	ne greased n	ior to			
	assembly.	,	av	-			
	To be carried out leak test.						
	$^{35}_{17}$ All butterfly valves where their interior are ac	cessible for inspection	on from the e	exterior sid	le		
	shell of the ship are not to be dismantled from	· · -	-	-			
	directed by the O/S. These butterfly valves are				ı		
	from the sea chest. During examination, valves						
	opearation and tightness. All butterfly valves valves was inspection are to be removed from the pipe lire.						
	pressure tested to confirm tightness. Defective	_	-				
	35 17 All ship side nozzles for ship side valves and se	•		٠,			
	examined for corrosion wastage. All suspecte				he		
	superintendent immediately for his further ac						
	To be reinstalled in proper condition /as per c	original location.					
	immediately for his further action.						
	 To reinstall in proper condition /as per original 	location.					
	, , ,						
	The list of valves as follows:						
	1. After Draft Valve Starboard Side (Globe Valve						
	2. Discharge Valve SW Pump No. 1 and No. 2 (An	_	250).				
	3. Main SW Overboard Valve (Globe Valve10K-25	•					
	 Fire G&S Overboard Valve (Angle Valve 16K25 Steam Blow Down Valve (Globe Valve 16K40, 						
	6. FWG Ejector Pump Overboard Valve (Globe Va						
	7. Sewage Overboard Valve, Storm Valve with Ha		K85A, 1 pc. T	o be repair	red.		
	8. SW Valve Inlet LT Cooler, Butterfly Valve Type		-				
	(owner supply)						
	9. Coverboard Valve from Galley Storm Valve An	_	•	be repaired	d.		
	10. Accommodation P/S Storm Valve Angle with	Handle 10K125, 4 po	cs				
ı İ							ı

No./A/C		Job Description	Keterangan				
	Realisasi :)				
	Valve / Katup Laut.)				
	Valve dibongkar, diketok, disikat dan dibersihkan,		5				
	diskur, stang katup dilancarkan & diberi grease, ru	ımah valve dicat meni, diperiksa Klass/OS,)				
	selesai dipasang kembali, dan diadakan pengganti	·	5				
	pada rumahnya dilaksanakan press dengan tekana	6					
	pada ramamiya anancamanan press dengan tenam	,					
	* Ruang ME *)				
	- SEA CHEST :		(
	Butterfly valve 10K - 300	5 unit , B/P murbaut pengikat valve M22 x 80 mm = 40 buah	(
	Butterny valve 10K - 500	dan Murbaut M22 x 170 mm = 36 buah	,				
	Sawaga kanan	dan Murbaut M22 x 170 mm - 30 buan	(
	- Sewage kanan	A unit D/D must be t MAC u 70 mm. O bush)				
	Scupper 5K- 125	1 unit, B/P murbaut M16 x 70 mm = 8 buah)				
		Valve ganti baru Mat YWTS = 1 unit)				
	- Sewage kiri)				
	Scupper 5K - 80	1 unit,B/P murbaut M16 x 70 mm = 8 buah)				
		Valve ganti baru Mat YWTS = 1 unit)				
	- Over board pompa GS)				
	Butterfly 5K - 125	3 unit, B/P murbaut Pengikat Valve M20 x 150 mm = 24 buah	þ				
)				
	* Asistensi Pekerjaan *)				
	- Bongkar pasang deck 500 mm x 500 mm x 6 mm	= 10 buah)				
	- Dilaksanakan rekondisi pada butter fly valve 10K	- 300 = 5 unit, yang macet dengan cara di panasi)				
	menggunakan brender)				
	- Bongkar pasang pipa penghalang valve 4" x 3000	mm = 1 buah, murbaut M12 x 60 mm = 8 buah)				
	- Buat plat blank valve dia 130 mm x 20 mm = 2 bi	Ď					
	- Bongkar pasang palt siku penghalang valve uk. 8		ĺ				
	system pengelasan						
	- Buat stang valve butterfly 1 unit, dengan systim pengelasan						
	- Bongkar pasang strainer dia. 12" = 1 unit akses v	dive Sea Criest Kiri	(
	* Adams of a Committee *)				
	* Material Supply *		()				
	- Murbaut M16 x 60 mm = 20 buah)				
	- Murbaut M22 x 170 = 40 buah)				
	- Murbaut M22 x 60 mm = 60 buah)				
	- Packing Karet 2 mm x 4 meter) Selesai				
4.9	<u>Propeller</u>						
31001	PIC: Chief Engineer						
	Maker:						
	Type: 5 – Blade, Righ Hand Solid System						
	To be furnished labour, necessary tools, materials	and stagings to accomplish the following:					
	To be carried out high pressure washing and re						
	and boss. Barnacles and marine growth unable to	,					
	To be polished the propeller blades and boss in						
	35 To be sharp edges of propeller blades to be dre						
	To be carried out dye check propeller blade roo	ots for cracks. Same to be witnessed by O/S					
	or C/E.						
	$^{35}_{17}$ To be protected against paint spray during pair	ting of the external hull on completion					
	propeller to be coated with a layer of fish oil or so	ft soap.					
	$^{35}_{17}$ To be carried out calibration of pitch and static	balancing.					
	To be repaired propeller missing B blade due to	hair crack.					
	To replace and re install propeller						
	Realisasi :						
			ľ				
	Propeller		ľ				
	> Dimensi : dia 3200 mm x 4 daun = 1 unit		ľ				
	> Dilaksanakan perawatan pada propeller dengan	cara di san naner hingga hersih	n				

No./A/C	Job Description	Keterangan				
	> Layani colour cek pada propeller)				
)				
	Realisasi :)				
	Propeller Shaft)				
	Dilaksanakan pengukuran clearance Propeller Shaft dia. 320 mm)				
	Bush: White Metal, stock: St. Stell, sleeve: -					
	Diperiksakan Klass / Owner dan dibuatkan record 6 lembar					
	> Buka pasang skerm dia 400 mm x 150 mm = 1 unit, dengan sistem pengelasan) Selesai				
4.13	Rudder Blade And Rudder Trunk					
401001	PIC: Chief Engineer and Technical Superintendent					
402026	To be furnished labour, necessary tools, materials, and stagings to accomplish the following:					
218006						
4.13.1	Rudder Blade					
	Type: Semi-Spade Rudder					
	To be measured pintle and neck bearing clearance.					
	35 To be submitted record for Class Inspection.					
	To be cropped rudder bottom pintle closing plate or locking device for access.					
	To be refitted and welded as per original position, as instructed by Class Surveyor. To be opened up rudder blade bottom plug to be inspected by Class Surveyor and					
	reinstalled asper original later.					
	³⁵ / ₁₇ To be replaced rudder stock gland packing as per O/S confirmation (owner supply).					
	To be carried out Pressure Test with Air or Vacuum Test to be inspected by O/S and Class					
	Surveyor.					
	To replace and re install rudder blade					
	Realisasi :					
	Rudder Stock)				
	Dilaksanakan pengukuran clearance Rudder Stock dia. 280 mm,)				
	Bush: Bronze, stock: Stell, sleeve: Bronze)				
	Diperiksakan Klass / Owner dan dibuatkan record 6 lembar))				
	Pintle)				
	Dilaksanakan pengukuran clearance Rudder Stock dia. 210 mm,)				
	Bush : Bronze, stock : Stell, sleeve : Bronze Diperiksakan Klass / Owner dan dibuatkan record 6 lembar) Selesai				
	Diperiosakan kiass / Owner dan dibuatkan record o lembai) Selesai				
	Realisasi :)				
	Daun Kemudi)				
	Kemudi area luas 16 M2, dilaksanakan :)				
	- Di Skrap luas : 16 m3)				
	- 2 x Di Cuci air tawar luas : 32 m3)				
	- Di Sweeblast luas : 16 m3))				
	Dilakukan pengecatan sesuai Spek Paint Maker sbb :	<i>.</i>)				
	- 1 x Cat Primer luas : 16 m3)				
	- 1 x Cat AC luas : 16 m3) Calaa-:				
	- 1 x Cat Anti Fouling luas : 16 m3) Selesai				
4.13.2	Rudder Trunk					
	35 To be closed up manhole of rudder trunk.					
	To be cleaned water or muds debris inside of tank for preparing inspection, later assembled manhole with new packing using existing nut as per original condition.					
4.14	Anchor And Anchor Chain					
431021	PIC: Chief Officer					
-121021	Tiel Giller Officer					

No./A/C		Jo	b Descript	ion		Keterangan
	Anchor Specification:					
	Anchors: 4320kg x 2 sets / JIS Stockless Type Mate	erial-SC 42				1
	The second of th					1
	Anchor Chain Specifications:					1
	Diameter 50 mm (grade 2); 9 shackel portside & 1	0 shackel sta	rboard			
						1
	To be provided labour, necessary tools, and crana	ge to accomp	olish the fol	lowing works:		1
	$^{35}_{17}$ To be lower down anchor and chain cable on do	ock's floor by	release the	e bitter ends with		1
	the emergency release mechanism,					1
	$^{35}_{17}$ To be washed down with high pressure water j	et about 350	- 500 bar.			1
	$^{35}_{17}$ To be carried out hard chipping rusty area, incl	uded consum	ption of wa	ater for the job.		
	$^{35}_{17}$ To be disconnected the first 3 length (P/S) anch	or chain and	reconnect	ed to the bitter end		1
	of the chain. To be reconnected anchors to new ch					1
	To be renew swivel chain cable (P/S), dia.Chain					
	To be calibrated and measured all shackles con	nection in pr	esence of C)/S and submitted		
	record Chain Cable P/S.					
	To be renewed anchor chain ,dia. 50 mm = 5 sh					
	To be shot marking (P/S) chain cables in way of	joining shack	kies and ap	olled finish fish		1
	oil.		لاعلمما			1
	To be applied bituminous coating for both anch To be restowed anchors and cables on complet		ippiy).			1
	To be restowed anchors and cables on complet To be adjusted cable as necessary such that the		er drops ou	er a horizontal link		1
	17 TO be adjusted cable as necessary such that the	capie stoppi	er urops ov	er a nonzontarink.		1
	Realisasi :					<u>,</u>
	Telah dilaksanakan pekerjaan pembersihan rantai	dan iangkar	kanan kiri	rincian pekeriaan ·		<u>(</u>
	- Rantai dan jangkar diturunkan ke lantai dock	auri jurignal		our pekerjaari .		<u>(</u>
	- Rantai digelar di lantai dock.					<u> </u>
	- Rantai dicuci air tawar / diwater jet					6
	- Rantai diukur dan dibuatkan record.					<u> </u>
	- Rantai diketok)
	- Rantai dibersihkan)
	- Rantai dicat bitumastic.)
	- Dia. Rantai 50 mm, jumlah 18 segel.)
	Setelah selesai pekerjaan rantai dan jangkar dina	aikan kembal	i ke atas ka	pal.) Selesai
		- 4				
	Pasang baru swivel rantai jangkar dan segel jangka				(material supply dock))
	- Swivel dia.	2"	X	2 buah		ľ
	Timah pengunci pin swivel	a"	X	2 buah		ľ
	- Segel jangkar dia.	2"	X	2 buah) Colon-:
	Timah pengunci segel		Х	2 buah) Selesai
	Pasang jangkar ke kapal					<u>,</u>
	Asistensi :					ľ
	- Bongkar pasang					<u>(</u>
	> Rantai jangkar					<u> </u>
	> Swivel jangkar					6
	> Geser jangkar dari darat ke kapal) Selesai
4.15	Chain Locker (CLASS Inspection)					1
246031	PIC: Chief Officer					1
285051	To be provided labour, necessary tools, ventilation	n, and lighting	g to accomp	olish the following		1
	works:					1
	$^{35}_{17}$ To be pumped out remaining water or muds in	iside of Chair	n Locker P/	S by portable		1
	pumps (yard supply) estimate 3 tons dispose asho	re.				1
	To be washed down both lockers with high pres			500 bar.		1
	$^{35}_{17}$ To be removed perforated bottom plating on b					1
	To be carried out hard chipping, clean, and app	ly one full co	at (owner s	upply) epoxy		1
	paint-bituminous.					1
	To be opened up both suction strainer, cleaned	l, carried out	hard chipp	ing, applied one full		1

No./A/C	Job Description					K	eterangan
	coat (owner supply) epoxy paint-bituminous, and restored the strainer.					Ī	
	To be released and blow with compressed air to ensure free flowing both s	suctio	on pines	and			
	sounding pipes clogged by mud.		p.pcs				
	To be tested the ejector system witnessed by C/O or O/S.						
	35 17 To be dried up the chain lockers.						
	35 17 To be painted both locker floors and walls with coal tar epoxy paint (owner	r sup _l	ply) to a	ı			
	height of 2 meter.						
	Realisasi :)	
	Bak Rantai ukuran : 6 x 3 x 2 m x 2 unit (kanan kiri))	
	- Dipompa airnya.)	
	- Dibersihkan lumpurnya.)	
	- Dibuka papan alasnya)	
	- Diketok.)	
	- Dibersihkan.)	
	- Dicat bitumastic.)	
	- Papan alas dipasang kembali)	Selesai
4.16	Corrosion Protection						
278001	PIC: Chief Officer						
288001	To be provided labour, necessary tools, ventilation, and lighting to accomplish	n the	followi	ng			
	works:						
4.16.1	Aluminium Anode for Hull						
	Anode Size : 300 x 150 x 40 (B-12) bolt fit type						
	Total: 54 pcs						
	To be exected percentagings at sea shorts middles and stem must form	ov 24	00 ~3\				
	 To be erected necessary stagings at sea chests, rudder, and stern part (appr To be broken off putty covering the securing nuts. To be unbolted the nuts a 		,	all wasted and	es		
	 To be proken on putty covering the securing nuts. To be unboiled the nuts a To be replaced all damaged stainless steel stud bolts as necessary. 	iiiu It	LIIIOVEU	un wasteu anou	cs.		
	- To be reflicted with new anodes after the surface beneath the anodes have be	een t	treated	and painted			
	- To be cemented the bolt holes with epoxy putty.			a paniced.			
	- To be covered the new installed anodes with masking tapes and same to be	remo	oved pr	ior to undocking			
			•	3			
	The position of the Aluminum Anode to be installed as detailed as follows:						
	a. Rudder Plate both side 6 pcs						
	b. Bilge Keel Plate (P/S), 26 pcs						
	c. Stern area (P/S), 10 pcs						
	d. Sea Chest, 10 pcs						
	e. Rudder Trunk 2 Pcs						
	Note:						
	Note: 1. Anode Size: 300 x 150 x 40 (B-12) bolt fit type						
	Anode Size: 300 x 150 x 40 (6-12) boil fit type The missing bolt and nut shall be renewed with SUS Material (yard supp)	lv) a	and as	confirmed by	O/S.		
		<u>.</u> , .	40				
	Realisasi :)	
	Telah dikerjakan pembongkaran ZAP Lama sejumlah : 48 buah)	
	Telah dikerjakan pemasangan ZAP baru dengan posisi :)	
	- Depan Sirip kanan (S 8	3)	=	3 buah)	
	- Depan Sirip kiri (S 8	3)	=	3 buah)	
	- Sirip atas kanan (S 8	3)	=	7 buah)	
	- Sirip atas kiri (S 8	3)	=	7 buah)	
	- Sirip bawah kanan (S 8		=	6 buah)	
	- Sirip bawah kiri (S 8		=	6 buah)	
	- Skek kanan (S S		=	5 buah)	
	- Skek kiri (S		=	5 buah)	
	- Daun Kemudi kanan (SS		=	3 buah)	
	- Daun Kemudi kiri (S &		=	3 buah)	
l	- Kotak Sea Chest (S &	3)	=	5 buah)	

No./A/C	Job Description				Keterangan
	Total = 5:	3 buah) Selesai
4.16.2	Aluminium Anode for Ballast Water Tank)
	Type: Clamp Fitting Type & Anode Weight 11 Kg/Pcs)
	Total: 86 pcs)
)
	- To be cropped and renewed the Anode for BWT.)
)
	The position of the AL Anode to be installed as detailed as follows:)
	a. No. 3 BWT total 10 pcs)
	b. No. 4 BWT total 10 pcs) \
	c. No. 5 BWT total 10 pcs) \
	d. No. 6 BWT total 10 pcs))
	e. No. 7 BWT total 10 pcs f. Fore Peak Tank total 6 pcs))
	g. No. 1 BWT total 6 pcs))
	h. No. 2 BWT total 6 pcs				,)
	I. No. 8 BWT total 6 pcs				,)
))
	All Alumunium Anodes for Hull and BWT are supplied by owner .)
	Ganti baru aluminium anode bwt, sbb :)
	- BWT no. 1 (P/S)	x	12	buah)
	- BWT no. 2 (P/S)	x	12	buah)
	- BWT no. 6	x	10	buah)
	- BWT no. 7	x	10	buah)
	- BWT no. 8	x	6	buah)
	Asistensi)
	- Buka / tutup manhole		14	buah)
	- Cleaning spot WBT No. 6		2,3	ton)
	- Cleaning spot WBT No. 7		2,3	ton)
	- Cleaning spot WBT No. 8		2,3	ton) Selesai
4.16.3	EM-Log (aluminum anode))
	To be fabricated as pattern and fitted one piece of EM-Log Anode by yard. 120 mm dia x 15 mm	m)
	thickness c/w four 10 mm dia holes.				,) Batal
5	DECK DEPARTMENT				
5.1	Fresh Water Tank Cleaning)
216021	PIC: Chief Officer)
	To be provided labour, necessary tools, ventilation, and lighting to accomplish the following wo	orks:)
)
	- To be opened manhole, cleaned manually, and prepared for Class Inspection the following tar	nks:)
	Aft Peak Tank Fresh Water Tank (P) Volume : 40.56 M3)
	Aft Peak Tank Fresh Water Tank (S) Volume : 48.00 M3)
	No. 1 Fresh Water tank (P) Volume : 68.42 M3)
	No. 1 Fresh Water tank (S) Volume : 68.42 M3)
	- To be disposed to the ashore the excessive mud around 2 ton.)
	- To be grinded corroded area inside of mentioned tanks.)
	- To be applied touch up 2 times application by special paint (owner supply).)
	- To be reinstalled manhole cover using new rubber joint and existing nuts as per O/S Instruction	on.)
	- To be carried out hydropressure test of the manhole witnessed by C/O, upon completion of w	vork.)) Batal
5.2	Ballast Water Tank Cleaning				
	PIC: Chief Officer				
	To be provided labour, necessary tools, ventilation, and lighting to accomplish the following wo	orks:			
	Following manhole cover to be opened / closed by shore gang and the ships C/O is requested to	o check	ked ea	ch	
	manhole packing condition and make sure to closed all manhole cover before ballasting				
•					•

				JOD L	Description		Ketera
or	un-docking operat	tion.					
_							
No	o Tanks Name	Size and Type	Remarks	Quantity	Mark (Bead		
	o ramo ramo	Size and Type	T C T I C T	Manhole	weld)		
1	FPT	350 X 450 "B"	IN BOS'N ST	1	FPT		
2	NO.1 WBT-P	350 X 450 "B"	IN BOS'N ST	1	IWB		
3	NO.1 WBT-S	350 X 450 "B"	IN BOS'S ST	1	IWB		
4	NO.2 WBT-P	400 X 600 "B"	NO.1 CARGO SP	2	2WB		
5	NO.2 WBT-S	400 X 600 "B"	NO.1 CARGO SP	2	2WB		
6	NO.3 WBT-C	400 X 600 "B"	NO.1 CARGO SP	2	2WB		
7	NO.4 WBT-C	400 X 600 "B"	NO.1 CARGO SP	2	4WB		
8	NO.5 WBT-C	400 X 600 "B"	NO.2 CARGO SP	2	5WB		
9	NO.6 WBT-C	400 X 600 "B"	NO.2 CARGO SP	2	6WB		
10		400 X 600 "B"	NO.2 CARGO SP	2	7WB		
11		400 X 600 "B"	NO.1 CARGO SP	2	8WB		
12	. , ,	400 X 600 "B"	NO.2 CARGO SP	2	1FW		
13		400 X 600 "B"	NO.2 CARGO SP	2	1FW		
14	_	350 X 450 "B"	IN STEER RM	3	APT		
15		350 X 450 "B"	IN STEER RM	3	APT		
16		350 X 450 "B"	IN ENG ROOM	1	CWT		
17		250 X 450 "B"	IN STEER RM	DE ELATO	RUDO		
	OTAL: 31 PCS (" OTAL Ballast Capa		M COAM) ("B" TY	PE: FLAT)			
- To - To - To		oded area inside on up 2 times appli anhole cover usir	of mentioned tank ication by special p ng new rubber join	s. paint (own t and exist	ing nuts as per O/S Instructio		
- To - To - To	o be grinded corro o be applied touch o be reinstalled ma o be carried out hy	oded area inside on up 2 times appli anhole cover usir	of mentioned tank ication by special p ng new rubber join	s. paint (own t and exist			
- To - To - To - To	o be grinded corro o be applied touch o be reinstalled ma o be carried out hy alisasi	oded area inside o n up 2 times appli anhole cover usir ydropressure tesi	of mentioned tank ication by special p ng new rubber join t of the manhole w	s. paint (<u>own</u> t and exist vitnessed b	ring nuts as per O/S Instructio by C/O, upon completion of w	ork.	
- To - To - To - To Rea Cle	o be grinded corro o be applied touch o be reinstalled ma o be carried out hy alisasi eaning BWT, kuras	oded area inside o n up 2 times appli anhole cover usir ydropressure tesi	of mentioned tank ication by special p ng new rubber join t of the manhole w nm tangki, lumpur	s. paint (<u>own</u> t and exist vitnessed b & kotoran	ing nuts as per O/S Instructio by C/O, upon completion of w diangkat keluar & dibuang ke	ork. e darat, sbb :	
- To - To - To Rea Cle	o be grinded corro o be applied touch o be reinstalled ma o be carried out hy alisasi eaning BWT, kuras	oded area inside o n up 2 times appli anhole cover usir ydropressure tesi	of mentioned tank ication by special p ng new rubber join t of the manhole w im tangki, lumpur cap	s. paint (<u>own</u> t and exist vitnessed b & kotoran	ing nuts as per O/S Instructio by C/O, upon completion of w diangkat keluar & dibuang ke 2 ton	ork. e darat, sbb : 1 unit	
- To - To - To Rea Cle	o be grinded corro o be applied touch o be reinstalled ma o be carried out hy alisasi eaning BWT, kuras FPT BWT no. 1 (P/S)	oded area inside o n up 2 times appli anhole cover usir ydropressure tesi	of mentioned tank ication by special p ng new rubber join t of the manhole w im tangki, lumpur cap cap	s. paint (<u>own</u> t and exist vitnessed b & kotoran	ring nuts as per O/S Instructio by C/O, upon completion of w diangkat keluar & dibuang ke 2 ton 211 ton	ork. e darat, sbb : 1 unit 2 unit	
- To - To - To Rea Cle - -	o be grinded corro o be applied touch o be reinstalled ma o be carried out hy alisasi eaning BWT, kuras FPT BWT no. 1 (P/S) BWT no. 2 (P/S)	oded area inside o n up 2 times appli anhole cover usir ydropressure tesi	of mentioned tank ication by special p ng new rubber join t of the manhole w im tangki, lumpur cap cap	s. paint (<u>own</u> t and exist vitnessed b & kotoran	cing nuts as per O/S Instruction by C/O, upon completion of w diangkat keluar & dibuang ke 2 ton 211 ton 73 ton	ork. e darat, sbb : 1 unit 2 unit 2 unit	
- To - To - To Cle	o be grinded corro o be applied touch o be reinstalled ma o be carried out hy alisasi eaning BWT, kuras FPT BWT no. 1 (P/S)	oded area inside o n up 2 times appli anhole cover usir ydropressure tesi	of mentioned tank ication by special p ng new rubber join t of the manhole w im tangki, lumpur cap cap	s. paint (<u>own</u> t and exist vitnessed b & kotoran	ring nuts as per O/S Instructio by C/O, upon completion of w diangkat keluar & dibuang ke 2 ton 211 ton	ork. e darat, sbb : 1 unit 2 unit	
- Ta	o be grinded corro o be applied touch o be reinstalled ma o be carried out hy alisasi caning BWT, kuras FPT BWT no. 1 (P/S) BWT no. 2 (P/S) BWT no. 3 (P/S)	oded area inside o n up 2 times appli anhole cover usir ydropressure tesi	of mentioned tank ication by special p ng new rubber join t of the manhole w im tangki, lumpur cap cap	s. paint (<u>own</u> t and exist vitnessed b & kotoran	cing nuts as per O/S Instruction of work of the properties of the	ork. e darat, sbb : 1 unit 2 unit 2 unit 2 unit	
- Ta	o be grinded corro o be applied touch o be reinstalled ma o be carried out hy alisasi caning BWT, kuras FPT BWT no. 1 (P/S) BWT no. 2 (P/S) BWT no. 3 (P/S) BWT no. 4 (P/S)	oded area inside of n up 2 times appli anhole cover usir ydropressure test & bersihkan dala	of mentioned tank ication by special p ng new rubber join t of the manhole w nm tangki, lumpur cap cap cap	s. paint (<u>own</u> t and exist vitnessed b & kotoran	cing nuts as per O/S Instruction of work of the properties of the	e darat, sbb : 1 unit 2 unit 2 unit 2 unit 2 unit 2 unit))))))) Sele
- To	o be grinded corro o be applied touch o be reinstalled ma o be carried out hy alisasi eaning BWT, kuras FPT BWT no. 1 (P/S) BWT no. 2 (P/S) BWT no. 3 (P/S) BWT no. 4 (P/S) BWT no. 5 (P/S)	oded area inside of n up 2 times appli anhole cover usir ydropressure test & bersihkan dala	of mentioned tank ication by special p ng new rubber join t of the manhole w nm tangki, lumpur cap cap cap	s. paint (<u>own</u> t and exist vitnessed b & kotoran	cing nuts as per O/S Instruction of work of the properties of the	e darat, sbb : 1 unit 2 unit 2 unit 2 unit 2 unit 2 unit))))))) Sele
- To	o be grinded corro o be applied touch o be reinstalled ma o be carried out hy alisasi caning BWT, kuras FPT BWT no. 1 (P/S) BWT no. 2 (P/S) BWT no. 3 (P/S) BWT no. 5 (P/S) BWT no. 5 (P/S)	oded area inside of up 2 times appli anhole cover usir ydropressure test & bersihkan dala	of mentioned tank ication by special p ng new rubber join t of the manhole w nm tangki, lumpur cap cap cap cap	s. paint (<u>own</u> t and exist vitnessed t & kotoran	diangkat keluar & dibuang ke 2 ton 211 ton 73 ton 122 ton 139.5 ton 144.5 ton	ork. e darat, sbb : 1 unit 2 unit)))))) Sele
- To	o be grinded corro o be applied touch o be reinstalled ma o be carried out hy alisasi eaning BWT, kuras FPT BWT no. 1 (P/S) BWT no. 2 (P/S) BWT no. 3 (P/S) BWT no. 5 (P/S) BWT no. 5 (P/S) BWT no. 5 (P/S) Chief Officer be arranged service	oded area inside of up 2 times applicanhole cover using a properties of the cover using the cover using the cover using the cover and the cover using the cover and the co	of mentioned tank ication by special p ing new rubber join t of the manhole w im tangki, lumpur cap cap cap cap cap	s. paint (<u>own</u> t and exist vitnessed b k kotoran	cing nuts as per O/S Instruction of work of the completion of	e darat, sbb : 1 unit 2 unit))))))) Sele
- To	o be grinded corro o be applied touch o be reinstalled ma o be carried out hy alisasi caning BWT, kuras FPT BWT no. 1 (P/S) BWT no. 2 (P/S) BWT no. 3 (P/S) BWT no. 5 (P/S) BWT no. 5 (P/S) BWT no. 5 (P/S) Chief Officer be arranged service ch as inspection, tech	oded area inside of up 2 times applicanhole cover using a properties of the cover using the cover using the cover using the cover and the cover using the cover and the co	of mentioned tank ication by special p ing new rubber join t of the manhole w im tangki, lumpur cap cap cap cap cap	s. paint (<u>own</u> t and exist vitnessed b k kotoran	diangkat keluar & dibuang ke 2 ton 211 ton 73 ton 122 ton 139.5 ton 144.5 ton	e darat, sbb : 1 unit 2 unit)))))) Sele
- To	o be grinded corro o be applied touch o be reinstalled ma o be carried out hy alisasi eaning BWT, kuras FPT BWT no. 1 (P/S) BWT no. 2 (P/S) BWT no. 3 (P/S) BWT no. 5 (P/S) BWT no. 5 (P/S) BWT no. 5 (P/S) Chief Officer be arranged service	oded area inside of up 2 times applicanhole cover using a properties of the cover using the cover using the cover using the cover and the cover using the cover and the co	of mentioned tank ication by special p ing new rubber join t of the manhole w im tangki, lumpur cap cap cap cap cap	s. paint (<u>own</u> t and exist vitnessed b k kotoran	cing nuts as per O/S Instruction of work of the completion of	e darat, sbb : 1 unit 2 unit))))))) Sele
- To	o be grinded corro o be applied touch o be reinstalled ma o be carried out hy alisasi caning BWT, kuras FPT BWT no. 1 (P/S) BWT no. 2 (P/S) BWT no. 3 (P/S) BWT no. 5 (P/S) BWT no. 5 (P/S) c. Chief Officer be arranged service ch as inspection, tee	oded area inside of up 2 times applicanhole cover using a properties of the cover using the cover using the cover using the cover and the cover using the cover and the co	of mentioned tank ication by special p ing new rubber join t of the manhole w im tangki, lumpur cap cap cap cap cap	s. paint (<u>own</u> t and exist vitnessed b k kotoran	cing nuts as per O/S Instruction of work of the completion of	e darat, sbb : 1 unit 2 unit))))) Sele
- To	o be grinded corro to be applied touch to be reinstalled ma to be carried out hy alisasi teaning BWT, kuras FPT BWT no. 1 (P/S) BWT no. 2 (P/S) BWT no. 3 (P/S) BWT no. 5 (P/S) BWT no. 5 (P/S) BWT no. 5 (P/S) Chief Officer the arranged service the as inspection, teal the following: The service of the serv	oded area inside of up 2 times applicanhole cover using a properties of the cover using the cover using the cover using the cover and the cover using the cover and the co	of mentioned tank ication by special p ing new rubber join t of the manhole w im tangki, lumpur cap cap cap cap cap	s. paint (<u>own</u> t and exist vitnessed b k kotoran	cing nuts as per O/S Instruction of work of the completion of	e darat, sbb : 1 unit 2 unit))))) Sele
- To - To - To - To such the Life Special Control of the English Con	o be grinded corro o be applied touch o be reinstalled ma o be carried out hy alisasi caning BWT, kuras FPT BWT no. 1 (P/S) BWT no. 2 (P/S) BWT no. 3 (P/S) BWT no. 5 (P/S) BWT no. 5 (P/S) c. Chief Officer be arranged service ch as inspection, tee	n up 2 times appli anhole cover usir ydropressure test & bersihkan dala anhole	of mentioned tank ication by special p ing new rubber join t of the manhole w im tangki, lumpur cap cap cap cap cap authorised service	s. paint (<u>own</u> t and exist vitnessed b k kotoran	cing nuts as per O/S Instruction of work of the completion of	e darat, sbb : 1 unit 2 unit))))) Sele
- To - To - To Saft PIC To such the Life Special Control Contr	o be grinded corro o be applied touch o be reinstalled ma o be carried out hy alisasi eaning BWT, kuras FPT BWT no. 1 (P/S) BWT no. 2 (P/S) BWT no. 3 (P/S) BWT no. 5 (P/S) BWT no. 5 (P/S) BWT no. 5 (P/S) Chief Officer be arranged service ch as inspection, to e following: eboat (P/S) ecification: closed Type	n up 2 times appli anhole cover usir ydropressure test & bersihkan dala nhole ce engineer from esting, calibration	of mentioned tank ication by special page new rubber join to of the manhole with the manhol	s. paint (<u>own</u> t and exist vitnessed b & kotoran e center ar	diangkat keluar & dibuang ke 2 ton 211 ton 73 ton 122 ton 139.5 ton 144.5 ton	e darat, sbb : 1 unit 2 unit))))) Sele
- To	o be grinded corro to be applied touch to be reinstalled ma to be carried out hy alisasi taning BWT, kuras FPT BWT no. 1 (P/S) BWT no. 2 (P/S) BWT no. 3 (P/S) BWT no. 5 (P/S) BWT no. 5 (P/S) Chief Officer the arranged service has inspection, to the following: closed Type 5.7 M X B: 2.26 M X	n up 2 times appli anhole cover usir ydropressure test & bersihkan dala hhole ce engineer from esting, calibration	of mentioned tank ication by special page new rubber join to f the manhole was many tangki, lumpur cap	s. paint (<u>own</u> t and exist vitnessed t & kotoran e center ar enewal. Th	diangkat keluar & dibuang ke 2 ton 211 ton 73 ton 122 ton 139.5 ton 144.5 ton	e darat, sbb : 1 unit 2 unit))))) Sele
- To	o be grinded corro o be applied touch o be reinstalled ma o be carried out hy alisasi eaning BWT, kuras FPT BWT no. 1 (P/S) BWT no. 2 (P/S) BWT no. 3 (P/S) BWT no. 5 (P/S) BWT no. 5 (P/S) Euka & tutup man fety Equipment C: Chief Officer be arranged service ch as inspection, tele e following: eboat (P/S) ecification: closed Type 5.7 M X B: 2.26 M 3 Both life boat trans condition to be dis	n up 2 times appli anhole cover usir ydropressure test & bersihkan dala hhole ce engineer from esting, calibration	of mentioned tank ication by special page new rubber join to of the manhole with the manhol	s. paint (<u>own</u> t and exist vitnessed t & kotoran e center ar enewal. Th	diangkat keluar & dibuang ke 2 ton 211 ton 73 ton 122 ton 139.5 ton 144.5 ton	e darat, sbb: 1 unit 2 unit 2 unit 2 unit 2 unit 2 unit 2 unit ng of the system and limited to))))) Sele

No./A/C	Job Description	Keterangan
	- Quick release gear to overhaul and test if class required.)
	- Repaint of all over of boat shell by epoxy orange.)
	- Reflective tapes (SOLAS Grade) to newly apply after painted.)
	- Restore both lifeboats.)
)
	2) To be carried out periodic servicing of launching appliance and on-load release gear as SOLAS Reg. III/20.II)
	amended to require launching appliance a thorough examination at annual surveys by the manufacture's)
	representative or a person appropriately trained and certified by the manufacturer.)
	- A dynamic test of the winch brake at maximum lowering speed. The load to be applied shall be the mass of the)
	lifeboat without persons on board.)
	- Lifeboat on-load release gear shall be subjected to a thorough examination and operational test.)
	- Oxygen bottles at lifeboat must be refill (200 Bar) and doing hydrostatic test all bottles (total 6 bottles).)
	3) Both lifeboats falls wire to be renewed (last renewal : sept 2009) (Supply Owner)) Batal
5.3.2	Fixed And Portable Gas Detector Calibration)
	- To be rechecked, calibrated, tested, and issued certificate)
	Fixed type combustible gas alarm monitor)
	Type: Riken Keiki Co., Ltd: Type GP-631A-3S)
	Portable Combustible Gas Detector)
	Type: Riken Keiki Co.Ltd, Model GP 226 : 2 set.)
	Portable Portable Oxygen Meter)
	Type: Toka Seiki Co.Ltd, Type TIP-OXF Serial No. 72532F : 1 set.)
	Portable Oxygen Meter Type: Biken Fine Co. Ltd. Type: OX 1. Social No. 480030001 + 1 set)
	Type: Riken Fine Co.Ltd Type OX-1 Serial No. 489020001:1 set Portable Oxygen Meter) 1
	Type: Riken Fine Co.,Ltd: Type OX-1C Serial no. 489020030: 1 set.)
	Personnel Multi Gas Detector)
	Type: Riken Keiki Co.Ltd Model GX-2012 (Ex.Type B): 1 set) Batal
5.3.3	Fire Fighting Equipment	
	To be serviced, weighted, and tested fire fighting system.	
	To be issued certificate after completed by authorized party. 1) Co2 Fire Extinguishing system (Engine room / Cargo compressor room)	
	Kawasaki Safety Service Inc.	
	Co2 cylinders to be measured the weight and recorded.	
	68 liter x 35 bottles	
	2) Dry Chemical powder fire extinguishing system	
	Kashima Co.,Ltd.	
	Dry chemical tank unit 700 kg x 1 set	
	360 kg x 1 set	
	N2 gas cylinder to be measured the weight and recorded.	
	68 liters x 5 bottles	
	To be checked total unit system with N2 bottles and monitor unit / Local hose reel unit	
	3) Portable fire extinguisher	
	- Portable foam fire extinguisher : 14 Sets (5-deck / 9-engine room)	
	- Portable dry chemical powder : 6 Sets (5-deck / 1-engine room)	
	- Movable foam fire extinguisher : 1 set x 45 ltrs form	
	- Stationary dry chemical powder: 1 set x 40 kg	
	- Portable foam applicator unit : 1 set x 20 ltr x 2 sets	
	4) Breathing air apparatus	
	To be service and issued certificates the following items :	
	a. Kawasaki / Life Gem KS-8C 8.0L x 7 sets	
	b. Spare bottle 8.0L x 20 cyls	
	c. Life Gem KS-4E 4.0L x 22 sets	
]	d. EEBD KS-2E x 8 sets	
-		

No./A/C	Job Description	Keterangan
	5) Medical Oxygen resuscitator 2.1 l x 2 cyls	
	To be service, refill and issued certificate oxygen resuscitator.	
	6) Fire detection equipment	
	Nippon Hakuyo electronics, Ltd. Model: FF-3061D-10	
	Fire alarm x 1 set.	
	Opto electric Type Smoke Detector x 24 sets.	
	Fixed temperature type Spot detector x 2 sets.	
	To be rechecked, calibrated, tested, and issued certificate	
	7) Life boats air-bottles	
	50 ltr x 200 bar x 4 bottles.	
1	DEDIATING	
5.4	REPLATING	
201001	PIC: Technical Superintendent To be provided Jahour, pecessary tools, material, and cranage to accomplish the following works:	
	To be provided labour, necessary tools, material, and cranage to accomplish the following works: - Areas of Replating will be determined upon Dry Docking and Intermediate Survey V commence.	
	- Areas of Replating will be determined upon Dry Docking and Intermediate Survey v commence. Est. 20 ton = 20,000 kg	
	- Replating internal member & frame estimate 5 tons	
	Notes:	
	1. Steel Plates shall be grit-blasted or sand-blasted with SA 2 of standard and applied one full primer coat.	
	(owner supply)	
	2. Material: Mild Steel for Marine Use, IACS Certified, (ρ = 7.85 ton/m³)	
	Realisasi	
	REPLATING)
	Replating Lambung Kiri)
	Lajur D)
	Fr. 27 / 28 - 28 / 29)
	Plat 700 x 1000 x 12 mm x 1 bh)
	Diganti baru frame lambung sebelah kiri di dalam Kamar Mesin Fr. 26, ukuran :)
	Plat 150 x 360 x 10 mm x 1 bh)
	- Asistensi bongkar pasang lantai kamar mesin) \
	Plat bordes	<i>)</i> \
	1000 x 1000 x 6 mm x 1 buah (lama) 500 x 400 x 6 mm x 2 buah (lama))) Selesai
	200 A 400A O IIIII A Z Dudii (Idiild)	, Jelesal
5.5	Forecastle Deck	
432001	PIC: Chief Officer	
434001		
	To be provided labour, necessary tools, material, and cranage to accomplish the following works:	
	- Renew hawser pipe anchor chain Port & Starboard, 2 x 3.7 m x(t.10 mm), Dia. 54 cm	
	- Renew Forecastle air duck vent. Size : A125 X 1100 mm and elbow 90° X 2 Sch.40	
	- Renew support cable blower forecastle. Plat strip Size 25mm X 3mm X 50 mm.	
	- Renew ralling forecastle (galvanice pipe) Size : A25 X 5670 mm.	
	- Renew wire (labrang) for pillar foward	
	Size wire: 24mm x 9.6 mtr X 1	
	Size wire: 24mm x 10.7 mtr X 1	
	Size wire: 24mm x 10.8 mtr X 1	
	- Renew Dry Chemical hose unit pipe line size : A32 X 90 mm and flange 1	
	Material:	
	Double Nipple 1 1/4" Water Mur 1 1/4"	
	Water Mur 1 1/4" Elbow (Internal Screw) 1 1/4":	
	Flange 5K x 1 1/2"	
	Packing	
	Bolt & Nut : 1/2" x 2 1/2"	
	Reducer: 1 1/2" to 1 1/4"	
	Pipe Sch. 40 x 1 1/4" x 500 [mm]	
•		

			Je	ob Descri	ption				Ketera
	enew rubber packing locker dry chemical h	ose unit	s door .						
	elding/Repair anchor stopper P/S.	h 4450	0	oh 40					
	enew winch cooling pipe line diam. 2.5 inc		0 mm S	CN 4U.					
	enew pipe ballast FPT ventilation port side.								
	re : A125 X 6000 mm X 2								
	re : Elbow 45º X 2								
	e : Elbow 90º X 2								
	recastle Eductor pipe	000 1/ 4							
	ee: A50 X 1000mm, A32 X 2000mm, Elbow Opport foundation catwalk	90° X 1							
	ngle bar(besi siku) size :100mm x100mm x2	0mm							
	te :250mm X 2								
0									
Rea	llisasi								
Dip	asang baru doubling urlup jangkar, ukuran	:)
Kiri)
Pla	at dipress	730	x		1530 x	8 mm	x	1 bh)
Kar	an))
	at dipress	700	x		1530 x	8 mm	x	1 bh) Sel
Gar	nti baru pipa udara FPT Forecastle deck, sb	h·							١
	Pipa sch.80 dia.	υ: 4"	,	x	100 mm	х	1 buah		<i>,</i>)
	Pipa sch.80 dia.	4"		x	600 mm	x	1 buah		<i>,</i>)
	Pipa sch.80 dia.	4"		x	1800 mm	x	1 buah		<i>,</i>)
	Elbow dia	4"		x	2 buah	**	30.1		<i>,</i>)
	Ubolt dia	4"		x	1 buah)
)
	Pipa sch.80 dia.	5"		Х	100 mm	Х	2 buah)
	Lubang dia	5"	•	Х	1 buah)
	Doubling)
	Plat dia		170	х	10 mm x	1 buah))
-	Pipa sch.80 dia.	4"	•	x	100 mm	x	1 buah)
-	Pipa sch.80 dia.	4"	•	х	650 mm	х	1 buah)
-	Pipa sch.80 dia.	4"	,	х	250 mm	х	1 buah)
-	Elbow dia	4"	•	х	2 buah)
-	Ubolt dia	4"	,	x	1 buah)
-	Pipa sch.80 dia.	5″	,	x	100 mm	x	2 buah)) Sel
Por	ndasi kabel tie blower depan forecastle, pla	at ukuran	1:)
	550		50	x	6 mm x	1 buah			,) Sel
	Pasang klem kabel					4 buah			
	Ganti baut terminal block uk. M6 x 25					4 buah			
Da:	ling forecastle, pipa ukuran :								١
	Pipa sch.40 dia.	1	1/4"	х	400 mm	х	1 buah		, }
	Pipa sch.40 dia.		1/4"	x	560 mm	X	1 buah		,)
	Pipa sch.40 dia.		1/4"	x	1400 mm	X	2 buah		,)
	Pipa sch.40 dia.		1/4"	x	1150 mm	×	2 buah) Sel
_	ati hama atau Bar Cili. 1 1 1 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7								,
	nti baru pipa Dry Chemical di Forecastle, st Pipa sch.80 dia.		1/2"	x	100 mm	x	1 buah) \
	Flange dia.		1/2 1/2"	x	1 buah	^	1 Duail		,)
		1	-, -	^	1 20011				,)
-	Pipa sch.80 dia.	1"	,	x	250 mm	х	1 buah)
l	Elbow dia	1"		х	1 buah				,

<u> </u>			ם מסר	escr	iption					Keter
- Packing karet dia)	x	3 mm	х	1	buah)
- Mur baut dia		5/8"		^ X	2"	x	4	buah		ľ
- Doubling deck		5,5	,		-	^	7	~~~		ľ
Plat dia		150		x	12	mm x		1 buah		ľ
- Ubolt dia		2"				l buah		T DUGII)) Sel
- Opoli dia		۷	,	X	-	Ludii) sei
Service stopper jangkar kanan	kiri (2 unit), sbb :)
- Pasang as rantai stopper ja										(
As dia	J	1"	,	x	250) mm		x 2	buah	ľ
- Las ulang sepanjang		-	,		230			^ 2	Judii	ľ
										ľ
> 100 mm x 35 layer)) Sel
> 60 mm x 20 layer) 56
Bongkar ganti baru pipa udara	FPT									
Posisi Kiri		-"								[]
- Pipa sch.80 dia.		5"		X) mm		Х	1 buah	[)
- Pipa sch.80 dia.		5″		X) mm		Х	1 buah)
- Pipa sch.80 dia.		5"		X) mm		Х	1 buah)
- Pipa sch.80 dia.		5"	>	x	200) mm		x	2 buah)
- Flange dia.		5"	>	x	į	buah)
- Ubolt dia		5"	>	x	:	2 buah)
Director L CO. II		<i>c"</i>							2 harah)
- Pipa sch.80 dia.		6"		X) mm		Х	2 buah	[)
- Elbow dia		6"		X		2 buah				[)
- Packing karet dia				X	3 mm	х	4	buah)
- Mur baut dia		5/8")	X	2"	Х	24	buah)
- Doubling deck)
Plat dia		300)	X	10	mm x		1 buah)
Asistensi :) }
Bongkar pasang :	(material lar	ma)								ľ
- Pipa sch.80 dia.	(material lai	5"		x	25/) mm		x	1 buah	ľ
- Pipa sch.80 dia.		5 5") mm			1 buah	ľ
·		5"		X				х	ı suaii	ľ
- Flange dia.				X		Bbuah				ľ
- Air vent head dia		5" - 5 K		X		Lbuah				ľ
- Ubolt dia		5"	>	X	2	2 buah) }
- Pipa sch.80 dia.		3"	>	x	250) mm		x	1 buah)
- Flange dia.		3"		x		L buah				Ď
- Tutup pipa dia		3"	х		12	mm x		1 buah		Ď
		-					3	buah		ľ
			,	X	3 mm	X	_			ľ
- Packing karet dia		5/8")		3 mm 2"	X X	20	buah		1)
- Packing karet dia - Mur baut dia		5/8"		x x	3 mm 2"	x x	20	buah)) Sal
- Packing karet dia		5/8"					20	buah)) Se
- Packing karet dia - Mur baut dia		5/8"					20	buah)) Sei
- Packing karet dia - Mur baut dia - Fit up pipa		5/8" 5"	,		2"		20	buah x	1 buah)) Sel)
- Packing karet dia - Mur baut dia - Fit up pipa Posisi Depan (C))	x	2" 1500	x	20		1 buah 1 buah)) Sel))
- Packing karet dia - Mur baut dia - Fit up pipa Posisi Depan (C) - Pipa sch.80 dia.		5"))	x x	2" 1500 1300	x) mm	20	x)))))
- Packing karet dia - Mur baut dia - Fit up pipa Posisi Depan (C) - Pipa sch.80 dia Pipa sch.80 dia.		5" 5"))	x x x	2" 1500 1300 400	x) mm) mm	20	x x	1 buah)) Sel)))
- Packing karet dia - Mur baut dia - Fit up pipa Posisi Depan (C) - Pipa sch.80 dia Pipa sch.80 dia Pipa sch.80 dia.		5" 5"))	x x x	2" 1500 1300 400	x) mm) mm) mm	20	x x	1 buah)))))))
- Packing karet dia - Mur baut dia - Fit up pipa Posisi Depan (C) - Pipa sch.80 dia Pipa sch.80 dia Pipa sch.80 dia.		5" 5" 5"	>	x x x	2" 1500 1300 400	x) mm) mm) mm	20	x x	1 buah)))))))
- Packing karet dia - Mur baut dia - Fit up pipa Posisi Depan (C) - Pipa sch.80 dia Pipa sch.80 dia Pipa sch.80 dia Piba sch.80 dia Elbow dia		5" 5" 5"	>	x x x x	1500 1300 400	x) mm) mm) mm	20	x x x	1 buah 2 buah))))))))
- Packing karet dia - Mur baut dia - Fit up pipa Posisi Depan (C) - Pipa sch.80 dia Pipa sch.80 dia Pipa sch.80 dia Elbow dia - Pipa sch.80 dia.		5" 5" 5"	>	x x x x	1500 1300 400	x) mm) mm) mm) buah	20	x x x	1 buah 2 buah)) Sel))))))
- Packing karet dia - Mur baut dia - Fit up pipa Posisi Depan (C) - Pipa sch.80 dia Pipa sch.80 dia Pipa sch.80 dia Elbow dia - Pipa sch.80 dia Fipa sch.80 dia.		5" 5" 5")	x x x x x x	1500 1300 400 2	x) mm) mm) mm) buah		x x x	1 buah 2 buah)))))))))
- Packing karet dia - Mur baut dia - Fit up pipa Posisi Depan (C) - Pipa sch.80 dia Pipa sch.80 dia Pipa sch.80 dia Elbow dia - Pipa sch.80 dia Flange dia Packing karet dia - Mur baut dia		5" 5" 5" 5" 6")	x x x x x	2" 1500 1300 400 2 150	x) mm) mm) mm) buah) mm I buah x	2	x x x	1 buah 2 buah)) Sel)))))))
- Packing karet dia - Mur baut dia - Fit up pipa Posisi Depan (C) - Pipa sch.80 dia Pipa sch.80 dia Pipa sch.80 dia Elbow dia - Pipa sch.80 dia Flange dia Packing karet dia - Mur baut dia Asistensi:	(material la	5" 5" 5" 6" 6" 5/8")	x x x x x	2" 1500 1300 400 2 150	x) mm) mm) mm) buah) mm I buah x	2	x x x	1 buah 2 buah) Sel
- Packing karet dia - Mur baut dia - Fit up pipa Posisi Depan (C) - Pipa sch.80 dia Pipa sch.80 dia Pipa sch.80 dia Elbow dia - Pipa sch.80 dia Flange dia Packing karet dia - Mur baut dia	(material lar	5" 5" 5" 6" 6" 5/8"	,	x x x x x	1500 1300 400 2 150 3 mm 2"	x) mm) mm) mm) buah) mm I buah x	2	x x x	1 buah 2 buah) Sel

			J	ob Descr	iption				Keterang
Т	- Flange dia.		5"	х	3	buah)
	- Air vent head dia		5" - 5 K	х	1	buah			()
	- Ubolt dia		5"	х		buah)
			- ")
	- Pipa sch.80 dia. - Flange dia.		3" 3"	x x	250	mm buah	Х	1 buah)
	- Tutup pipa dia		3"	x		mm x	1 buah		,
	- Packing karet dia		3	x x	3 mm	x 3			,
	- Mur baut dia		5/8"		2"	x 20			,
	- Fit up pipa		5/6	Х	2	X 20	Duan)) Selesa
	- гіс ир ріра) Selesa
	Ganti baru pipa eductor, sbb :)
	- Pipa sch.40 dia.		2 1/2"	x	500	mm	X	1 buah)
	- Pipa sch.40 dia.		2 1/2"	x	400	mm	X	1 buah)
	- Elbow dia		2 1/2"	Х	1	buah)
	- Sock dia		3"	х	2	buah)
	- Pipa sch.80 dia.		1 1/2"	x	2000	mm	×	1 buah)
	- Sock dia		2"	x		buah			ľ
	- Ubolt dia		1 1/2"	x		buah) Selesa
	Obolt dia		± ±/ 4	^	1	Juuli) Selesa
	Ganti baru pondasi tangga catw	alk Forecastle dan	Poop Deck,	sbb :					
	- Besi siku	100 + 100	х	150	х	10 mm		4 buah	
	- Besi siku	80 + 80	х	150	x	8 mm		4 buah	
	- Buat lubang					Ø 20 mm		4 buah	
	- Mur baut	5/8"	х	2"				4 buah	
	Main Deck and Cargo Tank No. PIC: Chief Officer To be provided labour, necessa		and cranage	to accon	nplish the fo	llowing w	orks:		
;	PIC: Chief Officer To be provided labour, necessa		and cranage	to accon	nplish the fo	llowing w	orks:		
	PIC: Chief Officer To be provided labour, necessa STARBOARDSIDE	ry tools, material, a		to accon		_	orks: valve dia. 5"		
	PIC: Chief Officer To be provided labour, necessa STARBOARDSIDE - Check and Repair WBT No. 1 S	ry tools, material, a		to accon		_			
	PIC: Chief Officer To be provided labour, necessa STARBOARDSIDE - Check and Repair WBT No. 1 S Renew air pipe	ry tools, material, a		to accon		_			
	PIC: Chief Officer To be provided labour, necessa STARBOARDSIDE - Check and Repair WBT No. 1 S Renew air pipe Pipe Sch. 40 = Ø 5" x 300 [m	ry tools, material, a		to accon		_			
	PIC: Chief Officer To be provided labour, necessa STARBOARDSIDE - Check and Repair WBT No. 1 S Renew air pipe Pipe Sch. 40 = Ø 5" x 300 [m Bolt & Nut = Ø 5/8"	ry tools, material, a		to accon		_			
	PIC: Chief Officer To be provided labour, necessa STARBOARDSIDE - Check and Repair WBT No. 1 S Renew air pipe Pipe Sch. 40 = Ø 5" x 300 [m Bolt & Nut = Ø 5/8" Flange 5" 5K	ry tools, material, a		to accon		_			
	PIC: Chief Officer To be provided labour, necessa STARBOARDSIDE - Check and Repair WBT No. 1 S Renew air pipe Pipe Sch. 40 = Ø 5" x 300 [m Bolt & Nut = Ø 5/8" Flange 5" 5K Packing	ry tools, material, a head of ventilati	on : 2 set	to accon		Estimasi v	alve dia. 5"		
	PIC: Chief Officer To be provided labour, necessa STARBOARDSIDE - Check and Repair WBT No. 1 S Renew air pipe Pipe Sch. 40 = Ø 5" x 300 [m Bolt & Nut = Ø 5/8" Flange 5" 5K	ry tools, material, at head of ventilationm]	on : 2 set			Estimasi v			
	PIC: Chief Officer To be provided labour, necessa STARBOARDSIDE - Check and Repair WBT No. 1 S Renew air pipe Pipe Sch. 40 = Ø 5" x 300 [m Bolt & Nut = Ø 5/8" Flange 5" 5K Packing - Check and Repair WBT No. 2	ry tools, material, at head of ventilationm] Shead of ventilations.15,25,35,55,75,80	on : 2 set on.: 2 set size. Diam.		.9600 mm.	Estimasi v	alve dia. 5" alve dia. 5"		
	PIC: Chief Officer To be provided labour, necessa STARBOARDSIDE - Check and Repair WBT No. 1 S Renew air pipe Pipe Sch. 40 = Ø 5" x 300 [m Bolt & Nut = Ø 5/8" Flange 5" 5K Packing - Check and Repair WBT No. 2 - Renew sounding pipe WBT No.	ry tools, material, at head of ventilationm] Shead of ventilations.15,25,35,55,75,80	on : 2 set on.: 2 set size. Diam.		.9600 mm.	Estimasi v Estimasi v	alve dia. 5" alve dia. 5"		
	PIC: Chief Officer To be provided labour, necessa STARBOARDSIDE - Check and Repair WBT No. 1 S Renew air pipe Pipe Sch. 40 = Ø 5" x 300 [m Bolt & Nut = Ø 5/8" Flange 5" 5K Packing - Check and Repair WBT No. 2 - Renew sounding pipe WBT No. 2 - Check and service vent head of	ry tools, material, at head of ventilation m] Shead of ventilations, 15,25,35,55,75,8C of WBT No.3/C:2 s	on : 2 set on.: 2 set size. Diam.		.9600 mm.	Estimasi v Estimasi v	alve dia. 5" alve dia. 5"		
	PIC: Chief Officer To be provided labour, necessal STARBOARDSIDE - Check and Repair WBT No. 1 S Renew air pipe Pipe Sch. 40 = Ø 5" x 300 [m Bolt & Nut = Ø 5/8" Flange 5" 5K Packing - Check and Repair WBT No. 2 - Renew sounding pipe WBT No. 2 - Check and service vent head of Renew air pipe	ry tools, material, at head of ventilation m] Shead of ventilations, 15,25,35,55,75,8C of WBT No.3/C:2 s	on : 2 set on.: 2 set size. Diam.		.9600 mm.	Estimasi v Estimasi v	alve dia. 5" alve dia. 5"		
	PIC: Chief Officer To be provided labour, necessa STARBOARDSIDE - Check and Repair WBT No. 1 S Renew air pipe Pipe Sch. 40 = Ø 5" x 300 [m Bolt & Nut = Ø 5/8" Flange 5" 5K Packing - Check and Repair WBT No. 2 - Renew sounding pipe WBT No. 2 - Renew sounding pipe WBT No. 2 - Check and service vent head of Renew air pipe Pipe Sch. 40 = Ø 3" x 600 [m	ry tools, material, at head of ventilation m] Shead of ventilations, 15,25,35,55,75,8C of WBT No.3/C:2 s	on : 2 set on.: 2 set size. Diam.		.9600 mm.	Estimasi v Estimasi v	alve dia. 5" alve dia. 5"		
	PIC: Chief Officer To be provided labour, necessa STARBOARDSIDE - Check and Repair WBT No. 1 S Renew air pipe Pipe Sch. 40 = Ø 5" x 300 [m Bolt & Nut = Ø 5/8" Flange 5" 5K Packing - Check and Repair WBT No. 2 - Renew sounding pipe WBT No. Check and service vent head of Renew air pipe Pipe Sch. 40 = Ø 3" x 600 [m Flange 3" 5K	ry tools, material, at head of ventilation m] Shead of ventilations, 15,25,35,55,75,8C of WBT No.3/C:2 s	on : 2 set on.: 2 set size. Diam.		9600 mm.	Estimasi v Estimasi v	alve dia. 5" ralve dia. 5" lia. 4"		
	PIC: Chief Officer To be provided labour, necessa STARBOARDSIDE - Check and Repair WBT No. 1 S Renew air pipe Pipe Sch. 40 = Ø 5" x 300 [m Bolt & Nut = Ø 5/8" Flange 5" 5K Packing - Check and Repair WBT No. 2 - Renew sounding pipe WBT No. - Check and service vent head of Renew air pipe Pipe Sch. 40 = Ø 3" x 600 [m Flange 3" 5K Bolt & Nut Packing - Check and servive vent head of Check and Service vent head of Check	ry tools, material, a head of ventilationm] Shead of ventilations.15,25,35,55,75,80 of WBT No.3/C:2shm]	on : 2 set on.: 2 set size. Diam. ets	2 inch x L	.9600 mm.	Estimasi v Estimasi v	alve dia. 5" ralve dia. 5" lia. 4"		
	PIC: Chief Officer To be provided labour, necessa STARBOARDSIDE - Check and Repair WBT No. 1 S Renew air pipe Pipe Sch. 40 = Ø 5" x 300 [m Bolt & Nut = Ø 5/8" Flange 5" 5K Packing - Check and Repair WBT No. 2 - Renew sounding pipe WBT No. - Check and service vent head of the service of the serv	ry tools, material, a head of ventilation head of ventilation head of ventilations, 15,25,35,55,75,8C of WBT No.3/C:2s hm]	on : 2 set on.: 2 set size. Diam. ets set size : diam.	2 inch x L	.9600 mm.	Estimasi v Estimasi v Estimasi o	alve dia. 5" alve dia. 5" lia. 4"		
	PIC: Chief Officer To be provided labour, necessa STARBOARDSIDE - Check and Repair WBT No. 1 S Renew air pipe Pipe Sch. 40 = Ø 5" x 300 [m Bolt & Nut = Ø 5/8" Flange 5" 5K Packing - Check and Repair WBT No. 2 - Renew sounding pipe WBT No. - Check and service vent head of Renew air pipe Pipe Sch. 40 = Ø 3" x 600 [m Flange 3" 5K Bolt & Nut Packing - Check and servive vent head of Check and Service vent head of Check	ry tools, material, a head of ventilation head of ventilation head of ventilations, 15,25,35,55,75,8C of WBT No.3/C:2s hm]	on : 2 set on.: 2 set size. Diam. ets set size : diam.	2 inch x L	.9600 mm.	Estimasi v Estimasi v	alve dia. 5" alve dia. 5" lia. 4"		
	PIC: Chief Officer To be provided labour, necessa STARBOARDSIDE - Check and Repair WBT No. 1 S Renew air pipe Pipe Sch. 40 = Ø 5" x 300 [m Bolt & Nut = Ø 5/8" Flange 5" 5K Packing - Check and Repair WBT No. 2 - Renew sounding pipe WBT No. Check and service vent head of Renew air pipe Pipe Sch. 40 = Ø 3" x 600 [m Flange 3" 5K Bolt & Nut Packing - Check and servive vent head of Renew vapour pipe line manification.	ry tools, material, a head of ventilationm] S head of ventilations, 15,25,35,55,75,8C of WBT No.3/C:2 somm] of WBT No.4/C::2 somm] of WBT No.5C/S = 2	on : 2 set on.: 2 set size. Diam. ets set size : diam.	2 inch x L	.9600 mm.	Estimasi v Estimasi v Estimasi o	alve dia. 5" alve dia. 5" lia. 4"		
	PIC: Chief Officer To be provided labour, necessa STARBOARDSIDE - Check and Repair WBT No. 1 S Renew air pipe Pipe Sch. 40 = Ø 5" x 300 [m Bolt & Nut = Ø 5/8" Flange 5" 5K Packing - Check and Repair WBT No. 2 - Renew sounding pipe WBT No. - Check and service vent head office vent head o	ry tools, material, a head of ventilationm] S head of ventilations, 15,25,35,55,75,8C of WBT No.3/C:2 somm] of WBT No.4/C::2 somm] of WBT No.5C/S = 2	on : 2 set on.: 2 set size. Diam. ets set size : diam.	2 inch x L	.9600 mm.	Estimasi v Estimasi v Estimasi o	alve dia. 5" alve dia. 5" lia. 4"		
	PIC: Chief Officer To be provided labour, necessa STARBOARDSIDE - Check and Repair WBT No. 1 S Renew air pipe Pipe Sch. 40 = Ø 5" x 300 [m Bolt & Nut = Ø 5/8" Flange 5" 5K Packing - Check and Repair WBT No. 2 - Renew sounding pipe WBT No. Check and service vent head of Renew air pipe Pipe Sch. 40 = Ø 3" x 600 [m Flange 3" 5K Bolt & Nut Packing - Check and servive vent head of Renew vapour pipe line manification.	ry tools, material, a head of ventilationm] S head of ventilations, 15,25,35,55,75,8C of WBT No.3/C:2 somm] of WBT No.4/C::2 somm] of WBT No.5C/S = 2	on : 2 set on.: 2 set size. Diam. ets set size : diam.	2 inch x L	.9600 mm.	Estimasi v Estimasi v Estimasi o	alve dia. 5" alve dia. 5" lia. 4"		
	PIC: Chief Officer To be provided labour, necessa STARBOARDSIDE - Check and Repair WBT No. 1 S Renew air pipe Pipe Sch. 40 = Ø 5" x 300 [m Bolt & Nut = Ø 5/8" Flange 5" 5K Packing - Check and Repair WBT No. 2 - Renew sounding pipe WBT No. - Check and service vent head office vent head o	ry tools, material, a head of ventilationm] S head of ventilations, 15,25,35,55,75,8C of WBT No.3/C:2 somm] of WBT No.4/C::2 somm] of WBT No.5C/S = 2	on : 2 set on.: 2 set size. Diam. ets set size : diam.	2 inch x L	.9600 mm.	Estimasi v Estimasi v Estimasi o	alve dia. 5" alve dia. 5" lia. 4"		
	PIC: Chief Officer To be provided labour, necessa STARBOARDSIDE - Check and Repair WBT No. 1 S Renew air pipe Pipe Sch. 40 = Ø 5" x 300 [m Bolt & Nut = Ø 5/8" Flange 5" 5K Packing - Check and Repair WBT No. 2 - Renew sounding pipe WBT No. 2 - Renew sounding pipe WBT No. 2 - Check and service vent head of the service of the	ry tools, material, a head of ventilationm] S head of ventilations, 15,25,35,55,75,8C of WBT No.3/C:2 somm] of WBT No.4/C::2 somm] of WBT No.5C/S = 2	on : 2 set on.: 2 set size. Diam. ets set size : diam.	2 inch x L	.9600 mm.	Estimasi v Estimasi v Estimasi o	alve dia. 5" alve dia. 5" lia. 4"		
	PIC: Chief Officer To be provided labour, necessa STARBOARDSIDE - Check and Repair WBT No. 1 S Renew air pipe Pipe Sch. 40 = Ø 5" x 300 [m Bolt & Nut = Ø 5/8" Flange 5" 5K Packing - Check and Repair WBT No. 2 - Renew sounding pipe WBT No. - Check and service vent head office of the service of t	ry tools, material, at head of ventilation head of ventilation head of ventilations. Shead of ventilations. 15,25,35,55,75,8C of WBT No.3/C:2 shm] of WBT No. 4/C.: 2 should starboardside swT No 5C/S = 2 hm] x 2 Unit	on : 2 set on.: 2 set size. Diam. ets set size : diam. sets	2 inch x L	.9600 mm.	Estimasi v Estimasi v Estimasi o	alve dia. 5" alve dia. 5" lia. 4"		
	PIC: Chief Officer To be provided labour, necessa STARBOARDSIDE - Check and Repair WBT No. 1 S Renew air pipe Pipe Sch. 40 = Ø 5" x 300 [m Bolt & Nut = Ø 5/8" Flange 5" 5K Packing - Check and Repair WBT No. 2 - Renew sounding pipe WBT No. Check and service vent head of the service of the servic	ry tools, material, at head of ventilation head of ventilation head of ventilations. Shead of ventilations. 15,25,35,55,75,8C of WBT No.3/C:2 shm] of WBT No. 4/C.: 2 should starboardside swT No 5C/S = 2 hm] x 2 Unit	on : 2 set on.: 2 set size. Diam. ets set size : diam. sets	2 inch x L	.9600 mm.	Estimasi v Estimasi o Estimasi o	alve dia. 5" alve dia. 5" lia. 4"		
	PIC: Chief Officer To be provided labour, necessa STARBOARDSIDE - Check and Repair WBT No. 1 S Renew air pipe Pipe Sch. 40 = Ø 5" x 300 [m Bolt & Nut = Ø 5/8" Flange 5" 5K Packing - Check and Repair WBT No. 2 - Renew sounding pipe WBT No. - Check and service vent head office vent head office and service vent head office vent head office vent head offi	ry tools, material, a head of ventilationm] S head of ventilations.1s,2s,3s,5s,7s,8c of WBT No.3/C:2s fold starboardside twT No 5C/S = 2 thm] x 2 Unit	on : 2 set on.: 2 set size. Diam. ets set size : diam. sets	2 inch x L	.9600 mm.	Estimasi v Estimasi o Estimasi o	alve dia. 5" alve dia. 5" lia. 4"		

/A/C		Jo	b Desc	ription					Keteranga
	Bolt & Nut								
	Packing								
	Pipe Sch. 40 = Ø 4" x 600 [mm]								
	Flange 4" 5K								
	Bolt & Nut								
	Packing								
,	- Check and Repair vent head BWT No. 7C/S =	2 sets.			Estima	ısi dia	ı. 4"		
	Renew air pipe	2 5005.							
	Pipe Sch. 40 = Ø 4" x 600 [mm]								
	Flange 4" 5K								
	Bolt & Nut								
,	Packing Charle and Bonnin worth hand BWT. No. 86/6	2			Estima	: :	. 4"		
0	- Check and Repair vent head BWT No. 8C/S =- Repair portable gangway ladder = 1 set.	z sets.			EStimo	isi ala	1. 4		
	Realisasi								
	Ganti baru pipa udara BWT No. 3 kanan, sbb :)
	- Pipa sch.80 dia.	3"	х	700	mm		x	4 buah)
	- Pipa sch.80 dia.	3"	х	200	mm		x	4 buah)
	- Flange dia.	3"	х	12	buah)
	- Sock dia	4"	х	4	buah)
	- Air vent head dia	3"	x		buah)
	- Packing karet dia	3"	х	5 mm	x	8	buah		5
	- Mur baut dia	5/8"	x	2 1/2"	x	32	buah) Selesai
	Service air vent head BWT No. 4 kanan)
	- Air vent head dia	3"	Х	3	buah		(lama))
	- Plat ventilasi	150x110	х	4	buah		(supply o	dock))
	- Saringan	110 x 50	х	4	buah		(supply o	dock))
	- Packing karet dia	3"	х	5 mm	х	3	buah	(lama))
	- Mur baut dia	5/8"	х	2 1/2"	х	12	buah	(lama)) Selesai
	Ganti baru pipa udara BWT No. 5 kanan, sbb :	.,,)
	- Pipa sch.80 dia.	4"	х		mm		х	2 buah)
	- Pipa sch.80 dia.	4"	Х		mm		Х	2 buah)
	- Flange dia.	4"	Х		buah)
	- Sock dia	5"	х		buah)
	- Air vent head dia	4"	х		buah)
	- Packing karet dia	4"	х	5 mm	x	4	buah)
	- Mur baut dia	5/8"	x	2 1/2"	x	32	buah)
	- Pipa sch.80 dia.	4"	x		mm		x	2 buah	
	- Pipa sch.80 dia.	4"	х		mm		x	2 buah)
	- Flange dia.	4"	Х		buah 				<u>P</u>
	- Sock dia	5"	х		buah)
	- Air vent head dia	4"	х		buah)
	- Packing karet dia	4"	х	5 mm	X	4	buah)
	- Mur baut dia	5/8"	x	2 1/2"	x	32	buah) Selesai
	Ganti baru pipa udara BWT No. 6 kanan, sbb :	F."		700				1 hugh)
	- Pipa sch.80 dia.	5"	х	700			x	1 buah)
	- Pipa sch.80 dia.	5"	Х	200			х	1 buah)
	- Flange dia.	5"	х		buah)
	- Sock dia	6"	х		buah)
	- Air vent head dia	5"	х		buah)
	- Packing karet dia	5"	x	5 mm	Х	2	buah)
	- Mur baut dia	5/8"		2 1/2"		16	buah) Selesai

No./A/C		Joh	Desc	ription						Keterangan
	- Air vent head dia	4"	х	3	buah		(lama))	
	- Plat ventilasi	1500x170	x		buah		(supply d	ock)	6	
	- Saringan	50 x 30	x		buah		(supply d		ľ	
	- Packing karet dia	4"	x	5 mm	х	3	buah	(lama)	ľ	
	- Mur baut dia	5/8"	x	2 1/2"	x	24	buah	(lama)	ľ	Selesai
		•		•				,	ľ	•
5.6.2	PORTSIDE									
1	- Check and Renew support valve 3C Port side.									
2	- Check and Repair WBT No. 1 P head of venti	lation : 2 set			Estima	si val	ve dia. 5"			
3	- Check and Repair WBT No. 2 P head of venti						ve dia. 5"			
4	- Renew sounding pipe WBT No.1P,2P,3P,4C,5P		. 2 inc	h x L 9600 n	nm.					
5	- Check and service vent head of WBT No.3C/ F				Estima	si dia	. 4"			
	Renew air pipe									
	Pipe Sch. 40 = Ø 4" x 300 [mm]									
	Flange 4" 5K									
	Bolt & Nut									
	Elbow 4" sch 40 (90 ^o)									
	Packing									
6	- Check and service vent head of WBT No. 4C/ F	P.: 2 set			Estima	si dia	. 4"			
7	- Check and Repair vent head BWT No 5C/ P =				Estima					
	Renew air pipe									
	Pipe Sch. 40 = Ø 4" x 600 [mm]									
	Flange 4" 5K									
	Bolt & Nut									
	Packing									
8	- Check and Repair vent head BWT no. 6C/P =	2 sets.			Estima	si dia	. 4"			
	Renew air pipe									
	Pipe Sch. $40 = \emptyset 3'' \times 600 [mm]$									
	Flange 3" 5K									
	Bolt & Nut									
	Packing									
9	- Check and Repair vent head BWT No. 7C/P =	2 sets.			Estima	si dia	. 4"			
	Renew air pipe									
	Pipe Sch. 40 = \emptyset 3" x 600 [mm]									
	Flange 3" 5K									
	Bolt & Nut									
	Packing									
	Pipe Sch. 40 = \emptyset 4" x 600 [mm]									
	Flange 4" 5K									
	Bolt & Nut									
	Packing									
10	- Check and Repair vent head BWT No. 8C/P =	2 sets.			Estima	si dia	. 4"			
	Realisasi									
	Ganti baru pipa udara BWT No. 3 kiri, sbb :								þ	
	- Pipa sch.80 dia.	4"	Х) mm		x	1 buah	P	
	- Flange dia.	4"	Х		buah		(lama)		þ	
	- Air vent head dia	4"	Х	1	buah		(lama))	
	B: 1.00 "	2 - 12"						41.	P	
	- Pipa sch.80 dia.	2 1/2"	X) mm		X	1 buah	ľ	
	- Elbow dia	2 1/2"	X		buah		(lease)		ľ	
	- Flange dia	2 1/2"	X		buah		(lama)		ľ	
	- Lubang dia	2 1/2"	X		buah	4	huah	(lama)	ľ	
	- Packing karet dia	2 1/2" 5/8"	X	5 mm 2"	X	4 24	buah	(lama)	ľ	Selesai
	- Mur baut dia	5/8"	Х	2	х	24	buah	(lama)]	seiesai
	Service air vent head BWT no. 5 kiri								,	
	- Pipa sch.80 dia.	4"	х	500) mm		x	1 buah	ľ,	
l				330					I/	
	- Flange dia.	4"	x	2	! buah		(lama)		h	

No./A/C			Jo	b Desci	ription					Keterangan
	- Packing karet dia		4"	х	5 mm	х	4	buah	(lama))
	- Mur baut dia		5/8"	х	2"	х	16	buah	(lama)	,) Selesai
	Service air vent head BWT no. 6 &	7 kiri)
	- Pipa sch.80 dia.		3"	х	55	0 mm		x	2 buah)
	- Flange dia.		3"	х		4 buah		(lama))
	- Air vent head dia		3"	х		2 buah		(lama))
	- Packing karet dia		3"	х	5 mm	х	4	buah	(lama))
	- Mur baut dia		5/8"	х	2"	х	16	buah	(lama)) Selesai
5.6.3.	CARGO TANK AREA									
1	- Renew plate clamp for rubber ci	rcumference door	n cargo tanl	k						
	- Dismantle plate clamp for rubbe	r circumference d	oom cargo t	tank						
	- Dismantle rubber circumference	doom cargo tank								
	- Plate 400 mm x circumference 2	cargo tanks estim	ate 180 m x	k thickno	ess 10 mm					
	- Renew bolt&nut circumference	2 cargo tanks	Est. Uk. die	a. 32.5	x 160 : 48 B	Buah (M	ateria	l S45C)		
	- Reinstall rubber circumference o	loom cargo tank				Estimo	ısi			
2	- Renew sampling pipe line COT r	no. 1 & no. 2, diam	. 36 mm x 7	'000 mn	n.= 2 Sets S	Sch 80				
3	- Calibrated and renew packing (ir									
4	- Check and Calibrated Digital sou									
5	- Renew grating catwalk size 100	_								
6	- Renew grating catwalk of COT n			400 mm	.=2 pcs					
7	- Renew grating catwalk front of C				·					
8	- Renew grating catwalk front of C									
9	- Renew grating catwalk front of C									
10	- Renew grating catwalk front of C									
11	- Renew grating catwalk front of C									
	* 1000 x 700	501 110. 1 3120 100	70 mm x 500	O 1111111.						
	* 1500 x 400									
	* 700 x 800									
	* 1000 x 1200									
	* Klem grating									
	Realisasi									
	Replating grating catwalk Forecas	tle Deck ke Poon (Deck plat o	rating u	kuran ·					1
	- 900	х	700	_	30	mm x		12	buah))
	- List	^	700	^	30	111111 X		12	Duan) \
	900		30		6	mm v		24	buah	<i>)</i>
	900	Х	30	х	0	mm x		24	Dudii)
	1590		400		20	ne me		_	hah) \
	- 1580	Х	400	X	30	mm x		1	buah	,
	- List				•			_	L 1)
	1580	x	30	Х	6	mm x		2	buah)
	000)
	- 800	x	400	Х	30	mm x		1	buah)
	- List				_)
	800	x	30	Х	6	mm x		2	buah)
)
	- 1000	x	1000	Х	30	mm x		1	buah)
	- List)
	1000	x	30	Х	6	mm x		2	buah)
)
	- 1330	x	400	х	30	mm x		1	buah)
	- List)
	1330	x	30	х	6	mm x		2	buah)
)
	- 1080	x	1000	х	30	mm x		1	buah)
	- List)
	1080	x	30	х	6	mm x		2	buah) Selesai

Check, ret and calibrated Alarm release tank above COT no. 2.	No./A/C	Job Description	Keterangan
Annex			
Size: 1.5 (nex 5000 mm = 2 pcs and allows 45-bit 3.0 incx 4500 mm = 2 pcs and allows 45-bit 3.0 incx 4500 mm = 2 pcs and allows 45-bit 3.0 incx 4500 mm = 2 pcs and allows 45-bit 1.5 (nex 10000 mm and allows 201-3, 45-bit 1.5 (nex 10000 mm x 2 1			
3.0 linc x 19000 mm - 2 pcs and elbow 95-94 3.0 linc x 9000 mm - 2 pcs and elbow 90-93,45-946 1.5 linc x 10000 mm and elbow 90-93,45-946 1.5 linc x 10000 mm and elbow 90-93,45-946 1.5 linc x 10000 mm and elbow 90-93,45-941 Place Such 40 - 9,12 1/2 - 8,0000 lmm] x 2 Place Such 40 - 9,12 1/2 - 8,0000 lmm] x 2 Place Such 40 - 9,12 1/2 - 8,0000 lmm] x 1 Place Such 40 - 9,12 1/2 - 8,0000 lmm] x 1 Place Such 40 - 9,12 1/2 - 8,0000 lmm] x 1 Place Such 40 - 9,12 1/2 - 8,0000 lmm] x 1 Place Such 40 - 9,12 1/2 - 8,0000 lmm] x 1 Place Such 40 - 9,12 1/2 - 8,0000 lmm] x 1 Place Such 40 - 9,12 1/2 - 8,0000 lmm] x 1 Place Such 40 - 9,12 1/2 - 8,0000 lmm] x 1 Place Such 40 - 9,12 1/2 - 8,0000 lmm] x 1 Place Such 40 - 9,12 1/2 - 8,0000 lmm] x 1 Place Such 40 - 9,12 1/2 - 8,0000 lmm] x 1 Place Such 40 - 9,12 1/2 - 8,0000 lmm] x 2 Place Such 40 - 9	13		
3.0 in cx 4500 mm - 2 pcs and elbow 45%d 3.1 in cx 8500 mm - 2 pcs and elbow 90%3,45%d 1.5 inc x 10000 mm and elbow 80%3,45%d 1.5 inc x 10000 mm x 1 1 inc x 10000 mm x 2 1 inc x 10000 mm x 3 1 inc x 100000 mm x 3 1 inc x 1000			
1.5 Inc. x 2000 mm = 2 pcs and above 9004_45%1 1.5 Inc. x 1000 mm and above 9004_45%1 Pipe Sch. 40 = Ø 11/2" x 2000 [mm] x 2 Pipe Sch. 40 = Ø 21/2" x 2000 [mm] x 1 Pipe Sch. 40 = Ø 21/2" x 2000 [mm] x 1 Pipe Sch. 40 = Ø 11/2" x 8000 [mm] x 1 Pipe Sch. 40 = Ø 11/2" x 8000 [mm] x 1 Pipe Sch. 40 = Ø 11/2" x 8000 [mm] x 1 Pipe Sch. 40 = Ø 11/2" x 8000 [mm] x 2 Pipe Sch. 40 = Ø 11/2" x 4000 [mm] x 1 Pipe Sch. 40 = Ø 11/2" x 4000 [mm] x 1 Pipe Sch. 40 = Ø 11/2" x 4000 [mm] x 1 Pipe Sch. 40 = Ø 11/2" x 4000 [mm] x 1 Pipe Sch. 40 = Ø 11/2" x 4000 [mm] x 1 Pipe Sch. 40 = Ø 11/2" x 4000 [mm] x 1 Pipe Sch. 40 = Ø 11/2" x 4000 [mm] x 2			
1.5 line x 10000 mm and elbow 9004, 45042 Piges Sch. 40 - 69 21/2" x 20000 [mm] x 52 Piges Sch. 40 - 69 21/2" x 20000 [mm] x 1 Piges Sch. 40 - 69 21/2" x 20000 [mm] x 1 Piges Sch. 40 - 69 21/2" x 20000 [mm] x 1 Piges Sch. 40 - 69 11/2" x 5000 [mm] x 1 Piges Sch. 40 - 69 11/2" x 5000 [mm] x 1 Piges Sch. 40 - 69 11/2" x 5000 [mm] x 1 Piges Sch. 40 - 69 11/2" x 40000 [mm] x 1 Piges Sch. 40 - 69 11/2" x 40000 [mm] x 1 Piges Sch. 40 - 69 11/2" x 40000 [mm] x 1 Piges Sch. 40 - 69 11/2" x 40000 [mm] x 1 Piges Sch. 40 - 69 11/2" x 40000 [mm] x 1 Piges Sch. 40 - 69 11/2" x 40000 [mm] x 1 Piges Sch. 40 - 69 11/2" x 40000 [mm] x 2 Piges Sch. 40 - 69 11/2" x 400000 [mm] x 2 Piges Sch. 40 - 69 11/2" x 400000 [mm] x 2 Piges Sch. 40 - 69 11/2" x 400			
Pipe Sch. 40 - 9 2 1 1/2" x 000 [mm] x 4			
Pipe Sch. 40 = 0 2 1/2" x 20000 [mm] x 4 Pipe Sch. 40 = 0 2 1/2" x 5000 [mm] x 1 Pipe Sch. 40 = 0 2 11/2" x 5000 [mm] x 1 Pipe Sch. 40 = 0 2 11/2" x 5000 [mm] x 1 Pipe Sch. 40 = 0 2 11/2" x 5000 [mm] x 1 Pipe Sch. 40 = 0 2 11/2" x 5000 [mm] x 2 Pipe Sch. 40 = 0 2 11/2" x 5000 [mm] x 1 Pipe Sch. 40 = 0 2 11/2" x 5000 [mm] x 1 Pipe Sch. 40 = 0 2 11/2" x 5000 [mm] x 1 Pipe Sch. 40 = 0 2 11/2" x 5000 [mm] x 1 Pipe Sch. 40 = 0 2 11/2" Sch. 4000 [mm] x 1 Pipe Sch. 40 = 0 2 11/2" Sch. 4000 [mm] x 1 Pipe Sch. 40 = 0 2 11/2" Sch. 4000 [mm] x 2 Pipe Sch. 40 = 0 2 11/2" Sch. 4000 [mm] x 4 Pipe Sch. 40 = 0 2 11/2" Sch. 4000 [mm] x 4 Pipe Sch. 40 = 0 2" x 5000 [mm] x 2			
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Pipe Sch. 40 = Ø 1.1/2" x 6200 [mm] x 1 Pipe Sch. 40 = Ø 1.1/2" x 6000 [mm] x 1 Pipe Sch. 40 = Ø 1.1/2" x 6000 [mm] x 1 Pipe Sch. 40 = Ø 1.1/2" x 6000 [mm] x 1 Pipe Sch. 40 = Ø 1.1/2" x 4000 [mm] x 1 Pipe Sch. 40 = Ø 1.1/2" x 4000 [mm] x 1 Pipe Sch. 40 = Ø 1.1/2" x 4000 [mm] x 1 Pipe Sch. 40 = Ø 1.1/2" x 4000 [mm] x 1 Pipe Sch. 40 = Ø 1.1/2" x 4000 [mm] x 1 Pipe Sch. 40 = Ø 1.1/2" x 4000 [mm] x 1 Pipe Sch. 40 = Ø 1.1/2" x 4000 [mm] x 1 Pipe Sch. 40 = Ø 1.1/2" x 4000 [mm] x 1 Pipe Sch. 40 = Ø 1.1/2" x 4000 [mm] x 2 Pipe Sch. 40 = Ø 2" x 40000 [mm] x 4 Pipe Sch. 40 = Ø 2" x 40000 [mm] x 4 Pipe Sch. 40 = Ø 2" x 40000 [mm] x 2 Pipe Sch. 40 = Ø 2" x 40000 [mm] x 4 Pipe Sch. 40 = Ø 2" x 40000 [mm] x 4 Pipe Sch. 40 = Ø 2" x 40000 [mm] x 4 Pipe Sch. 40 = Ø 2" x 40000 [mm] x 4 Pipe Sch. 40 = Ø			
Pipe Sch. 40 = Ø 1 1/2" x 5000 [mm] x 1 Pipe Sch. 40 = Ø 3 1 /2" x 6000 [mm] x 1 Pipe Sch. 40 = Ø 3 1 /2" x 4000 [mm] x 1 Pipe Sch. 40 = Ø 2 1 /2" x 4000 [mm] x 1 Pipe Sch. 40 = Ø 2 1 /2" x 4000 [mm] x 1 Pipe Sch. 40 = Ø 1 1 /2" x 4000 [mm] x 1 Pipe Sch. 40 = Ø 1 1 /2" 5 K Reducer 2 1 /2" to 1 1 /2" Flange 2 1 /2" 5 K Bodt & Nut Packing 14			
Pipe Sch. 40 = Ø 3 1 1/2" x 6000 [mm] x 1 Pipe Sch. 40 = Ø 3 1 x 8000 [mm] x 1 Pipe Sch. 40 = Ø 3 1 1/2" x 4000 [mm] x 1 Pipe Sch. 40 = Ø 3 1 1/2" x 4000 [mm] x 1 Pipe Sch. 40 = Ø 3 1 1/2" x 4000 [mm] x 1 Pibe Sch. 40 = Ø 3 1 1/2" x 4000 [mm] x 1 Pibe Sch. 40 = Ø 3 1 1/2" x 4000 [mm] x 1 Pibe Sch. 40 = Ø 3 1 1/2" x 4000 [mm] x 1 Packing			
Pipe Sch. 40 = Ø 2 1/2" x 4000 [mm] x 1			
Pipe Sch. 40 – Ø 1.12" x 4000 [mm] x 1 Elbow sol* 2 12" to 112" Flange 2 12" sol 112" Size: 2.0 inc x 10000mm = 4 pcs 3 (2.0 inc x 4000 mm = 2 pcs and elbow 45%4 2.0 inc x 4000 mm = 2 pcs and elbow 45%4 2.0 inc x 8000 mm = 2 pcs and elbow 95%4,45%6 Pipe Sch. 40 = Ø 2" x 15000 [mm] x 2 Pipe Sch. 40 = Ø 2" x 15000 [mm] x 2 Pipe Sch. 40 = Ø 2" x 9000 [mm] x 2 Elbow sol* 2 Sch 40 = Ø 2" x 9000 [mm] x 2 Flange 5 X 2" Bolt & Nut Packing 15 - Check, test and calibrated Emergency Stop Device = 3 sets (Above COT no.1 & no. 2 and manifold)New Install Emergency Eyewash & Drench showers Combination, type free standing, fresh water supply 1-1/4 inch with Pipe line diam. 1-1/4 linch x 35000 mm Repart CARGO LEVEL MONTORINOK COT No.1 Material for cargo piping: Cargo pipe: Ilow carbon steel pipes for pressure service to be classed by the Society, KSTPG 38 (KLPB For REHEATER) Material For School steel Forgings to be classed by the society, KSF 45 (KLPB for REHEATER) Valves: Carbon steel Forgings to be classed by the society, KSF 45 (KLPB for REHEATER) Valves: (Carbon steel Forgings to be classed by the society, KSF 45 (KLPB for REHEATER) Valves: (Carbon steel Forgings to be classed by the society, KSF 45 (KLPB for REHEATER) Valves: (Carbon steel Forgings to be classed by the society, KSF 45 (KLPB for REHEATER) Valves: (Carbon steel Forgings to be classed by the society, KSF 45 (KLPB for REHEATER) Valves: (Carbon steel Forgings to be classed by the society, KSF 45 (KLPB for REHEATER) Valves: (Carbon steel Cassing classed by the society, KSF 45 (KLPB for REHEATER) Valves: (Carbon steel Cassing classed by the society, KSF 45 (KLPB for REHEATER) Valves: (Carbon steel Cassing classed by the society, KSF 45 (KLPB for REHEATER) Valves: (Carbon steel Cassing classed by the society, KSF 45 (KLPB for REHEATER) Valves: (Carbon steel Cassing classed by the society, KSF 45 (KLPB for REHEATER) Valves: (Carbon steel Cassing classed by the society, KSF 45 (KLPB for REHEATE		Pipe Sch. $40 = \emptyset 3'' \times 8000 \text{ [mm] } \times 2$	
Elbow 90° 2 1/2° 5K Reducer 2 1/2° 5K Reducer 2 1/2° 5K Bolt & Nut Packing 14 - Renew sea water shower pipe line for cargo Size: 2.0 inc x 16000mm = 2 pcs and elbow 45°x4 2.0 inc x 8000 mm = 2 pcs and elbow 90°x4,45°x6 Pipes Sch. 40 = 0 2° x 19000 [mm] x 4 Pipes Sch. 40 = 0 2° x 4500 [mm] x 2 Pipes Sch. 40 = 0 2° x 4500 [mm] x 2 Pipes Sch. 40 = 0 2° x 4500 [mm] x 2 Pipes Sch. 40 = 0 2° x 4500 [mm] x 2 Pipes Sch. 40 = 0 2° x 9000 [mm] x 2 Pipes x 9000 [mm] x 9000 [m		Pipe Sch. $40 = \emptyset \ 2 \ 1/2" \ x \ 4000 \ [mm] \ x \ 1$	
Reducer 2 1/2" to 1 1/2" Flange 2 1/2" 5K Bolt & Nut Packing 14Renew sea water shower pipe line for cargo Size: 2.0 inc x 16000mm = 2 pcs and elbow 459x4 2.0 inc x 8000mm = 2 pcs and elbow 909x4, 459x6 Pipe Sch. 40 = 0 2" x 19000 [mm] x 4 Pipe Sch. 40 = 0 2" x 19000 [mm] x 2 Pipe Sch. 40 = 0 2" x 19000 [mm] x 2 Pipe Sch. 40 = 0 2" x 9000 [mm] x 9 Pipe Sch. 40 = 0 2" x 9000 [mm] x 9 Pipe Sch. 40 = 0 2" x 9000 [mm] x 9 Pipe Sch. 40 = 0 2" x 9000 [mm] x 9 P			
Finge 2 1/2" 5K Bolt & Nut Packing 14 - Renew see water shower pipe line for cargo Size: 2.0 inc x 16000mm = 4 pcs 2.0 inc x 4000 mm = 2 pcs and elbow 45%4 2.0 inc x 4000 mm = 2 pcs and elbow 95%4,45%6 Pipe Sch. 40 = 0 2" x 4500 [mm] x 4 Pipe Sch. 40 = 0 2" x 4500 [mm] x 2 Pipe Sch. 40 = 0 2" x 9000 [mm]			
Bolt & Nut Packing 4 - Renew Sea water shower pipe line for cargo Size: 2.0 inc x 16000mm = 1 pcs and elbow 459x4 2.0 inc x 8000 mm = 2 pcs and elbow 909x4,459x6 Pipe Sch. 40 = 0 2" x 19000 [mm] x 4 Pipe Sch. 40 = 0 2" x 9000 [mm] x 2 Pipe Sch.			
Packing Renew sea water shower pipe line for cargo Size: 2.0 inc x 16000mm = 4 pcs 2.0 inc x 16000mm = 2 pcs and elbow 459x4 2.0 inc x 16000mm = 2 pcs and elbow 459x4 2.0 inc x 16000mm = 2 pcs and elbow 909x4,459x6 Pipe Sch. 40 = Ø 2" x 15000 [mm] x 2 Pipe Sch. 40 = Ø 2" x 15000 [mm] x 2 Pipe Sch. 40 = Ø 2" x 9500 [mm] x 2 Pipe Sch. 40 = Ø 2" x 9500 [mm] x 2 Pipe Sch. 40 = Ø 2" x 9500 [mm] x 2 Pipe Sch. 40 = Ø 2" x 9500 [mm] x 2 Pipe Sch. 40 = Ø 2" x 9500 [mm] x 2 Pipe Sch. 40 = Ø 2" x 9500 [mm] x 2 Pipe Sch. 40 = Ø 2" x 9500 [mm] x 2 Pipe Sch. 40 = Ø 2" x 9500 [mm] x 3 Pipe X 3 Pipe X 2 Pipe Sch. 40 = Ø 2" x 9500 [mm] x 3 Pipe X 3 Pipe X 4 Pipe Sch. 40 = Ø 2" x 9500 [mm] x 3 Pipe X 4 Pipe Sch. 40 = Ø 2" x 9500 [mm] x 4 Pipe Sch. 40 = Ø 2" x 9500 [mm] x 4 Pipe Sch. 40 = Ø 2" x 4500 [mm] x 4 Pipe Sch. 40 = Ø 2" x 4500 [mm] x 4 Pipe Sch. 40 = Ø 2" x 4500 [mm] x 4 Pipe Sch. 40 = Ø 2" x 4500 [mm] x 4 Pipe Sch. 40 = Ø 2" x 4500 [mm] x 4 Pipe Sch. 40 = Ø 2" x 4500 [mm] x 4 Pipe Sch. 40 = Ø 2" x 4500 [mm] x 4 Pipe Sch. 40 = Ø 2" x 4500 [mm] x 4 Pipe Sch. 40 = Ø 2" x 4500 [mm] x 4 Pipe Sch. 40 = Ø 2" x 4500 [
- Renew sea water shower pipe line for cargo Size: 2.0 inc x 16000mm = 4 pcs 2.0 inc x 4000 mm = 2 pcs and elbow 45%4 2.0 inc x 8000 mm = 2 pcs and elbow 90%4,45%6 Pipe Sch. 40 = 0 2" x 19000 [mm] x 2 Pipe Sch. 40 = 0 2" x 9000 [mm] x 2 Pipe Sch. 40 = 0 2 2 0 2 2 0 2 0 2 0 2 0 2 0 2 0 2			
Size: 2.0 inc x 16000mm = 4 pcs 2.0 inc x 4000 mm = 2 pcs and elbow 45%x4 2.0 inc x 8000 mm = 2 pcs and elbow 45%x4 2.0 inc x 8000 mm = 2 pcs and elbow 90%x4,45%x6 Pipe 5ch. 40 = Ø 2" x 19000 [mm] x 4 Pipe 5ch. 40 = Ø 2" x 19000 [mm] x 2 Pipe 5ch. 40 = Ø 2" x 9000 [mm] x 2 Elbow 90° 2" sch 40 Flange 5K 2" Bolt & Nut Packing 15 -Check, test and calibrated Emergency Stop Device = 3 sets (Above COT no.1. & no. 2 and manifold). - New install Emergency Eyewash & Drench showers Combination, type free standing, fresh water supply 1-1/4 inch with Pipe line diam. 1-1/4 inch x 35000 mm. - Repair CARGO LEVEL MONITORING COT NO.1 Material for cargo piping: Cargo pipe: slow carbon steel pipes for pressure service to be classed by the Society, KSTG 38 (KLPB For RetheATER) Flanges: Carbon steel casting classed by the society, KSF 45 (KLFB for REHEATER) valves: : Carbon steel casting classed by the society, KSC 49 and SCPF2 (less then 3") (KLCB/SCPL For Reheater) Gasket: :NON ASBEST (V-7020) cargo piping system shall be designed according to the followings. Liquid line: :0° C 20kg/cm2g (-45°C for piping system associated REHEATER) Vapour line: 0° C 20kg/cm2g A. Renew Cargo liquid and vapour pipe tank no.1 Pipa seamless sch. 80 - 20K 150 = 10000 cm x1 Elbow 90° x3 Flange x3 T pipe x1 - 20K 150 = 1000 cm x1 Flange x2	1.4		
2.0 inc x 4000 mm = 2 pcs and elbow 459x4 2.0 linc x 8000 mm = 2 pcs and elbow 909x4,459x6 Pipe Sch. 40 = Ø 2" x 45000 [mm] x 4 Pipe Sch. 40 = Ø 2" x 4500 [mm] x 2 Pipe Sch. 40 = Ø 2" x 5000 [mm] x	14		
2.0 inc x 8000 mm = 2 pcs and elbow 90®x4,45®x6 Pipe Sch. 40 = Ø 2" x 19000 [mm] x 4 Pipe Sch. 40 = Ø 2" x 9000 [mm] x 2 Pipe Sch. 40 = Ø 2" x 9000 [mm] x 2 Elbow 90° 2" sch 40 Flange Sk 2" Bolt & Nut Packing 15 - Check, test and calibrated Emergency Stop Device = 3 sets (Above COT no.1 & no. 2 and manifold). - New install Emergency Eyewash & Drench showers Combination, type free standing, fresh water supply 1-1/4 inch with Pipe line diam. 1-1/4 inch x 35000 mm. - Repair CARGO LEVEL MONITORING COT NO.1 18 Material for cargo piping: Cargo pipe : low carbon steel pipes for pressure service to be classed by the Society, KSTPG 38 (KLPB For REHEATER) Flanges : Carbon steel casting classed by the society. KSF 45 (KLFB for REHEATER) valves : Carbon steel casting classed by the society. KSF 49 and SCPF2 (less then 3") (KLCB/SCPL For Reheater) Gasket : NON ASBEST (V-7020) cargo piping system shall be designed according to the followings. Liquid line :0° C			
Pipe Sch. 40 = Ø 2" x 19000 [mm] x 4 Pipe Sch. 40 = Ø 2" x 4500 [mm] x 2 Pipe Sch. 40 = Ø 2" x 4500 [mm] x 2 Pipe Sch. 40 = Ø 2" x 9000 [mm] x 2 Elbow 90° 2" Sch 40 Flange SK 2" Bolt & Nut Packing 15 - Check, test and calibrated Emergency Stop Device = 3 sets (Above COT no.1 & no. 2 and manifold) New install Emergency Eyewash & Drench showers Combination, type free standing, fresh water supply 1-1/4 inch with Pipe line diam. 1-1/4 inch x 35000 mm. 16 - Repair CARGO LEVEL MONITORING COT NO.1 Material for cargo piping: Cargo pipe : low carbon steel pipes for pressure service to be classed by the Society, KSTPG 38 (KLPB For REHEATER) Flanges : Carbon steel forgings to be classed by the society, KSF 45 (KLFB for REHEATER) valves : Carbon steel casting classed by the society, KSC 49 and SCPF2 (less then 3") (KLCB/SCPL For Reheater) Gasket : NON ASBEST (V-7020) cargo piping system shall be designed according to the followings. Liquid line :0° C 20kg/cm2g (-45°C for piping system associated REHEATER) Vapour line :0° C 20kg/cm2g A. Renew Cargo liquid and vapour pipe tank no.1 Pipa seamless sch. 80 - 20K 150 =1000 cm x1 Elbow 90° x3 Flange x3 T pipe x1 - 20K 350 =500 cm x1 Flange x2			
Pipe Sch. 40 = Ø 2" x 4500 [mm] x 2 Pipe Sch. 40 = Ø 2" x 9000 [mm] x 2 Elbow 90° 2" sch 40 Flange Sk 2" Bolt & Nut Packing 15 - Check, test and calibrated Emergency Stop Device = 3 sets (Above COT no.1 & no. 2 and manifold) New install Emergency Eyewash & Drench showers Combination, type free standing, fresh water supply 1-1/4 inch with Pipe line diam. 1-1/4 inch x 35000 mm Repair CARGO LEVEL MONITORING COT NO.1 Material for cargo piping: Cargo pipe : low carbon steel pipes for pressure service to be classed by the Society. KSTPG 38 (KLPB For REHEATER) Flanges : Carbon steel forgings to be classed by the society. KSF 45 (KLFB for REHEATER) valves : Carbon steel casting classed by the society. KSC 49 and SCPF2 (less then 3") (KLCB/SCPL For Reheater) Gasket : NON ASBEST (V-7020) cargo piping system shall be designed according to the followings. Liquid line : 0° C 20kg/cm2g (-45°C for piping system associated REHEATER) Vapour line : 0° C 20kg/cm2g A. Renew Cargo liquid and vapour pipe tank no.1 Pipa seamless sch. 80 - 20K 150 =1000 cm x1 Elbow 90° x3 Flange x3 T pipe x1 - 20K 150 =500 cm x1 Flange x2		·	
Pipe Sch. 40 = Ø 2" x 9000 [mm] x 2 Elbow 90° 2" sch 40 Flange Sk 2" Bolt & Nut Packing - Check, test and calibrated Emergency Stop Device = 3 sets (Above COT no.1 & no. 2 and manifold) New install Emergency Eyewash & Drench showers Combination, type free standing, fresh water supply 1-1/4 inch with Pipe line diam. 1-1/4 inch x 35000 mm. - Repair CARGO LEVEL MONITORING COT NO.1 Material for cargo piping: Cargo pipe: low carbon steel pipes for pressure service to be classed by the Society. KSTPG 38 (KLPB For REHEATER) Flanges: Carbon steel forgings to be classed by the society. KSF 45 (KLFB for REHEATER) valves: Carbon steel casting classed by the society. KSC 49 and SCPF2 (less then 3") (KLCB/SCPL For Reheater) Gasket: NON ASBEST (V-7020) cargo piping system shall be designed according to the followings. Liquid line: 10° C 20kg/cm2g A. Renew Cargo liquid and vapour pipe tank no.1 Pipa seamless sch. 80 - 20K 150 = 1000 cm x1 Elbow 90° x3 Flange x3 T pipe x1 - 20K 150 = 500 cm x1 Flange x2			
Elbow 90° 2" sch 40 Flange 5R 2" Bolt & Nut Packing - Check, test and calibrated Emergency Stop Device = 3 sets (Above COT no.1 & no. 2 and manifold) New install Emergency Eyewash & Drench showers Combination, type free standing, fresh water supply 1-1/4 inch with Pipe line diam. 1-1/4 inch x 35000 mm. - Repair CARGO LEVEL MONITORING COT NO.1 Material for cargo piping: Cargo pipe : low carbon steel pipes for pressure service to be claased by the Society. KSTPG 38 (KLPB For REHEATER) Flanges : Carbon steel forgings to be classed by the society, KSF 45 (KLFB for REHEATER) valves : Carbon steel casting classed by the society, KSC 49 and SCPF2 (less then 3") (KLCB/SCPL For Reheater) Gasket : NON ASBEST (V-7020) cargo piping system shall be designed according to the followings. Liquid line : 0° C			
Bolt & Nut Packing - Check, test and calibrated Emergency Stop Device = 3 sets (Above COT no.1 & no. 2 and manifold) New install Emergency Eyewash & Drench showers Combination, type free standing, fresh water supply 1-1/4 inch with Pipe line diam. 1-1/4 inch x 35000 mm Repair CARGO LEVEL MONITORING COT NO.1 Material for cargo piping: Cargo pipe : low carbon steel pipes for pressure service to be claased by the Society. KSTPG 38 (KLPB For REHEATER) Flanges : Carbon steel forgings to be classed by the society. KSF 45 (KLFB for REHEATER) valves : Carbon steel casting classed by the society. KSC 49 and SCPF2 (less then 3") (KLCB/SCPL For Reheater) Gasket : NON ASBEST (V-7020) cargo piping system shall be designed according to the followings. Liquid line :0º C 20Kg/cm2g (-45°C for piping system associated REHEATER) Vapour line :0º C 20Kg/cm2g A. Renew Cargo liquid and vapour pipe tank no.1 Pipa seamless sch. 80 - 20K 150 =1000 cm x1 Elbow 90º x3 Flange x3 T pipe x1 - 20K 150 =500 cm x1 Flange x2			
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- Check, test and calibrated Emergency Stop Device = 3 sets (Above COT no. 1 & no. 2 and manifold). - New install Emergency Eyewash & Drench showers Combination, type free standing, fresh water supply 1-1/4 inch with Pipe line diam. 1-1/4 inch x 35000 mm. - Repair CARGO LEVEL MONITORING COT NO.1 18 Material for cargo piping: Cargo pipe : low carbon steel pipes for pressure service to be classed by the Society, KSTPG 38 (KLPB For REHEATER) Flanges : Carbon steel forgings to be classed by the society. KSF 45 (KLFB for REHEATER) valves : Carbon steel casting classed by the society. KSC 49 and SCPF2 (less then 3") (KLCB/SCPL For Reheater) Gasket : NON ASBEST (V-7020) cargo piping system shall be designed according to the followings. Liquid line :0º C 20kg/cm2g (-45°C for piping system associated REHEATER) Vapour line :0º C 20kg/cm2g A. Renew Cargo liquid and vapour pipe tank no.1 Pipa seamless sch. 80 - 20K 150 =1000 cm x1 Elbow 90° x3 Flange x3 T pipe x1 - 20K 150 =500 cm x1 Flange x2		Bolt & Nut	
- New install Emergency Eyewash & Drench showers Combination, type free standing, fresh water supply 1-1/4 inch with Pipe line diam. 1-1/4 inch x 35000 mm. - Repair CARGO LEVEL MONITORING COT NO.1 Material for cargo piping: Cargo pipe: low carbon steel pipes for pressure service to be classed by the Society, KSTPG 38 (KLPB For REHEATER) Flanges: Carbon steel forgings to be classed by the society. KSF 45 (KLFB for REHEATER) valves: Carbon steel casting classed by the society. KSC 49 and SCPF2 (less then 3") (KLCB/SCPL For Reheater) Gasket: NON ASBEST (V-7020) cargo piping system shall be designed according to the followings. Liquid line: :0° C 20kg/cm2g (-45°C for piping system associated REHEATER) Vapour line: :0° C 20kg/cm2g A. Renew Cargo liquid and vapour pipe tank no.1 Pipa seamless sch. 80 - 20K 150 = 1000 cm x1 Elbow 90° x3 Flange: x3 T pipe: x1 - 20K 150 = 500 cm x1 Flange: x2		Packing	
fresh water supply 1-1/4 inch with Pipe line diam. 1-1/4 inch x 35000 mm. - Repair CARGO LEVEL MONITORING COT NO.1 Material for cargo piping: Cargo pipe: low carbon steel pipes for pressure service to be classed by the Society. KSTPG 38 (KLPB For REHEATER) Flanges: Carbon steel forgings to be classed by the society. KSF 45 (KLFB for REHEATER) valves: Carbon steel casting classed by the society. KSC 49 and SCPF2 (less then 3") (KLCB/SCPL For Reheater) Gasket: NON ASBEST (V-7020) cargo piping system shall be designed according to the followings. Liquid line: :0° C	15		
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Vapour line :0º C 20kg/cm2g A. Renew Cargo liquid and vapour pipe tank no.1 Pipa seamless sch. 80 - 20K 150 = 1000 cm x1 Elbow 90º x3 Flange x3 T pipe x1 - 20K 150 = 500 cm x1 Flange x2			
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- 20K 150 = 1000 cm x1 Elbow 90° x3 Flange x3 T pipe x1 - 20K 150 = 500 cm x1 Flange x2		vapour line :∪º C 20kg/cm2g	
- 20K 150 = 1000 cm x1 Elbow 90° x3 Flange x3 T pipe x1 - 20K 150 = 500 cm x1 Flange x2		A. Renew Cargo liquid and vapour pipe tank no.1 Pipa seamless sch. 80	
Elbow 90° x3 Flange x3 T pipe x1 - 20K 150 = 500 cm x1 Flange x2			
T pipe x1 - 20K 150 = 500 cm x1 Flange x2			
- 20K 150 =500 cm x1 Flange x2		Flange x3	
Flange x2		T pipe x1	
		- 20K 150 =500 cm x1	
Renew Cargo vapour pipe tank no.1		Flange x2	
		Renew Cargo vapour pipe tank no.1	

- 20K125 = 110 cm x1 Elbow 90° x1 Flange x3 T pipe x1 - 20K125 = 500 cm x1 Elbow 90° x1 Flange x3 T pipe x1 B. Renew Cargo liquid and vapour pipe tank no.2	
Elbow 90° x1 Flange x3 T pipe x1 - 20K125 = 500 cm x1 Elbow 90° x1 Flange x3 T pipe x1	
Flange x3 T pipe x1 - 20K125 = 500 cm x1 Elbow 90° x1 Flange x3 T pipe x1	
T pipe x1 - 20K125 = 500 cm x1 Elbow 90º x1 Flange x3 T pipe x1	
- 20K125 = 500 cm x1 Elbow 90º x1 Flange x3 T pipe x1	
Elbow 90º x1 Flange x3 T pipe x1	
Flange x3 T pipe x1	
T pipe x1	
and the second s	
- 20K150 = 500 cm x3	
Flange x6	
- 20K150 = 240 cm x1	
Elbow 90º x1	
Flange x2	
T pipe x1	
Reduser 20K150 to 20K100 x1	
- 20K100 = 280 cm x1	
Elbow 90º x1	
Elbow 45º x1	
Flange x1	
- 1.5' inch = 200 cm x1	
Elbow 90º x1	
Flange x2	
Renew Cargo vapour pipe tank no.2	
- 20K125 = 110 cm x1	
Elbow 90º x1	
Flange x3	
T pipe x1	
- 20K100 = 310 cm x1	
Elbow 90º x1	
Elbow 45º x1	
Flange x2	
- 20K100 = 550 cm x1	
flange x2	
C. Renew Cargo liquid and vapour pipe Manifold.	
- 20K200 = 300 cm x1	
Reduser 20K200 to 20K150 x2	
Flange x3	
- 20K200 = 900 cm x1	
20K150 = 50 cm x1	
T pipe 20K200 x1	
T pipe 20K200 to 20K150 x1	
Flange 20K200 x3	
Flange 20K150 x1	
Renew Cargo liquid from manifold to reheater	
- 20K150 = 200 cm x1	
Elbow 90º x2	
Flange x2	
- 20K150 = 500 cm x1	
Elbow 45º x1	
Flange x2	
Renew Cargo vapour manifold	
- 20K125 = 320 cm x2	
T pipe x1 x2	
Elbow 90º x1 x2	
Elbow 45º x2 x2	
Flange x3 x2	
- 1.5 ' inch = 30cm x2	
Flange x2 x2	

No./A/C		Jo	ob Descri	iption			Keteran
	- 20K125 = 1000 cm x1						
	T pipe x2						
	Flange x2						
10	=						
19	Renew Reheater Sea Water pipe						
	Pipe Sch. 40 x 8" x 3200 [mm]						
	Elbow sch 40 x 8"						
	Flange 8" 5K						
	Shock Sleves Ø 8"						
	Bolt & Nut						
	Packing						
	Realisasi)
	Ganti baru pipa Emergency shower COT ka	nan kiri, sbb :)
	Kanan)
	- Pipa sch.40 dia.	2 1/2"	x	6000 mm	х	2 buah	,)
	- Pipa sch.40 dia.	2 1/2"		2800 mm	x	1 buah))
	·		X				ľ
	- Pipa sch.40 dia.	2 1/2"	X	4480 mm	х	1 buah	ľ
	- Flange dia.	2 1/2"	Х	8 buah	_)
	- Plat prop dia	2 1/2"	Х	10 mm x	2	buah	P
	- Lubang dia	2 1/2"	Х	8 buah)
	- Ubolt dia	2 1/2"	x	8 buah)
	- Pipa sch.40 dia.	2 1/2"	x	250 mm	x	1 buah) h
) \
	- Pipa sch.40 dia.	2 1/2"	X	100 mm	x	1 buah)
	- Pipa sch.40 dia.	2 1/2"	Х	1690 mm	х	1 buah)
	- Elbow dia	2 1/2"	Х	1 buah)
	- Flange dia.	2 1/2"	Х	3 buah)
	- Plat prop dia	2 1/2"	х	10 mm x	2	buah)
	- Lubang dia	2 1/2"	х	13 buah)
	- Packing karet dia.		х	3 mm	х	7 buah)
	- Mur baut dia.	5/8"	x	2 1/2" x	28 buah)
	- Pipa sch.40 dia.	1 1/2"	x	560 mm	x	13 buah))
	- Elbow dia	1 1/2"	x	15 buah			6
	- Sock dia	2"	x	15 buah			ľ
	- Double neple dia	1 1/2"		13 buah) \
			X		/I=:: 1		ľ
	- Nozzle drat dia	1 1/2"	Х	10 buah	(lama)		,
	- Water mur dia	1 1/2"	х	10 buah))
	- Elbow dia	1 1/2"	x	16 buah)
	- Double neple dia	1 1/2"	х	16 buah)
	- Nozzle drat dia	1 1/2"	х	8 buah	(lama))
	- Water mur dia	1 1/2"	x	8 buah)
	- Pipa sch.40 dia.	2"	×	4200 mm	x	1 buah))
	- Pipa sch.40 dia.	2"	x	360 mm	x	1 buah	ľ
	- Pipa sch.40 dia.	2"	x	3680 mm	x	1 buah	ľ
	- Pipa sch.40 dia.	2"		300 mm		1 buah	/
			X		х	1 Dudii	/
	- Flange dia.	2"	X	6 buah	2	h!	<u> </u>
	- Plat prop dia	2"	Х	10 mm x	2	buah)
	- Nozzle drat dia	1 1/2"	Х	6 buah	(lama))
	- Ubolt dia	2"	х	3 buah)
	- Packing karet dia.		х	3 mm	х	4 buah)
	- Mur baut dia.	1/2"	x	2" x	16 buah)
	- Pipa sch.40 dia.	2 1/2"	x	6000 mm	x	2 buah))
	- Pipa sch.40 dia.	2 1/2"	x	2810 mm	x	1 buah	ľ
			^	-010 IIIIII	^	1 00011	γ
	- Pipa sch.40 dia.	2 1/2"	х	4500 mm	х	1 buah	h

	Jo	b Descr	ption			
Plat prop dia	2 1/2"	х	10 mm x	2	buah	
Lubang dia	2 1/2"	х	8 buah			
Pipa sch.40 dia.	2 1/2"	x	300 mm	x	1 buah	
Pipa sch.40 dia.	2 1/2"	х	100 mm	х	1 buah	
Pipa sch.40 dia.	2 1/2"	х	1670 mm	х	1 buah	
Elbow dia	2 1/2"	х	1 buah			
Flange dia.	2 1/2"	х	3 buah			
Ubolt dia	2 1/2"	х	8 buah			
Packing karet dia.		х	3 mm	х	7 buah	
Mur baut dia.	5/8"	х	2 1/2" x	28 buah		
Pipa sch.40 dia.	1 1/2"	х	560 mm	x	13 buah	
Elbow dia	1 1/2"	х	15 buah			
Double neple dia	1 1/2"	х	15 buah			
Nozzle drat dia	1 1/2"	х	10 buah	(lama)		
Water mur dia	1 1/2"	x	10 buah			
Elbow dia	1 1/2"	x	16 buah			
Double neple dia	1 1/2"	x	16 buah			
Nozzle drat dia	1 1/2"	x	8 buah	(lama)		
Water mur dia	1 1/2"	x	8 buah	(idilia)		
Lubang dia	2 1/2"	x	14 buah			
Lubang uia	2 1/2	۸	14 Judii			
Pipa sch.40 dia.	3"	х	100 mm	х	1 buah	
Pipa sch.40 dia.	3"	x	50 mm	x	1 buah	
Pipa sch.40 dia.	3"	х	1200 mm	х	1 buah	
Pipa sch.40 dia.	3"	х	1570 mm	x	1 buah	
Elbow dia	3"	х	2 buah			
Flange dia.	3"	х	2 buah			
Sock dia	4"	x	2 buah			
Pipa sch.40 dia.	3"	x	1560 mm	x	1 buah	
Pipa sch.40 dia.	3"	x	630 mm	x	1 buah	
Pipa sch.40 dia.	3"	х	1260 mm	х	1 buah	
Pipa sch.40 dia.	3"	x	300 mm	x	1 buah	
Elbow dia	3"	x	3 buah			
Flange dia.	3"	x	3 buah			
Sock dia	4"	x	2 buah			
Ubolt dia	3"	x	2 buah			
Packing karet dia.	3	x	3 mm	x	3 buah	
Mur baut dia.	5/8"	x	2 1/2" x	16 buah	Juan	
	5,0	^	/- ^	20 Duuii		
Pipa sch.40 dia.	3"	x	130 mm	x	1 buah	
Pipa sch.40 dia.	3"	X	70 mm	X	1 buah	
Pipa sch.40 dia.	3"	х	1200 mm	X	1 buah	
Pipa sch.40 dia.	3"	х	1570 mm	X	1 buah	
Elbow dia	3"	х	2 buah			
Flange dia.	3"	x	2 buah			
Sock dia	4"	X	2 buah			
Pipa sch.40 dia.	3"	x	1550 mm	x	1 buah	
Pipa sch.40 dia.	3"	x	610 mm	x	1 buah	
Pipa sch.40 dia.	3"	x	1070 mm	x	1 buah	
Pipa sch.40 dia.	3"	х	260 mm	х	1 buah	
Elbow dia	3"	x	3 buah			
Flange dia.	3"	x	3 buah			
Sock dia	4"	x	2 buah			

			b Descri					Ketera
	- Packing karet dia.		х	3 mm	х	3 buah)
	- Mur baut dia.	5/8"	x	2 1/2" x	16 buah) Sel
	Pengkar pina Emarcara: Shawar COT laws 11. "							
l	Bongkar pipa Emergency Shower COT lama, sbb "	2 1 /2"		1500		2 hl-	(lama)	ľ
	- Pipa sch.40 dia.	2 1/2"	Х	1500 mm	Х	3 buah	(lama)	ľ
	- Pipa sch.40 dia.	2 1/2"	Х	1570 mm	X	2 buah	(lama))
	- Pipa sch.40 dia.	2 1/2"	Х	2100 mm	X	1 buah	(lama))
	- Pipa sch.40 dia.	2 1/2"	Х	1550 mm	Х	1 buah	(lama))
	- Pipa sch.40 dia.	2 1/2"	Х	1680 mm	Х	1 buah	(lama))
	- Pipa sch.40 dia.	2 1/2"	Х	260 mm	X	1 buah	(lama))
	- Pipa sch.40 dia.	2 1/2"	x	6000 mm	x	4 buah	(lama))
	- Pipa sch.40 dia.	2 1/2"	х	2800 mm	х	1 buah	(lama))
	- Pipa sch.40 dia.	2 1/2"	х	4480 mm	х	1 buah	(lama))
	- Pipa sch.40 dia.	2 1/2"	х	2810 mm	x	1 buah	(lama))
	- Pipa sch.40 dia.	2 1/2"	х	4500 mm	x	1 buah	(lama))
	- Pipa sch.40 dia.	2 1/2"	x	2000 mm	x	2 buah	(lama))
	0: 1.40 !:	2"		4000		41.	(1))
1	- Pipa sch.40 dia.	2"	Х	4200 mm	X	1 buah	(lama)	P
	- Pipa sch.40 dia.	2"	X	4500 mm	x	1 buah	(lama)) Sel
	- Pipa sch.40 dia.	1 1/4"	x	600 mm	x	26 buah	(lama))
	- Elbow drat dia	1 1/4"	х	52 buah	(lama))
	- T drat dia	1 1/4"	х	26 buah	(lama))
	- Sock drat dia	1 1/4"	х	26 buah	(lama))
	- Lubang dia	1 1/4"	х	26 buah	(lama))
	- Nozzle srpay dia	1 1/4"	х	52 buah	(lama))
	- Seal tape	1 1/4"	x	26 buah	(lama)) Sel
	Bongkar pasang $\&$ service shower COT depan bela	kang, sbb :)
	- Nozzle dia	1 1/2"	Х	36 buah)
	- Elbow dia	1 1/2"	Х	72 buah)
	- Double neple dia	1 1/2"	x	58 buah) Sel
	Kiri)
	- Pipa sch.40 dia.	1 1/4"	x	4800 mm	х	1 buah		6
	- Elbow dia	1 1/4"	х	1 buah				6
	- Flange dia.	1 1/4"	x	2 buah				<u>(</u>
	- Flange prop dia.	1 1/4"	x	1 buah				ľ
	range prop and	, .	^	2000)
	- Pipa sch.40 dia.	1 1/4"	x	400 mm	x	1 buah)
	- Pipa sch.40 dia.	1 1/4"	х	2250 mm	Х	1 buah)
1	- Elbow dia	1 1/4"	x	1 buah)
	- Flange dia.	1 1/4"	х	2 buah)
	- Pipa sch.40 dia.	1 1/4"	x	2100 mm	x	1 buah)
1	- Pipa sch.40 dia.	1 1/4"	x	350 mm	x	1 buah		ĺ
1	- Pipa sch.40 dia.	1 1/4"	x	250 mm	x	1 buah		Ĺ
1	- Elbow dia	1 1/4"	x	2 buah	~	_ ~~~		Ĺ
1	- Flange dia.	1 1/4"	×	2 buah				ľ
1	- Butterfly valve dia	1 1/4"	×	1 buah	(lama)	service		ľ
		± ±/ ¬	٨	1 50011	(idilia)	3C1 VICE)
	- Pipa sch.40 dia.	2 1/2"	x	50 mm	x	1 buah)
1	- Flange dia.	2 1/2"	x	1 buah)
	- Reducer dia	1 1/4" - 2 :	x	1 buah)
	- Pipa sch.40 dia.	1 1/4"	x	200 mm	X	1 buah)
1	- Flange dia.	1 1/4"	x x	200 mm 1 buah	Α	1 Dudii		ľ
	LIGHEC GIG.	± ±/ +						11

			Descrip	70011			Kete
- Pipa sch.40 dia.	2 1/	2"	х	1750 mm	х	1 buah)
- Pipa sch.40 dia.	2 1/	2"	х	720 mm	x	1 buah)
- Pipa sch.40 dia.	2 1/	2"	х	50 mm	x	2 buah)
- Pipa sch.40 dia.	2 1/	2"	х	1800 mm	x	1 buah)
- Elbow dia	2 1/	2"	х	4 buah)
- Flange dia.	2 1/	2"	x	2 buah)
)
- Pipa sch.40 dia.	2 1/	2"	х	6000 mm	x	1 buah)
- Flange dia.	2 1/	2"	X	2 buah)
)
- Pipa sch.40 dia.	2 1/	2"	X	2850 mm	х	1 buah)
- Pipa sch.40 dia.	2 1/		X	150 mm	Х	1 buah)
 Flange dia. 	2 1/		Х	2 buah)
- Lubang dia	2 1/	2"	X	1 buah)
)
- Pipa sch.40 dia.	2 1/		Х	2200 mm	Х	1 buah)
- Pipa sch.40 dia.	2 1/		X	210 mm	х	1 buah)
- Elbow dia	2 1/		Х	1 buah)
- Flange dia.	2 1/	2"	Х	2 buah)
Dina cab 40 dia	2.4.1	'a"	v	6000	v	1 hugh	[)
- Pipa sch.40 dia.	2 1/		X	6000 mm	X	1 buah)
- Flange dia.	2 1/	2	Х	2 buah)
- Pipa sch.40 dia.	2"		x	4500 mm	x	1 buah	,
- Flange dia.	2"		x	2 buah	^	1 buan	,
- Flatige uta.	2		^	2 buaii			,
- Pipa sch.40 dia.	2"		x	300 mm	x	1 buah	,
- Pipa sch.40 dia.	2"		x	1400 mm	x	1 buah	,
- Pipa sch.40 dia.	2"		x	2920 mm	x	1 buah	,
- Flange dia.	2"		x	2 buah	^	1 50011	,
- Flange dia.	2 1/	'2"	x	1 buah			,
- Reducer dia		_ 2 1/2"	x	1 buah			, ,
- Lubang dia	2"	,	x	1 buah			ĺ
· ·)
- Pipa sch.40 dia.	2 1/	2"	х	6000 mm	x	2 buah)
- Flange dia.	2 1/	2"	х	4 buah)
)
- Pipa sch.40 dia.	2 1/	2"	X	2800 mm	x	1 buah)
- Pipa sch.40 dia.	2 1/	2"	X	160 mm	x	1 buah)
- Flange dia.	2 1/	2"	X	3 buah)
- Lubang dia	2 1/	2"	X	1 buah)
)
- Pipa sch.40 dia.	2 1/		X	2100 mm	x	1 buah)
- Pipa sch.40 dia.	2 1/		X	150 mm	x	1 buah)
- Elbow dia	2 1/		х	1 buah)
- Flange dia.	2 1/	2"	X	2 buah)
Direct 1 co. !!		'2"		6000		46. 1)
- Pipa sch.40 dia.	2 1/		X	6000 mm	X	1 buah	[
- Flange dia.	2 1/		X	2 buah			[)
- Flange prop dia.	2 1/	2"	X	1 buah		22 h !	[)
- Packing karet dia		4 /2"	X	3 mm	X	22 buah	[)
- Mur baut dia.		1/2"	Х	2" x	88 buah		[)
Ganti baru pipa SW	Shower COT, kanan kiri :)
Kiri							
- Pipa sch.40 dia.	2"		x	3800 mm	x	1 buah)
- Flange dia.	2"		x	2 buah)
i e e e e e e e e e e e e e e e e e e e							١.

		Job Descri	ption			Ke
- Flange dia.	2"	х	2 buah)
)
- Pipa sch.40 dia.	2"	х	1000 mm	X	1 buah	P
- Pipa sch.40 dia.	2"	x	300 mm	x	2 buah	þ
- Elbow dia	2"	x	1 buah			þ
- Flange dia.	2"	x	3 buah)
- Lubang dia	2"	Х	1 buah)
- Pipa sch.40 dia.	2"	х	2700 mm	x	1 buah)
- Flange dia.	2"	х	2 buah)
- Pipa sch.40 dia.	2"	x	6000 mm	x	1 buah)
- Flange dia.	2"	х	2 buah)
- Pipa sch.40 dia.	2"	x	1850 mm	x	1 buah)
- Pipa sch.40 dia.	2"	x	100 mm	x x	2 buah	ľ,
- Pipa scn.40 dia. - Elbow dia	2"		100 mm 1 buah	Х	∠ budii	ľ
	2" 2"	x	1 buan 3 buah			ľ
- Flange dia.	2" 2"	x				ľ
- Lubang dia	Σ"	х	1 buah))
- Pipa sch.40 dia.	2"	х	1600 mm	x	2 buah)
- Pipa sch.40 dia.	2"	x	1450 mm	x	1 buah)
- Elbow dia	2"	x	2 buah)
- Flange dia.	2"	х	2 buah)
- Pipa sch.40 dia.	2"	x	630 mm	×	1 buah)
- Pipa sch.40 dia.	2"	x	920 mm	x	1 buah	ľ
- Pipa sch.40 dia.	2"	x	280 mm	x	1 buah	ĺ,
- Elbow dia	2"	x	2 buah			6
- Flange dia.	2"	x	2 buah			ĺ,
- Packing karet dia.	_	x	3 mm	x	11 buah	ĺ,
- Mur baut dia.	1/		2" x	44 buah	11 50011)
	- ")
- Pipa sch.40 dia.	2"	х	3800 mm	Х	1 buah)
- Flange dia.	2"	Х	2 buah)
- Pipa sch.40 dia.	2"	x	6000 mm	x	1 buah	ĺ,
- Flange dia.	2"	x	2 buah	^	2 0 0 0 1 1)
- Pipa sch.40 dia.	2"	v	1000 mm	v	1 buah)
•	2"	x	300 mm	x		ľ
- Pipa sch.40 dia.		x		x	1 buah	ľ
- Pipa sch.40 dia.	2"	x	200 mm	х	1 buah	ľ
- Elbow dia	2"	х	1 buah			ľ
- Flange dia.	2"	х	3 buah			P
- Lubang dia	2"	Х	1 buah))
- Pipa sch.40 dia.	2"	x	2700 mm	x	1 buah)
- Flange dia.	2"	х	2 buah)
- Pipa sch.40 dia.	2"	х	6000 mm	х	1 buah)
- Flange dia.	2"	х	2 buah)
n)
- Pipa sch.40 dia.	2"	х	1850 mm	Х	1 buah	P
- Pipa sch.40 dia.	2"	х	100 mm	Х	2 buah	P
- Elbow dia	2"	х	1 buah			þ
- Flange dia.	2"	x	3 buah			þ
 Lubang dia 	2"	x	1 buah)
Labang ala						l,

:			ob Descr	iption			Ketera
Т	- Pipa sch.40 dia.	2"	х	1600 mm	х	1 buah)
	- Pipa sch.40 dia.	2"	х	1550 mm	x	1 buah	<u>[</u>
	- Elbow dia	2"	х	2 buah			<u>[</u>
	- Flange dia.	2"	x	2 buah			,
	Dina ask 40 dia	2"		CEO ****		1 hugh)
	- Pipa sch.40 dia.		Х	650 mm	Х	1 buah)
	- Pipa sch.40 dia.	2"	Х	930 mm	х	1 buah)
	- Pipa sch.40 dia.	2"	Х	280 mm	х	1 buah)
	- Elbow dia	2"	Х	2 buah)
	- Flange dia.	2"	Х	2 buah)
	- Packing karet dia.		X .	3 mm	X	11 buah)
	- Mur baut dia.	1/2	' x	2" x	44 buah) Sel
	Rekondisi instalasi pipa SW shower du	ım kanan depan, sbb :		(r	material lama)))
	- Pipa sch.40 dia.	2"	X	1850 mm	х	1 buah)
	- Pipa sch.40 dia.	2"	x	6000 mm	x	1 buah)
	- Pipa sch.40 dia.	2"	x	1000 mm	x	1 buah)
	- Flange dia.	2"	x	7 buah)
	- Pipa sch.40 dia.	2"	x	6000 mm	x	1 buah)
	- Pipa sch.40 dia.	2"	х	3800 mm	x	1 buah	<u>(</u>)
	- Pipa sch.40 dia.	2"	х	300 mm	x	1 buah)
	- Pipa sch.40 dia.	2"	х	200 mm	x	1 buah	j
	- Pipa sch.40 dia.	2"	x	2800 mm	x	1 buah	Ď
	- Elbow dia	2"	x	1 buah			,
	- Flange dia.	2"	x	8 buah			ľ
	- Packing karet dia.	2"	x	3 mm	x	8 buah	ľ
	- Mur baut dia.	1/2		2" x	32 buah		ľ
	Wide State and	-/-		- ^	02 000)
	- Lubang pipa dia	2"	x	15 buah)
	- Sock dia	1/2"	x	15 buah)
	- Nepple shower dia	1/2"	x	15 buah)
	- Ubolt dia	2"	х	8 buah)
	- Pipa sch.40 dia.	2"	х	3800 mm	x	1 buah)
	- Pipa sch.40 dia.	2"	х	6000 mm	х	2 buah)
	- Pipa sch.40 dia.	2"	х	1000 mm	х	1 buah)
	- Pipa sch.40 dia.	2"	x	1850 mm	х	1 buah)
	- Pipa sch.40 dia.	2"	x	300 mm	х	1 buah)
	- Pipa sch.40 dia.	2"	x	200 mm	x	1 buah)
	- Pipa sch.40 dia.	2"	х	2800 mm	x	1 buah)
	- Elbow dia	2"	х	1 buah)
	- Flange dia.	2"	х	15 buah			<u>[</u>
	- Packing karet dia.	2"	х	3 mm	x	8 buah	<u>[</u>
	- Mur baut dia.	1/2		2" x	32 buah)
	- Lubang pipa dia	2"	x	15 buah)
	- Sock dia	1/2"	x	15 buah			ľ,
	- Nepple shower dia	1/2"	x	15 buah			ľ
	- Ubolt dia	2"	x	8 buah)) Sel
	Kanan depan - Pipa sch.40 dia.	2"	x	1850 mm	x	1 buah)
	- Pipa sch.40 dia.	2"	x	100 mm	x x	1 buah	<u>(</u>
	- Pipa sch.40 dia.	2"		6000 mm		1 buah	,
	- Pipa scn.40 dia.	2" 2"	X	1000 mm	X	1 buah	ľ
	- Pipa scn.40 dia.	2" 2"	X	300 mm	x	1 buah	\ \
	·		X		x		ľ,
1	- Pipa sch.40 dia.	2"	Х	270 mm	х	1 buah	p

- Tidge 12	- T dia 2" - Lubang dia 2" - Pipa sch.40 dia. 2" - Flange dia. 2" - Packing karet dia. 2" - Packing karet dia. 2" - Ubolt dia 70 + 70 + 70 + 70 + 70 + 70 + 70 + 70	1/2 ² 70 70	x x x x x x x x x x x x x x x x x x x	1 buah 2 buah 6000 mm 3800 mm 100 mm 2700 mm 1 buah 7 buah 3 mm 2" x 7 x 7 x 8 buah	x x x x 32 bua 300 400	1 buah 1 buah 1 buah 9 buah mm x 3 bh)
- Tida	- T dia 2" - Lubang dia 2" - Pipa sch.40 dia. 2" - Flange dia. 2" - Packing karet dia. 2" - Packing karet dia. 3" - Mur baut dia. 3" - Support - Siku 70 + 70 + 70 + 70 + 70 + 70 + 70 + 70	1/2 ² 70 70	x x x x x x x x x x x x x x x x x x x	1 buah 2 buah 6000 mm 3800 mm 100 mm 2700 mm 1 buah 7 buah 3 mm 2" x 7 x 7 x 8 buah	x x x x 32 bua 300 400	1 buah 1 buah 1 buah 9 buah mm x 3 bh)))))))))
- Lubang dia 2" x 6000 mm x 1 buah 1 Pipa sch 40 dia. 2" x 3800 mm x 1 buah 1 Pipa sch 40 dia. 2" x 3800 mm x 1 buah 1 Pipa sch 40 dia. 2" x 2700 mm x 1 buah 1 Pipa sch 40 dia. 2" x 2700 mm x 1 buah 2 Pipa sch 40 dia. 2" x 2700 mm x 1 buah 2 Pipa sch 40 dia. 2" x 7 buah 2 Pipa sch 40 dia. 2" x 3 mm x 9 buah 3 Pipa sch 40 dia. 2" x 3 mm x 9 buah 3 Pipa sch 40 dia. 2" x 3 mm x 9 buah 3 Pipa sch 40 dia. 2" x 3 mm x 4 buah 4 Pipa sch 40 dia. 2" x 3 mm x 4 buah 4 Pipa sch 40 dia. 2" x 150 mm x 4 buah 5 Pipa sch 40 dia. 2" x 150 mm x 4 buah 5 Pipa sch 40 dia. 2" x 150 mm x 1 buah 6 Pipa sch 40 dia. 2" x 150 mm x 1 buah 6 Pipa sch 40 dia. 2" x 150 mm x 1 buah 7 Pipa sch 40 dia. 2" x 150 mm x 1 buah 7 Pipa sch 40 dia. 2" x 150 mm x 1 buah 7 Pipa sch 40 dia. 2" x 150 mm x 1 buah 7 Pipa sch 40 dia. 2" x 150 mm x 1 buah 7 Pipa sch 40 dia. 2" x 150 mm x 1 buah 7 Pipa sch 40 dia. 2" x 150 mm x 1 buah 7 Pipa sch 40 dia. 2" x 150 mm x 1 buah 7 Pipa sch 40 dia. 2" x 150 mm x 1 buah 7 Pipa sch 40 dia. 2" x 150 mm x 1 buah 7 Pipa sch 40 dia. 2" x 150 mm x 1 buah 7 Pipa sch 40 dia. 2" x 150 mm x 1 buah 7 Pipa sch 40 dia. 2" x 150 mm x 1 buah 7 Pipa sch 40 dia. 2" x 20 mm	- Lubang dia 2" - Pipa sch.40 dia. 2" - Flange dia. 2" - Packing karet dia. 2" - Mur baut dia. 2" - Support - Siku - Volument dia. 2" - Ubolt dia 2" - Pipa sch.40 dia. 1" - Nozzle shower dia 1" - Plat prop dia 2"	1/2′ 70 70	x	2 buah 6000 mm 3800 mm 100 mm 2700 mm 1 buah 7 buah 3 mm 2" x 7 x 7 x 8 buah	x x x x 32 bua 300 400	1 buah 1 buah 1 buah 9 buah mm x 3 bh)
- Pipa sch-40 dia.	- Pipa sch.40 dia. 2" - Flange dia. 2" - Packing karet dia. 2" - Mur baut dia Support - Siku 70 + 70 + 70 + 70 + 70 + 70 + 70 + 70	1/2 ² 70 70	x x x x x x x x x x x x x x x x x x x	6000 mm 3800 mm 100 mm 2700 mm 1 buah 7 buah 3 mm 2" x 7 x 8 buah	x x x x 32 bua 300 400	1 buah 1 buah 1 buah 9 buah mm x 3 bh	
Pipa sch. 40 dia	- Pipa sch.40 dia. 2" - Pipa sch.40 dia. 2" - Pipa sch.40 dia. 2" - Elbow dia 2" - Flange dia. 2" - Packing karet dia Mur baut dia Support - Siku - 70 + 70 + - Ubolt dia 2" - Pipa sch.40 dia. 1" - Nozzle shower dia 1" - Plat prop dia 2"	1/2' 70 70	x x x x x x x x x x x x x x x x x x x	3800 mm 100 mm 2700 mm 1 buah 7 buah 3 mm 2" x 7	x x x x 32 bua 300 400	1 buah 1 buah 1 buah 9 buah mm x 3 bh))))))))
Pipa sch-40 dia.	- Pipa sch.40 dia. 2" - Pipa sch.40 dia. 2" - Pipa sch.40 dia. 2" - Elbow dia 2" - Flange dia. 2" - Packing karet dia Mur baut dia Support Siku 70 + 70 + - Ubolt dia 2" - Pipa sch.40 dia. 1" - Nozzle shower dia 1" - Plat prop dia 2"	1/2' 70 70	x x x x x x x x x x x x x x x x x x x	3800 mm 100 mm 2700 mm 1 buah 7 buah 3 mm 2" x 7	x x x x 32 bua 300 400	1 buah 1 buah 1 buah 9 buah mm x 3 bh))))))))
- Pipa sch-40 dia.	- Pipa sch.40 dia. 2" - Pipa sch.40 dia. 2" - Elbow dia 2" - Flange dia. 2" - Packing karet dia Mur baut dia Support Siku 70 + 70 + - Ubolt dia 2" - Pipa sch.40 dia. 1" - Nozzle shower dia 1" - Plat prop dia 2"	1/2′ 70 70	x x x x x x x x x x x x x x x x x x x	100 mm 2700 mm 1 buah 7 buah 3 mm 2" x 7	x x x 32 bua 300 400	1 buah 1 buah 9 buah ah mm x 3 bh)))))))
- Pipa sch 40 dia.	- Pipa sch.40 dia. 2" - Elbow dia 2" - Flange dia. 2" - Packing karet dia Mur baut dia Support Siku 70 + 70 + 70 + 70 + 70 + 71 - Ubolt dia 2"	1/2′ 70 70	x x x x x x x x x x x x x x x x x x x	2700 mm 1 buah 7 buah 3 mm 2" x 7 x 7 x 8 buah	x x 32 bua 300 400	1 buah 9 buah ah mm x 3 bh))))))))))))
- Elbow dia 2" x 1 buah - Flange dia 2" x 7 buah - Pakinge dia 2" x 7 buah - Pakinge dia 1/2" x 2" x 3 mm x 9 buah	- Elbow dia 2" - Flange dia. 2" - Packing karet dia Mur baut dia Support Siku 70 + 70 + 70 + - Ubolt dia 2" - Pipa sch.40 dia. 1" - Nozzle shower dia 1" - Plat prop dia 2"	1/2′ 70 70	x x x x x x x x x	1 buah 7 buah 3 mm 2" x 7	x 32 bua 300 400	9 buah ah mm x 3 bh))))))))))
- Flange dia Packing karet dia Vaccing karet dia Vaccing karet dia Mur baut dio Support Siku 70 + 70 x 7 x 300 mm x 3 bh 70 + 70 x 7 x 400 mm x 3 bh 70 + 70 x 7 x 400 mm x 3 bh 70 + 70 x 7 x 400 mm x 3 bh 70 + 70 x 7 x 400 mm x 3 bh 70 + 70 x 7 x 8 buah - Pipa sch 40 dia Pipa s	- Flange dia. 2" - Packing karet dia Mur baut dia Support Siku 70 + 70 + 70 + - Ubolt dia 2" - Pipa sch.40 dia. 1" - Nozzle shower dia 1" - Plat prop dia 2"	1/2′ 70 70	x x x x x x x x	7 buah 3 mm 2" x 7	32 bua 300 400	mm x 3 bh))))))
- Packing karet dia.	- Packing karet dia Mur baut dia Support Siku 70 + 70 + Ubolt dia 2" - Pipa sch.40 dia Nozzle shower dia - Plat prop dia 2"	1/2' 70 70	x x x x x x x	3 mm 2" x 7 x 7 x 8 buah	32 bua 300 400	mm x 3 bh)))))
- Mur haut dia	- Mur baut dia Support Siku 70 + 70 + 70 + - Ubolt dia 2" - Pipa sch.40 dia Nozzle shower dia - Plat prop dia 2"	70 70	x x x x x x x	2" x 7	32 bua 300 400	mm x 3 bh)))))
Siku	- Support Siku 70 + 70 + 70 + - Ubolt dia 2" - Pipa sch.40 dia. 1" - Nozzle shower dia 1" - Plat prop dia 2"	70 70	x x x	7 x 7 x 8 buah 150 mm	300 400	mm x 3 bh))))
Siku	Siku 70 + 70 + 70 + - Ubolt dia 2" - Pipa sch.40 dia. 1" - Nozzle shower dia 1" - Plat prop dia 2"	70	x x x x	7 x 8 buah 150 mm	400))))
To To To To To To To To	70 + 70 + 70 + 2" - Ubolt dia 2" - Pipa sch.40 dia. 1" - Nozzle shower dia 1" - Plat prop dia 2"	70	x x x x	7 x 8 buah 150 mm	400)))
- Ubolt dia 2" x 8 buah - Pipa sch.40 dia. 1" x 150 mm x 4 buah - Pipa sch.40 dia. 1" x 2 buah - Pilat prop dia 2" x 10 mm x 2 buah - Mur baut dia. 1/2" x 2"x 8 buah Kanan belakang - Pipa sch.40 dia. 2" x 100 mm x 1 buah - Pipa sch.40 dia. 2" x 100 mm x 2 buah - Pipa sch.40 dia. 2" x 100 mm x 1 buah - Pipa sch.40 dia. 2" x 1000 mm x 1 buah - Pipa sch.40 dia. 2" x 1000 mm x 1 buah - Pipa sch.40 dia. 2" x 1000 mm x 1 buah - Pipa sch.40 dia. 2" x 1000 mm x 1 buah - Pipa sch.40 dia. 2" x 1000 mm x 1 buah - Pipa sch.40 dia. 2" x 1000 mm x 1 buah - Pipa sch.40 dia. 2" x 2000 mm x 1 buah - Pipa sch.40 dia. 2" x 2000 mm x 1 buah - Pipa sch.40 dia. 2" x 2000 mm x 1 buah - Pipa sch.40 dia. 2" x 2000 mm x 1 buah - Pipa sch.40 dia. 2" x 2000 mm x 1 buah - Pipa sch.40 dia. 2" x 2000 mm x 1 buah - Pipa sch.40 dia. 2" x 2000 mm x 3 buah - Filange dia. 2" x 2000 mm x 3 buah - Filange dia. 2" x 3000 mm x 3 buah - Tidia 2" x 150 buah - Tidia 2" x 150 buah - Packing karet dia. 2" x 3000 mm x 3 bh - Pocking karet dia. 1/2" x 2"x 40 buah - Support Siku - Pipa sch.40 dia. 1" x 150 mm x 4 buah - Nozzle shower dia 1" x 20 buah - Pipa sch.40 dia. 1" x 20 buah - Hundra dia. 1/2" x 2"x 8 buah - Mur baut dia. 1/2" x 2"x 8 buah - Pipa sch.40 dia. 1" x 20 buah - Pipa sch.40 dia. 1" x 20 buah - Hundra dia. 1/2" x 2"x 8 buah	70 + - Ubolt dia 2" - Pipa sch.40 dia. 1" - Nozzle shower dia 1" - Plat prop dia 2"	70	x x x x	7 x 8 buah 150 mm	400)))
- Ubolt dia 2" x 8 bush - Pipa sch.40 dia. 1" x 150 mm x 4 bush - Nozzie shower dia 1" x 2 bush - Plat prop dia 2" x 10 mm x 2 bush - Plat prop dia 2" x 8 bush - Nur baut dia. 1/2" x 2" x 8 bush Nur baut dia. 1/2" x 2" x 8 bush	- Ubolt dia 2" - Pipa sch.40 dia. 1" - Nozzle shower dia 1" - Plat prop dia 2"		x x x	8 buah 150 mm		11111 X J UII)
- Pipa sch.40 dia Nozzie shower dia - Plat prop dia - Plat prop dia - Plat prop dia - Ubbang dia - Mur baut dia Mir baut dia Pipa sch.40	- Pipa sch.40 dia. 1" - Nozzle shower dia 1" - Plat prop dia 2"		x x	150 mm	v		,
- Nozzle shower dia 1"	- Nozzle shower dia 1" - Plat prop dia 2"		x		v		1)
- Nozzle shower dia 1"	- Nozzle shower dia 1" - Plat prop dia 2"		x			4 huah	ľ
- Plat prop dia 2" x 10 mm x 2 bush	- Plat prop dia 2"			z buan	х	4 Duail	ľ
- Lubang dia	, ,		v			2 huah	ľ
Murbaut dia.	· - conang ma	1/2'				Z DUAN	ľ
Naman belakang		1/2			O b	sh)) Se
- Pipa sch.40 dia.	- Mur baut dia.		Х	2 ×	8 bua	an) Se
- Pipa sch.40 dia.	Managa halalana						,
- Pipa sch.40 dia.				4050		411	,
- Pipa sch.40 dia. 2" x 6000 mm x 2 buah) - Pipa sch.40 dia. 2" x 1000 mm x 1 buah) - Pipa sch.40 dia. 2" x 3000 mm x 1 buah) - Pipa sch.40 dia. 2" x 270 mm x 1 buah) - Pipa sch.40 dia. 2" x 2800 mm x 1 buah) - Pipa sch.40 dia. 2" x 2800 mm x 1 buah) - Pipa sch.40 dia. 2" x 2800 mm x 1 buah) - Pipa sch.40 dia. 2" x 2 buah - Pipa sch.40 dia. 2" x 1 buah) - Pipa sch.40 dia. 2" x 1 buah) - Packing karet dia. 2" x 1 buah - Packing karet dia. 1/2" x 2" x 40 buah) - Support - Siku 70 + 70 x 7 x 300 mm x 3 bh 70 + 70 x 7 x 400 mm x 3 bh) - Ubolt dia 2" x 8 buah 70 + 70 x 7 x 400 mm x 3 bh 70 + 70 x 7 x 400 mm x 3	·)
- Pipa sch.40 dia. 2" x 1000 mm x 1 buah	<u> </u>						,
- Pipa sch.40 dia.	'						,
- Pipa sch.40 dia. 2" x 270 mm x 1 buah	')
- Pipa sch.40 dia.	')
- Pipa sch.40 dia.	•)
- Elbow dia 2" x 2 buah - Flange dia. 2" x 15 buah - T dia 2" x 15 buah - T dia 2" x 15 buah - T dia 2" x 1 buah - Packing karet dia. x 3 mm x 9 buah - Mur baut dia. 1/2" x 2" x 40 buah - Support Siku - T 0 x 7 x 300 mm x 3 bh 70 + 70 x 7 x 400 mm x 3 bh 70 + 70 x 7 x 400 mm x 3 bh 70 + 70 x 7 x 400 mm x 3 bh 70 + 70 x 7 x 400 mm x 3 bh 70 + Pipa sch.40 dia. 1" x 2 buah - Plat prop dia 2" x 10 mm x 2 buah - Lubang dia x 8 buah - Mur baut dia. 1/2" x 2" x 8 buah - Pipa sch.40 dia. 1/2" x 2" x 8 buah - Pipa sch.40 dia. 1/2" x 2" x 8 buah - Pipa sch.40 dia. 1/2" x 2" x 8 buah - Pipa sch.40 dia. 1/2" x 2" x 8 buah - Pipa sch.40 dia. 1/2" x 2" x 8 buah - Pipa sch.40 dia. 1/2" x 2" x 8 buah - Pipa sch.40 dia. 1/2" x 2" x 4500 mm x 1 buah - Pipa sch.40 dia. 2" x 4500 mm x 1 buah - Pipa sch.40 dia. 1" x 50 mm x 4 buah - Pipa sch.40 d	•)
- Flange dia. 2" x 15 buah	'				Х	1 buah)
- T dia 2" x 1 buah)
- Packing karet dia.)
- Mur baut dia.)
- Support Siku 70 + 70 x 7 x 300 mm x 3 bh 70 + 70 x 7 x 400 mm x 3 bh - Ubolt dia 2" x 8 buah - Pipa sch.40 dia Nozzle shower dia - Plat prop dia - Lubang dia - Mur baut dia. Bongkar pipa u/ pemasangan nozzle spray (2 buah), sbb: - Pipa sch.40 dia Nozzle srpay dia - Vozzle srpay dia)
Siku		1/2'	Х	2" x	40 bua	an)
To To To To To To To To)
To To To To To To To To		_		_)
- Ubolt dia 2" x 8 buah - Pipa sch.40 dia. 1" x 150 mm x 4 buah - Nozzle shower dia 1" x 2 buah - Plat prop dia 2" x 10 mm x 2 buah - Lubang dia x 8 buah - Mur baut dia. 1/2" x 2" x 8 buah Bongkar pipa u/ pemasangan nozzle spray (2 buah), sbb: (material lama) - Pipa sch.40 dia. 2" x 4500 mm x 1 buah - Flange dia. 2" x 2 buah - Pipa sch.40 dia. 1" x 50 mm x 4 buah - Nozzle srpay dia 1" (supply dock))
Pipa sch.40 dia.		70			400	mm x 3 bh)
- Nozzle shower dia 1" x 2 buah) - Plat prop dia 2" x 10 mm x 2 buah) - Lubang dia x 8 buah) - Mur baut dia. 1/2" x 2" x 8 buah) Bongkar pipa u/ pemasangan nozzle spray (2 buah), sbb : (material lama)) - Pipa sch.40 dia. 2" x 4500 mm x 1 buah) - Flange dia. 2" x 2 buah) - Pipa sch.40 dia. 1" x 50 mm x 4 buah) - Nozzle srpay dia 1" (supply dock)	- Ubolt dia 2"		Х	8 buah)
- Nozzle shower dia 1" x 2 buah) - Plat prop dia 2" x 10 mm x 2 buah) - Lubang dia x 8 buah) - Mur baut dia. 1/2" x 2" x 8 buah) Bongkar pipa u/ pemasangan nozzle spray (2 buah), sbb : (material lama)) - Pipa sch.40 dia. 2" x 4500 mm x 1 buah) - Flange dia. 2" x 2 buah) - Pipa sch.40 dia. 1" x 50 mm x 4 buah) - Nozzle srpay dia 1" (supply dock))
- Plat prop dia 2" x 10 mm x 2 buah) - Lubang dia x 8 buah) - Mur baut dia. 1/2" x 2" x 8 buah) Bongkar pipa u/ pemasangan nozzle spray (2 buah), sbb : (material lama)) - Pipa sch.40 dia. 2" x 4500 mm x 1 buah) - Flange dia. 2" x 2 buah) - Pipa sch.40 dia. 1" x 50 mm x 4 buah) - Nozzle srpay dia 1" (supply dock)	'				Х	4 buah)
- Lubang dia x 8 buah - Mur baut dia. 1/2" x 2"x 8 buah Bongkar pipa u/ pemasangan nozzle spray (2 buah), sbb: (material lama) - Pipa sch.40 dia. 2" x 4500 mm x 1 buah - Flange dia. 2" x 2 buah - Pipa sch.40 dia. 1" x 50 mm x 4 buah - Nozzle srpay dia 1" (supply dock))
- Mur baut dia. 1/2" x 2"x 8 buah Bongkar pipa u/ pemasangan nozzle spray (2 buah), sbb: (material lama) - Pipa sch.40 dia. 2" x 4500 mm x 1 buah - Flange dia. 2" x 2 buah - Pipa sch.40 dia. 1" x 50 mm x 4 buah - Nozzle srpay dia 1" (supply dock)						2 buah)
Bongkar pipa u/ pemasangan nozzle spray (2 buah), sbb : (material lama) - Pipa sch.40 dia. 2" x 4500 mm x 1 buah) - Flange dia. 2" x 2 buah) - Pipa sch.40 dia. 1" x 50 mm x 4 buah - Nozzle srpay dia 1" (supply dock))
- Pipa sch.40 dia. 2" x 4500 mm x 1 buah) - Flange dia. 2" x 2 buah) - Pipa sch.40 dia. 1" x 50 mm x 4 buah) - Nozzle srpay dia 1" (supply dock)	- Mur baut dia.	1/2'	' x	2" x	8 bua	ah) Se
- Pipa sch.40 dia. 2" x 4500 mm x 1 buah) - Flange dia. 2" x 2 buah) - Pipa sch.40 dia. 1" x 50 mm x 4 buah) - Nozzle srpay dia 1" (supply dock)						,	
- Flange dia. 2" x 2 buah) - Pipa sch.40 dia. 1" x 50 mm x 4 buah) - Nozzle srpay dia 1" (supply dock)))
- Pipa sch.40 dia. 1" x 50 mm x 4 buah) - Nozzle srpay dia 1" (supply dock)	'				Х	1 buah)
- Nozzle srpay dia 1" (supply dock))	- Flange dia. 2"		Х	2 buah)
- Nozzle srpay dia 1" (supply dock))	Dina cab 40 dia			FO:		4 houst-	ľ
			х	50 mm	Х		ľ
renggantian nozzie pipa snower cargo (ias coi iun lubang nozzie, banan kawat ias kuningan dia 1) 3 buan	l ' '		- ط مادده،	han kawat las levete	an din 4		, ,
l l	renggantian nozzie pipa snower cargo (ias cor full lu	upang r	iozzie, ba	nan kawat ias kunir	igan dia 1	. j o Dudri) Se

		Job Desc	<u> </u>			Ke
- Plat dia	2"	х	10 mm x	•	2 buah)
- Elbow drat dia	1"		1 ha.l-)
		X	4 buah			ľ
- Sock drat dia	1"	Х	2 buah			 }
- Nepple drat dia	1"	Х	6 buah)
- T drat dia	1"	Х	2 buah			P
- Nozzle srpay dia	1"	Х	4 buah		(supply dock))
- Packing karet dia	2"	Х	3 mm x	3	buah)
- Mur baut dia	1/2"	x	2" x	12	buah)
Depan Forecastle)
- Pipa sch.40 dia.	2"	x	1850 mm		x 1 buah	6
- Elbow dia	2"	x	1 buah			Ľ
- Flange dia.	2"	x	3 buah			Ľ
i lange ula.	2	^	3 Duail)
- Sock drat dia	1/2"	x	2 buah)
- Lubang dia	1/2"	Х	2 buah)
- Nozzle srpay dia	1/2"	х	2 buah		(supply dock))
- Pipa sch.40 dia.	2"	x	6000 mm		x 1 buah)
- Flange dia.	2"	х	2 buah)
6.1.1.7	e W)
- Sock drat dia	1"	Х	4 buah			P
- Lubang dia	1/2"	Х	4 buah)
- Nozzle srpay dia	1/2"	х	4 buah		(supply dock))
- Pipa sch.40 dia.	2"	x	1000 mm		x 1 buah)
- Pipa sch.40 dia.	2"	x	300 mm		x 2 buah	ľ
- Elbow dia	2"	x	1 buah			K
- Flange dia.	2"	x	3 buah)
)
- Sock drat dia	1/2"	Х	1 buah)
- Lubang dia	1/2"	Х	1 buah)
- Nozzle srpay dia	1/2"	х	1 buah		(supply dock))
- Pipa sch.40 dia.	2"	x	6000 mm		x 1 buah)
- Flange dia.	2"	x	2 buah)
- Sock drat dia	1"	×	5 buah)
- Lubang dia	1/2"	x	5 buah			ľ
•					(supply dock)	ľ
- Nozzle srpay dia	1/2"	х	5 buah		(supply dock))
- Pipa sch.40 dia.	2"	х	3800 mm		x 1 buah)
- Flange dia.	2"	x	2 buah)
- Sock drat dia	1"	x	3 buah)
- Lubang dia	1/2"	x	3 buah			ľ
- Nozzle srpay dia	1/2"		3 buah		(supply dock)	ľ
- INOTALE 21 hay all	1/2	х	5 Duan		(supply dock))
- Elbow drat dia	1"	x	4 buah)
- Sock drat dia	1"	х	4 buah)
- Nepple drat dia	1"	х	4 buah)
- Nozzle srpay dia	1"	х	4 buah		(supply dock))
- Packing karet dia		х	3 mm x	8	buah	Б
- Mur baut dia	1/2"	х	2" x	32	buah)
Rolakana)
Belakang - Pipa sch.40 dia.	2"	x	1850 mm		x 1 buah	ľ
					A LUUAU	1)

:			Job Desc	ription				Ketera
- Elbo	ow dia	2"	х	1 buah)
- Flan	nge dia.	2"	х	3 buah)
)
- Soci	k drat dia	1/2"	х	2 buah)
- Luba	ang dia	1/2"	x	2 buah)
	zle srpay dia	1/2"	х	2 buah		(supply de	ock)	5
	• •	•					-	6
- Pipa	sch.40 dia.	2"	х	6000 mm		x	1 buah	ĺ
	nge dia.	2"	х	2 buah				Ĺ
1	.60 a.a.	_		_ 200				ĺ,
- Soci	k drat dia	1"	х	4 buah				ĺ,
	ang dia	1/2"	x	4 buah				ĺ,
	zle srpay dia	1/2"	x	4 buah		(supply de	nck)	ĺ,
1102	zie si pay ala	-/-	^	4 Suum		(Supply u	ocky	ί,
- Pina	a sch.40 dia.	2"	х	1000 mm		x	1 buah	ľ
	a sch.40 dia.	2"	x	300 mm		x x	1 buah	ľ
	a sch.40 dia.	2"		200 mm		x x	1 buah	ľ
- Pipa		2"	x x	200 mm 1 buah		^	1 Duaii	ľ
		2"						ľ
- Flan	nge dia.	۷.	х	3 buah				ľ
	le deste dia	4 /0.0		4.1				ľ
	k drat dia	1/2"	X	1 buah				ľ
	ang dia	1/2"	X	1 buah		/a	- als)	ľ
- Noz	zle srpay dia	1/2"	Х	1 buah		(supply de	OCK)	[
		- ")
	a sch.40 dia.	2"	Х	6000 mm		Х	1 buah)
- Flan	nge dia.	2"	Х	2 buah)
		_)
	k drat dia	1"	Х	5 buah)
	ang dia	1/2"	x	5 buah)
- Noz	zle srpay dia	1/2"	Х	5 buah		(supply d	ock))
)
	a sch.40 dia.	2"	х	3800 mm		X	1 buah)
- Flan	nge dia.	2"	х	2 buah)
)
	k drat dia	1"	х	3 buah)
	ang dia	1/2"	х	3 buah)
- Noz	zle srpay dia	1/2"	x	3 buah		(supply d	ock))
- Pacl	king karet dia		x	3 mm x	8	buah)
- Mur	r baut dia	1/2"	Х	2" x	32	buah) Sel
	aru pipa cargo line, sbb :)
	a sch.80 dia.	4"	х	900 mm		X	1 buah)
- Pipa	a sch.80 dia.	4"	х	500 mm		x	1 buah)
1	a sch.80 dia.	4"	х	1720 mm		x	1 buah)
- Elbo	ow dia	4"	х	2 buah)
- Flan	nge dia.	4"	х	2 buah)
- Valv	ve dia	4"	х	1 buah		(lama))
- Pasa	ang isolasi grease			2 buah		(baru))
- Soci	k drat dia	3/8"	х	1 buah)
- Nep	pple drat dia	3/8"	х	2 buah)
	pple dia	3/8"	х	1 buah		(lama))
- Valv		3/8"	х	1 buah)
		•						6
- Pipa	sch.80 dia.	4"	х	2450 mm		x	1 buah)
	sch.80 dia.	4"	х	450 mm		х	1 buah	6
- Elbo		4"	х	2 buah				ľ
	nge dia.	4"	х	1 buah				ľ
1	•	•	••	_ ~~~				ľ

	Jo	b Descr	трион			Ke
- Pasang isolasi grease			1 buah	(baru))
- Pipa sch.80 dia.	6"	x	450 mm	x	1 buah)
- Pipa sch.80 dia.	6"	x	370 mm	х	1 buah)
- Pipa sch.80 dia.	6"	x	1420 mm	х	1 buah	5
- Elbow dia	6"	х	1 buah			Ĺ
- Flange dia.	6"	x	2 buah			Ķ
- Pipa T dia	6"	x	300 mm	x	1 buah	ľ,
- Pipa T dia	6"	×	150 mm	x	1 buah	ľ
- Pasang isolasi grease	U	^	2 buah	x (baru)	I Duail)
- Pipa sch.80 dia.	1 1/2"	х	380 mm	х	1 buah)
- Pipa sch.80 dia.	1 1/2"	x	1800 mm	х	1 buah)
- Elbow dia	1 1/2"	х	1 buah)
- Flange dia.	1 1/2"	х	2 buah)
- Pasang isolasi grease			2 buah	(baru))
- Pipa sch.80 dia.	6"	x	1500 mm	x	2 buah	
- Pipa sch.80 dia.	6"	x	1330 mm	x	2 buah	ľ
•	6"					ľ
- Pipa sch.80 dia.	6"	X	1200 mm	х	2 buah	ľ
- Elbow dia		X	4 buah			ľ
- Flange dia.	6"	Х	4 buah	n		ľ
- Pasang isolasi grease			4 buah	(baru)		ľ
- Pipa sch.80 dia.	6"	х	780 mm	x	2 buah)
- Flange dia.	6"	х	2 buah)
- Pasang isolasi grease			2 buah	(baru))
- Pipa sch.80 dia.	6"	x	5200 mm	x	1 buah	
	6"					ľ
- Pipa sch.80 dia.		Х	1360 mm	X	1 buah	<u> </u>
- Pipa sch.80 dia.	6"	Х	450 mm	Х	1 buah	P
- Pipa sch.80 dia.	6"	X	870 mm	Х	1 buah	P
- Pipa sch.80 dia.	6"	X	400 mm	Х	1 buah	P
- Pipa sch.80 dia.	6"	X	1420 mm	х	1 buah)
- Elbow dia	6"	Х	3 buah)
- Flange dia.	6"	х	3 buah)
- Pipa T dia	6"	x	300 mm	x	1 buah)
- Pipa T dia	6"	x	150 mm	x	1 buah)
- Pasang isolasi grease			3 buah	(baru))
- Pipa sch.80 dia.	1 1/2"	х	100 mm	x	1 buah	
- Flange dia.	1 1/2"	x	1 buah	^		ľ
- Lubang dia	1 1/2"	x	1 buah			K
- Pasang isolasi grease	1 1/2	^	1 buah	(baru)		ľ
י משמווק ושטומטו פו כמשכ			ı Duail	(baru)		ľ
- Sock drat dia	3/8"	х	1 buah)
- Nepple drat dia	3/8"	х	2 buah)
- Nepple dia	3/8"	х	1 buah	(lama))
- Lubang dia	1"	х	1 buah			þ
- Valve dia	3/8"	х	1 buah)
- Packing teflon dia.		x	3 mm	х	12 buah	b
- Mur baut dia.	M20	x	5" x	132 buah)
- Mur baut dia.	5/8"	х	2 1/2" x	4 buah		Б
- Support	-,-		,			Б
Plat)
100	x 80	ĸ	10 mm x	42 buah		b
Jarum keras		х	1 buah			b
Ubolt dia	1 1/2"	x	4 buah			Ь
Ubolt dia	•					ľ

		<u>.</u>	lob Descri				Ketera
	Ubolt dia	2 1/2"	х	18 buah)
	Ubolt dia	5"	x	11 buah)
	Ubolt dia	6"	x	7 buah)
	Ubolt dia	4"	х	4 buah			Ď
)
	Fit up pipa)
-	Dilaksanakan Air Pressure Test denga	an tekanan 8 Bar) Sele
Ga	inti baru pipa vapour, sbb :)
-	Pipa sch.80 dia.	5"	x	2350 mm	x	1 buah)
-	Pipa sch.80 dia.	5"	x	360 mm	x	1 buah)
-	Pipa sch.80 dia.	5"	x	100 mm	x	1 buah)
	Pipa sch.80 dia.	5"	x	2500 mm	x	1 buah	
	Pipa sch.80 dia.	5″	x	150 mm	x	1 buah	Ď
	Elbow dia	5"	x	2 buah			ĺ,
	Flange dia.	5"	x	3 buah			ĺ,
	Pipa T dia	5"	x	250 mm	х	1 buah	,
	Pipa T dia	5"	X	100 mm	X	1 buah	ľ,
	·	J	^	3 buah		1 Dudii	ľ,
	Pasang isolasi grease			5 Duan	(baru)		['
	Pipa sch.80 dia.	5"	x	1900 mm	x	1 buah)
-	Pipa sch.80 dia.	5"	x	1000 mm	x	1 buah)
-	Pipa sch.80 dia.	5"	x	100 mm	x	1 buah	þ
-	Pipa sch.80 dia.	5"	x	2900 mm	x	1 buah)
-	Pipa sch.80 dia.	5"	x	150 mm	x	1 buah)
-	Elbow dia	5"	x	2 buah)
-	Flange dia.	5"	x	3 buah)
-	Pipa T dia	5"	x	250 mm	x	1 buah)
-	Pipa T dia	5"	x	100 mm	x	1 buah)
-	Globe valve dia	5"	x	2 buah	(lama))
-	Pasang isolasi grease			3 buah	(baru))
_	Pipa sch.80 dia.	5"	x	400 mm	x	1 buah)
	Pipa sch.80 dia.	5"	x	100 mm	x	1 buah	Ĺ
		5"	x	200 mm	x	1 buah	,
	Pipa sch.80 dia.	5"	x	120 mm	x	1 buah	ľ
١.	Elbow dia	5"	x	1 buah	^	1 budii	ľ
	Flange dia.	5"		3 buah			ľ
	=	5"	X		v	1 huah	ľ
	Pipa T dia	5″	X	250 mm	X	1 buah	ľ
	Pipa T dia		X	100 mm	X	1 buah	ľ
	Packing teflon dia.	5"	X	3 mm	X 100 hugh	9 buah	ľ
	Mur baut dia.	M20) x	5" x	108 buah		ľ
-	Pasang isolasi grease			3 buah	(baru))
-	Pipa sch.80 dia.	5"	x	400 mm	x	1 buah)
-	Pipa sch.80 dia.	5"	x	200 mm	x	1 buah)
-	Pipa sch.80 dia.	5"	x	100 mm	x	1 buah)
-	Pipa sch.80 dia.	5"	x	150 mm	x	1 buah)
	Elbow dia	5"	x	1 buah			b
	Flange dia.	5"	x	3 buah			6
		5″	x	250 mm	x	1 buah	6
	Pipa T dia	5″	x	100 mm	x	1 buah	6
_	Packing teflon dia.	5"	x	3 mm	x	3 buah	ľ,
-	Mur baut dia.	M20		5" x	36 buah	5 2 2 2 1 1	ľ,
	Pasang isolasi grease	IVIZO	. ^	3 buah	(baru)		<u> </u>
				5 buuil	(~314)		ľ
	Pipa sch.80 dia.	5"	х	450 mm	x	1 buah)
-	Pipa sch.80 dia.	5"	x	150 mm	X	1 buah)
1	Pipa sch.80 dia.	5"	x	1650 mm	x	1 buah	\

		J	ob Descri	otion				Ketera
Τ	- Pipa sch.80 dia.	5"	х	200 mm	х	2 buah)
	- Pipa sch.80 dia.	5″	x	400 mm	x	1 buah		6
	- Pipa sch.80 dia.	5″	x	250 mm	x	1 buah		6
	- Elbow dia	5"	х	4 buah)
	- Flange dia.	5"	х	11 buah				6
	- Flange SS dia.	5"	х	2 buah	(lama))
	- Flange blank dia.	5"	x	2 buah	(lama))
	- Globe valve dia	5"	x	1 buah	(lama))
	- Pasang isolasi grease			11 buah	(baru))
	- Pipa sch.80 dia.	1 1/2"	x	100 mm	x	2 buah)
	- Flange dia.	1 1/2"	x	2 buah)
	- Lubang dia	1 1/2"	x	2 buah)
	- Valve dia	1 1/2"	х	1 buah	(lama))
	- Pasang isolasi grease			2 buah	(baru))
	- Pipa sch.80 dia.	5"	х	200 mm	x	2 buah)
	- Pipa sch.80 dia.	5"	х	6000 mm	x	1 buah)
	- Pipa sch.80 dia.	5"	х	400 mm	x	1 buah)
	- Pipa sch.80 dia.	5"	x	3000 mm	х	1 buah)
	- Pipa sch.80 dia.	5"	х	850 mm	x	2 buah)
	- Elbow dia	5"	х	2 buah)
	- Flange dia.	5"	х	4 buah)
	- Pipa T dia	5"	х	250 mm	x	2 buah)
	- Pipa T dia	5"	x	100 mm	x	2 buah)
	- Pasang isolasi grease			4 buah	(baru))
		- 4						
	- Sock drat dia	3/8"	X	2 buah	n v			[)
	- Double neple dia	3/8"	X	4 buah	(lama)			ľ
	- Nepple drat dia	3/8"	X	2 buah	(lama)			ľ
	- Lubang dia	1 1/2"	X	2 buah	//a/1			ľ
	- Valve dia	1 1/2"	х	1 buah	(lama)			ľ
	- Pipa sch.80 dia.	5"	x	3350 mm	x	2 buah),
	- Flange dia.	5"	х	2 buah				6
	- Globe valve dia	5"	х	2 buah	(lama)			6
	- Packing teflon dia.	5"	х	3 mm	x	16 buah		6
	- Mur baut dia.	M20		5" x	160 buah			5
	- Pasang isolasi grease			2 buah	(baru)) Sele
	- Pasang pipa ground pada sambungan fla	nge		30 buah	(baru)) Sele
				30 buail	(Daiu)			
	- Dilaksanakan Air Pressure Test dengan te	ekanan 8 Bar) Sele
	Ganti baru instalasi pipa SW reheater main o	deck, sbb :)
	- Pipa sch.40 dia.	8"	х	2870 mm	х	1 buah)
	- Pipa sch.40 dia.	8"	х	100 mm	х	1 buah		þ
	- Elbow dia	8"	Х	1 buah)
	- Flange dia.	8"	x	2 buah))
	- Pipa sch.40 dia.	8"	x	150 mm	x	2 buah)
	- Elbow dia	8"	х	1 buah)
	- Flange dia.	8"	х	1 buah	(lama))
	- Sock dia	10"	x	1 buah)
	- Pipa sch.40 dia.	8"	x	1400 mm	x	1 buah	(lama)))
	- Pipa sch.40 dia.	8"	х	400 mm	x	1 buah	(lama))
	- Pipa sch.40 dia.	8"	х	100 mm	x	1 buah	(lama)	6
1	*						. ,	ľ

./A/C	<u> </u>			Job Descri	ption					Keteranga
	- Flange dia.		8"	х	1 buah	(lama))	
)	
	- Pipa sch.40 dia.		8"	х	3500 mm	X	1 buah	(lama))	
	- Pipa sch.40 dia.		8"	х	100 mm	X	1 buah	(lama))	
	- Elbow dia		8"	х	2 buah	(lama))	
	- Flange dia.		8"	x	2 buah)	
)	
	- Pipa sch.40 dia.		8"	X	2350 mm	X	1 buah	(lama)	ľ	
	- Pipa sch.40 dia.		8"	Х	600 mm	X	1 buah	(lama)	ľ	
	- Elbow dia		8"	Х	1 buah	(lama))	
	- Flange dia.		8"	Х	1 buah	(lama))	
	- Valve electric dia		8"	Х	2 buah	(lama))	
	- Ubolt dia		8"	Х	4 buah	(lama))	
	 Packing karet dia. 		8"	Х	5 mm	Х	6 buah)	
	- Mur baut dia.			3/4" x	5" x	12 buah)	
	- Mur baut dia.			3/4" x	3" x	60 buah)	Selesai
5.7	Poop Deck and Accommodati	on Poom								
8001	PIC: Chief Officer	OH NOOHI								
030	c. cinci officei									
330	To be provided labour, necess	ary tools. ventilatio	n, and li	ghting to acco	mplish the following	ng works:				
	- Renew spill box P/S size : 140	-			-	J 21.101				
	- Renew mess room vinyl size			1 X 00 111111 - 0 3						
	- Renew Bathroom and Toilet			Sizo 1660 mm	v 622 mm = 4 cot					
						.5.				
	- Renew Toilet Door materia									
	- Renew Mess Room Door ou	it illaterial wood al	iu aiuiiii	illulli. 312e 10	00 111111 X 800 111111	- 1 3613				
	C	d			_					
	- Service door gang crew inclu	•		•						
	- Service door gang Officer inc	lude renew heavy a	inti-corr	osive door = 2	pcs.					
	Realisasi :									
	Perbaikan oil spill box P/S di P	oop Deck, sbb :)	
	- Ketok spill box						6 Uni)	
	 Dempul spill box yang berl 	ubang					6 Uni	t)	
	- Sandpaper spill box						6 Uni)	
	- Fiber Spill box	190 cm	Х	50 c	m x 7	lapis	3 Uni	t)	
	- Fiber Spill box	150 cm	х	50 c	m x 7	lapis	2 Uni	t)	
	- Fiber Spill box	150 cm	х	80 c	m x 7	lapis	1 Uni	t)	
	- Fiber pipa Ø 2,5"		х	50 c	m x 4	lapis	6 Uni	t)	
	- Fiber pipa Ø 3"		х	50 c	m x 4	lapis	6 Uni	t)	
	- Fiber pipa Ø 2,5"		х	100 c	m x 4	lapis	3 Uni	t)	
	- Fiber pipa Ø 3"		x	100 c		· lapis	3 Uni		6	
	- Fiber pipa Ø 5"		x	70 c		· lapis	1 Uni		6	
	- Pasang stop kran sipll box	di poop deck				•			ĥ	
	- Sock drat				x 1	/2"	2 bua	ıh	Ĺ	
	- Ball valve stainless					, /2"	2 bua)	Selesai
	Ganti baru vynil massroom, sb	bb:							þ	
	- Vynil				40 m²)	
	Action)	
	- Asistensi :								P	
	> Deck composit								P	
	> Bongkar cor semen)	
	> Pasar cover plastik)	Selesai
	Parhaikan nintu 2 kamas s	di & massras								
	Perbaikan pintu-2 kamar man	uı & messroom					e k 1	(In m.)	ľ	
	- Pintu kamar mandi					X	5 buah	(lama)	P	
	Pintu mess room					X	1 buah	(lama)	P	
		to a				X	6 buah	(lama)	i\	
	 Bongka pasang handle pin Ganti baru rangka & dindir 					^	O Duaii	(iaiiia))	

			J	ob Descr	iption						Keterangan
	- Lapis pintu dg galvalum		70 x 170 c	m x 2 la _l	ois		х		5 buah)	
			80 x 170 c				x		1 buah	ń	
	- Cat pintu						x		6 buah)	Selesai
5.8	Boat Deck, Bridge Deck, and Naviga	tion Deck								,	
201064	PIC: Chief Officer)	
	To be provided labour, necessary to	ols, ventilatior	n, and lightin	ng to acco	omplish tl	ne following	works:)	
	- Check and repair provision store cr		, 0	Ü	•	J				ý	
	- Renew Filter exhaust officer's WC o		mm x 1 set							ý	
	- Renew antenna pipe support for ca	able MF/HF tr	ansmitter siz	ze diam.	2 inch x	1000 mm.)	
	- Service electric compressor of whis)	Batal
	Realisasi :										
	Bongkar Ganti baru Eye Plate provisi	on store cran	e)	
	- Bongkar mata rantai dia.		3/4"	х		1 buah	(lama))	
	- Pasang baru bul)	
	Plat)	
	120	x	100) x	14	mm x	1 bua	ah)	
	Sepatu)	
	130	x	50	Эx	14	mm x	1 bua	ah	(lama))	Selesai
	Ganti baru filter ventilasi WC, sbb :									ļ	
	- Kawat kassa		155	¥		1 buah				ľ	
	- Flange dia.		155			4 mm x	2 bua	ah		ľ	
	- Lubang dia		6 mm	X		8 buah	2 500			ľ	
	- Mur baut SS dia.		M8	x		4 buah				ľ	Selesai
										ĺ	
	Bongkar ganti baru pondasi antena I	MFHF navigasi			4.400)	
	Pipa sch.40 dia.		1"	Х	1400	mm	x	1	buah)	
	- Tutup pipa	v	60		0	mm	v	1	huah	ľ	
	60	х	60	Х	8	mm	х	1	buah)	
	- Pipa sch.40 dia.		1 1/4"	x	1200	mm	x	1	buah)	
	- ubolt dia		1 1/2"	х				1	buah)	
	- Besi esser dia		19 mm	x	240	mm	x	1	buah)	
			19 mm	x	80	mm	х	1	buah)	Selesai
	Asistensi connect disconnect kabel a	intena									
5.10	Tank Coating No. 1 (P/S) and No. 2	(P/S) Void Spa	ice Tanks)	
285053	PIC: Chief Officer)	
	To be provided labour, necessary to	•		_	•	ne following	works:)	
	 To be opened manhole, cleaned manhole 	anually, and p	repared for		oection.)	
			F00)	
	- To be carried out chipping inside vo		-							1)	
	- To be disposed to the ashore the ex	xcessive mud	and scale are	ound 2 to	on.					ľ	
	- To be disposed to the ashore the es	xcessive mud and dust prio	and scale ard	ound 2 to coating		r ellanlıv))	
	- To be disposed to the ashore the ex- - Clean tank top from any scale, rust - To be applied full coat 2 times appl	xcessive mud and dust prio lication on tan	and scale ard r application k top by spe	ound 2 to coating cial pain	t (owne	r supply),)) (
	 To be disposed to the ashore the ex- Clean tank top from any scale, rust To be applied full coat 2 times applied in the structed upon determining Spread in the structed upon determining Spread 	xcessive mud and dust prio lication on tan ecification o	and scale ard r application k top by spe n site appl	ound 2 to coating cial pain rox 700	t (owne	r supply),	1 x FC))) (
	- To be disposed to the ashore the ex- - Clean tank top from any scale, rust - To be applied full coat 2 times appl	and dust prio ication on tan ecification o de 500 mm fro	and scale ard r application k top by spe n site appl om tank top	ound 2 to coating cial pain rox 700	t (owne 0 sqm.		1 x FC)	Batal
E 42	 To be disposed to the ashore the exception. Clean tank top from any scale, rust To be applied full coat 2 times applied as instructed upon determining Sp To be applied coating on vertical sides. To be reinstalled manhole cover us 	and dust prio ication on tan ecification o de 500 mm fro ing new rubbe	and scale ard r application k top by spe n site appl om tank top	ound 2 to coating cial pain rox 700	t (owne 0 sqm.		1 x FC))))	Batal
5.12	- To be disposed to the ashore the ex Clean tank top from any scale, rust - To be applied full coat 2 times applied in the substitution of the	and dust prio ication on tan ecification o de 500 mm fro ing new rubbe	and scale ard r application k top by spe n site appl om tank top	ound 2 to coating cial pain rox 700	t (owne 0 sqm.		1 x FC)))))	Batal
5.12 L55056	- To be disposed to the ashore the ex Clean tank top from any scale, rust - To be applied full coat 2 times appl as instructed upon determining Sp - To be applied coating on vertical sic - To be reinstalled manhole cover us Cargo Pressure Tanks for Class Surve PIC: Chief Officer	and dust prio ication on tan ecification o de 500 mm fro ing new rubbe	and scale ard r application k top by spe n site appl om tank top	ound 2 to coating cial pain rox 700	t (owne 0 sqm.		1 x FC)	Batal
	- To be disposed to the ashore the ex Clean tank top from any scale, rust - To be applied full coat 2 times appl as instructed upon determining Sp - To be applied coating on vertical sid - To be reinstalled manhole cover us Cargo Pressure Tanks for Class Surve PIC: Chief Officer Cargo Tanks No.1 dan No.2 specificate Company Tanks No.1 dan No.2 specificate - Class Surve Cargo Tanks No.1 dan No.2 specificate - Class Surve - Cargo Tanks No.1 dan No.2 specificate - Class Surve - Cargo Tanks No.1 dan No.2 specificate - Class Surve - Cargo Tanks No.1 dan No.2 specificate - Class Surve - Cargo Tanks No.1 dan No.2 specificate - Class Surve - Cargo Tanks No.1 dan No.2 specificate - Class Surve - Cargo Tanks No.1 dan No.2 specificate - Class Surve - Cargo Tanks No.1 dan No.2 specificate - Cargo Tanks No.2 specifi	and dust prio ication on tan ecification o de 500 mm fro ing new rubbe	and scale ard r application k top by spe n site appl om tank top	ound 2 to coating cial pain rox 700	t (owne 0 sqm.		1 x FC))))))	Batal
	- To be disposed to the ashore the ex Clean tank top from any scale, rust - To be applied full coat 2 times appl as instructed upon determining Sp - To be applied coating on vertical sid - To be reinstalled manhole cover us Cargo Pressure Tanks for Class Surve PIC: Chief Officer Cargo Tanks No.1 dan No.2 specificat Cargo Type: Liquified Petroleum Gas	and dust prio ication on tan ecification o de 500 mm fro ing new rubbe ey	and scale ard r application k top by spe n site appl om tank top	ound 2 to coating cial pain rox 700	t (owne 0 sqm.		1 x FC)	Batal
	- To be disposed to the ashore the ex Clean tank top from any scale, rust - To be applied full coat 2 times appl as instructed upon determining SP - To be applied coating on vertical sidents - To be reinstalled manhole cover us Cargo Pressure Tanks for Class Surve PIC: Chief Officer Cargo Tanks No.1 dan No.2 specificate Cargo Type: Liquified Petroleum Gas Containment Type: Independent Type	and dust prio ication on tan ecification o de 500 mm fro ing new rubbe ey ation:	and scale ard r application k top by spe n site appl om tank top	ound 2 to coating cial pain rox 700	t (owne 0 sqm.		1 x FC				Batal
	- To be disposed to the ashore the ex Clean tank top from any scale, rust - To be applied full coat 2 times appl as instructed upon determining Sp - To be applied coating on vertical sid - To be reinstalled manhole cover us Cargo Pressure Tanks for Class Surve PIC: Chief Officer Cargo Tanks No.1 dan No.2 specificat Cargo Type: Liquified Petroleum Gas	and dust prio ication on tan ecification o de 500 mm fro ing new rubbe ey ation:	and scale ard r application k top by spe n site appl om tank top	ound 2 to coating cial pain rox 700	t (owne 0 sqm.		1 x FC				Batal
	- To be disposed to the ashore the ex- Clean tank top from any scale, rust To be applied full coat 2 times applied in the substituted upon determining SP To be applied coating on vertical site. To be reinstalled manhole cover us Cargo Pressure Tanks for Class Survey PIC: Chief Officer Cargo Tanks No.1 dan No.2 specificate Cargo Type: Liquified Petroleum Gast Containment Type: Independent Type Maximum Cargo Pressure: 18.0 bar	and dust prio ication on tan ecification o de 500 mm fro ing new rubbe ey ation:	and scale ard r application k top by spe n site appl om tank top	ound 2 to coating cial pain rox 700	t (owne 0 sqm.		1 x FC))))))))	Batal
	- To be disposed to the ashore the ex- Clean tank top from any scale, rust To be applied full coat 2 times applied in the substituted upon determining SP To be applied coating on vertical site. To be reinstalled manhole cover us Cargo Pressure Tanks for Class Survey PIC: Chief Officer Cargo Tanks No.1 dan No.2 specificate Cargo Type: Liquified Petroleum Gast Containment Type: Independent Type Maximum Cargo Pressure: 18.0 bar	and dust prio ication on tan ecification ode 500 mm fro ing new rubbe ey etion: s pe C	and scale ard r application k top by spe en site appr om tank top er joint and e	ound 2 to a coating ecial pain rox 700 existing r	t (owne 0 sqm. uuts as pe	r O/S Instruc	1 x FC				Batal

No./A/C	Job Description	Keterangan
	- To be carried out Non-Destructive test. (UT Flow) 12 sheet)
	- To be carried out pressure relief cargo tank quick closing shut off valve including fail closing system.)
	- To be carried out performance test for mechanical ventilation system around cargo area.)
	- To be carried out gas detector test on alarm system.) Batal
5.13	Air Pressure Test for Cargo Tanks)
155056	PIC: Chief Officer)
	To be provided labour, necessary tools, ventilation, and lighting to accomplish the following works:)
	- To be carried out air pressure test for No. 1 and No. 2 Cargo Tank.)
	- To be carried out Cargo Line Air Test.) Batal
5.14	Air Pressure Test Pipelines_	1
155056	PIC: Chief Officer)
133030	To be provided labour, necessary tools to accomplish the following works:)
	To be provided labour, necessary tools to decomplish the following world.)
	- To be carry out air pressure test for existing cargo line and valve in way of pneumatic pressure test 10 kg/cm ² .)
	Cargo Line pressure test certificate to be issued.)
	- To be carry out air pressure test for bunker line in way of pneumatic pressure test 10 kg/cm².)
	Bunker Line pressure test certificate to be issued.)
	- To be carry out Popping test of safety relief valves on cargo tanks and cargo lines (should indicated each serial number of)
	safety valves in the certificates))
	- To be provided connecting and disconnecting air pressure and installed temporary blank flange as necessary.) Batal
5.15	Purging / Gassing Up of Cargo Tanks and Cargo Pipeline)
146002	PIC: Chief Officer)
146003	Burging N. above pressure tank and cargo pineline with N. (Nitrogen Gas.) before starting but works for)
	- Purging N_2 above pressure tank and cargo pipeline with N_2 (Nitrogen Gas), before starting hot works for gas free and submit record certificate arranged by yard or later as instructed.)
	- Purging to be carried out at alongside berth. The N2 tank lorry can enter yard and stay alongside of the vessel)
	Near the vessel manifold.)
	- NOTE: Purging process may cause bad smell at area near vessel.)
	- Existing manhole to be opened up for 2 in no cargo tanks and installed later in position with use new teflon)
	packing on completion to protect manhole, nut, and bolt with use putty to service existing bolt and nut)
	M36 x 24 pcs / tank manholes.)
	- On completion for working on cargo tanks and after ensuring air tightness of)
	manhole by air pressure test 6.8 kg/cm 2 , the tank shall be air purged with inner gas (N_2))
	for releasing oxygen (O_2) .)
	- To be installed staging internal cargo tanks for purpose cleaning and removed cargo pump)
	for internal inspection by Class Surveyor.)
	- To be removed staging upon completion, provided maintain lighting and ventilation internal cargo tanks)
	during work and internal inspection period included electric power consumption.)
	- To be collected debris / remains and disposed to shore.)
	- To be carried out air pressure test as instructed by Class Surveyor, 18.0 kg/cm ² ,) \
	and installed temporary blank flange as necessary.) \
	 4 in nose pressure relief valve on top of each cargo tanks 125A @ 150A to be opened completely for Class Survey. To be transported to workshop, overhauled, grinded in valve seat, and cleaned.))
	After completed, to be reassembled as original, used new packing, carried out pressure test 2 in))
	nose 18.0 kg/cm², and 2 in nose 6.3 kg/cm². Existing bolt and nut to be renewed as necessary and protected)
	by putty. Indicating panel above each tank and whell house for safety valve to be serviced and calibrated)
	by maker specialist. To be provided certifcate.)
	- 8 in nose pressure relief valve cargo tanks 80A set, pressure 20.0 kg/cm² to be opened completely)
	for Class Survey. To be transported to workshop, overhauled, grinded in valve seat, and cleaned)
	after inspection. To be assembled as original use new packing and carried out return back to ship)
	for installing in position. Existing bolt and nut to be renewed as necessary and protected by wax.)
	Size = 25A x 5 pcs; size = 50A x 2 pcs; size = 80A x 1 pc.)
	- 2 in nose attached globe valve 150A for safety valve. 2 in nose rrot valve of th elow pressure safety valve 150A)
	to be opened up completely for Class Survey. To be transported to workshop, overhauled,)
	grinded in valve seat, and cleaned after inspection.)
1	To be transported to workshop, overhauled, grinded in valve seat, and cleaned after inspection.	ן

/A/C				Job Desc	ription						Keterangar
J	To be assembled as original use nev	v packing and	carried ou	t return l	oack to sl	nip for installi	ng in po	sition.)	
	Existing bolt and nut to be renewed	as necessary	and prote	cted by w	ax.)	
	1 L no flame arrester to be removed	d and opened	up for Clas	s Survey	later inst	talled in posit	ion as o	riginal)	
	use new packing.)	
	- To be fitted on top of dome of each	cargo tank: 4 i	in nose slip	tube ty	oe level g	auge for each	n cargo	tank.)	
	Maker: Nakakita Saisaki, Co., Ltd.)	
	No. 1 from bottom su 50 mm – 245	mm)	
	No. 2 from bottom su 2,010 mm – 4	,030 mm)	
	No. 3 from bottom su 3,995 mm – 6	5,015 mm)	
	No. 4 from bottom su 5,980 mm – 8	3,000 mm)	
	- To be opened up completely for Cla	ss Survey. To b	e transpo	rted to w	orkshop,	overhauled,)	
	grinded in valve seat, and cleaned a	fter inspection	n.)	
	To be transported to workshop, over	erhauled, grind	ded in valv	e seat, ar	nd cleane	d after inspe	ction.)	
	To be assembled as original use nev	v packing and	carried ou	t return l	oack to sh	nip for installi	ng in po	sition.)	
	To be tested and issued certificate,	existing bolt, a	and nut to	be renev	ed as ne	cessary and p	orotecte	d by wa	x.)	
	- To be provided 2 set of vacuum clea	ner and neces	sary labor	to cleani	ng tank r	no 1 and no 2.)	Owner
.17	Deck Machinery										
2001	PIC: Chief Officer and Chief Engineer										
	To be arranged Service Engineer with	=			service ar	nd inspect the	e Equipn	nent.			
	The work scope shall include but not	limited to the	followings	:							
L7.1	Windlass										
2001	(NO. 1 & 2 HYDR. PUMP FOR WINDLA	SS) CLASS SUF	RVEY								
	- To be opened up and renewed wind	lass brake lini	ng and fou	ındation i	ncluded	countersunk					
	brass bolt and nut with detail as foll	ows:									
	Brake Lining size: 6,000 mm x 130 n	nm x 12 mm, 6	sets.								
	Counter sunk screw and nut (brass)	: M8 x 50 mm,	, 400 sets.								
	- Opened hyd. Oil pump of windlass f	or visual class	survey and	d reassen	nble back	in good orde	er for Cl	ass Surv	ey.		
	To be submitted record completion	to install as or	riginal and	filled ne	w grease						
	- Renew Hydraulic pipe Windlass										
	Pipe Sch. 80 x 1 1/4" x 150 [mm] x 2										
	Flange hydrolis 1 1/4" 5K										
	Bolt & Nut										
	Oring										
	Sock Sleve 1 1/4"										
	- Recondition Jypsi anchor chain Por	t & Stb, due w	vorn out.								
	- To be carried out chain cable runnin	g test and bre	ak holding	test (P/S) and rer	ndering test w	vitnesse	d			
	by C/E and O/S.										
	- Certificate of Brake Test for windla	ss & Mooring	winches to	ho issue	nd.						
	certificate of brake rest for willald:	.s & Mooning	vinciies l	, DC 133UE	·u						
	Realisasi:								,		
	Ganti baru kampas pada tross tali kar	nan kiri, sbb :							(material supply dock))	
	- Kampas			_			_)	
	1450	X		5 x	14	mm x		buah	(atas))	
	1600	х		5 x	14	mm x		buah	(bawah))	
	- Mur baut perseng dia		JF M 8	Х		40 mm	X	180	buah	ľ	
	- Split pen dia		4 mm				Х	12	buah))	
	- Pelancaran pen as dan bronze pa	da kampas)	
	> Pen as dia		45 mm	X	120	mm x	8	buah)	
			35 mm	Х	88	mm x	4	buah)	
	> Bronze dia		65 mm	X	80	mm x	4	buah)	
	- Bongkar pasang handle kampas					Х	4	buah)	Selesai
	Ganti baru kampas rem windlass jang	kar kanan kiri,	, sbb :						(material supply dock))	
		• • •								ľ	

No./A/C				Job Desc	ription					Keteranga
	1450	х	12	5 x	14	mm x		2 buah	(atas))
	1600	х	12	5 x	14	mm x		2 buah	(bawah))
	- Mur baut JF kuningan dia		JF M 8	х		40 mm		x - 90	buah	6
	- Split pen dia		4 mm					x_ 6	buah)
)
	- Pelancaran pen as dan bronze pac	da kampas)
	> Pen as dia		45 mm	Х	120	mm x		4 buah)
			35 mm	Х	88	mm x		2 buah)
	> Bronze dia		65 mm	x	80	mm x		2 buah)
	- Bongkar pasang handle kampas					х		2 buah) Selesai
	Ganti baru pipa hydraulic, sbb :)
	- Pipa sch.80 dia.		1 1/2"	Х	2	00 mm		X	2 buah)
	- Flange dia.		1 1/2"	x		8 buah)
	- Lubang dia		1 1/2"	x		2 buah)
	- Packing oring			x	3 mm	x	6	buah)
	- Mur baut dia		5/8"	х	4"	х	24	buah)
)
	- Pipa sch.80 dia.		1 1/2"	Х		00 mm		Х	2 buah)
	- Pipa sch.80 dia.		1 1/2"	Х		00 mm		X	4 buah)
	- Pipa sch.80 dia.		1 1/2"	Х	1	00 mm		X	2 buah)
	- Doubling deck)
	Plat dia		1 1/2"	Х	10	mm x		1 buah)
	- Bongkar pasang lantai grating			Х		2 buah) Selesai
- 40	5 P 19 1 P 2 F 2 F 3 F 3 F 3 F 3 F 3 F 3 F 3 F 3 F									
5.19	Radio and Navigation Equipment)
14001	PIC: Chief Officer									(
	To be arranged Service Engineer with	-			service an	d inspect t	the E	quipment.)
	The work scope shall include but not l	imited to the	tollowings	:)
	- Gyrocompass & Autopilot;)
	Tokimec Inc Type: TG5000 (Gyrocom	pass), Tokime	c Type PR	-2000 (Aı	uto Pilot))
	Gyro compass & Auto pilot not worki	ng to be gene	eral checke	ed.)
	- Marine Radar No. 1; JRC JMA 5312 se	eries no.5543	62)
	To be general check performance tes	st.)
	- Marine Radar no. 2 JRC JMA 7252-6	series no. 558	38)
	To be general check)
	- Electro Magnetic Log ; Yokogawa De	nshikiki Co.,Lt	d, Type: El	ML 201-H	HSI)
	Not working To be checked and repa	ired)
	- Magnetic Compass; Tokimec Inc. Typ	e: SH-165A)
	To be carried out deviation correctio	n at sea trial b	y compas	s adjuste	r.)
	Certificate to be issued and submitte	d to the ship	master)
	- AIS (Automatic Identification System); Maker : S	IMRAD V	5035)
	To be general check.)
	- Weather Fax; JRC JAX-9A)
	Not working to be general checked u	p								6
	- Echosounder; JRC JFE -570S	•								6
	To be general checked up and calibra	ited.								ĺ,
	- GPS ; GPS Navigator model JLR-7500									Ĺ
	To be general checked up.									ĺ
	- Public Addressor; JRC NVA-1700mk I	I								<u>(</u>
	Tape and Radio not working, To be se		neral chec	ked un						ľ
	- Course recorder; Tokimec Inc ,Type :	_	.c.ui ciieci	cu up.						ľ
	• •	CIV-T								\ \
	To be general checked up.	_1850) \
	- VDR (Voyage Data Record) ; JRC JCY	-1020								ľ
	To be general check up.									ľ
	- Navigation light panel ; NUC Light no	t function								[]
	To be general checked and repair									[)
	 Wind indicator; Nippon Electric Instr 	ument								1)
	Speed Indicator to be check									ľ

A/C				Job Descrip
	- SSAS			
	- SSAS To be general cl	neck and renair		
	- LRIT	icon unu repail		
	To be general cl	neck and repair		
	- VHF (2 unit) ; J	-		
		d replaced anten	na by new one	
	To be general cl	-	-	
	- MF/HF ; JRC NO	· ·	RC NKG - 800	
	Power transmit	Error		
	To be service ar	d general checke	d up.	
	- Inmarsat C			
	JRC NDZ-127C			
	To be general cl	necked up.		
	- NAVTEX			
	JRC NCR-333			
	To be general cl	necked		
	- EPIRB			
	JOTRON			
	Need to Annual	Test and certifica	te to be issued	
	Cargo Equipmen	t (Class Survey)		
	PIC: Chief Officer			
	To be arranged S	ervice Engineer w	vith necessary tools	and material to se
	The work scope s	hall include but r	ot limited to the fol	lowings:
	1. Safety Valve F	or Cargo Tanks A	nd Pipe Lines	
	a.) Safety Relief	valves on cargo t	anks (pilot operated	l type)
				<u>,</u>
	27. 4.0	High Pressure	Middle Pressure	Low Pressure
	No. 1 Cargo		13.0 kg/cm2	6.2 kg/cm2
	Tank	(2 pcs)	(2 pcs)	(2 pcs)
	No. 2 Cargo	18.0 Kg/cm2	13.0 kg/cm2	6.2 Kg/cm2
	Tank	(2 pcs)	(2 pcs)	(2 pcs)
	Throat Dia: 135	mm Lift 74.3 mm		
	Nominal Dia : 6 -			
	NOTITIAL DIA . 6 -	0 111111		
	Total 12 safety re	diof valvos to bo r	omoved and transfe	orrod work shop or
	•		emoved and transfe	errea work snop or
	overhauled and o			
			middle / low pressu	ure test to be carri
	of Supt / Class su	rveyors.		
	b.) Safety valves	•		
			ved and transferred	
			or. And issue the ce	
	To be renewed p	acking and neces	sary packing to be p	rovided by dockya
	Size of safety val	e (Inlet x Outlet)	/ Pressure / Quantit	Ty .
	50 x 80 mm	/ 2	0 kg/cm2 / 1 set	
	25 x 50 mm	/ 2	0 kg/cm2 / 5 sets	
	Location of valve	s:		
	1 pc on Cargo m	anifold		
	3 pcs on cargo li	quid lines		
	1 pc on cargo re	•		
		rum (in cargo cor	npressor room).	
	r zook out u	(50. 80 601	,	
	Estimasi :			
	Estimasi :	-1 & COT-2		Snare na
	Estimasi : Loading Line COT - Globe valve 20k			Spare par

Check valve 20k-100	J	ob Description	Keterangan
	2	pcs	
Shut Down valve 20k-150	2	pcs	
Globe valve 20k-150	2	pcs	
Discharge Line COT-1 & COT-2			
Shut Down valve 20k-150	2	pcs	
Globe valve 20k-150	2	pcs	
Liquid Line COT-2 (Globe valve 20k-100)	1	pcs	
Suction Line COT-1 & COT-2			
Shut Down valve 20k-125	2	pcs	
Globe valve 20k-125	2	pcs	
Delivery Line COT-1 & COT-2 (Globe valve 20k-125) /apour Line	2	pcs	
Shut Down valve 20k-125	2	pcs	
Globe valve 20k-125	4	pcs	
Cargo Line	•		
Shut Down valve 20k-200	2	pcs	
Globe valve 20k-200	3	pcs	
Cargo Reheater Line	J	,	
Globe valve 20k-150	2	pcs	
Check valve 20k-150	1	pcs	
Globe valve 20k-100	1	pcs	
Globe valve 20k-200	2	pcs	
Globe valve 20k-40	2	pcs	
No.1 cargo tank: Top -1 pc / Middle -1 pc / Bottom -1 No.2 cargo tank: Top -1 pc / Middle -1 pc / Bottom -1 Spare Thermometer: 3 pcs (Top / Mid / Bot). Center Manifold: 1 pcs. Total: 10 pcs of thermometer gauges D.) Pressure Gauge No.1 cargo tank x 1 pc Spare pressure gauge x 1 pc)))))))
Total: 3 pcs of pressure gauges)) Batal
3. Cargo Monitoring Panel And Cargo Level Gauge (No.	.1 & No	o.2 Tanks))
			ľ
Makers: SATOH ELECT. CO,.LTD.)
Makers: SATOH ELECT. CO,.LTD. Following safety devices to be general checked each mo	nitorir	ng indication and issue Certificate.)
Makers: SATOH ELECT. CO,.LTD. Following safety devices to be general checked each mo a) Tank high temperature alarm (45 degrees)	onitorir	ng indication and issue Certificate.)))
Makers: SATOH ELECT. CO,.LTD. Following safety devices to be general checked each mo a) Tank high temperature alarm (45 degrees) b) Tank low temperature alarm (0 degrees)	onitorir	ng indication and issue Certificate.)))
Makers: SATOH ELECT. CO,.LTD. Following safety devices to be general checked each mo a) Tank high temperature alarm (45 degrees) b) Tank low temperature alarm (0 degrees) c) Cargo Tank high level alarm (10.64 m)))))
Makers: SATOH ELECT. CO,.LTD. Following safety devices to be general checked each mo a) Tank high temperature alarm (45 degrees) b) Tank low temperature alarm (0 degrees) c) Cargo Tank high level alarm (10.64 m) d) Cargo Tank high high level alarm (10.93 m) with ESD s)))))
Makers: SATOH ELECT. CO,.LTD. Following safety devices to be general checked each model of the same o)))))
Makers: SATOH ELECT. CO,.LTD. Following safety devices to be general checked each modal Tank high temperature alarm (45 degrees) Tank low temperature alarm (0 degrees) C) Cargo Tank high level alarm (10.64 m) d) Cargo Tank high high level alarm (10.93 m) with ESD selectory (10.95 m) C) Cargo Tank (Low side) pressure alarm (5.8 kg/cm2) C) Cargo Tank (High side) pressure alarm (17.6 kg/cm2)))))))
Makers: SATOH ELECT. CO,.LTD. Following safety devices to be general checked each model of Tank high temperature alarm (45 degrees) Tank low temperature alarm (0 degrees) Chargo Tank high level alarm (10.64 m) Chargo Tank high high level alarm (10.93 m) with ESD of Cargo Tank (Low side) pressure alarm (5.8 kg/cm2) Chargo Tank (High side) pressure alarm (17.6 kg/cm2)	shut-d))))))))))
Makers: SATOH ELECT. CO,.LTD. Following safety devices to be general checked each model and the safety devices to be general checked each model and the safety devices to be general checked each model and the safety devices are safety devices and the safety devices are safety devices and the safety devices and the safety devices are safety devices and the sa	shut-de	own.)))))))))))
Makers: SATOH ELECT. CO,.LTD. Following safety devices to be general checked each model of Tank high temperature alarm (45 degrees) Tank low temperature alarm (0 degrees) Chargo Tank high level alarm (10.64 m) Chargo Tank high high level alarm (10.93 m) with ESD of Cargo Tank (Low side) pressure alarm (5.8 kg/cm2) Chargo Tank (High side) pressure alarm (17.6 kg/cm2)	shut-de	own.))))))))))))
Makers: SATOH ELECT. CO,.LTD. Following safety devices to be general checked each model and the safety devices to be general checked each model and the safety devices to be general checked each model and the safety devices are safety devices and the safety devices are safety devices and the safety devices and the safety devices are safety devices and the sa	shut-do own discor	own.)))))))))))))

	Job Descrip				Keter
LEVEL SWITCH TYPE))
High lovel alone and high high love	. alauna ta ba tastad and aanfirms tha si		مرمور مرسم امسم)
	el alarm to be tested and confirm the si			•)
To be re-calibrated the level gauge	es float position and check the high high	i level allu iligii le	evei.) Ow
4. Cargo Re-Heater					
Maker : Fuji Car Manufacturing	5				
Surface area: 86.5 m2					
Type : Horizontal Shell / Tube					
a) Sea water side covers to be rem	loved with sea water nine				
b) Cleaned sea water tube inside.					
c) Pressure test to be carried out in	n the presence of Supt.				
Sea water side : 5 kg/cm2 by sea v					
Cargo side : 10 Kg/cm2 by Air or N					
d) Zinc plates to be replaced with i					
a, zine plates to be replaced with	new one provided by owner.				
Realisasi :					
Service cargo reheater (1 unit), sbl)
- Bongkar pasang :	(material lama))
> Cover cargo reheater dia	935 x 55 mm	X	1 buah)
> AS drat SS dia	M20 x 140 mm	X	27 buah)
> Mur dia	M20	X	54 buah)
> Angle valve dia	4" - 20 K x	1 buah			P
> Angle valve dia	1 1/2"-10 x	2 buah			ľ,
> Safety valve dia	2" x	1 buah			<u>(</u>
> Pipa sch.40 dia.	6" x	500 mm	x	1 buah	,
> Flange dia	6" x	2 buah	^	1 50011	,
r lange ala	, , , , , , , , , , , , , , , , , , ,	2 Sudii			ĺ,
- Ganti baru :	(material supply dock))
> AS drat SS dia	M20 x 140 mm	x	1 buah)
> Mur dia	M20	x	2 buah)
> Packing tombo uk	935 x 1 mm	х	1 buah)
> Packing teflon pipa dia.	4" x	3 mm	×	2 buah)
r downing terrori pripa anar	1 1/2" x	3 mm	x	3 buah	<u>(</u>
	2" x	3 mm	x	2 buah	<u>(</u>
> Mur baut dia.	5/8" x	2" x	36 buah	2 556	ĺ,
	-,	•)
> Packing teflon pipa dia.	6" x	3 mm	x	2 buah	þ
> Mur baut SS dia.	M22 x 90 mm	х	23 buah)
> AS drat SS dia	M20 x 120 mm	X	1 buah)
> Mur dia	M20	x	2 buah)
- Cleaning pipa cubing)
Pipa dia.	26 – 20 x	3500 mm	x	446 buah)
- Dilaksanakan hdyrotest dg teka	anan 20 kg)
> Alat bantu hydrotest)
Plat dia	310 x 12 mm	х	1 buah)
	125 x 12 mm	х	3 buah)
	225 x 12 mm	х	1 buah)
Lubang		x	6 buah		<u></u>
Packing karet dia	310 x 4 mm	x	1 buah		6
5	125 x 4 mm	x	3 buah		ľ,
		.,			ľ.
	225 x 4 mm	X	1 buah) Sel

No./A/C			Job Descr	iption						Keteranga
	Type : Electric Motor Driven Deep well pun	np)
	Model : 14M-160-4 + 1									6
)
	a) To be checked mechanical seal condition	and replace in for	und any de	efective.)
	b) Cargo pump motor No.1 & No.2 to be ch	ecked and chemic	ally cleani	ng electri	cal win	dings.) Batal
	6. Liquid line pipe and vapour line pipe to	be Hydrostatic pre	essure test	20kg/cn	n2 for c	argo line	-)
	and issued certificate.) Owner
6	ENGINE DEPARTMENT									
6.1	Main Engine Plant)
	PIC: 2 nd Engineer, Chief Engineer, an	d Technical Suլ	perintend	lent)
)
	Maker: AKASAKA DIESEL CO,.LTD)
	Model: 6UEC-37LA)
	Engine Number: 37231)
	Cylinder Bore: 370 mm Max Continuous Rating: 3089 kW									K
	Number of Cylinders: 6									K
	Piston Stroke: 880 mm									ľ,
	Revolutions at MCR: 210 rpm									K
	TOTALIONS OF WICH, 210 I PIN									6
	To be provided labours, necessary tools, ar	nd material to acco	mplish the	e followir	ng work	s:) Owner
		ia material to acce			.6					,
6.1.1	M/E Air Intercooler (601055)									
	To be open up cover of ME Air cooler									
	- To be opened up and transported to work	shop for chemical	ly cleaning	water a	nd air si	de.				
	- To be opened up both covers and applied	•	-							
	- To be renewed Zinc Anode upon complet	•			ed out	hydrostat	tic			
	pressure test 7 kg/cm² witnessed by C/I		J			,				
	3,									
	Realisasi :									
	Service & overhaul air intercooler ME (1 u	nit), sbb :)
	- Bongkar pasang (ma	terial lama))
	> Mur cover kanan kiri		M16				х	60	buah)
	> Cover atas						х	1	buah)
	> Baut cover atas		M16	х	55 m	ım	х	32	buah)
	> Cover bawah						х	1	buah)
	> Mur cover bawah		M16	х	90 m	nm	х	32	buah)
)
	- Ganti baru : (sup	ply dock))
	> Zinc anode pada cover						x	13	buah)
ı	· Ziiio diiode pada cover				5 mn	n	х	2	buah)
	> Packing karet									
	•				1 mn		x	2	buah)
	> Packing karet	ir tawar/sirkulasi					x	2	buah)
	> Packing karet > Packing tombo						X	2	buah)))
	> Packing karet > Packing tombo - Perendaman air cooler dg chemical & a						x	2	buah)))
	 > Packing karet > Packing tombo - Perendaman air cooler dg chemical & a - Pembersihan/pelancaran kisi-2 & pipa o 						x	2	buah))))
	 > Packing karet > Packing tombo Perendaman air cooler dg chemical & a Pembersihan/pelancaran kisi-2 & pipa o Rekondisi cover intercooler yg pecah Hydro test tekanan 0.2 – 0.3 bar/4 kg, s 	cubing yg buntu bb :			1 mn	n			buah presan hydro test)))))
	 > Packing karet > Packing tombo Perendaman air cooler dg chemical & a Pembersihan/pelancaran kisi-2 & pipa o Rekondisi cover intercooler yg pecah Hydro test tekanan 0.2 – 0.3 bar/4 kg, s > Plat 	bb:	x	620	1 mn	n	t u/	penge 2	presan hydro test) buah)))))
	 > Packing karet > Packing tombo Perendaman air cooler dg chemical & a Pembersihan/pelancaran kisi-2 & pipa o Rekondisi cover intercooler yg pecah Hydro test tekanan 0.2 – 0.3 bar/4 kg, s > Plat > Bor lubang plat dia 	cubing yg buntu bb : 1230 20 mm			1 mn	n t baru ala 14 mm	t u/	penge 2 64	presan hydro test) buah buah))))))
	 > Packing karet > Packing tombo Perendaman air cooler dg chemical & a Pembersihan/pelancaran kisi-2 & pipa o Rekondisi cover intercooler yg pecah Hydro test tekanan 0.2 – 0.3 bar/4 kg, s > Plat 	bb:		620 620	1 mn	n t baru ala 14 mm	it u/ x	penge 2	presan hydro test) buah))))))) Selesai
	 > Packing karet > Packing tombo Perendaman air cooler dg chemical & a Pembersihan/pelancaran kisi-2 & pipa o Rekondisi cover intercooler yg pecah Hydro test tekanan 0.2 – 0.3 bar/4 kg, s > Plat > Bor lubang plat dia > Packing karet 	bb: 1230 20 mm 1230			1 mm (bua x	t baru ala 14 mm 5 mm	t u/ x x	penge 2 64	presan hydro test) buah buah)))))))) Selesai
	 > Packing karet > Packing tombo Perendaman air cooler dg chemical & a Pembersihan/pelancaran kisi-2 & pipa o Rekondisi cover intercooler yg pecah Hydro test tekanan 0.2 – 0.3 bar/4 kg, s > Plat > Bor lubang plat dia > Packing karet Ganti baru isolasi panas flexible air intercooler	bb: 1230 20 mm 1230	x	620	1 mm (bua x x (supp	n t baru ala 14 mm	t u/ x x	penge 2 64	presan hydro test) buah buah))))))) Selesai
	 > Packing karet > Packing tombo Perendaman air cooler dg chemical & a Pembersihan/pelancaran kisi-2 & pipa o Rekondisi cover intercooler yg pecah Hydro test tekanan 0.2 – 0.3 bar/4 kg, s > Plat > Bor lubang plat dia > Packing karet Ganti baru isolasi panas flexible air intercooler ME	bb: 1230 20 mm 1230	x		1 mm (bua x x (supp	t baru ala 14 mm 5 mm	t u/ x x	penge 2 64	presan hydro test) buah buah))))))) Selesai)
	 > Packing karet > Packing tombo Perendaman air cooler dg chemical & a Pembersihan/pelancaran kisi-2 & pipa o Rekondisi cover intercooler yg pecah Hydro test tekanan 0.2 – 0.3 bar/4 kg, s > Plat > Bor lubang plat dia > Packing karet Ganti baru isolasi panas flexible air intercooler	bb: 1230 20 mm 1230	x	620	1 mm (bua x x (supp	t baru ala 14 mm 5 mm	t u/ x x	penge 2 64	presan hydro test) buah buah))))))) Selesai))
	 > Packing karet > Packing tombo Perendaman air cooler dg chemical & a Pembersihan/pelancaran kisi-2 & pipa o Rekondisi cover intercooler yg pecah Hydro test tekanan 0.2 – 0.3 bar/4 kg, s > Plat > Bor lubang plat dia > Packing karet Ganti baru isolasi panas flexible air intercooler ME	bb: 1230 20 mm 1230	x	620	1 mm (bua x x (supp	t baru ala 14 mm 5 mm	t u/ x x	penge 2 64	presan hydro test) buah buah))))) Selesai))) Selesai

No./A/C	Job Description	Keterangan
6.1.2	M/E Auxiliary Blower Exclude spare part)
	- To be overhauled the blower No. 1 and No. 2. Renew ball bearing and roller bearing.)
	- To be tested for balancing fan blade and recorded.)
	- To be cleaned Electro Motor and renew ball bearing for Electro Motor.)
	- To be checked Mugger Test and recorded.) Batal
6.1.3	M/E Governor (601088) Exclude spare part)
	To be arranged Service Engineer with necessary tools and material from maker's approved service center to)
	carry out overhaul of the Governor. The scope of work to include but not limited to the following: - To be brought to the workshop for maintenance and calibration purpose.) \
	- To be carried out running test during sea trial.	<i>,</i>)
	Note: The Renewal Parts must be confirmed by O/S.) Batal
6.1.4	M/E Safety Device (601068) Exclude spare part)
	- To be arranged expert or specialist company for maintenance and testing all safety device.)
	- To be carried out running test witnessed by C/E, O/S, and Class Surveyor.)
	- To be issued certificate as reported to Class Surveyor.) Owner
6.1.5	M/E Turbocharger (601053) Exclude spare part)
3.2.5	Maker: Mitsubishi Heavy Industries .,LTD	,)
	Model: MET 42SC)
)
	To be appointed an authorised service center to carry out overhaul of the Turbocharger :)
	- To be allowed for dismantling of the Turbocharger and removed of the rotor assembly to workshop)
	for cleaning and dynamic balancing.)
	- To be allowed for fly ash blasting of turbine blades and fairing of rotor blade tips if found bent.)
	- To be allowed filter casing and silencer to remove to workshop for steam or chemical cleaning. To be answed both air filter and silencer are completely dry before installing back.) \
	- To be ensured both air filter and silencer are completely dry before installing back. - To be removed nozzle ring. To be allowed for fly ash blasting of nozzle ring and the thoroughly inspected.))
	To be reported any defect to superintendent immediately. To be refittednozzle ring.	,)
	- To be carried out ultrasonic measurement of wall thickness around the cooling water space andpartition wall)
	and record all readings for future reference.)
	- To be reassembled M/E Turbocharger to original using bearings, Lub Oil Pumps, and sealingbushes (owner supply).)
	All necessary clearances and shaft deflections to be taken and recorded and witnessed by C/E.)
	- To be replenished Lub Oil Sump with ship supplied turbine oil to required level.)
	- To be reinstalled back all connections e.g. tachometer pick up, thermometers, etc.) Batal
6.1.6	Scavenger Unit & Vibration Damper.(crew) Exclude spare part)
3.2.0	To be clean scavenger unit and check vibration damper.) Batal
6.1.7	Starting and Reversing Unit.(CREW) Exclude spare part)
	To be check starting air unit.)
	To be check air distributor unit.) Batal
610	Starting and Dayorsing Unit (CDEW)	١
6.1.8	Starting and Reversing Unit.(CREW) Exclude spare part To be CHEMICAL clean OF cyl head & cylinder block no 1,2,3,4,5 and 6.)) Batal
	To be entermed a clean on cynnical ac cynnich block no 1,2,0,7,0 and 0.	, Datal
6.1.9	Main Engine :)
	Overhaul ME Cylinder No.5 and renew Cylinder Liner and O ring.) Owner
6.2	Auxiliary Engine Plant no 1 & 2 Exclude spare part)
	PIC: 2 nd Engineer)
	Maker: Yanmar) \
	Type: S165L-UN X 400 KVA x 2	<i>,</i>)
	No. of cylinder / bore / stroke: 6 x 165 mm x 210 mm	,)
)
	To be provided labours, necessary tools, material, cranage, and transportation to accomplish the following works.)
	To be arranged Maker's Service Engineer to supervise the entire overhaul. Service Engineer attendance)
•		

No./A/C				Job Desc	ription						Keterangan
	cost to be included in the yard's qu	iotation.)	Owner
6.2.1	Auxiliary Engine No. 1, No. 2 Exclude spare part)	
	- To be checked condition and timing of camshaft for valve and fuel injection pump, renewed if necessary.)	
	- To be measured and recorded all	unit and taken pi	cture for	evidence)	
	- To be renewed LO carter and clea	aned crankcase fo	r all G/E.)	Batal
6.2.2	A/E Air Cooler				Exclude sp	are nart					
0.2.2	- To be opened up and transport to	workshop for ch	emically (cleaning	-	-					
	- To be opened up both covers and	-	-	_		5.00.					
	- To be renewed zinc anode, upon				al						
	- To be carried out hydrostatic pre	•		_							
	Realisasi :										
	Service & overhaul air cooler AE ka)	
	- Bongkar pasang	(material lam	•)	
	> Mur baut pondasi		M16	Х	50 mm	Х	4 buah)	
	> Cover kanan kiri					Х	4 buah)	
	> Baut cover kanan kiri		M10	X	25 mm	х	52 buah)	
	> Cover atas bawah				_	x	4 buah)	
	> Mur coover atas bawah		M12	Х	25 mm	х	52 buah)	
	- Ganti baru :	(supply dock)))	
	> Zinc anode pada cover	,		х		8 buah				5	
	> Packing karet		4 mm	х		4 buah)	
	> Packing tombo		2 mm	х		4 buah)	
	- Perendaman air cooler dg cher	nical & air tawar/s	sirkulasi)	
	- Pembersihan/pelancaran kisi-2)	
)	
	- Hydro test tekanan 0.2 – 0.3 ba	nr/3 kg, sbb :				(buat baru a	alat u/ pengep	resan hy	dro test))	
	> Plat	450	х	310	х	12 mm	x	2	buah)	
	> Bor lubang plat dia	12 mm					x	44	buah)	
	> Packing karet	450	х	310	х	4 mm	x	2	buah)	
	> As drat			M10	х	500 mm	x	8	buah)	
	> Mur & ring plat			M10			x	32	buah)	Selesai
6.2.3	A/F Alternator No. 1 and No. 2 (8)	51011)			Evclude sn	are nart				,	
	A/E Alternator No. 1 and No. 2 (861011) Model: SHINKO TVLI-GJ-605)	
	Maker: SHINKO ELECTRIC)	
	- To be checked and cleaned Altern	nator by electric cl	leaner, re	furnishe	d if necessa	ry.)	
	- To be checked condition of Altern	nator bearing, ren	ewed if n	ecessary.)	
	- To be checked and tested safety device for Alternator and recorded for all jobs										Batal
634	A/E Safety Device (651068)				ل <i>د</i> ام	auo nt					
6.2.4	- To be arranged expert or speciali	st company for m	aintenan	e and to	Exclude sp sting all saf	-				ľ	
	- To be arranged expert or speciali				•	•	to and record	ed		ľ	
	- To be checked and tested an safety de	•		ac done	I COUIL E	,coa in orael	and record	.u.		ľ	
	Note:	any once to								ľ	
	All parts renewed to be subjected	to O/S approval a	nd spare	stock fro	m ship to b	e utilized.)	Owner
6.2.5	Exhaust Gas Turbocharger No. 1,2	, (Type: RU110-1	<u>A)</u>		Exclude sp	are part)	
	- Dismantling and draw out rotor	ine nozzlo ring ca	d cacina							ľ	
	- Cleaned rotor turbine blade, turb	ilie ilozzie ring an	u casing							ľ	
	Renew inner part (yard supply)Balancing, measure and record or	ficlearance								ľ	Batal
	balancing, ilicasure dilu record 0	deardille.								ľ	Datai
6.2.6	Governor				Exclude sp	are part)	
	Governor no 1, 2 to be sent to spe	cialist company fo	r service	and calib	ration .The	parts renewe	ed)	
1	should be confirm by OS.On Comp	letion to re-install	l in origin	al conditi	on , runnin	g test witness	by CE or OS)	

No./A/C	Job Description	Keterangan
	Safety equipments install, governor servomotor and synchronizing system should be test and adjusted)
	for class surveyor inspection .On completion to issued certificate.) Batal
6.2.7	LO and FW Attach Pump Exclude spare part)
	- To be overhaul LO & HT Attach Pump)
	- Renew ball bearing, mechanical seal. On completion, rectors as original condition and doing running test.))
	- On completion, restore as original condition and doing running test.) Owner
6.3	Steering Gear	
403001	PIC: 2 nd Engineer)
	Exclude spare part)
	To be provided labors, necessary tools, materials, transportation, and all necessary accessoriesworks)
[to carry out the following works:)
[- To be isolated power supply. To be removed cable to electric motor. To be disconnected suctionand)
[delivery connections. To be removed mounting bolts for motor pump unit and then placeaside.)
	To be uncoupled pump from electric motor. To be pumped then to strip down completely. To be cleaned all parts for inspection. To be checked drive and driven gear teeth surfaces.	y)
[- To be cleaned all parts for inspection. To be checked drive and driven gear teeth surfaces. To be checked bearing metals and bearing housing for abnormal wear. To be checked drive and	ľ)
	drivenshafts for flaws on sliding surface. To be checked pump casing for erosion wear.))
1	- To be reassembled pump in reversed order with new jointing. To be coupled back motor and pump unit.)
	To be remounted and secured motor pump unit. To be coupled back motor and pumpcoupling.)
	To be reconnected suction and delivery connections.)
	- To be reconnected cable to electric motor. To be re-established power supply.)
	- To be removed all dust and dirt accumulated in the pump starter panel.) \
[To be got service allmagnetic contactors and tighten all terminal connections. To be refilled system oil, tested numb, and confirmed operation is satisfactory.	γ \
	- To be refilled system oil, tested pump, and confirmed operation is satisfactory. To be simulated low level alarm in hydraulic oil tank and confirmed activation of the safematic valve system,	γ)
	visual and audible alarm.	r)
	- To be checked, calibrated, and tested Safety Device.) Batal
6.4	Engine Room Pumps Exclude spare part	
800001	PIC: 2 nd Engineer	
	To be provided labours, necessary tools, and material to accomplish the following works:	
	- To be removed from bed plate, bring to the workshop, overhauled completely, and measured clearance.	
	- To be conducted wearing down parts that renewed as confirmed by O/S.	
	- To be checked, measured, and recorded clearance of mouth ring, impeller, ball bearing and bushing metal.	
 	To be renewed spare parts as necessary.	
 	- To be restored as original condition on completion and carried out running test witnessed by C/E and O/S To be submitted record for Class Surveyor.	
	To be submitted record for class surveyor.	
	The pumps below shall be carried out the above job standards:	
	Centrifugal Pump	
	6.6.1-1. Main Cooling SW Pump No. 1	
	6.6.1-2. M/E FW Cooling Pump No. 1 and No. 2	
	6.6.1-3. SW Service Pump	
	6.6.1-4. Fire & GS Pump	
	6.6.1-5. Fire & Bilge Ballast Pump	
	6.6.1-6. FW Service Pump no 1 and 2 6.6.1-7. IGG Cool SW Pump	
		
	screw and Gear Pump	
	6.6.2-1. Main Engine LO pump	
	6.6.2-2. Main Engine FO supply Pump	
	6.6.2-3. Heavy FO transfer pump	
	6.6.2-4. DFO Transfer Pump	
	6.6.2-5. LO Transfer Pump 6.6.2-6. Cyl.Oil Transfer Pump	
∎ İ		·

6.6.2-7. Sludge Pump				
o.o.z-7. Siduge Pullip				
Realisasi :				
Service main cooling SW pump 1 unit,	sbb:)
- Bongkar pasang :	(material lama))
> Pompa & electro motornya)
)
- Ganti baru :	(material dock)		4 housely)
> Baut SS pompa		X	4 buah	,
> Baut copel elmot & pompa		X	4 buah	,
> Baut tutup pompa	470 40	x	4 buah)
> Raimers packing uk	170 x 10 mm	X	buah	,
> Pressure gauge suction & discha	rge	x	2 buah)
> Oring		X	buah)
> Pipa tembaga		X	2 buah	ľ
- Rekondisi rumah pompa		x	buah	ľ
> Wire brush & pengecatan) Se
Service SW pump 1 unit, sbb :)
- Bongkar pasang :	(material lama)			5
> Pompa & electro motornya	,			Ď
)
- Ganti baru : > Baut SS pompa	(material dock)		6 buah)
> Baut SS pompa > Baut copel elmot & pompa		x		ľ
		x	4 buah buah	ľ
> Baut tutup pompa	170 x 10 mm	X	buan 5 buah	ľ
> Raimers packing uk		X	2 buah	ľ
> Pressure gauge suction & discha	ge	X		ľ
> Oring		X	buah	ľ
> Pipa tembaga	252	x	2 buah)
> As pompa material stainless	250 mm x Ø 33		1 unit	
- Rekondisi rumah pompa		х	buah)
> Wire brush & pengecatan) Se
Service fire & GS pump 1 unit, sbb:				
- Bongkar pasang :	(material lama)			
> Pompa & electro motornya				
Contiboru	(material deals)			
- Ganti baru :> Packing tombo uk	(material dock) 100 x 3 mm	x	1 buah	
> Packing forms uk	400 x 4 mm	x x	1 buah	
> Raimers packing uk	12 mm	x x	1 buah	
> Baut SS pompa	12 111111	x x	10 buah	
> Baut SS pompa > Baut copel elmot & pompa		x x	4 buah	
> Baut coper ermot & pompa		x x	4 buan 2 buah	
	TGP.		2 buah	
> Pressure gauge suction & discha	8c	x	2 buan 1 buah	
> Bearing	10 mm x 155 mm	x		
> Pipa tembaga dia		x	2 buah	
> Neple drat pipa dia	10 mm	x	4 buah	
- Rekondisi spie impeller pompa		x	1 buah	
Rekondisi rumah pompaWire brush & pengecatan		х	1 buah	Se
> wire or usit & herigecarati				
Main Air Compressor	Exclude spar	e part)
PIC: 2 nd Engineer				þ
				<u>P</u>
To be provided laboure pecessary too	ls, and material to accomplish the following v	vorks:		1)

Type: SCION TF - To be overhauled Main Air Compressor No. 2)
l ''	1/
10 be overhauled island All Colliptessor No. 2	j,
- To be renew Piston Ring, Piston if necessary	j,
- To be renew cylinder liner.)
- To be changed or renewed all valves by spare.)
- To be renew LO Carter.)
- To be measure and record all units of parts and taken picture for evidence.)
- To be repair for Auto-Operation and Safety Device to be installed and tested for safetyoperation.)
- On completion to reassembled all components as original and carry out running test.) Owner
6.6 Main Air Reservoir	
731021 PIC: 2 nd Engineer	[
To be provided labours, necessary tools, and material to accomplish the following works:	
1. Main Air Reservoir No 1 & 2 Exclude spare part	[
Maker: Kanazawa CO, Ltd.	ľ
Specification: WP: 25 Kg/cm, Hydraulic TP: 48.5 bar, Capacity 1,100 liters	K
- To be opened up, checked, and cleaned inside part from sludge, and prepare for Class Surveyor inspec	ion.
To renew gasket door (yard supply).	ľ)
- To be lapping valve check, test, and record safety device as follows:	5
a.) Main valve 1 pc	j,
b.) Discharge valve 1pc	[
c.) Auto drain trap 2 sets.)
d.) Pressure reducing valve 2 sets, setting pressure = 9 kg/cm2.)
e.) Safety valve 2 sets, setting pressure = 33 kg/cm2.)
- To check and test auto-start and auto-stop for operation Main Air Compressor.)
- To be test Safety with pressure 33 kg/cm2 and witness by CE or OS)
- On completion, restore above as original.) Batal
2. Emergency Air Reservoir Exclude spare part	
Maker: YANMAR, Ltd.	K .
Specification: WP: 25Kg/cm2, Hydraulic TP: 48.5 bar, Capacity 100 liters)
	þ
- To be open up manhole)
- To be checked and cleaned inside part from sludge, tested pressure, and recorded by issuecertificate.)
Prepare for Class Surveyor Inspection.)
- To be renewed gasket manhole by yard supply.)
- To be open, lapping & service The following valves :	þ
a.) Main valve Globe valve	þ
b.) Drain valve	þ
c.) Manometer valve	<u> </u>
d.) Safety valve	<u>P</u>
- To be test Safety with pressure 7.7 kg/cm2 and witness by CE or OS)
- On completion, restore above as original.) Batal
3. Service Air Reservoir	
6.7 <u>Heat Exchangers</u> Exclude spare part	
PIC: 2 nd Engineer	j,
	þ
To be provided labours, necessary tools, and material to accomplish the following works:)
- To be open up and transported to workshop for cleaning chemically by using water and air side.)
- To be opened up both covers and applied apexior No. 3 to inner surface.	<u>)</u>
- To be renew Zinc Anode.	P
- To be restore above works as original upon completion.	P
- To be carried out hydrostatic pressure test 13.5 kg/cm2 witnessed by C/E and O/S.)
- To be loosen tightening nuts for pressure plate. To be shifted backward the pressure plates.	þ
	l)
To be removed cooler plate stack and send to authorized service center for cleaning and checking. Plates of cooler to soak in chemical (inhibited acid) bath to remove scale deposit	<u>[</u> '

No./A/C	Job Description	Keterangan
	and then washdown with fresh water. To be carried out crack test on each plates with dye penetrant under	<u></u>
	Uvlight inspection. To be checked and confirmed all gasket on plates are in good condition.	
	To berenewed gasket as necessary with (yard supply) material. To be delivered back onboard cooler plate	
	stacks. To be cleaned up the surface on the frame end plates, checked, and confirmed lining on)
	connections are in good condition and then reassemble plate stacks and pressure platesas original position.	
	- To carried out pressure test on the cooler and confirmed tightness.	5
	- To be Renew cover M/E LO Cooler cover Inlet side.)
)
	List of Heat Exchangers to be carried out scope of works above as follows:)
	- FO Heater for FO Purifier No. 1 & 2.)
	- Main FO Heater M/E.)
	- Heater FO settling tank.)
	- Heater FO service tank.)
	- Heater FO sludge tank.)
	- Air Conditioning Condenser.)
	- M/E Jacket FW Cooler And Repair Cover.)
	- M/E LO Cooler.)
	- Refrigerators Condenser and Repair Cover.) Batal
	MADDOL Smithman	
6.8 489087	MARPOL Equipments Exclude spare part PIC: Chief Engineer and Technical Superintendent) \
709007	To arrange maker's Service Engineer, Expert or specialist company with necessary tools and material to carry	ľ
	out general servicing and inspection of the equipment. The work scope shall include but not limited	,
)) Batal
	to the followings:) Batai
6.9.1	Incinerator Plant Exclude spare part)
	Maker: MIURA)
	Model: BGW-10)
	- To be check, clean, and re cemented wall inside burning chamber if necessary .)
	- To be check and cleaned condition of primary blower.)
	- To be repair or renew if necessary solenoid air valve for operating burning sludge.)
	- To be renew gasket for door chamber by shore supply.)
	- To be check and test safety device and record.)
	- To be renew solenoid valve for FO and check electric system) Batal
6.9.1	Oily Water Separator Exclude spare part	
	Maker: Taiko Kikai Industries,.Co Ltd	<u> </u>
	Type: MSC-10	ľ
	- To be Renew 1st Filter and 2nd Filter.	ľ
	- To be clean inside the Tube and Filters.	ľ
	- To be overhaul condition of bilge pump, overhaul if necessary.	ľ
	- To be check and test all alarm system and clean tube sensor for 15 ppm alarm.	ľ
	Callibration Certificate to be issued) Batal
6.9.3	Sewage System Plant Exclude spare part)
	Maker: Taiko Kikai Industries, Co., Ltd.)
	Type: SBT-25)
	- To be clean inside the tank by circulating SW or FW.)
	- To be overhaul of Ejector Pump and Discharge Pump.)
	- To be check and repair Auto-Operation for discharging Pump and Blowe) Batal
	Engine Room Tank Cleaning	
220056	PIC: 2 nd Engineer	
220057		
	To provide labour, necessary tools, ventilation, and lighting to accomplish the following works:	
	- To be opened up manhole.	
	- To be cleaned manually the below listed of tanks:	
ı I	to be deduced manually the below listed of tanks.	I

No./A/C	Job Description	Keterangan
	1) No. 1C FO Tank capacity 370 m3	
	2) No. 2C FO Tank capacity 96 m3	
	3) No 3C FO Tank capacity 94 m3	
	4) NO 4P,S FO Tank capacity 69x2 m3	
	5) NO 5P,S DO Tank capacity 72.98x2 m3	
	6) NO 6C DO Tank capacity 53.4 m3	
	7) Incinerator Waste Oil Tank capacity 1.0 m3	
	8) MDO Service Tank capacity 1.5 m3	
	9) MDO Settling Tank capacity 1.5 m3	
	10) Oil Bilge Tank capacity 12.4 m3	
	11) Scavenge Air Drain Tank capacity 4.0m3	
	12) Sludge Tank capacity 8.2 m3	
	13) Stuffing Box LO Drain Tank capacity 3.4 m3	
	14) G/E LO settling tank	
	15) M/E LO Settling tank	
	16) M/E LO Sump tank	
	17) Residue Oil Tank and check heater coil pipe.18) Bilge Tank and check heater coil pipe.	
	To be removed and disposed shore excessive mud around 250 litres totally.	
	To be prepared the above tanks for Class Survey.	
	To be prepared the above talks for class survey.	
	Realisasi :	
	- Cleaning bilge tank kap 12.4 m³ sebanyak 1 unit)
	- Final cleaning bilge tank kap 12.4 m³ sebanyak 1 unit)
	- Cleaning sludge tank kanan kap 8.2 m³ sebanyak 1 unit) Selesai
6.9	Electrical System Exclude spare part)
	PIC: Chief Engineer and Technical Superintendent)
)
	To arrange maker's Service Engineer, Expert or specialist company with necessary tools and material)
	to carry out general servicing and inspection of the equipment. The work scope shall include but not limited)
	to the followings:)
	1. Electric Panel Main Switch Board in Engine Control Room and Emergency Switch Board	,)
	in Emergency Generator Room Spare part supply owner)
	- The safety device of main switchboard to be check and maintenance by expert.)
	- The synchronizing , over current trip and release power check and test should be done witness)
	by surveyor/OS. On completion of the above, should be issued certificate report.)
	- To be checked condition and cleaned.)
	- The meters equipments to be calibration by specialist and adjusted/correction.for 3 Generator)
	(Voltmeter, Ampere meter, Hz meter, kW) and issued certificate.)
	- To be check and calibrated Ampere meter, Voltmeter, Insulation meter for 440V feeder panel and)
	220V feeder panel and issued certificate.)
	- To be measure insulation resistance and record submitted to OS.)
	2. Electromotor (898001)))
	- To be overhauled completely by chemically cleaning rotor and stator bake and varnish.)
	- To be renewed ball bearings.)
	- To be reassembled properly upon completion.)
	- To be carried out running and load test witnessed by C/E nad O/S.)
	- To be measure insulation resistance and record submitted to OS.)
	- Megger Test)
	List of the electromotors as follows:))
	1) Main Cooling SW Pump No. 1 : 11 KW)
	2) FW Cooling Pump No. 1 and No. 2: 3.7 KW)
	3) SW Ejector Pump: 19 KW)
	4) Fire GS Pump and Fire Bilge Ballast Pump : 37 KW)
	5) SW Service Pump: 11 KW	þ
		-

No./A/C Job Description Keterangan 6) Spray Pump: 90 KW 7) IGG Pump: 11 KW 8) Main Air Compressor No. 1& 2 : 9.6 KW 9) FW Hydrophore Service Pump No. 1 and No. 2: 3.7 KW 10) Hot Water Circulating pump: 0.75 KW 11) Main LO Pump No. 1 and No. 2: 18.5 KW 12) Cylinder Oil Transfer Pump: 1.5 KW 13) LO System Transfer Pump: 1.5 KW 14) LO Purifier No. 1 and No. 2 : 3.7 KW 15) FO Purifier No. 1 and No. 2: 5.5 KW 16) FO Supply Pump No. 1 and No. 2: 1.25 KW 17) FO Transfer Pump: 1.5 KW 18) DO Transfer Pump: 1.5 KW 19)Bilge Transfer Pump: 1.5 KW 20) Sludge Pump: 2.2 KW 21) Refrigeratation Compressor No. 1 and No. 2: 3.5 KW 22) Elmot Compressor AC Accommodation : 34.5 KW 23) Elmot hyd steering gear no 1 & 2 : 11 KW 24) Elmot sanitary exhaust fan 3. Monitoring Control System (Safety Device) - To arrange expert for check, maintenance and repair the Machinery monitoring system parameter including all Press. Gauge and thermo control. - The all sensing parameter fitted to be calibration ,visual alarm, temperature and audible alarm function check and test ,and safety device function trip test witness by OS and CE - The parts need to change must be confirm by OS - Issued certificate on completion of that item. - The items of equipments need to check, maintenance and repair is bellows; Main Engine: LO trip, Lo low press, over speed, fresh water temp, FO Leakage. Thermocouple of Exhaust gas and in/out TC Aux. Engine: LO trip, LO low press, fresh water temp, over speed. Boiler system: Low water level, low low water level, miss fire Separator: FO leakage alarm Steering system: LO low press, auto steering alarm. Power pack Unit Purifier Main air compressor 4. Main Lighting Section Board/s, Protective device & Fittings. - To check and service the Lighting system of vessel install. Monitoring control system of lighting to be test witness by Surveyor and OS. - The all parts renewed should be confirm by OS. - Emergency Lightings of vessel install to be test witness by Surveyor and OS. - On completion of the above progress to issued certificate. 5. Accomodation Alarm System. - To carried out check and maintenance the alarm for accommodation by specialist with scope : general alarm system public addressor Visual and audible alarm of fire detection system - The above parts must be in good order, the repair or renewed parts needed must be confirm by OS. On completion to carried out test witness by surveyor. 6. Auto-Telephone System - To be repair telephone unit for common battery telephone at Steering Room, renewed if necessary. 7. Bilge Level Detection System - To carried out check and maintenance for bilge Level Detection system of E/R space area by specialist. Floater parts and sensing should be calibration and certificate issued.

No./A/C	Job Description	Keterangan
	Test equipments to carried out witness by surveyor.)
)
	8. Fire detection system)
	- To carried out check and maintenance of Fire detection system by specialist.)
	- The smoke and heat sensing should be calibration by special tools witness by surveyor.)
	- On completion of above process, carried out function test and certificate issued)
	9. Controller Equipment	<i>)</i>)
	Pneumatic electro controller for three way valve	,)
	- To be check and repair if necessary for controller valve with the following:	·)
	M/E Jacket FW Cooler)
	- To be carried out calibration and test after finished jobs and record.)
)
	10. Multi Monitor for F.O. & LO purifier)
	- To be check and repair multi monitor for FO / LO Purifier.)
	- To be renew approximate switch for sensor pressure if result faulty. To be calibrate, to be carry out and record) \
	- To be calibrate to be carry out and record	<i>)</i>)
	11. Hydraulic Valve Remote Control	,)
	Hydraulic Valve Remote Control Pump, 2 units	<i>.</i>)
	- To be clean electromotor and renew bearing motor.)
	- To be carried out Mugger Test and recorded.)
	- To be check and repair solenoid valve for operation.)
	- To be check and test safety device and record.)
)
	12. Actuator Valve on Main Deck)
	- To be check actuator valve in Ballast Water Tank and Void Space.)
	13 F/D Comp)
	13. E/R Crane Maker: Dengam Marine Crane, Co., Ltd.) \
	Maker: Dongnam Marine Crane, Co., Ltd.) \
	Model: Chain Hoist - To be check and repair remote control for operating crane.	<i>)</i>)
	- To be check and repair remote control for operating crane To be check limit switch for safety device crane.	,)
	- To be carried out running test and record all jobs.	,)
		·)
	14. Battery)
	- To be renew battery for Life boat engine)
	- To be renew battery UPS for UMS in ER)
	- To be renew battery for cargo monitoring system.)
)
	15. Checked and tested all alarm in ER)
	- Bilge Alarm)
	- Engineer call alarm	<i>)</i>)
	- Dead man alarm - All tank level alarm.)) Batal
	<u></u>	, Dalai
6.10	Piping System at Engine Room	
269003	PIC: 2 nd Engineer	
	All Sea Water Pipeline shall used seamless pipe Sch. 40	
	a. To be renew Overboard Sewage valve	
	h To be renew overhoard Ballast and GS. Dump buttorfly valve	
	b. To be renew overboard Ballast and GS Pump butterfly valve	
	c. To be renew body filter sea Chest and Cover Upper side and Lower side.	
	C. To be reflew body filter sea chest and cover opper side and cower side. CHIPPING, CLEANING, PAINTING	
	d. To be Clean sea chest pipe line.	
•	·	•

No./A/C Job Description Keterangan e. To be renew butterfly valve by pass Ballast and GS pump f. SW Cool suction Service Pump. Material: - Pipe 4": 1840 mm - Flange : 5 paces - Elbow 900 : 2 Pc - Mur baut - Packing g. SW Cool discharge for A/E Material: - Pipe 2.5" sch 40 x (1300 + 100 + 600) - Flange 2,5" 5K: 2 pcs - Elbow 2,5" sch 40: 3pcs - Mur baut - Packing h. SW Cool AE from GS Pump Material: - Pipe 4": 1200 mm - Flange: 4 pcs - Mur baut - Packing i. Ventilation pipe from DO 6C Material: - Pipe 2.5": 3100 mm - Flange: 2 pcs - Elbow 90o : 1 pc - Mur baut - Packing j. SW suction ME service Pump from sea chest Material: - Pipe 6" x 400 Flange 6" 5K Blank plate dia. 170 x 10mm - Mur baut - Packing Material: - Pipe 3" x 100 Flange 3" 5K - Mur baut - Packing Material: - Pipe 5" x (200+200+100) Flange 5" 5K - Mur baut - Packing Material: - Pipe 8" x 300 Flange 8" 5K Blank plate dia. 220 x 12mm Blank plate dia. 320 x 12mm + handle - Mur baut - Packing k. SW pipe inlet service pump from sea chest Material: - Pipe 4" x (500+1300+100+600+100) Flange 4" 5K Elbow 4" sch 40 - Mur baut - Packing I. SW pipe to Intercooler M/E Material: - Pipe 3" x (350+350+250+100)

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No./A/C
                                                                     Job Description
                                                                                                                                                     Keterangan
                     Flange 3" 5K
                     Elbow 3" sch 40
                     - Mur baut
                   - Packing
           m. SW pipe to LO cooler M/E
           Material: - Pipe A80: 1000 mm
                   - Flange : 2 pcs
                    - Elbow 90o : 1 pc
                     - Mur baut
                   - Packing
           n. SW pipe distributor suction SWC M/E
           Material: - Pipe 5" x (600+100+100)
                     Flange 5" 5K
                     Blank plate dia. 142 x 10mm
                     - Mur baut
                   - Packing
           o. SW pipe for OWS
           Material: - Pipe A32: 3500 mm
                   - Flange : 3 pcs
                   - Elbow 450 : 2 Pcs
                     - Mur baut
                   - Packing
           p. SW pipe for air pipe sea chest STBD
           Material: - Pipe 2" x 1500
                     Flange 2" 5K
                     Elbow 2" sch 40
                     Sock sleve 2"
                     - Mur baut
                   - Packing
           q. SW Pipe for discharge SWC M/E to cooler
           Material: - Pipe A80: 2000 mm
                    - Flange : 2 pcs
                    - Elbow 900and 450 : 1 Pcs
                     - Mur baut
                   - Packing
           REWELD
           r. SW pipe cooling for AC Accommodation
           Material: - Pipe 3" x (250+800)
                     Flange 3" 5K
                     - Mur baut
                   - Packing
           Material: - Pipe 1" x (200+450+1250+250+650+1100+300+700+100)
                     Flange 1" 5K
                     Elbow 1" sch 40
                     - Mur baut
                   - Packing
           Material: - Pipe 1,5" x (1800+200)
                     Flange 1,5" 5K
                     Elbow 1,5" sch 40
                     - Mur baut
                   - Packing
           Material: - Pipe 2.5" sch 40 x (900+300)
                   - Flange 2,5" 5K
```

			Job Desc	cription	Ketera
Π	- Elbow 2,5" sch 40				
	- Mur baut				
	- Packing				
,	s. SW pipe for FWG				
1	Material: - Pipe A80 : 3100 mm				
	- Flange : 6 pcs				
	- Elbow 900 : 4 Pcs				
	- Elbow 450 : 1 Pcs				
	- Mur baut				
	- Packing				
	t. SW Pipe cooling for expansion Main Air Compre	essor			
1	Material: - Pipe 1,5" x (200+550+600)				
	Flange 1,5" 5K				
	Elbow 1,5" sch 40				
	- Mur baut				
1	- Packing				
	Material: - Pipe 1" x (600+900+300)				
	Flange 1" 5K				
1	Elbow 1" sch 40				
	- Mur baut				
	- Packing				
1	u. SW Pipe Cooling for distributor Service Pump				
1	Material: - Pipe 5" x 1000				
	Flange 5" 5K				
	Elbow 5" sch 40				
	Blank plate dia. 142 x 10mm				
	- Mur baut				
	- Packing				
ſ	Material: - Pipe 3" x 100				
	Flange 3" 5K				
	- Mur baut				
	- Packing				
	Material: - Pipe 2,5" x 100				
	Flange 2,5" 5K				
	- Mur baut				
	- Packing				
1	Material: - Pipe 1" x 100				
	Flange 1" 5K				
	- Mur baut				
	- Packing				
	Material: - Pipe 1,5" x 100				
	Flange 1,5" 5K				
	- Mur baut				
	- Packing				
	Realisasi				
	Diganti baru pipa manipol di Kamar Mesin				
	bahan pipa sch.40 seamless, ukuran :			(Material suply Owner dan dikerjakan YWTS)	
	- Pipa dia.	6"	х	1070 mm)
1		6"	x	140 mm)
		2 1/2"	x	70 mm)
1		, 2 1/2"	х	200 mm)
		6"	x	70 mm	ĺ
		5"	x	70 mm)
l	Elbow dia.	2 1/2"	x	1 buah	(
		, -	••	- ~~~	ľ

	Job Desc	ipuon	Ketera
	2 1/2" x	2 buah)
	5" x	1 buah) Sel
Diganti baru pipa scupper di Kamar Mesin)
bahan pipa sch.40 seamless, ukuran :		(Material suply Owner dan dikerjakan JMI))
- Pipa dia.	3" x	620 mm)
	3" x	150 mm)
Elbow dia.	3" x	1 buah)
Flange 5K	3" x	2 buah)
Mur baut dia.	5/8" x 2.5" x	16 buah)
Packing karet	x	2 buah)
Dipasang baru flange 3" - 5K x 2 bh di pip	a lama) Sel
Disanti hanyarina yalam Cas Chast di Kansa	a Marsia arkalah basasa		,
Diganti baru pipa udara Sea Chest di Kama bahan pipa sch.40 galvanis, ukuran :	r Mesin sebelah kahan	(Material suply Owner dan dikerjakan JMI)	,
	2" x	620 mm)
- Pipa dia.			,
Elbow dia.	2" x 2" x	150 mm 2 buah	ľ
Flange 5K	2 x 2" x	1 buah	ľ
Mur baut dia.	2 x 1/2" x 2" x	4 buah	ľ
Packing karet	1/2 X 2 X	1 buah	ľ
Soch pipa dia.	2 1/2" x	100 mm x 1 buah)) Sel
	,	 	ľ
Diganti baru pipa FW Expantion Tank di Ka	mar Mesin sebelah kiri)
bahan pipa sch.40 seamless, ukuran :		(Material suply Owner dan dikerjakan JMI))
- Pipa dia.	1" x	240 mm)
	1" x	1500 mm)
Elbow dia.	1" x	1 buah)
Flange 5K	1" x	2 buah)
Mur baut dia.	3/8" x 1.5" x	8 buah)
Packing karet	x	2 buah) Sel
Diganti baru pipa AC Akomodasi Ruang Sto	ore di Kamar Mesin sebelah)
bahan pipa sch.40 seamless, ukuran :	0.4.611	(Material suply Owner dan dikerjakan JMI))
- Pipa dia.	2 1/2" x	320 mm	[
File and die	2 1/2" x	900 mm	[
Elbow dia.	2 1/2" x	1 buah	[
Flange 5K Mur baut dia.	2 1/2" x	2 buah	ľ
· WILL DALL DIA	1/2" x 2" x	8 buah	V
		2 huah	\
Packing karet	х	2 buah)
Packing karet	x))
	x 1 1/2" x	240 mm)))
Packing karet - Pipa dia.	x 1 1/2" x 1 1/2" x	240 mm 1300 mm))))
Packing karet - Pipa dia. Elbow dia.	x 1 1/2" x 1 1/2" x 1 1/2" x	240 mm))))
Packing karet - Pipa dia.	x 11/2" x 11/2" x 11/2" x 11/2" x	240 mm 1300 mm 2 buah)))))
Packing karet - Pipa dia. Elbow dia. Flange 5K	x 1 1/2" x 1 1/2" x 1 1/2" x	240 mm 1300 mm 2 buah 2 buah)))))
Packing karet - Pipa dia. Elbow dia. Flange 5K Mur baut dia. Packing karet	x 1 1/2" x 1 1/2" x 1 1/2" x 1 1/2" x 1 1/2" x x	240 mm 1300 mm 2 buah 2 buah 8 buah))))))) Sel
Packing karet - Pipa dia. Elbow dia. Flange 5K Mur baut dia.	x 1 1/2" x 1 1/2" x 1 1/2" x 1 1/2" x 1 1/2" x x	240 mm 1300 mm 2 buah 2 buah 8 buah))))))) Sel
Packing karet - Pipa dia. Elbow dia. Flange 5K Mur baut dia. Packing karet	x 1 1/2" x 1 1/2" x 1 1/2" x 1 1/2" x 1 1/2" x x y pipa lama	240 mm 1300 mm 2 buah 2 buah 8 buah)))))))) Sel
Packing karet - Pipa dia. Elbow dia. Flange 5K Mur baut dia. Packing karet Dipasang baru flange 1 1/2" - 5K x 1 bh di	x 1 1/2" x 1 1/2" x 1 1/2" x 1 1/2" x 1 1/2" x x y pipa lama	240 mm 1300 mm 2 buah 2 buah 8 buah))))))) Sel
Packing karet - Pipa dia. Elbow dia. Flange 5K Mur baut dia. Packing karet Dipasang baru flange 1 1/2" - 5K x 1 bh di Bongkar pasang pipa Inlet LO Cooler di Kar	x 1 1/2" x 1 1/2" x 1 1/2" x 1 1/2" x 1 1/2" x x y pipa lama	240 mm 1300 mm 2 buah 2 buah 8 buah 2 buah))))))) Sel
Packing karet - Pipa dia. Elbow dia. Flange 5K Mur baut dia. Packing karet Dipasang baru flange 1 1/2" - 5K x 1 bh di Bongkar pasang pipa Inlet LO Cooler di Kar	x 1 1/2" x 1 1/2" x 1 1/2" x 1 1/2" x 1 1/2" x x pipa lama mar Mesin sebelah kiri	240 mm 1300 mm 2 buah 8 buah 2 buah (Material suply Owner dan dikerjakan JMI)))))))) Sel
Packing karet - Pipa dia. Elbow dia. Flange 5K Mur baut dia. Packing karet Dipasang baru flange 1 1/2" - 5K x 1 bh di Bongkar pasang pipa Inlet LO Cooler di Kar	x 1 1/2" x 1 1/2" x 1 1/2" x 1 1/2" x 1 1/2" x x pipa lama mar Mesin sebelah kiri 2 1/2" x	240 mm 1300 mm 2 buah 8 buah 2 buah (Material suply Owner dan dikerjakan JMI)))))))) Sel
Packing karet - Pipa dia. Elbow dia. Flange 5K Mur baut dia. Packing karet Dipasang baru flange 1 1/2" - 5K x 1 bh di Bongkar pasang pipa Inlet LO Cooler di Kar	x 1 1/2" x 1 1/2" x 1 1/2" x 1 1/2" x 1 1/2" x x y pipa lama mar Mesin sebelah kiri 2 1/2" x 2 1/2" x	240 mm 1300 mm 2 buah 8 buah 2 buah (Material suply Owner dan dikerjakan JMI) 200 mm 400 mm))))))) Sel)))
Packing karet - Pipa dia. Elbow dia. Flange 5K Mur baut dia. Packing karet Dipasang baru flange 1 1/2" - 5K x 1 bh di Bongkar pasang pipa Inlet LO Cooler di Kar bahan pipa sch.40 seamless, ukuran : - Pipa lama dia.	x 1 1/2" x 1 1/2" x 1 1/2" x 1 1/2" x 1 1/2" x x pipa lama mar Mesin sebelah kiri 2 1/2" x 2 1/2" x 2 1/2" x 2 1/2" x	240 mm 1300 mm 2 buah 8 buah 2 buah 1 buah 2 buah 2 buah)))))) Sel
Packing karet - Pipa dia. Elbow dia. Flange 5K Mur baut dia. Packing karet Dipasang baru flange 1 1/2" - 5K x 1 bh di Bongkar pasang pipa Inlet LO Cooler di Kar bahan pipa sch.40 seamless, ukuran : - Pipa lama dia. Elbow lama dia.	x 11/2" x 11/2" x 11/2" x 11/2" x 11/2" x x yipipa lama mar Mesin sebelah kiri 21/2" x 21/2" x 21/2" x 21/2" x	240 mm 1300 mm 2 buah 8 buah 2 buah 1 buah 2 buah 2 buah 1 buah 2 buah 2 buah 2 buah 2 buah 2 buah 2 buah 2 buah 2 buah 2 buah)))))) Sel

		Job Descr	ipaon		Ketera
Diganti baru nina FMC place di Kanana A.A.	n coholah liiri				
Diganti baru pipa FWG plant di Kamar Mesi	n sebelah kiri		/ 0.4 m to mind on m	h. O den diberialen 1841)	ľ
bahan pipa sch.40 seamless, ukuran : - Pipa dia.	2 1/2"			ly Owner dan dikerjakan JMI)	ľ
- Pipa dia.	· ·		100 mm		ľ
	2 1/2"		450 mm		ľ
	2 1/2"		300 mm)
Elbow dia.	2 1/2"		2 buah)
Flange 5K	2 1/2"		2 buah)
Mur baut dia.	1/2"		16 buah)
Packing karet		X	4 buah)
- Pipa dia.	2 1/2"	x	600 mm		6
·	2 1/2"		830 mm		6
Elbow dia.	2 1/2"		1 buah		6
Flange 5K	2 1/2"		2 buah		Ś
. Idinge on		•	2 344		Ó
- Pipa dia.	2 1/2"	x	500 mm)
	2 1/2"	x	180 mm)
Elbow dia.	2 1/2"	x	1 buah)
Flange 5K	2 1/2"	x	2 buah) Sel
Diganti baru pipa Sea Chest di Kamar Mesin	s coholah kiri				,
	i sebelali kili		(Material cur	ly Owner dan dikeriakan IMI	,
bahan pipa sch.40 seamless, ukuran :	4"			ly Owner dan dikerjakan JMI)	(
- Pipa dia.		X	440 mm		ľ
	4"	х	240 mm		ľ
	3"	Х	140 mm)
Elbow dia.	4"	Х	1 buah)
Flange 5K	4"	Х	2 buah)
Flange 5K	3"	X	1 buah)
Mur baut dia.	5/8" x 2	2.5" x	112 buah)
Packing karet		X	14 buah)
- Pipa dia.	5"	х	540 mm))
	5"	x	100 mm)
	5"	x	100 mm)
Flange 10K	5"	х	1 buah)
Flange 5K	5"	x	2 buah)
Dron plat)
Prop plat Plat dia.		125		x 8 mm	x)
)
- Pipa dia.	4"	X	120 mm)
	4"	X	570 mm)
	4"	x	150 mm)
	4"	x	80 mm)
Elbow dia.	4"	x	3 buah)
Flange 5K	4"	x	2 buah)
- Pipa dia.	4"	x	150 mm)
pa dia.	4 4"	x x	200 mm		ľ
Elbow dia.	4 4"		1 buah		ľ
	4" 4"	X			ľ
Flange 5K	4	Х	1 buah))
- Pipa dia.	6"	х	300 mm)
	5"	x	150 mm)
					Ι.
	5"	X	130 mm		I)
Flange 5K	5" 6"	x x	130 mm 1 buah)

		Job Descr				Ketera
- Pipa dia.	5"	х	340 mm)
	5"	x	150 mm)
	3"	x	100 mm)
Flange 5K	5"	x	2 buah)
Flange 5K	3"	x	1 buah) Sele
Diganti baru pipa SW Service Pump di Kamar Me	sin)
bahan pipa sch.40 seamless, ukuran :			(Materio	al suply Ov	vner dan dikerjakan JMI))
- Pipa dia.	2 1/2"	x	200 mm)
	2 1/2"	x	550 mm)
	2 1/2"	x	1300 mm			6
	2 1/2"	x	100 mm			6
Elbow dia.	2 1/2"	x	3 buah			6
Flange 5K	2 1/2"	x	2 buah			ĺ,
Mur baut dia.	5/8" x 2.5		20 buah			ĺ,
Mur baut dia.	1/2" x :		16 buah			ĺ,
Mur baut dia.	3/8" x 1.5		8 buah			ľ
Packing karet	5/0 X I	X	9 buah			ľ
			J Judii			(
- Pipa dia.	5"	x	900 mm			,
i ipa aia.	5 5"	x x	120 mm			ľ
	5 1"		70 mm			ľ
		X	80 mm			ľ
	1 1/2"	X				ľ
	2 1/2"	х	100 mm			ľ
	3"	x	100 mm			()
	1 1/2"	X	60 mm)
	2"	X	80 mm)
Elbow dia.	5"	X	1 buah)
Flange 5K	5"	Х	2 buah)
	1"	X	1 buah)
	1 1/2"	X	1 buah)
	2 1/2"	X	1 buah)
	3"	Х	1 buah)
	1 1/2"	Х	1 buah) Sel
Modifikasi pipa isap pompa , sbb :		(materia	al lama))
- Pipa sch.40 dia.	4"	×	1000 mm	х	1 buah)
- Pipa sch.40 dia.	4"	x	200 mm	х	1 buah)
- Pipa sch.40 dia.	4"	x	500 mm	x	1 buah	b
- Pipa sch.40 dia.	4"	x	300 mm	×	1 buah	6
- Elbow dia	4"	x			2 buah	j)
- Flange dia.	4"	x			3 buah	6
		•				6
- Pipa sch.40 dia.	4"	х	100 mm	x	3 buah	ľ
- Pipa sch.40 dia.	4"	x	700 mm	x	1 buah	(
- Pipa sch.40 dia.	4"	X	150 mm	x	1 buah	ľ
- Pipa Sci1.40 dia. - Elbow dia	4 4"		130 111111	^	3 buah	ľ
- Flange dia.	4 4"	X			2 buah	ľ
-	4" 5"	X				ľ
- Sock dia	Э	X			1 buah)
- Pipa sch.40 dia.	4"	x	150 mm	x	1 buah)
- Flange dia.	4"	x			2 buah)
- Butterfly valve dia	4"	x			1 buah)
- Packing karet dia.	3"	x	5 mm	×	5 buah)
- Mur baut dia.	5/8	8" x	2 1/2" x		40 buah) Sel
						,
Conti hami nina ia-a a-a-a-a-a-a-a-a-a-a-a-a-a-a-a-a-a						
Ganti baru pipa isap pompa pendingin ME, sbb: - Pipa sch.40 dia.	4"	x	400 mm	x	1 buah	ľ

С		J	ob Descr	iption				Keterar
Т	- Pipa sch.40 dia.	4"	х	100 mm	х	2 buah		b
	- Elbow dia	4"	x			4 buah		ĺ
	- Flange dia.	4"	x			3 buah		ľ,
	- Angle valve dia	4"	×			1 buah		ľ,
	- Angle valve dia - Packing karet dia.	4 4"	x	5 mm	x	3 buah		ľ
	- Packing karet dia. - Mur baut dia.	5/8		2 1/2" x	^	24 buah		ľ
	- iviui paut Uld.	5/8	×	Z 1/Z X		24 DUdii		ľ
	Plank flange dia	5"	v			1 huah		ľ
	- Blank flange dia		X	10		1 buah		ľ
	- Prop plat dia	5"	Х	10 mm x		1 buah		,
	- Packing karet dia.	5"	X	5 mm	х	1 buah)
	- Mur baut dia.	5/8"	×	2 1/2" x		8 buah)
	- Asistensi bongkar pasang lantai ka	amar mesin)
	Plat bordes			_)
	850	x 600	X	5 mm x		6 buah) Sele
	Ganti baru instalasi pipa pendingin A			200		41 1		ľ
	- Pipa sch.40 dia.	1 1/2"	X	200 mm	X	1 buah		ľ
	- Pipa sch.40 dia.	1 1/2"	Х	1600 mm	Х	1 buah		<u>P</u>
	- Elbow dia	1 1/2"	Х			1 buah		ľ
	- Flange dia.	1 1/2"	Х			1 buah)
	- Sock dia	2"	X			1 buah)
)
	- Pipa sch.40 dia.	1 1/2"	X	510 mm	х	1 buah	(lama)	ρ
	- Pipa sch.40 dia.	1 1/2"	Х	300 mm	х	1 buah	(lama))
	- Pipa sch.40 dia.	1 1/2"	Х	950 mm	x	1 buah	(lama))
	- Pipa sch.40 dia.	1 1/2"	X	2700 mm	x	1 buah	(lama))
	- Pipa sch.40 dia.	1 1/2"	X	400 mm	x	1 buah	(lama))
	- Pipa sch.40 dia.	1 1/2"	X	250 mm	x	1 buah	(lama))
	- Elbow dia	1 1/2"	Х			3 buah	(lama))
	- Flange dia.	1 1/2"	x			3 buah	(lama))
)
	- Pipa sch.40 dia.	1"	х	100 mm	x	1 buah)
	- Pipa sch.40 dia.	1"	x	850 mm	x	1 buah)
	- Pipa sch.40 dia.	1"	x	200 mm	x	1 buah)
	- Pipa sch.40 dia.	1"	x	150 mm	x	1 buah)
	- Elbow dia	1"	х			1 buah)
	- Flange dia.	1"	х			4 buah)
	- Ubolt dia	1 1/2"	х			2 buah)
	- Packing karet dia.		х	3 mm	x	4 buah)
	- Mur baut dia.	1/2″	×	2" x		16 buah)
)
	Inlet)
	- Pipa sch.40 dia.	1"	х	200 mm	x	3 buah)
	- Pipa sch.40 dia.	1"	х	300 mm	x	1 buah)
	- Pipa sch.40 dia.	1"	x	1400 mm	x	1 buah)
	- Pipa sch.40 dia.	1"	х	510 mm	x	1 buah		6
	- Pipa sch.40 dia.	1"	x	1300 mm	x	1 buah		5
	- Pipa sch.40 dia.	1"	x	400 mm	x	1 buah		5
	- Pipa sch.40 dia.	1"	x	900 mm	x	1 buah		ľ,
	- Pipa sch.40 dia.	1"	x	150 mm	x	1 buah		Ķ
	- Elbow dia	1"	x	200	~	5 buah		Ķ
	- Flange dia.	1"	x			8 buah		Ķ
	- Valve dia	1"	×			1 buah		ľ.
	- Valve dia - Ubolt dia	1"	x			3 buah		ľ
		1"		3 mm	v	4 buah		ľ
	- Packing karet dia.		X		х			ľ
	- Mur baut dia.	3/8″	×	1 1/2" x		16 buah		ľ
	Outlot							ľ
	Outlet							ľ

	J	ob Descr	iption				Ketera
- Pipa sch.40 dia.	1"	х	300 mm	х	2 buah)
- Pipa sch.40 dia.	1"	х	600 mm	x	1 buah		ŗ
- Pipa sch.40 dia.	1"	x	620 mm	x	1 buah		K
- Elbow dia	1"	×	520 mm	^	2 buah		ľ,
	1"						,
- Flange dia.		Х			3 buah		ľ
- Sock dia	1 1/2"	х			1 buah)
- Pipa sch.40 dia.	1"	x	1500 mm	x	1 buah)
- Pipa sch.40 dia.	1"	x	600 mm	x	1 buah)
- Pipa sch.40 dia.	1"	x	1600 mm	x	2 buah)
- Pipa sch.40 dia.	1"	х	100 mm	x	1 buah		j
- Pipa sch.40 dia.	1"	x	200 mm	x	1 buah		Ś
- Elbow dia	_ 1"	x		••	2 buah		'n
- Flange dia.	1"	x			5 buah		,
· ·	1"						,
- Ubolt dia		Х			6 buah)
- Packing karet dia.	1"	Х	3 mm	x	4 buah)
- Mur baut dia.	3/8′	' x	1 1/2" x		16 buah)
Induk)
- Pipa sch.40 dia.	3"	х	300 mm	x	1 buah		b
- Pipa sch.40 dia.	3"	x	1000 mm	x	1 buah		6
- Elbow dia	3"	x			1 buah		6
- Flange dia.	3"	x			2 buah		ľ,
=	3"		3 mm	v	2 buah		ľ
- Packing karet dia.	э	X		Х			ľ
- Mur baut dia.		х	2" x		8 buah		<u> </u>
- Pipa sch.40 dia.	3"	x	2100 mm	х	1 buah	(lama))
- Flange dia.	3"	x			2 buah	(lama))
- Packing karet dia.		х	3 mm	x	2 buah	(lama))
- Mur baut dia.	1/2′		2" x		8 buah	(lama)) Sele
Modifikasi pipa tekan pompa , sbb :)
Pipa manifold	-"					<i>a</i> ,)
- Pipa sch.40 dia.	5"	Х	930 mm	х	1 buah	(lama))
- Pipa sch.40 dia.	5"	Х	100 mm	X	1 buah	(lama))
- Elbow dia	5"	x			1 buah	(lama))
- Flange dia.	5"	x			1 buah	(lama))
- Prop plat dia	5"	х	10 mm x		1 buah	(lama))
Pipa cabang							<u> </u>
- Pipa sch.40 dia.	3"	x	200 mm	х	1 buah		ľ,
- Flange dia.	3"	x	200		1 buah		K
- Valve dia	3"	x			1 buah		ľ,
valve ala	3	^			1 Duaii)
- Pipa sch.40 dia.	2 1/2"	x	200 mm	x	1 buah)
- Flange dia.	2 1/2"	x			1 buah)
- Pipa sch.40 dia.	1 1/2"	x	200 mm	x	1 buah)
- Flange dia.	1 1/2"	x	200		1 buah		K
riange aid.	1 1/4	^			± Suaii		ľ
- Pipa sch.40 dia.	1 1/4"	x	200 mm	x	1 buah)
_, .,	1 1/4"	x			1 buah)
- Flange dia.			150 mm	x	1 buah	(lama))
	Δ"	¥			1 Suaii	(idilia)	μ
- Pipa sch.40 dia.	4"	X			2 huah	(lama)	l,
- Pipa sch.40 dia. - Pipa sch.40 dia.	4"	×	100 mm	x	2 buah	(lama))
- Pipa sch.40 dia. - Pipa sch.40 dia. - Pipa sch.40 dia.	4" 4"	x x			1 buah	(lama))
- Pipa sch.40 dia. - Pipa sch.40 dia.	4"	×	100 mm	x)))

	J 0.	b Descri	• •				Keter
- Packing karet dia.		х	3 mm	x	9 buah)
- Mur baut dia.	5/8"	Х	2 1/2" x		72 buah) Se
Ganti baru instalasi pipa inter cooler ME, sbb :)
Outlet							Š
- Pipa sch.40 dia.	3"	x	100 mm	х	3 buah		ľ
- Pipa sch.40 dia.	3"	×	300 mm	x	1 buah		ľ
- Pipa sch.40 dia.	3"		400 mm		1 buah		ľ
		X		x			(
- Pipa sch.40 dia.	3"	Х	360 mm	x	1 buah)
- Elbow dia	3"	Х			4 buah)
- Flange dia.	3"	Х			3 buah)
- Valve dia	3"	х			1 buah)
- Pipa sch.40 dia.	3"	x	1500 mm	x	1 buah	(lama))
- Flange dia.	3"	x			2 buah	(lama))
lada.)
Inlet	2"		400		21 1	(1)	ľ
- Pipa sch.40 dia.	2"	Х	100 mm	x	3 buah	(lama)	<u> </u>)
- Pipa sch.40 dia.	3"	Х	300 mm	х	1 buah	(lama))
- Pipa sch.40 dia.	3"	X	700 mm	x	1 buah	(lama))
- Elbow dia	3"	x			3 buah	(lama))
- Flange dia.	3"	х			3 buah	(lama))
- Valve dia	3"	x			2 buah	(lama))
- Ubolt dia	3"	х			2 buah	(lama))
- Packing karet dia.	3"	x	5 mm	x	8 buah	(lama))
- Mur baut dia.	5/8"	x	2 1/2" x		32 buah	(lama)) Se
Conti home installati mina 10 a 1 a 25 a 11							
Ganti baru instalasi pipa LO cooler ME, sbb :	a <i>"</i>		200 ::		a b		ľ
- Pipa sch.40 dia.	3"	Х	300 mm	x	1 buah		[)
- Flange dia.	3"	Х			2 buah)
- Pipa sch.40 dia.	3"	х	300 mm	x	1 buah	(lama))
- Pipa sch.40 dia.	3"	х	450 mm	x	1 buah	(lama))
- Elbow dia	3"	x			1 buah	(lama))
- Flange dia.	3"	х			2 buah	(lama)	j
- Valve dia	3"	x			1 buah	(lama)	Ĺ
- Ubolt dia	3"	×			1 buah	(lama)	ľ,
- Oboit dia - Packing karet dia.	3"		5 mm	v	3 buah		ľ
- Packing karet dia. - Mur baut dia.	5/8"	x x	5 mm 2 1/2" x	х	3 buan 16 buah	(lama) (lama))) Se
	3,0	^	- +/ - ^		10 20011	()	, 36
Ganti baru pipa FW expantion, sbb:)
- Pipa sch.40 dia.	1"	Х	400 mm	x	1 buah)
- Pipa sch.40 dia.	1"	X	600 mm	x	1 buah)
- Pipa sch.40 dia.	1"	X	610 mm	x	1 buah)
- Elbow dia	1"	x			2 buah)
- Flange dia.	1"	x			2 buah)
- Ubolt dia	1 1/2"	х			4 buah)
- Ubolt dia	2"	x			2 buah)
- Pipa sch.40 dia.	1 1/4"	x	700 mm	x	1 buah	(lama))
							ľ
- Pipa sch.40 dia.	1 1/4"	Х	200 mm	x	1 buah	(lama)	<u> </u> '
- Pipa sch.40 dia.	1 1/4"	Х	910 mm	x	1 buah	(lama))
- Elbow dia	1 1/4"	X			2 buah	(lama))
- Flange dia.	1 1/4"	х			2 buah	(lama))
- Ubolt dia	1"	x			2 buah	(lama))
		x	3 mm	х	3 buah	(lama))
- Packing karet dia.		^					

./A/C	Job Description												
	Inlet)					
	- Pipa sch.40 dia.	2 1/2"	x	200 mm	x	1 buah		6					
	- Flange dia.	2 1/2"	x	1 buah	-			ĺ,					
	Harige ala.	2 1/2	^	1 54411				,					
	- Hose spiral dia		x	45000 mm	x	1 buah		,					
	- Klem hose dia	2 1/2"	x	2 buah				,					
		, _	**					,					
	- Pipa sch.40 dia.	2 1/2"	x	700 mm	x	1 buah	(lama)	,					
	- Pipa sch.40 dia.	, 2 1/2"	x	600 mm	x	1 buah	(lama)	,					
	- Elbow dia	2 1/2"	x	1 buah			(lama)	,					
	- Flange dia.	2 1/2"	x	2 buah			(lama)	,					
	<u> </u>	,					, ,	6					
	- Pipa sch.40 dia.	6"	х	400 x 5 mm	x	1 buah	(lama))					
	- Flange dia.	6"	х	2 buah			(lama)						
	- Blang prop dia	6"	х	2 buah)					
	- Pipa sch.40 dia.	2 1/2"	x	200 mm	x	2 buah)					
	- Flange dia.	2 1/2"	х	2 buah)					
	- Packing karet dia.	2 1/2"	х	3 mm	х	4 buah)					
	- Mur baut dia.	1/2"	, x	2" x		24 buah) Selesai					
.11	<u>Misscelaneous</u>												
9001	PIC: Chief Engineer and Technical Super	intendent											
	To be provided labours, necessary tools	, and material to accor	nplish th	e following works:									
	E/R Ventilation Fan P & S	Spare par	t supply	owner									
	- To be Overhaul ER Fan P & S.												
	- To be renew ball bearing.	To be renew ball bearing.											
	To be renew air mesh filter.												
	- To be carried out balancing.												
	- To be checked and repaired flaps dam	per for E/R Fan (P/S).											
	Fresh Water Generator												
	- To be clean plate for condenser and ev	vaporator by chemical.											
	- To be renew gasket for evaporator pla	•											
	- To be carried out leakage test by runn		ıp.										
	- To be renew cover plate Evaporator si	de	•										
	- To be renew gasket plate Evaporator s		e										
	- To be renew all Thermometer and Pre												
	Air Conditioner Compressor and Fan												
	- To be Check shaft mechanical seal.												
	- To be Check Pulley for Compressor and	d Motor as per original	size V-b	elt.									
	- To be clean Electromotor, furnished if	necessary, renewed be	earing F8	A, carried out mugge	er test, and	d recorded.							
	- To be checked, carried out balancing f	an, renewed bearing F8	&A.										
	- To be clean Electromotor for fan, furn	shed if necessary, rene	ewed bea	aring F&A, and carried	d out mug	ger test,							
	and recorded.												
	- To be repair Casing Evaporator or rene	ew.											
	- To be installed new Compressor unit c	ompleted (before only	one cor	npressor)									
	- To be checked, tested safety device pr	operly, and recorded.											
	Air Control Reducer Valve in engine ro	om											
	- To be checked and repaired condition		shore te	chnician.									
	- To be renewed spare part (yard sup	ply), if necessary.											
	FO Purifier No. 1 and No. 2.												

			Јор De	scription							etera
	MGPS SYSTEM										
	- To be checked and repaired by shor	re technician due to n	ot working	nronerly							
	- To be renewed electrode cathodes (yard supply)										
	Refrigerated Machine										
	- To be repair capillary pipe system.										
	- Cleaned condenser and repair cove	r condenser.									
	- Renew insulation tape.										
	- Renew solenoid valve for meat pipe	.									
	- Renew expansion valve for meat an										
	Renew any plate in Engine Room es	pecially Ground floor									
	•	, ,									
	Earth Shaft Propeller										
	- To be Repair cable or renew										
	- To be renew carbon brush										
	- To be renew carbon brush plate.										
	Service all watertight door & renew	seal									
	Spare Part Room.										
	- To be renew day lighting with Fluor	escents Lamn (TLLa	mn l								
	- To be renew day lighting with ridor										
	- 10 be reflew day lighting special too	ois room with the Lamp	J.								
	Fresh Water calorifier system										
	- To be Overhaul Fresh water pump f	or calorifier system.									
	- To be renew ball bearing.	,									
	- To be check heater and cleaning he	ater									
	- To be carried out balancing of pump	0.									
		0.									
	- To be carried out balancing of pump	0.									
	- To be carried out balancing of pumparto be check pipe line to accommod	o. ation.)	
	- To be carried out balancing of pump - To be check pipe line to accommod Realisasi Service electromotor blower engine	o. ation. room kiri, sbb :)	
	- To be carried out balancing of pump - To be check pipe line to accommod Realisasi Service electromotor blower engine - Bongkar pasang	o. ation. room kiri, sbb : (material lama)	00 x	600	x	8	mm x	1 buah)	
	 To be carried out balancing of pump To be check pipe line to accommod Realisasi Service electromotor blower engine Bongkar pasang > Tudung blower dia 	o. ation. room kiri, sbb : (material lama) 16		600 125	X	8	mm x	1 buah 6 buah)	
	 To be carried out balancing of pumper To be check pipe line to accommod Realisasi Service electromotor blower engine Bongkar pasang Tudung blower dia Bracket tudung blower 	o. ation. room kiri, sbb : (material lama) 16 17	′0 x	125	x	12	mm x	6 buah)	
	 To be carried out balancing of pump To be check pipe line to accommod Realisasi Service electromotor blower engine Bongkar pasang > Tudung blower dia 	o. ation. room kiri, sbb : (material lama) 16	′0 x))))	
	 To be carried out balancing of pumper To be check pipe line to accommod Realisasi Service electromotor blower engine Bongkar pasang Tudung blower dia Bracket tudung blower 	o. ation. room kiri, sbb : (material lama) 16 17	′0 x	125	x	12	mm x	6 buah))))	
	 To be carried out balancing of pump To be check pipe line to accommod Realisasi Service electromotor blower engine Bongkar pasang Tudung blower dia Bracket tudung blower Leher tudung blower dia 	o. ation. room kiri, sbb : (material lama) 16 17	′0 x	125	x	12	mm x	6 buah 1 buah))))	
	- To be carried out balancing of pump - To be check pipe line to accommod Realisasi Service electromotor blower engine of the service electromotor blower engine of the service electromotor blower dia - Bongkar pasang > Tudung blower dia Bracket tudung blower > Leher tudung blower dia > Rumah electromotor > Ectromotor	o. ation. room kiri, sbb : (material lama) 16 17	′0 x	125	x	12	mm x mm x	6 buah 1 buah 1 buah 1 buah)	
	 To be carried out balancing of pumple. To be check pipe line to accommod Realisasi Service electromotor blower engine. Bongkar pasang Tudung blower dia Bracket tudung blower Leher tudung blower dia > Rumah electromotor > Ectromotor > Kipas blower 	o. ation. room kiri, sbb : (material lama) 16 17	′0 x	125	x	12	mm x mm x	6 buah 1 buah 1 buah 1 buah 1 buah)	
	- To be carried out balancing of pump - To be check pipe line to accommod Realisasi Service electromotor blower engine of the service electromotor blower engine of the service electromotor blower dia - Bongkar pasang > Tudung blower dia Bracket tudung blower > Leher tudung blower dia > Rumah electromotor > Ectromotor	o. ation. room kiri, sbb : (material lama) 16 17	′0 x	125	x	12	mm x mm x	6 buah 1 buah 1 buah 1 buah			
	 To be carried out balancing of pumple. To be check pipe line to accommod Realisasi Service electromotor blower engine. Bongkar pasang Tudung blower dia Bracket tudung blower Leher tudung blower dia > Rumah electromotor > Ectromotor > Kipas blower 	o. ation. room kiri, sbb : (material lama) 16 17	′0 x	125	x	12	mm x mm x	6 buah 1 buah 1 buah 1 buah 1 buah			
	 To be carried out balancing of pumple. To be check pipe line to accommod Realisasi Service electromotor blower engine. Bongkar pasang Tudung blower dia Bracket tudung blower Leher tudung blower dia Rumah electromotor Ectromotor Kipas blower Rotor electromotor 	o. ation. room kiri, sbb : (material lama) 16 17	70 x	125	x	12	mm x mm x	6 buah 1 buah 1 buah 1 buah 1 buah			
	- To be carried out balancing of pump - To be check pipe line to accommod Realisasi Service electromotor blower engine of the service electromotor blower diangle of the service blower diangle of the service electromotor electromotor of the service electromotor	o. ation. room kiri, sbb : (material lama) 16 17 90	70 x 70 x	125 600	x x	12 8	mm x mm x	6 buah 1 buah 1 buah 1 buah 1 buah 1 buah			
	- To be carried out balancing of pump - To be check pipe line to accommod Realisasi Service electromotor blower engine - Bongkar pasang > Tudung blower dia Bracket tudung blower > Leher tudung blower dia > Rumah electromotor > Ectromotor > Kipas blower > Rotor electromotor > Tangga blower Plat	o. ation. room kiri, sbb : (material lama) 160 17 90	70 x 00 x	125 600 50 50	x x	12 8	mm x mm x x x x	6 buah 1 buah 1 buah 1 buah 1 buah 1 buah 2 buah 4 buah			
	- To be carried out balancing of pump - To be check pipe line to accommod Realisasi Service electromotor blower engine - Bongkar pasang > Tudung blower dia Bracket tudung blower > Leher tudung blower dia > Rumah electromotor > Ectromotor > Kipas blower > Rotor electromotor > Tangga blower Plat Besi esser dia	o. ation. room kiri, sbb : (material lama) 16 17 90 13 13 17 16 mi	70 x 00 x	125 600 50 50	x x	12 8	mm x mm x x x x	6 buah 1 buah 1 buah 1 buah 1 buah 1 buah 2 buah			
	- To be carried out balancing of pump - To be check pipe line to accommod Realisasi Service electromotor blower engine - Bongkar pasang > Tudung blower dia Bracket tudung blower > Leher tudung blower dia > Rumah electromotor > Ectromotor > Kipas blower > Rotor electromotor > Tangga blower Plat	o. ation. room kiri, sbb : (material lama) 16 17 90 13 13 17 16 mi	70 x 00 x	125 600 50 50	x x	12 8	mm x mm x x x x	6 buah 1 buah 1 buah 1 buah 1 buah 1 buah 2 buah 4 buah			
	- To be carried out balancing of pump - To be check pipe line to accommod Realisasi Service electromotor blower engine - Bongkar pasang > Tudung blower dia Bracket tudung blower > Leher tudung blower dia > Rumah electromotor > Ectromotor > Kipas blower > Rotor electromotor > Tangga blower Plat Besi esser dia	o. ation. room kiri, sbb : (material lama) 16 17 90 13 13 17 16 mi	70 x 00 x	125 600 50 50	x x	12 8	mm x mm x x x x	6 buah 1 buah 1 buah 1 buah 1 buah 1 buah 2 buah 4 buah			
	- To be carried out balancing of pump - To be check pipe line to accommod Realisasi Service electromotor blower engine is - Bongkar pasang > Tudung blower dia Bracket tudung blower > Leher tudung blower dia > Rumah electromotor > Ectromotor > Kipas blower > Rotor electromotor > Tangga blower Plat Besi esser dia > Connect disconnect kabel power	o. ation. room kiri, sbb : (material lama)	70 x 00 x	125 600 50 50	x x x x 300 mm	12 8	mm x mm x x x x	6 buah 1 buah 1 buah 1 buah 1 buah 1 buah 2 buah 4 buah			
	- To be carried out balancing of pump - To be check pipe line to accommod Realisasi Service electromotor blower engine of the service electromotor blower engine of the service electromotor blower dia the blower dia	o. ation. room kiri, sbb : (material lama)	70 x 70 x 70 x 70 x m x	125 600 50 50	x x x x 300 mm	12 8	mm x mm x x x x x x x x x x x x x x x x	6 buah 1 buah 1 buah 1 buah 1 buah 2 buah 4 buah 4 buah			
	- To be carried out balancing of pump - To be check pipe line to accommod Realisasi Service electromotor blower engine of the service electromotor blower engine of the service electromotor blower dia the blower dia	p. ation. room kiri, sbb : (material lama) 16 17 90 131 17 16 mi	70 x 70 x 70 x 70 x m x	125 600 50 50 6308zz/	x x x x coo mm	12 8 10 10	mm x mm x x x x x x x x x x x x x x x x	6 buah 1 buah 1 buah 1 buah 1 buah 2 buah 4 buah 4 buah			
	- To be carried out balancing of pump - To be check pipe line to accommod Realisasi Service electromotor blower engine of the service electromotor blower engine of the service electromotor blower dia - Bongkar pasang - Tudung blower dia - Bracket tudung blower dia - Rumah electromotor - Ectromotor - Kipas blower - Rotor electromotor - Tangga blower - Plat - Besi esser dia - Connect disconnect kabel power - Ganti baru: - Bearing - Packing karet - Mur baut tudung blower uk.	p. ation. room kiri, sbb : (material lama) 16 17 90 131 17 16 mi	70 x 70 x 70 x 70 x m x	125 600 50 50 50 6308zz/ 1010 5/8"	x x x x coo mm	12 8 10 10	mm x x x x mm x x x x x x x x	6 buah 1 buah 1 buah 1 buah 1 buah 2 buah 4 buah 4 buah 2 buah 1 buah			
	- To be carried out balancing of pump - To be check pipe line to accommod Realisasi Service electromotor blower engine is - Bongkar pasang > Tudung blower dia Bracket tudung blower > Leher tudung blower dia > Rumah electromotor > Ectromotor > Kipas blower > Rotor electromotor > Tangga blower Plat Besi esser dia > Connect disconnect kabel power - Ganti baru: > Bearing > Packing karet > Mur baut tudung blower uk. > Mur baut anak tangga uk.	p. ation. room kiri, sbb : (material lama) 16 17 90 131 17 16 mi	70 x 70 x 70 x 70 x m x	125 600 50 50 6308zz/ 1010 5/8" 1/2"	x x x x 3000 mm	12 8 10 10 10	mm x x x x mm x x x x x x x x	6 buah 1 buah 1 buah 1 buah 1 buah 2 buah 4 buah 4 buah 1 buah 6 buah 4 buah			
	- To be carried out balancing of pump - To be check pipe line to accommod Realisasi Service electromotor blower engine of the service electromotor blower engine of the service electromotor blower dia the bracket tudung blower dia to be cket bracket bracket bracket dia tudung blower dia to bracket disconnect kabel power dia to bracket disconnect kabel power dia tudung blower uk. - Mur baut tudung blower uk. - Mur baut anak tangga uk. - Mur baut uk.	ation. room kiri, sbb: (material lama) 16i 17 90 13i 17 16 mi er blower (supply dock)	70 x 70 x 70 x 70 x m x	125 600 50 50 50 6308zz/ 1010 5/8"	x x x 300 mm	12 8 10 10	mm x x x x mm x x x x x x x	6 buah 1 buah 1 buah 1 buah 1 buah 2 buah 4 buah 4 buah 2 buah 1 buah 6 buah			ر ماهک
	- To be carried out balancing of pump - To be check pipe line to accommod Realisasi Service electromotor blower engine is - Bongkar pasang > Tudung blower dia Bracket tudung blower > Leher tudung blower dia > Rumah electromotor > Ectromotor > Kipas blower > Rotor electromotor > Tangga blower Plat Besi esser dia > Connect disconnect kabel power - Ganti baru: > Bearing > Packing karet > Mur baut tudung blower uk. > Mur baut anak tangga uk.	ation. room kiri, sbb: (material lama) 16i 17 90 13i 17 16 mi er blower (supply dock)	70 x 70 x 70 x 70 x m x	125 600 50 50 6308zz/ 1010 5/8" 1/2"	x x x x 3000 mm	12 8 10 10 10	mm x x x x mm x x x x x x x x	6 buah 1 buah 1 buah 1 buah 1 buah 2 buah 4 buah 4 buah 1 buah 6 buah 4 buah			Sel¢

No./A/C	Job Description								
	Buat & pasang baru kisi-2 blov	ver Engine Room kiri, s	bb:)		
	- Plat)		
	1700	x	20 x	4	mm x	3 buah)		
	1000	x	20 x	4	mm x	3 buah)		
	300	x	20 x	4	mm x	9 buah)		
	80	x	20 x	4	mm x	36 buah)		
	- Mur baut dia.		1/2" x	1 1,	/2" x	19 buah)		
	- Lubang dia	:	1/2" x			36 buah)		
	- Kawat ram dia	;	1600 mm	(1 buah)	Selesai	

MV. GAS NURI ARIZONA

Semarang, Juli 2018 PT. YASA WAHANA TIRTA SAMUDERA

Chief Engineer

LPGIC GAS NURI ARIZONA Captain

Mengetahui:

PT. SAMUDERA INDONESIA SHIP MANAGEMENET

LAPORAN HASIL PEKERJAAN DOCKING REPORT

Nomor : SC1717548/LHP/YWTS Kepada

Tanggal : April 2018 Yth. **PT Pelayaran Eka Nuri Indra Pratama**

C.o. PT. Samudera Indonesia Ship Management

Jakarta

1. GENERAL INFORMATION

Name of Ship : MV GAS NURI ARIZONA

Ship Owner : PT Pelayaran Eka Nuri Indra Pratama
Ship Manager : PT Samudera Indonesia Ship Management

 Length Overall (LOA)
 :
 105 m

 Length Perpendicular (LPP)
 :
 98.4 m

 Breadth (B)
 :
 19.8 m

 Depth (D)
 :
 8.6 m

 Draft (Design) (T)
 :
 5.976 m

 Gross Tonnage
 :
 5,087 GT

No./A/C	Jo	b Description		Keterangan
3	GENERAL SERVICE			
3.23	Final Cleaning			
	Cleaning Engine Room			
	- Tangki darat kap 8 ton u/ transfer bbm dari ka)
	- Cleaning got kamar mesin , air campur minyak	& lumpur dikuras	& dibuang ke darat.)
	- Bak penampungan limbah)
	- Final cleaning got kamar mesin) Selesai
	Cleaning forecastle deck seluas 240 m², dikerjakan	sebagai berikut :)
	- Water jet	240	M²) Selesai
	COT 1 & 2 bagian luar, dikerjakan sbb :)
	- Cleaning	990	M^2)
	- Water jet	990	M^2) Selesai
	Dinding anjungan atas seluas 621 m², dikerjakan s	bb:)
	- Cleaning	621	M^2)
	- Water jet	621	M²) Selesai
	Cleaning pasir dan sampah sisa pekerjaan, sbb :)
	- Forecastle store	1	Lot)
	- Void space 1	1	Lot)
	- Void space 2	1	Lot)
	- Main Deck	1	Lot) Selesai
	Bulwark dan sekat Forecastle			
	- Cleaning	36	M^2)
	- Water jet	36	M²) Selesai
	Poop Deck, Bridge Deck, Dinding Bangunan Atas			
	- Cleaning	643	M^2)

									eterangan
	- Water jet				6	43 M²)	Selesai
4.6	Mark Painting								
4.0	_	alahuhan Do	ndaftaran	kanal di lan	ahung huri	tan ukuran :			
	Diganti baru nama Pe	elabullali Pe	lluartaran	карагиі іап	ilbulig bull	iaii, ukuraii .		ľ	
	- TANJUNG PRIOK	200	400	,		4411)	
	Plat	300 x			3 mm x	11 bh)	6.1.
		100 x	400	x 8	3 mm x	1 bh		ľ	Selesai
	Dipotong / diseset hu	ıruf J A K A F	R T A, ukur	an :)	
	Plat lama	300 x	400	х 6	5 mm x	7 bh)	Selesai
	Diganti baru huruf ta	nda Class (K	D) di lamb	ung tengah	, kanan kiri	dencKeria tambah			
	Plat baru tebal 8 mm					delignerja tarribari))	Selesai
								ĺ	
4.7	Sea Chest and Gratin			n chh.					
	Service strainer sea c - Strainer	nest Kiri di r	uang mesi	n, søb :				l)	
		20"		700 mn	n 4	1 buah	(lama)	ľ	
	Pipa sch.80 dia.		X				(lama)	ľ	
	- Tutup strainer di	a 20"	Х	2 bua	ah (lar	iia)))	
	- Pipa sch.80 dia.	12"	x	150 mn	n x	2 buah	(lama)	ĺ,	
	- Flange dia.	12"	x	2 bua	ah (lar	na)	, ,)	
)	
	- Saringan strainer	dia. 6")	
	Plat SS dia	20"	х	700 mn	n x	1 buah	(lama))	
	- Pipa sch.80 dia.	12"	x	200 mn	n x	2 buah	(lama)))	
	- Flange dia.	12"	x	4 bua	ah (lar	na))	
	- Packing karet dia	. 20"	x	5 mn	n x	1 buah)	
	- Packing karet dia	. 12"	x	5 mn	n x	4 buah)	
	- Mur baut dia.	-	7/8" x	3"	х	88 buah)	
	- Asistensi bongka	r nacang lan	tai kamarı	mecin)	
	Plat bordes	i pasarigiari	tai kailiai i	illesiii				()	
	800	X	600 x	6 mn	n x	4 buah	(lama)	ľ	
	700		600 x	6 mn		5 buah	(lama))	Selesai
4.9	<u>Propeller</u>								
	Pelaksanaan NDT pro	peller sebar	nyak 1 unit	:)	Selesai
5.4	<u>REPLATING</u>								
	Replating top bracke	t doom 2 ka	nan kiri, pl	at ukuran :)	
	- 650	х	70 x	8 mn		20 buah (kana	an))	
	- 650	x	70 x	8 mn	n x	22 buah (kiri))	Selesai
	Replating top bracke	t doom 1 ka	nan kiri. nl	at ukuran ·					
	- 700		.70 cm x 2			nx 18 buah	(kanan)	ľ	
	- 700	X	65	х	_			Ď	Selesai
	Replating top bracke	t Bullwark N	1aindeck ki	iri nlat uku	ran :			l)	

/A/C				,	ob Descript	lion				Keteranga
	Replating bracket bu	wark de		le kanaı	n, plat ukur	an:)	
	- 500	Х	250 x	8	mm x	1	buah)	
	- 460	Х	250 x	8	mm x	1	buah)	
	450	Х	80 x	8	mm x	1	buah	(top))	
	440	Х	80 x	8	mm x	1	buah	(top))	
)	
	- top bulwark)	
	600	Х	80 x	8	mm x	1	buah)	
	900	Х	80 x	8	mm x	1	buah)	
	370	Х	80 x	8	mm x	1	buah)	
	900	Х	80 x	8	mm x	1	buah)	Selesai
	Bracket bulwark depa	n forec	astla kiri nlat	tukurar	ı ·				,	
	- 470	Х	250 x	ukurai 8	mm x	1	buah		,	
	470	x	80 x	8	mm x	1	buah	(top)	,	Selesai
	470	^	80 X	0	IIIII X	1	Duaii	(τορ)	,	Selesai
	Bracket ventilasi ruar	ng comp	ressor, plat u	kuran :)	
	- 150	х	150 x	8	mm x	3	buah)	Selesai
	Bracket pengunci ma	nhole st	ore Forecastl	le, plat i	ukuran :)	
	- 120	х	50 x	14	mm x	2	buah)	Selesai
	Ganti baru top tangg	a main d	eck ke poop	deck ka	ınan, plat ul	kuran :)	
	- 3250	Х	60 x	6	mm x	1	buah)	
	- 600	X	60 x	6	mm x	1	buah)	Selesai
	Replating catwalk ter					2			,	
	- 1000	Х	700 x	30	mm x	3	bu	ıah)	
	- List 1000	v	30 x	6	mm v	6	bu	iah)	Selesai
	1000	Х	30 X	6	mm x	6	bu	iaii	ľ	Selesai
	Doubling deck kamar	mesin,	plat ukuran :)	
	- 400	x	360 x	6	mm x	1	buah		j	
	- 550	х	450 x	6	mm x	1	buah)	
	- 600	х	430 x	6	mm x	1	buah			
	- 200	x	150 x	6	mm x	1	buah		ĺ	
	- 200	x	100 x	6	mm x	1	buah		<u>(</u>	Selesai
									ľ	
5.5	Forecastle Deck									
	Perbaikan pipa udara	FOT di	dalam Foreca	stle Sto	ore, sbb :)	
	- Ketok pipa yang l	perlubar	ng					1 Unit)	
	- Fiber pipa Ø 5"	x	100	cm	x 4 lap	is		1 Unit)	Selesai
	Sorvice cover weat!	i Eoros-	ustla daal: st -	ro chh				(material lama)		
	Service cover ventila: - Plat	ы гогеса	istie deck StO	16, 200				(material lama)	/	
		v	100.4	c	mmy	1	huah		,	
	180	Х	180 x	6	mm x	1	buah		l'	
	- Engsel		20	_	ma rea	_	hus!-		l)	
	70	Х	30 x	6	mm x	5	buah)	
	- Mur baut dia.		5/8" x			l buah) -	
	- Baut kupu-2 dia		5/8" x	120 mr	n x	1	. buah		J)	Selesai

			J	ob Descri	Puon			Ketera
Bongkar pasang cover	blower Mot	or Roon	n, sbb :		(mater	al lama sa	atu rangkaian utuh))
- Cover luar)
830	x 8	30 x	8	mm x	1	buah)
- Cover dalam)
500	x 5	00 x	8	mm x	1	buah)
- Bracket cover)
150	x 1	50 x	8	mm x	4	buah)
- Dinding cover)
2500	х 3	80 x	8	mm x	1	buah)
- Bracket dinding)
280	x 1	.30 x	8	mm x	4	buah)
- As drat dia	1 1/2"	х	30	0 mm	х	1	buah)
- Bul)
900	x 8	00 x	10	mm x	2	buah)
- Cover luar)
1040	x 10	40 x	8	mm x	1	buah		<u>(</u>
- Cover dalam	. 10		5		-	~ 4411		ľ
660	x 6	60 x	8	mm x	1	buah		ľ
- Bracket cover	, 0	30 A	5		1	Juli		ľ
150	x 1	.50 x	8	mm x	4	buah		ľ
- Dinding cover	^ 1	.50 ^	J		4	Duail		ľ
3200	x 4	50 x	8	mm x	1	buah		ľ
- Bracket dinding	^ 4	JU 7	J	X	1	Duail		(
450	x 1	.50 x	8	mm x	4	buah		ľ
	5/8"			" x	10	buah	(supply dock)	ľ
- Bul	3/0	^	2	^	10	Duail	(Juppiy dock)	ľ
900	x 8	00 x	10	mm x	2	buah) Sele
300	Α	.00 X	10	111111 X	_	buun		, sele
Replating cover blowe)
- 1580	x 1	50 x	8	mm x	1	buah)
- 900		50 x	8	mm x	1	buah)
- Las ulang cover da	lam blower	2 layer	sepanjar	ng:)
150 mm x 24 titik)
550 mm x 6 titik) Sele
Ganti baru pipa cuci ja	ngkar kanar	ı kiri, sbl	b:)
Bongkar pasang pipa c	uci jangkar,	sbl(mat	erial lan	na))
- Pipa sch.40 dia.	1"	х	20	0 mm	Х	1 bua	ah)
- Pipa sch.40 dia.	1"	х	10	0 mm	X	1 bua	ah)
- Flange dia.	1"	х	:	2 buah)
- Globe valve dia	1"	х		1 buah)
- Packing karet dia	1"	х	3 mm	x 2	buah)
- Mur baut dia	1/2"	Х	2"	x 8	buah) Sele
Kanan)
- Pipa sch.40 dia.	2"	х	35	0 mm	X	1 bua	ah)
- Pipa sch.40 dia.	2"	х	70	0 mm	Х	1 bua	ah)
- Pipa sch.40 dia.	2"	х	130	0 mm	Х	1 bua	ah)
- Pipa sch.40 dia.	2"	х		0 mm	X	1 bua)
- Pipa sch.40 dia.	2"	х		0 mm	x	1 bua		b
- Elbow dia	2"	х		3 buah				Ĺ

/C				Job Des	crip	tion		Keteran
	- Flange dia.	2"	х	2 buah	1)
	- Flange dia.	1"	x	1 buah)
	- Ubolt dia	2"	x	2 buah)
	- Packing karet dia	2"	х	3 mm x	3	buah)
	- Mur baut dia	5/8"	x	2" x	12	buah)
)
	- Pipa sch.40 dia.	2"	x	350 mm		x	1 buah)
	- Pipa sch.40 dia.	2"	х	600 mm		Х	1 buah)
	- Pipa sch.40 dia.	2"	x	350 mm		X	1 buah)
	- Pipa sch.40 dia.	2"	х	100 mm		х	1 buah)
	- Elbow dia	2"	х	2 buah	1)
	- Flange dia.	2"	х	1 buah	1)
	- Lubang dia	2"	x	2 buah	1)
	- Pipa sch.40 dia.	1 1/2"	x	200 mm		x	3 buah)
	- Flange dia.	1 1/2"	x	3 buah	1)
	- Lubang dia	1 1/2"	x	2 buah	1)
	- Packing karet dia	2"	x	3 mm x	4	buah)
	- Mur baut dia	5/8"	x	2" x	16	buah) Selesa
	Kiri)
	- Pipa sch.40 dia.	2"	х	350 mm		x	1 buah	
	- Pipa sch.40 dia.	2"	х	600 mm		х	1 buah)
	- Pipa sch.40 dia.	2"	х	350 mm		х	1 buah)
	- Pipa sch.40 dia.	2"	х	100 mm		х	1 buah)
	- Elbow dia	2"	х	2 buah	ı)
	- Flange dia.	2"	х	1 buah	ı)
	- Prop plat dia	2"	x	10 mm	x	2	buah)
	- Pipa sch.40 dia.	1 1/2"	x	200 mm		x	3 buah))
	- Flange dia.	1 1/2"	x	3 buah	1			5
	- Packing karet dia	2"	х	3 mm x	4	buah		j
	- Mur baut dia	5/8"	х	2" x	16	buah)
	- Pipa sch.40 dia.	2"	x	800 mm		x	1 buah)
	- Pipa sch.40 dia.	2"	x	400 mm		x	1 buah	ľ
	- Flange dia.	2"	x	1 buah	1			5
	- Sock dia	2 1/2"	x	2 buah				<u> </u>
	- Packing karet dia	2"	x	3 mm x		buah		5
	- Mur baut dia	5/8"	x	2" x	4)
	- Pipa sch.40 dia.	2"	х	400 mm		x	1 buah)
	- Pipa sch.40 dia.	2"	x	200 mm		x	1 buah	ľ,
	- Elbow dia	2"	×	2 buah	1	^	2 50011	/
	- Flange dia.	2"	X	2 buar 2 buar				/
	- Packing karet dia	2"	X	3 mm x		buah		/
	- Mur baut dia	2 5/8"	X	2" x	8	buah) Selesa
	Sade dia	5,0	^	- ^	5	~ 4411		, 5000
	Ganti baru pipa udara W	'BT 1 P/S, sł	ob :)
	Kanan	- "		350		v	1 huah	ľ
	- Pipa sch.80 dia. - Flange dia.	5" 5"	Х	250 mm 2 buah		х	1 buah	P

./A/C				Job [Descri	ption			Keteranga
)
	- Pipa sch.80 dia.	3"	X	250 m		x	1 buah)
	- Flange dia.	3"	X	1 bu)
	- Lubang dia	3"	Х	1 bı	uah)
	- Pipa sch.80 dia.	6"	х	100 m	m	x	1 buah)
	- Packing karet dia		Х	3 mm	x 3	bual	h)
	- Mur baut dia	5/8"	х	2"	x 20) bual	h)
	- Pipa sch.80 dia.	5"	x	450 m	m	x	1 buah)
	- Pipa sch.80 dia.	5"	х	250 m	m	х	1 buah)
	- Flange dia.	5"	x	3 bı	uah)
	- Pipa sch.80 dia.	3"	х	250 m	m	x	1 buah)
	- Flange dia.	3"	х	1 bı					j)
	- Lubang dia	3"	Х	1 bı)
	- Tutup pipa dia	3"	х	12 m		1	1 buah)
	- Pipa sch.80 dia.	6"	х	150 m	m	х	1 buah)
	- Packing karet dia	J	X	3 mm		^ bual			<u>,</u>
	- Mur baut dia	5/8"	x) bual)
	Asistensi :)
		naterial lama)							(
	- Pipa sch.80 dia.	6"	х	350 m	m	х	1 buah		(
	- Fipa scri.80 dia.	6"	X	2 bı		^	1 Duaii		,
	- Plat heper dia	6"	x x		ım x	4	1 buah		,
	- Kupingan	70 x 40	x		ım x				(
	- Packing karet dia	, 5 , 7 40	x			bual			(
	- Mur baut dia	3/8"	x			bual) Selesai
	Bongkar pasang & servic	e air vent hea	ad, sl	bb :			(mat	erial lama))
	- Air vent head dia	5" - 5 K	х		uah	(bor	ngkar pasang)	,)
	- Air vent head dia	5" - 5 K	Х	4 bı			vice))
	> Devcon		х	4 bı		•	,)
	- Packing karet dia		х	3 mm	x 10) bual	h)
	- Mur baut dia	5/8"	х	2"	x 40) bual	h)
	- Plat ventilasi	120 x 250	х	4 m	m x	8	3 buah)
	- Saringan	120 x 220	х	8 bı	uah) Selesai
5.6	Main Deck and Cargo Ta	ınk No. 1 - No). 2 <i>[</i>	<u>Area</u>					
	Bongkar pasang tudung	blower Void S	рас	e 1 di Main	deck,	ukuran	ı:)
	(Dalam keadaan utuh))
	Plat lama dia.	1030	х	450	x	1 unit)
	Plat lama	150	Х	450	х	6 mm	x	6 bh)
	Plat lama dia.	730		:	x	6 mm	x	1 bh)
	As lama dia.	5/8"	х	450 m	m)
	Diganti baru penguat))
	Plat	130	х	150	x	8 mm	x	6 bh)
	i e		х	130		8 mm		5 bh	L

o./A/C					Jo	ob Des	cript	tion					Keterangar
	Mur baut dia.	5	5/8" x 2"	х		6 buah	ı)
)
	Top / dinding blower												P
	Plat		150	Х	160	0 x	8	3 mm	Х		2 bh) Selesai
	Bongkar pasang tudun	g blow	er Void S	Space	e 2 di M	ain ded	ck, u	kuran :)
	- Plat)
	3250	x	470	x	6	mm x	K	1	buah	diroll)
	450	x	150	x	6	mm x	K	1	buah	(lama))
	- Blower dia		41"	x		1 buah		(lama))
	- Plat dia		41"	X	6	mm x	K	1	buah	(lama))
	- Mur baut dia.		5/8"	х	2	" x	6	6 buah)
	- Doubling batang b	lower)
	Plat)
	150	X	140	X	8	mm x	K	1	buah)
	Ganti baru support pip	a carg	o & pem	adan	n main d	deck 2	kana	an kiri, sb	b :)
	Kanan)
	- Siku)
	60	+	60	X	6	х	300	mm x	4	bh		20.00 kg)
	Doubling)
	- Doubling 600	v	COO.	.,	o	ma	,	4	hua!-			00 42 1	,
	- Lubang dia	Χ 1.	600 : 4 mm	x x		mm x 4 buah		4	buał=			90.43 kg	ľ
	- Ubolt dia	6'		X		4 buan 2 buah							,
	- Packing karet dia				5 mm			huah					,
	- Mur baut dia		/2"	X	2"			buah					(
	Widi baat ala	-,	_	^	_	Α	Ü	buun)
	- Doubling)
	600	X	600		8			4	buał=			90.43 kg)
	- Lubang dia		4 mm			8 buah)
	- Ubolt dia	2′		Х		4 buah)
	- Packing karet dia		600	Х	5 mm	Х	4	buah)
	Kiri))
	- Siku)
	100	+	100	x	10	х	300	mm x	3	bh		14.13 kg)
	- Lubang dia	14	4 mm	х		6 buah	ı)
	- Ubolt dia	5′	,	x		3 buah	ı)
	- Doubling))
	600	х	600	x	8	mm x	Κ	8	buał=			180.86 kg	6
	- Lubang dia		4 mm	X		8 buah		,				0	Ď
	- Ubolt dia	4′		х		4 buah)
)
	- Doubling)
	600	X	600	X	8	mm x	K	6	buał=			135.65 kg)
	- Lubang dia		4 mm	х		6 buah	ı)
	- Ubolt dia	3′	,	х		3 buah	ı)
	- Doubling)
	600		600		8	mm x			buał=			226.08 kg	γ'

L				Jo	ob Descrip	otion					Ketera
- Lubang dia		14 mm	х	4	0 buah)
- Ubolt dia		1 1/2"	х	1	0 buah)
- Ubolt dia		2"	x	1	0 buah) Sel
Ganti baru suppor	t pipa d	cargo & pe	madar	n main d	deck 1 kiri	, sbb :)
- Doubling)
600	х	60	0 x	8	mm x	8	buah			180.86 kg)
- Lubang dia		14 mm	x		8 buah)
- Ubolt dia		4"	x	,	4 buah)
- Doubling)
600	х	60	0 x	8	mm x	6	buah			135.65 kg)
- Lubang dia		14 mm	x		6 buah)
- Ubolt dia		5"	х		3 buah)
- Packing teflon	dia	50 x 10	х	3 mm	x 26	buah)
- Packing karet	dia	60 x 40	x	5 mm	x 10) buah) Sel
Asistensi ganti bar	u supp	ort pipa di	main	deck :)
Bongkar pasang gr	rating)
- 800	х	10	0 x	30	mm x	1	buah)
- Mur baut dia		3/8"	х	2"	x 2	buah) Sel
Ganti baru suppor	t Deck	Operation	Syster	n valve ۱	WBT 3 kiri	, sbb :)
- siku)
	50 +	50	х	5	x	1000	mm x	8	bh)
- Kupingan)
100	х	: 5	0 x	12	mm x	1	buah)
- Doubling)
70	х	: 7	'0 x	12	mm x	1	buah) Sel
Replating pelindur	ng kare	t doom 1 8	& 2 kiri	, plat uk	uran :)
- 3000	х	10	0 x	8	mm x	1	buah)
- 3000	Х	: 3	0 x	8	mm x	1	buah)
- 3000	Х		0 x	8	mm x	1	buah)
- As drat SS dia		2"	х		mm x	30	buah)
- Lubang			X	3	0 buah)
- Mur dia			X	3	0 buah) Sel
Stel ulang pelindu	ng kare	et doom 1	& 2 kir	i, plat uk	uran :)
- 10000	х	10	0 x	8	mm x		1 buah)
- 10000	х	: 3	0 x	8	mm x		1 buah)
- As drat SS dia		2	2" x		mm x		1 buah)
- Mur dia			х		1 buah) Sel
Service air vent he	ad WB		n FOT)
- Air vent head	dia	4"	х		2 buah	(lama))
- Bor dia		10"	х	2	0 buah	(ambil b	oaut patah))
- Tap & drat ula	ing	10"	х		0 buah)
- Air vent head	dia	4"	Х		2 buah	(lama))
			_			/I \					l\
- Plat ventilasi		250 x 12	0 x		4 buah	(lama)					ľ

				Jo	b Des	crip	tion				Keterang
	- Mur baut dia	5/8"	х	2 1/2"	x	16	buah	(lama)) Selesa
	Ganti baru pipa FW di Vo		, sbb :)
	- Pipa sch.80 dia.	2 1/2"	х		0 mm		X	1 b	ouah)
	- Flange dia.	2 1/2"	Х		1 buah)
	- Check valve dia	2 1/2"	Х		1 buah		(lama))
	- Ubolt dia	2 1/2"	Х	-	1 buah	1)
	- Pipa sch.80 dia.	3"	х	100	0 mm		x	1 b	uah))
	- Packing karet dia	2 1/2"	х	3 mm	х	2	buah)
	- Mur baut dia	1/2"	x	2"	x	8	buah) Seles
	Asistensi)
	- Bongkar insulation r	ockwoll sel	kat	1,5	mtr	х	1,5	mtr	2 lembar	(lama))
	- Pasang Pin insulation)
	- As drat			6	mm	х	120	mm	15 buah	(baru))
	- Cup nut besi			М6					15 buah	(baru))
	- Pasang insulation ro	ckwoll seka	at	1,5	mtr	x	1,5	mtr	2 lembar	(lama)) Seles
	Service air vent head FW	/ kanan kiri))
	- Pipa sch.80 dia.	3"	×	550	0 mm		x	2 h	ouah		,)
	- Flange dia.	3"	x		4 buah	1	(lama)	21			,)
	- Air vent head dia	3"	x		2 buah		(lama)))
	- Packing karet dia	3"	x	5 mm		. 2		(lama)))
	- Mur baut dia	5/8"	x	2"	x		buah		lama)) Seles
	Bongkar ganti baru pipa				_)
	Pipa sch. 40 dia.	4"	Х		0 mm		Х		ouah)
	Pipa sch. 40 dia.	4"	Х		0 mm		Х		ouah)
	Pipa sch. 40 dia.	4"	Х	600	0 mm		Х		ouah)
	Elbow sch. 40 dia.	4"	Х						ouah)
	Sock Sleve dia.	5"	Х					2 b	ouah) Seles
	Bongkar ganti baru pipa	bilge Void	Space 2	2, sbb :)
	Pipa sch. 40 dia.	4"	Х		0 mm		x	1 b	ouah)
	Pipa sch. 40 dia.	4"	X	500	0 mm		x	1 b	ouah)
	Elbow sch. 40 dia.	4"	X						ouah)
	Sock Sleve dia.	5"	Х					2 b	ouah) Seles
	Perbaikan oil spill box FC	T & AEP N	1ain De	ck depai	n, sbb	:)
	- Ketok spill box								1 Unit)
	- Dempul spill box yar	ng berlubar	ng						1 Unit)
	- Sandpaper spill box								1 Unit)
	- Fiber Spill box 1	40 x	70	cm	х	7 lap	ois		1 Unit)
	- Fiber Spill box	70 x	10	cm	х	7 lap	ois		1 Unit)
	- Fiber Spill box 1	40 x	10	cm	х	7 lap	ois		1 Unit)
	- Pasang stop kran sip	ll box di po	op dec	k)
	- Sock drat				х	1/2"			1 buah)
	- Ball valve stainless				x	1/2"			1 buah) Seles
	Perbaikan pipa udara FO	T Main De	ck kana	ın, shh)
- 1	. Crountair pipa duara FO	erlubang	CK KUIIA	, 300 .					2 Unit		

No./A/C			J	lob Des	cripti	ion				Keterangan
	- Fiber pipa Ø 2,5"	x 76	5 cm	x 4	4 lapi	is	2	Unit)	Selesai
	Bongkar ganti baru Air Vent	t Head WBT 3	C/S	3	3"	x	5K	1 Unit)	Selesai
	Ganti baru box panel ESD	(ma	terial cu	ipply do	nck)					
	- Ganti baru box panel ul				ckj		1 buah		(
	- Pondasi box	Kurum 400 x 50	0 X 200				1 Duun		,	
		0+50 x	300 x	5 mm		x	2 buah		,	
	Mur baut dia	3/8" x	2"	J 111111		x	4 buah		(
	- Asistensi connect dis			FSD		^	4 buan		(
	- Pasang klem kabel	connect Ruber	power	LJD			3 buah		,	Selesai
									ľ	
	Plat deck seluas 505 m², dik	erjakan sebag	ai berik	ut :)	
	a. Ketok						505	M ²)	
	b. Water jet						505	M ²)	
	c. Sandblasting						505	M²)	
	d. Pengecatan :)	
	- Cat Primer x	1 lapis					505	M²)	
	- Cat AC x	1 lapis					505	M²)	
	- Cat AF x	1 lapis					505	M²)	
	- Cat anti slip merah ma	ain deck kanar	kiri				248	M²)	
	- Lis cat kuning						85	M ²)	
	* Material cat supply ow	ner)	Selesai
5.6.3.	CARGO TANK AREA									
	Ganti baru dry powder actu	ator box, sbb	:)	
	- Plat)	
	860 x	800 x	4	mm >	K	1	buah)	
	800 x	400 x	4	mm >	K	1	buah)	
	700 x	20 x	4	mm x	K	4	buah)	
	1120 x	20 x	4	mm >	K	2	buah)	
	2400 x	30 x	4	mm >	K	2	buah)	
	460 x	400 x	4	mm >	K	2	buah)	
	- Bongkar pasang (mat	erial lama)))	
	> Handle & pengunci			х	2	buah			<u> </u>	
	> Engsel			х	2	buah)	
	> Neple dan selang tem	baga		х	2	buah)	
	- Ganti baru : (matı	erial supply do	ıck))	
	> Pondasi tabung	c. iai suppiy ut	-CIVJ						ľ	
		4" x		50 mm		x	1 buah		ľ	
	> Pondasi box		-	, o mm		^	1 Duali		ľ	
		100+50 x	400 x	6 mm		x	2 buah		ľ,	
		0+50 x		5 mm		x	2 buah		ľ,	
	Mur baut dia	2.55 A	.00 X	J		x	4 buah)	Selesai
	Bongkar pasang flexible joir	n cargo, shh						(material lama)		
		6" x	30	00 mm		x	2 buah	,	ľ	
		6" x		2 buah		(lama)	_ 20011		ľ	
		6" x	5 mm			buah			ľ	
	_	3/4" x	3"			buah			ľ	Selesai

lo./A/C					Jo	ob Desc	ription					Keterangan
	Las ulang pipa hydro	ulic ESD	1)
	- Pipa sch.80 dia.	12	2"	х	200	0 mm	x		2 bu	ah	(lama))
	- Pipa sch.80 dia.	12	2"	x	300	0 mm	x		1 bu	ah	(lama))
	- Elbow dia	12	2"	x		5 buah	(lam	ıa))
	- T dia	12	2"	x		1 buah	(lam	ıa))
)
	- Asistensi bongka	r pasang	g plat gr	ating)
	800	x	600	Эx	2"	buah	(lam	na)) Selesai
5.7	Poop Deck and Acco	mmoda	tion Ro	om								
	Gun Room Dapur dik)
	- Ganti baru dindir			ıhan si	tainless							6
	> Tripleks + SS		2.88 m²) Selesai
	Bongkar pasang tutu	p closed	kamar	mand	i abk se	banyak	5 buah) Selesai
	- Ganti baru :											ľ
	Dinding kamar m)
	> Tripleks 22 mm	50	0 x 100	cm		Х	3 bual	h)
	Kusen kamar ma	ndi				x	3 bual	h) Selesai
	Perbaikan dinding / s	ekat kar	mar mai	ndi. sh	nh :							
	- Bongkar dinding			,	100	cm	x 50	(cm x	22 mm	3 Unit	ĺ)
	- Pasang ganti bar		g triplex	<	100	cm	x 50		cm x	22 mm	3 Unit	ĺ,
	- Fiber dinding		B cp.c.	•	200	•	, o o				J J	6
	- Sandpaper dind	ing			100	cm	x 20		cm		6 sisi	<u>(</u>
	- Fiber dinding	6			100	cm	x 20		cm x	2 lapis	6 sisi	(
	- Dempul sambu	ngan din	ding		100	CIII	X 20	,	ZIII X	2 14013	3 unit) Selesai
	Perbaikan kusen pint	u kamar	mandi,	sbb :)
	- Bongkar kusen				70	cm	x 50	(cm x	(kanan kiri)	2 set)
	- Pasang ganti bar	u kusen			70	cm	x 50	(cm x	(kanan kiri)	2 set)
	- Pasang sambung	an kusei	n							(kanan kiri)	2 set)
	- Pasang konstruks	si tamba	han kus	en	65	cm	x 5	(cm		2 Unit)
	- Asistensi bongka	r pasang	gpintu								2 Unit) Selesai
	Replating tangga gan	gway kii	ri, sbb :		(ma	terial la	ma))
	- 70 + 180 + 70	х	8	х	180	00 n	nm x 4	1 k	oh		144.69 kg)
	- 70 + 180 + 70	х	8	х	80	0 n	nm x 4	1 k	oh		64.31 kg)
	- Doubling)
	180	X	90	х	8	mm x	2	2 k	ouah		10.00 kg)
	- Pondasi kayu tan	gga gan	gwav									
	180	Х	100) x	8	mm x	2	2 k	ouah		10.00 kg	<u> </u>
	120	x	100		8	mm x			ouah		20.00 kg	<u> </u>
	140	x	100		8	mm x			ouah		10.00 kg	6
	- Bongkar pasang		100		J	X	-				_0.00 Kg	6
	1000	X	80) x	100	mm x	1	L ł	oual(lai	ma)		6
	- Engsel tangga		50			X	-		(101	~1		6
	200	x	200) x	8	mm x	2	<u>)</u>	ouah			6
	500	×	70		8	mm x			ouah			ľ

o./A/C					lob De	scriptio	on								Keterangan
	- Mur baut dia				х	2 b	buah		(lama	a))	
	- Engsel lidah tangga)	
	120	x	70 x	8	mm	x	5	bua	ah)	
	- Bongkar pasang)	
	Lidah-2													b	
	800	x 7	'00 x	8	mm	X	1	bua	ah	(lam	a)			6	
	Pengunci lidah-2				х	2 b	buah			(lam	a)			b	
	Spin roll				х	1 b	buah			· (lam				ĺ	
										`	,			ĺ	
	- Ganti baru :													ĺ	
	Frame tangga													ĺ	
	> Kanal C	(70 + 7	0) x	280	х	890	mm	х	3mm	1		1 b	ıah	6	
	> Kanal C	(70 + 7		280	х	1100	mm	х	3mm	1		1 bı	ıah	6	
	Roling bawah	•	,											ĺ	
	> As dia	3/4"	х		50 mm	×	x	:	1 buah	1				ĺ	
	Pengunci tangga	·												ĺ	
	> Besi esser dia	19 mm	x	63	L0 mm	×	x	:	3 buah	1				ĺ	
	> Mur baut dia.	4/8"	х		5" x		buah							ĺ	
		, -												ĺ	
	Bongkar pasang dei	ngan penge	elasan	pondasi	rumah	roll sel	ling							ĺ	
	> Plat	260) х	18	30 x	220 r	mm	:	2 buah	1)	
)	
	Bongkar pasang dei	ngan penge	elasan	step tan	gga)	
	> Plat	380) х	59	90 x	5 r	mm	3	3 buah	1)	
	- Dilaksanakan uji col	ba)	Selesai
5.8	- Dilaksanakan uji col Boat Deck, Bridge Deck Plat bridge deck seluas	, and Navi			ai beril	kut :)))	Selesai
5.8	Boat Deck, Bridge Deck	, and Navi			ai beril	kut :			102		M^2))))	Selesai
5.8	Boat Deck, Bridge Deck Plat bridge deck seluas	, and Navi			ai berik	kut :			102		M^2)))))	Selesai
5.8	Boat Deck, Bridge Deck Plat bridge deck seluas a. Sandblasting	t, and Navi, 102 m², dik		n sebaga	ai berik	kut :			102		M^2)))))))	Selesai
5.8	Boat Deck, Bridge Deck Plat bridge deck seluas a. Sandblasting b. Pengecatan:	s, and Navi 102 m², dik 1	kerjaka	n sebaga s	ai berik	kut :))))))	Selesai
5.8	Boat Deck, Bridge Deck Plat bridge deck seluas a. Sandblasting b. Pengecatan: - Cat Primer x	s, and Navi 102 m², dik 1	kerjaka lapi	n sebaga s	ai berik	kut :			102		M^2)))))))))	Selesai
5.8	Boat Deck, Bridge Deck Plat bridge deck seluas a. Sandblasting b. Pengecatan: - Cat Primer x - Cat Finish x	102 m², dik 102 m², dik 1	k erjaka lapi lapi	n sebaga s s	ai beril	kut :			102		M^2 M^2)	Selesai
5.8	Boat Deck, Bridge Deck Plat bridge deck seluas a. Sandblasting b. Pengecatan: - Cat Primer x - Cat Finish x - Cat anti slip merak - Lis cat kuning	t, and Navi , 102 m², dik 1 1 1	k erjaka lapi lapi	n sebaga s s	ai beril	kut :			102 102		M² M²)	
5.8	Boat Deck, Bridge Deck Plat bridge deck seluas a. Sandblasting b. Pengecatan: - Cat Primer x - Cat Finish x	t, and Navi , 102 m², dik 1 1 1	k erjaka lapi lapi	n sebaga s s	ai beril	kut :			102 102 60		M^2 M^2)	Selesai
5.8	Boat Deck, Bridge Deck Plat bridge deck seluas a. Sandblasting b. Pengecatan: - Cat Primer x - Cat Finish x - Cat anti slip merak - Lis cat kuning	a, and Navi 102 m², dik 1 1 1 n main decl	lapi lapi lapi k kanai	n sebaga s s s	ai berik	kut:			102 102 60		M^2 M^2)	
5.8	Boat Deck, Bridge Deck Plat bridge deck seluas a. Sandblasting b. Pengecatan: - Cat Primer x - Cat Finish x - Cat anti slip meral - Lis cat kuning * Material cat supply	a, and Navi 102 m², dik 1 1 1 n main decl	lapi lapi lapi k kanai	n sebaga s s s	ai berik	kut:			102 102 60		M^2 M^2)	
5.8	Boat Deck, Bridge Deck Plat bridge deck seluas a. Sandblasting b. Pengecatan: - Cat Primer x - Cat Finish x - Cat anti slip meral - Lis cat kuning * Material cat supply Perbaikan pondasi lamp	t, and Navi 102 m², dik 1 1 1 n main decl owner	lapi lapi k kanai kanan	n sebaga s s s	ai berik	kut:			102 102 60		M^2 M^2				
5.8	Boat Deck, Bridge Deck Plat bridge deck seluas a. Sandblasting b. Pengecatan: - Cat Primer x - Cat Finish x - Cat anti slip meral - Lis cat kuning * Material cat supply Perbaikan pondasi lamp Ganti baru: - Pondasi pintu navig	t, and Navi, 102 m², dik 1 1 1 n main decl owner ou navigasi	lapi lapi k kanai kanan	n sebaga s s n kiri , sbb :	ai berik		×	1	102 102 60		M^2 M^2				
5.8	Boat Deck, Bridge Deck Plat bridge deck seluas a. Sandblasting b. Pengecatan: - Cat Primer x - Cat Finish x - Cat anti slip meral - Lis cat kuning * Material cat supply Perbaikan pondasi lamp Ganti baru: - Pondasi pintu navig	t, and Navi, 102 m², dik 1 1 1 n main decl owner ou navigasi gasi, plat uk x 2	lapi lapi k kanai kanan	n sebaga s s s n kiri , sbb :		×	× ×		102 102 60 15	1	M^2 M^2				
5.8	Boat Deck, Bridge Deck Plat bridge deck seluas a. Sandblasting b. Pengecatan: - Cat Primer x - Cat Finish x - Cat anti slip meral - Lis cat kuning * Material cat supply Perbaikan pondasi lamp Ganti baru: - Pondasi pintu navig 300	t, and Navi, 102 m², dik 1 1 1 n main decl owner ou navigasi gasi, plat uk x 2	lapi lapi k kanan kanan :	n sebaga s s s n kiri , sbb :	mm	×			102 102 60 15	1	M^2 M^2				
5.8	Boat Deck, Bridge Deck Plat bridge deck seluas a. Sandblasting b. Pengecatan: - Cat Primer x - Cat Finish x - Cat anti slip meral - Lis cat kuning * Material cat supply Perbaikan pondasi lamp Ganti baru: - Pondasi pintu navig 300 - Mur baut dia.	t, and Navi 102 m², dik 1 1 1 n main decl owner ou navigasi gasi, plat uk x 2	lapi lapi k kanan kanan :	n sebaga s s s n kiri , sbb :	mm	x x		3	102 102 60 15	1	M^2 M^2				
5.8	Boat Deck, Bridge Deck Plat bridge deck seluas a. Sandblasting b. Pengecatan: - Cat Primer x - Cat Finish x - Cat anti slip meral - Lis cat kuning * Material cat supply Perbaikan pondasi lamp Ganti baru: - Pondasi pintu navig 300 - Mur baut dia Engsel pintu	t, and Navi, 102 m², dik 1 1 1 n main decl owner ou navigasi gasi, plat uk x 2 3/	lapi lapi k kanan kuran : 180 x 180 x	n sebaga s s s n kiri . sbb : 6 30 60	mm mm	×	x x	3	102 102 60 15 buah		M^2 M^2				
5.8	Boat Deck, Bridge Deck Plat bridge deck seluas a. Sandblasting b. Pengecatan: - Cat Primer x - Cat Finish x - Cat anti slip meral - Lis cat kuning * Material cat supply Perbaikan pondasi lamp Ganti baru: - Pondasi pintu navig 300 - Mur baut dia Engsel pintu Pipa sch.40 dia.	t, and Navi, 102 m², dik 1 1 1 n main decl owner ou navigasi gasi, plat uk x 2 3/	lapi lapi k kanan kanan : 280 x /8" x	n sebaga s s s n kiri . sbb : 6 30 60	mm mm	×	x x	3	102 102 60 15 buah buah		M^2 M^2				
5.8	Boat Deck, Bridge Deck Plat bridge deck seluas a. Sandblasting b. Pengecatan: - Cat Primer x - Cat Finish x - Cat anti slip meral - Lis cat kuning * Material cat supply Perbaikan pondasi lamp Ganti baru: - Pondasi pintu navig 300 - Mur baut dia Engsel pintu Pipa sch.40 dia. Besi esser dia Pengunci pintu	t, and Navi, 102 m², dik 1 1 1 n main decl owner ou navigasi (asi, plat uk x 2 3/ 14 14 m	lapi lapi k kanan kanan : 280 x /8" x	n sebaga s s s n kiri 6 30 60 80	mm mm	X X X	x x	3 4 2	102 102 60 15 buah buah		M^2 M^2				
5.8	Boat Deck, Bridge Deck Plat bridge deck seluas a. Sandblasting b. Pengecatan: - Cat Primer x - Cat Finish x - Cat anti slip meral - Lis cat kuning * Material cat supply Perbaikan pondasi lamp Ganti baru: - Pondasi pintu navig 300 - Mur baut dia Engsel pintu Pipa sch.40 dia. Besi esser dia Pengunci pintu	t, and Navi, 102 m², dik 1 1 1 n main decl owner ou navigasi gasi, plat uk x 2 3/ 14 m	lapi lapi k kanan kuran : 80 x /8" x	n sebaga s s s n kiri 6 30 60 80	mm mm mm	X X X	x x	3 4 2	102 102 60 15 buah buah		M^2 M^2				
5.8	Boat Deck, Bridge Deck Plat bridge deck seluas a. Sandblasting b. Pengecatan: - Cat Primer x - Cat Finish x - Cat anti slip meral - Lis cat kuning * Material cat supply Perbaikan pondasi lamp Ganti baru: - Pondasi pintu navig 300 - Mur baut dia Engsel pintu Pipa sch.40 dia. Besi esser dia Pengunci pintu 70 - Dinding lampu navi	t, and Navi 102 m², dik 1 1 1 1 n main decl owner ou navigasi (asi, plat uk x 2 3/ 14 m	lapi lapi k kanan kuran : 80 x /8" x	n sebaga s s s n kiri . sbb : 6 30 60 80	mm mm mm	x x x	x x	3 4 2	102 102 60 15 buah buah		M^2 M^2				
5.8	Boat Deck, Bridge Deck Plat bridge deck seluas a. Sandblasting b. Pengecatan: - Cat Primer x - Cat Finish x - Cat anti slip meral - Lis cat kuning * Material cat supply Perbaikan pondasi lamp Ganti baru: - Pondasi pintu navig 300 - Mur baut dia Engsel pintu Pipa sch.40 dia. Besi esser dia Pengunci pintu 70 - Dinding lampu navi	t, and Navi 102 m², dik 1 1 1 1 n main decl owner ou navigasi (asi, plat uk x 2 3/ 14 m x gasi x	lapi lapi k kanan kanan kanan kanan kanan kanan xuran : 280 x /8" x /2" x nm x	n sebaga s s s n kiri . sbb : 6 30 60 80	mm mm mm	x x x	x x	3 4 2	102 102 60 15 buah buah buah		M^2 M^2				

	<u> </u>				J	ob Desc	ription					ŀ	Keterangan
	1400	х	30	х	6	mm x		1	buah		(kiri)	<u> </u>	
	600	x		х	6	mm x			buah		(kiri)	ľ	
	Bongkar pasang :						(material				()		
	- Pintu navigasi, p	lat ukur	ran :				(,				ľ	
	470	х	400	x	6	mm x		3	buah			,	
	- Lis pintu navigas			^	J	11111111		3	buan			,	
	500	л, ріас a Х		х	6	mm x		3	buah			ľ	
	- Lampu navigasi	^	8"		U	111111 X			buah			ľ	
		s a l	0	Χ.					buah)	
	- Pasang klem kab	ei						0	Duan)	
	Asistensi connect dis	connec	t kahel no	war)	Colosai
	Asisterisi connect dis	COIIIIEC	it kabel pt	JWEI								ľ	Selesai
	Ganti baru pondasi A	\ntena	dan sunne	ort ka	ihel nav	ıigasi de	rck shh					ľ	
	- Pondasi antena	viiteria v	аан заррс	JI C KG	ibei iiav	rigasi uc	.ck, 300 .					ľ	
	Pipa sch.40 dia.		1 1/2"	х	151	.0 mm	x	1	buah	(lama)		ľ	
	- Support kabel		1 1/2	^	151	.0 111111	^	_	buan	(lama)		ľ	
		.,	40	v	c	ma ma	v	7	huah				
	100	X	40 40	X	6	mm	X		buah)	
	140	Х	40	Х	6	mm	X	9	buah)	
	- Klem antena		00							(1))	
	110	Х	80	Х	6	mm			buah	(lama))	
	70	Х	40	Х	6	mm			buah	(lama))	
	Mur baut dia		1"	Х	2 1/2′	,	Х	8	buah	(lama))	
	- Tutup pipa anter	na)	
	60	Х	60	Х	8	mm	Х		buah)	
	- Pasang klem kab							9	buah)	
	Asistensi connect dis	sconnec	t kabel ar	ntena								L .	Selesai
												P	Sciesai
)	Sciesai
5.17	Deck Machinery)	Sciesai
	Windlass)	Sciesar
		i lidah -		dlass		r kanan	di Forecas	tle Dec	ck, ukuran :)	Sciesar
	Windlass	i lidah - 120	lidah win	dlass x	jangka	r kanan 20 x	di Forecas [,] 16 mm	tle Dec	ck, ukuran : 2 bh)))	Sciesar
	Windlass Diganti baru pondasi Plat		lidah win	х	jangka)))	Sciesar
	Windlass Diganti baru pondasi Plat	120	lidah win	х	jangka 22))))	Sciesar
	Windlass Diganti baru pondasi Plat	120	lidah win	х	jangka 22 buah))))	
	Windlass Diganti baru pondasi Plat Mur baut dia. 5/8	120 8" x 3" ^{>}	lidah win	x 1	jangka 22 buah 54	10 x	16 mm	Х	2 bh)))))	Selesai
	Windlass Diganti baru pondasi Plat Mur baut dia. 5/8	120 8" x 3" ⁾ 90 70	lidah win	x 1 x x	jangka 22 buah 54 15	20 x 20 x 50 x	16 mm 20 mm 20 mm	x x x	2 bh 1 bh 1 bh)))))	
	Windlass Diganti baru pondasi Plat Mur baut dia. 5/8	120 8" x 3" ⁾ 90 70	lidah win	x 1 x x	jangka 22 buah 54 15	20 x 20 x 50 x	16 mm 20 mm 20 mm	x x x	2 bh 1 bh 1 bh	al supply dock))))))	
	Windlass Diganti baru pondasi Plat Mur baut dia. 5/8	120 8" x 3" ⁾ 90 70	lidah win	x 1 x x	jangka 22 buah 54 15	20 x 20 x 50 x	16 mm 20 mm 20 mm	x x x	2 bh 1 bh 1 bh	al supply dock)))))))	
	Windlass Diganti baru pondasi Plat Mur baut dia. 5/8 Plat Ganti baru rumah ka	120 8" x 3" ⁾ 90 70	lidah win	x x x tali n	jangka 22 buah 54 15	20 x 20 x 50 x	16 mm 20 mm 20 mm 5 kanan, sb	x x x	2 bh 1 bh 1 bh (materi	al supply dock)))))))))	
	Windlass Diganti baru pondasi Plat Mur baut dia. 5/8 Plat Ganti baru rumah ka	120 8" x 3" ² 90 70 ampas p	lidah win	x x x tali n	jangka 22 buah 54 15 no. 1, 2,	0 x 0 x 60 x 3, 5 & 6 mm x	16 mm 20 mm 20 mm 5 kanan, sb	x x x b:	2 bh 1 bh 1 bh (materi))))))))))	
	Windlass Diganti baru pondasi Plat Mur baut dia. 5/8 Plat Ganti baru rumah ka Plat 1600	120 8" x 3" > 90 70 ampas p	lidah win x nada tross 125	x x x tali n	jangka 22 buah 54 15 no. 1, 2,	00 x 00 x 00 x 3, 5 & 6 mm x mm x	16 mm 20 mm 20 mm 5 kanan, sb	x x x b:	2 bh 1 bh 1 bh (materi				
	Windlass Diganti baru pondasi Plat Mur baut dia. 5/8 Plat Ganti baru rumah ka Plat 1600 1600	120 8" x 3" > 90 70 ampas p	lidah win x ada tross 125 125	x x x tali n	jangka 22 buah 54 15 no. 1, 2, 12 12	00 x 00 x 00 x 3, 5 & 6 mm x mm x	16 mm 20 mm 20 mm 5 kanan, sb	x x x b:	2 bh 1 bh 1 bh (materi				
	Windlass Diganti baru pondasi Plat Mur baut dia. 5/8 Plat Ganti baru rumah ka Plat 1600 1600	120 8" x 3" > 90 70 ampas p	lidah win x ada tross 125 125	x x x tali n	jangka 22 buah 54 15 no. 1, 2, 12 12	00 x 00 x 00 x 3, 5 & 6 mm x mm x	16 mm 20 mm 20 mm 5 kanan, sb	x x x b:	2 bh 1 bh 1 bh (materi				
	Windlass Diganti baru pondasi Plat Mur baut dia. 5/8 Plat Ganti baru rumah ka Plat 1600 1600 Lubang mb perseng d	120 8" x 3" ² 90 70 ampas p x x	lidah win x ada tross 125 125	x x x tali n x	jangka 22 buah 54 15 no. 1, 2, 12 12 x	0 x 0 x 3, 5 & 0 mm x mm x 225 b	16 mm 20 mm 20 mm 5 kanan, sb	x x x b:	2 bh 1 bh 1 bh (materi				
	Windlass Diganti baru pondasi Plat Mur baut dia. 5/8 Plat Ganti baru rumah ka Plat 1600 1600 Lubang mb perseng d	120 8" x 3" ² 90 70 ampas p x x	lidah win vada tross 125 125 8.5 mm	x 1 x x x tali n x x	jangka 22 buah 54 15 no. 1, 2, 12 12 x	0 x 0 x 3, 5 & 0 mm x mm x 225 b	20 mm 20 mm 5 kanan, sb 5 5 5	x x x b:	2 bh 1 bh 1 bh (materi h (atas) h (bawah				
	Windlass Diganti baru pondasi Plat Mur baut dia. 5/8 Plat Ganti baru rumah ka Plat 1600 1600 Lubang mb perseng d Ganti baru : Bracket	120 8" x 3" ² 90 70 ampas p x x dia {	lidah win k nada tross 125 125 3.5 mm egak kamp 220	x x x talin x x x	jangka 22 buah 54 15 no. 1, 2, 12 12 x	20 x 20 x 3, 5 & 6 mm x mm x 225 b	20 mm 20 mm 5 kanan, sb 5 5 5	x x x bb: bua	2 bh 1 bh 1 bh (materi				
	Windlass Diganti baru pondasi Plat Mur baut dia. 5/8 Plat Ganti baru rumah ka Plat 1600 1600 Lubang mb perseng d Ganti baru : Bracket 715	120 8" x 3" ² 90 70 ampas p x x dia {	lidah win k nada tross 125 125 3.5 mm egak kamp 220	x x x talin x x x	jangka 22 buah 54 15 no. 1, 2, 12 12 x	0 x 0 x 3, 5 & 0 mm x mm x 225 b	20 mm 20 mm 5 kanan, sb 5 5 5 5 9 9 10 15	x x x bua	2 bh 1 bh 1 bh (materi th (atas) th (bawah				
	Windlass Diganti baru pondasi Plat Mur baut dia. 5/8 Plat Ganti baru rumah ka Plat 1600 1600 Lubang mb perseng d Ganti baru : Bracket 715 > Sounder ulang luba	120 8" x 3" x 90 70 ampas p x x dia 8 (pene x	lidah win k nada tross 125 125 3.5 mm egak kamp 220	x 1 x x x tali n x x x x x x x x x x x x x x x x x x	jangka 22 buah 54 15 no. 1, 2, 12 12 x	20 x 3, 5 & 6 mm x mm x 225 b	20 mm 20 mm 5 kanan, sb 5 5 5 5 9 9 10 15	x x x bb: bua bua bua	2 bh 1 bh 1 bh (materi th (atas) th (bawah				
	Windlass Diganti baru pondasi Plat Mur baut dia. 5/8 Plat Ganti baru rumah ka Plat 1600 1600 Lubang mb perseng d Ganti baru : Bracket 715 > Sounder ulang luba	120 8" x 3" x 90 70 ampas p x x dia 8 (pene x	lidah win k nada tross 125 125 3.5 mm egak kamp 220	x 1 x x x tali n x x x x x x x x x x x x x x x x x x	jangka 22 buah 54 15 no. 1, 2, 12 12 x oss talij 8	20 x 3, 5 & 6 mm x mm x 225 b	20 mm 20 mm 5 kanan, sb 5 5 5 suah	x x x bb: bua bua bua	2 bh 1 bh 1 bh (materi ah (atas) ah (bawah				
5.17 5.17.1	Windlass Diganti baru pondasi Plat Mur baut dia. 5/8 Plat Ganti baru rumah ka Plat 1600 1600 Lubang mb perseng d Ganti baru : Bracket 715 > Sounder ulang luba Pipa dia.	120 8" x 3" x 90 70 ampas p x x dia 8 (pene x ang pen 3/4"	lidah win k nada tross 125 125 8.5 mm egak kamp 220 negak kam	x x x talin x x x x x x	jangka 22 buah 54 15 no. 1, 2, 12 12 x oss talij 8	0 x 0 x 3, 5 & 6 mm x mm x 225 b mm x	20 mm 20 mm 5 kanan, sb 5 5 5 suah	x x x b: bua bua bua bua	2 bh 1 bh 1 bh (materi th (atas) th (bawah				

No./A/C				Job D	escriptio	1			Keterangan
	Engsel)
	350	x 11	0 x	30 mr	m x	5	buah))
	150		5 x		m x	10	buah))
	190		5 x		m x	10	buah))
	420		0 x		m x	5	buah		,
	230		0 x		m x	5	buah))
	Bor ulang lubang split		4 mm		х		5 buah))
	Gerinda & pengecatan			x	5 buah		2 2 da.:) Selesai
									,
6	ENGINE DEPARTMENT	г							
6.10	Piping System at Engir								
	Ganti baru pipa manifo)							
	- Pipa sch.80 dia.	6"	х	1130 mr	m x		1 buah)
	- Flange dia.	6"	x	2 bu	ah)
	- T dia	6"	х	1 bu	ah)
	- Flange prop dia	6"	х	12 mr	m x		1 buah)
	- Valve dia	6"	х	1 bu	ah (la	ama))
)
	- Pipa sch.80 dia.	6"	x	200 mr	m x		2 buah)
	- Flange dia.	6"	x	2 bu	ah)
	- T dia	6"	x	1 bu	ah)
	- Flange prop dia	6"	x	12 mr	m x		1 buah)
	- Valve dia	6"	x	1 bu	ah (la	ama))
)
	- Pipa sch.80 dia.	2 1/2"	x	200 mr	m x		1 buah)
	- Flange dia.	2 1/2"	x	1 bu	ah)
	- T dia	2 1/2"	x	1 bu	ah)
)
	- Pipa sch.80 dia.	4"	x	200 mr			1 buah)
	- Flange dia.	4"	x	1 bu)
	- T dia	4"	x	1 bu	ah)
)
	- Pipa sch.80 dia.	3"	X	200 mr			1 buah)
	- Pipa sch.80 dia.	3"	X	150 mr			1 buah)
	- Elbow dia	3"	X	1 bu)
	- Flange dia.	3"	х	1 bu)
	- T dia	3"	х	1 bu	ah)
)
	- Pipa sch.80 dia.	6"	X	600 mr			1 buah	(lama))
	- Flange dia.	6"	Х	2 bu		ama))
	- Valve dia	6"	Х	1 bu	ah (la	ama))
	Dim I to !!	0.4 /0"		200			4 1	(1))
	- Pipa sch.40 dia.	2 1/2"	X	300 mr			1 buah	(lama)	[)
	- Pipa sch.40 dia.	2 1/2"	X	700 mr			1 buah	(lama)	[/
	- Pipa sch.40 dia.	2 1/2"	X	400 mr			1 buah	(lama)	[/
	- Elbow dia	2 1/2"	X	2 bu		ama))
	- Flange dia.	2 1/2"	X	2 bu		ama))
	- Valve dia	2 1/2"	Х	1 bu	an (la	ama)			[)
	Ding sah 40 di-	A.''		100	.		1 ha.h	(10000)	(
	- Pipa sch.40 dia.	4"	X	100 mr			1 buah	(lama)	[/
	- Pipa sch.40 dia.	4"	X	150 mr			1 buah	(lama)	[,
I	- Elbow dia	4"	X	1 bu	an (la	ama)			ľ

- Flange dia.	4"						
	-	Х	2 buah	(lama))
- Valve dia	4"	х	1 buah	(lama))
)
- Pipa sch.40 dia.	3"	х	300 mm	X	1 buah	(lama))
- Pipa sch.40 dia.	3"	х	400 mm	х	1 buah	(lama))
- Pipa sch.40 dia.	3"	x	600 mm	х	1 buah	(lama))
- Elbow dia	3"	x	2 buah	(lama))
- Flange dia.	3"	x	2 buah	(lama))
- Valve dia	3"	х	1 buah	(lama))
- Packing karet dia.	6"	х	5 mm	х	8 buah)
- Packing karet dia.	2 1/2"	х	5 mm	х	4 buah)
- Packing karet dia.	4"	х	5 mm	х	2 buah)
- Packing karet dia.	3"	х	5 mm	х	4 buah)
- Mur baut dia.	5/8"	' x	2 1/2" x	80 buah)
- Mur baut dia.	5/8"	' x	5" x	8 buah)
- Mur baut dia.	1/2"	' x	2" x	12 buah) Selesai
Ganti baru pipa scupper		b :)
- Pipa sch.40 dia.	1 1/2"	Х	200 mm	x	1 buah	(lama))
- Pipa sch.40 dia.	1 1/2"	Х	300 mm	х	1 buah	(lama))
- Pipa sch.40 dia.	1 1/2"	х	100 mm	Х	1 buah	(lama))
- Pipa sch.40 dia.	1 1/2"	х	1600 mm	Х	1 buah	(lama))
- Elbow dia	1 1/2"	Х	3 buah	(lama))
- Sock dia	2"	Х	2 buah	(lama))
D: 1.40 !:	4.4/2"		100		41 1)
- Pipa sch.40 dia.	1 1/2"	Х	100 mm	Х	1 buah		ľ
- Pipa sch.40 dia.	1 1/2"	Х	510 mm	Х	1 buah		ľ
- Pipa sch.40 dia.	1 1/2"	Х	700 mm	Х	1 buah		ľ
- Pipa sch.40 dia.	1 1/2"	X	1600 mm	Х	1 buah		ľ
- Elbow dia	1 1/2"	X	2 buah				ľ
- Sock dia	2"	Х	2 buah				ľ
- Pipa sch.40 dia.	1 1/2"	х	100 mm	x	1 buah	(lama)	ľ
- Pipa sch.40 dia.	1 1/2"	x	500 mm	x	1 buah	(lama)	ľ
- Pipa sch.40 dia.	1 1/2"	X	1700 mm	x	1 buah	(lama)	ľ,
- Elbow dia	1 1/2"	x	1 buah	(lama)	_ ~~~	(idilia)	6
- Sock dia	2"	x	2 buah	(lama)			6
	-		_ 20011	(<u>(</u>
- Pipa sch.40 dia.	1 1/2"	х	300 mm	x	1 buah		<u>(</u>)
- Pipa sch.40 dia.	1 1/2"	х	1200 mm	x	1 buah		5
- Pipa sch.40 dia.	1 1/2"	х	1500 mm	x	1 buah)
- Elbow dia	1 1/2"	х	2 buah)
- Sock dia	2"	х	1 buah) Selesai
Ganti baru pipa scupper	ruang mesir	n kiri, s	sbb :)
- Pipa sch.40 dia.	3"	Х	950 mm	x	1 buah)
- Flange dia.	3"	Х	1 buah)
- Sock dia	4"	х	1 buah)
DingI- 40 P	2"		1500		1 h!-	//>)
- Pipa sch.40 dia.	3"	X	1500 mm	X	1 buah	(lama)	,
- Pipa sch.40 dia. - Pipa sch.40 dia.	3" 3"	x x	1700 mm 200 mm	x x	1 buah 1 buah	(lama) (lama)	ľ

			Job Desc	ription			Ke	Keteran		
- Elbow dia	3"	х	1 buah	(lama))			
- Flange dia.	3"	x	1 buah	(lama))			
- Sock dia	4"	x	1 buah	(lama))			
- Packing karet dia.	3"	x	5 mm	x	1 buah)			
- Mur baut dia.	į	5/8" x	2 1/2" x	4 buah)	Seles		
Ganti baru instalasi pipa	pending	in AE kiri,	sbb :)			
Outlet)			
- Pipa sch.40 dia.	2"	x	100 mm	x	2 buah)			
- Pipa sch.40 dia.	2"	х	600 mm	X	1 buah)			
- Pipa sch.40 dia.	2"	х	150 mm	X	1 buah)			
- Elbow dia	2"	х	2 buah)			
- Flange dia.	2"	х	4 buah)			
- Valve dia	2"	х	1 buah)			
- Pipa sch.40 dia.	2"	x	700 mm	x	1 buah)			
- Pipa sch.40 dia.	2"	х	200 mm	x	2 buah)			
- Pipa sch.40 dia.	2"	х	800 mm	x	1 buah)			
- Pipa sch.40 dia.	2"	х	750 mm	x	1 buah)			
- Elbow dia	2"	x	2 buah)			
- Flange dia.	2"	x	4 buah)			
- Pipa sch.40 dia.	2"	x	950 mm	X	1 buah	(lama))			
- Pipa sch.40 dia.	2"	x	300 mm	x	2 buah	(lama))			
- Pipa sch.40 dia.	2"	x	150 mm	x	1 buah	(lama))			
- Elbow dia	2"	x	2 buah	(lama))			
- Flange dia.	2"	x	2 buah	(lama))			
- Packing karet dia.	2"	x	5 mm	x	7 buah	(lama))			
- Mur baut dia.	:	1/2" x	2" x	28 buah	(lama))			
- Pipa sch.40 dia.	2"	x	100 mm	X	2 buah	(lama))			
- Pipa sch.40 dia.	2"	x	600 mm	х	2 buah	(lama))			
- Pipa sch.40 dia.	2"	x	1300 mm	x	1 buah	(lama))			
- Elbow dia	2"	x	3 buah	(lama))			
- Flange dia.	2"	х	2 buah	(lama))			
- Packing karet dia.	2"	х	5 mm	x	2 buah	(lama))			
- Mur baut dia.	:	1/2" x	2" x	8 buah	(lama))	Seles		
Ganti baru pipa udara k	otak sea (chest AE k	iri, sbb :)			
- Pipa sch.40 dia.	2"	х	200 mm	x	2 buah)			
- Pipa sch.40 dia.	2"	х	600 mm	x	1 buah)			
- Pipa sch.40 dia.	2"	х	400 mm	x	1 buah)			
- Pipa sch.40 dia.	2"	х	410 mm	x	1 buah)			
- Pipa sch.40 dia.	2"	х	270 mm	x	1 buah)			
- Pipa sch.40 dia.	2"	х	2600 mm	x	1 buah)			
- Elbow dia	2"	х	4 buah)			
- Sock dia	2 1/2	" x	3 buah)	Seles		
Ganti baru instalasi pipa	pending	in ME di c	lalam tangki bil	ge, sbb :)			
- Pipa sch.80 dia.	1 1/2	" x	600 mm	x	1 buah)			
- Pipa sch.80 dia.	1 1/2	" x	200 mm	х	3 buah)			
- Pipa sch.80 dia.	1 1/2	" x	150 mm	X	1 buah		l,			

No./A/C			Keterangar					
	- Pipa sch.80 dia.	1 1/2"	х	300 mm	х	1 buah)
	- Pipa sch.80 dia.	1 1/2"	х	1000 mm	x	1 buah)
	- Elbow dia	1 1/2"	х	6 buah)
	- Sock dia	2"	x	3 buah)
	- Pipa sch.80 dia.	1 1/2"	x	270 mm	x	1 buah	(lama))
	- Pipa sch.80 dia.	1 1/2"	х	1520 mm	x	1 buah	(lama))
	- Pipa sch.80 dia.	1 1/2"	х	700 mm	x	1 buah	(lama))
	- Pipa sch.80 dia.	1 1/2"	х	200 mm	x	1 buah	(lama))
	- Elbow dia	1 1/2"	х	3 buah	(lama))
	- Sock dia	2"	х	3 buah	(lama)) Selesai
6.11	<u>Misscelaneous</u>							
	Service perahu u/ peke) Selesai						
	Disupply material :)					
	- Spuyer Slip Tube					15 buah)
	- Packing pintu keda	p ukuran 4cn	n x 2cm			150 meter)
	- Packing pintu keda)						
	- Lem aibon ukuran 3)					
	- Cover Valve Liquid					10 buah)
	- Cover Valve Vapou	r				10 buah)
	- Cover Valve Reheat	ter				3 buah)
	- Cover Cargo Pump					2 buah)
	- Cover Shelter					2 buah)
						2 buah)
	- Cover Lifeboat Lado	der						k
	- Cover Lifeboat Lado - Cover Additional M					4 buah		ľ
		looring				4 buah 4 buah)
	- Cover Additional M	looring ter)))
	- Cover Additional M - Cover Liquid Rehea	looring iter ndart (Comp				4 buah)))

MV. GAS NURI ARIZONA

Semarang, Juli 2018 PT. YASA WAHANA TIRTA SAMUDERA

Chief Engineer

LPGIC GAS NURI ARIZONA Captain

Mengetahui:

PT. SAMUDERA INDONESIA SHIP MANAGEMENET