

WO No.	:	
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Entity No.	: Swivel No.4	Inspector : BGS	Sign:
Equip't Name	: Marine Loading Arm	Check : MRA	Sign: Me al
Area	: Jetty	Approve : BBH	Sign:

Attach't

#### I. PROBLEM/BACKGROUND

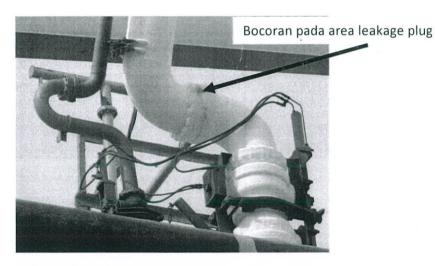
Senin,7 september 2020 saat pengapalan ammonia ke kapal Opec Universe di temukan kondisi swivel joint no.4 tidak icing pada area leakage plug. Selasa,8 september 2020 dilakukan leak test dengan N2 dengan press 3 kg/cm2G dan di temukan bocoran pada titik yang sama dengan saat loading normal. Sehingga harus dilakukan penggantian seal pada swivel joint No.4 Marine Loading Arm.

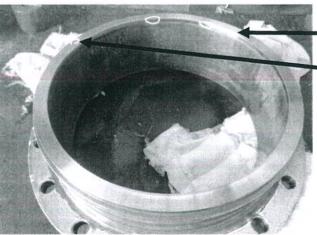
#### II. FINDING

Kekencangan baut flange swivel joint tidak rata (secara history saat penggantian swivel joint No.4 pada 16 maret 2018, pengikatan baut flange swivel joint tidak menggunakan kunci torsi).

Tidak ada pelumasan (kondisi kering) antara primary product seal dengan seal chamber (face flange).

Terdapat scratch kecil pada seal chamber (face flange dudukan primary product seal).





 Face flange yang menjadi dudukan primary product seal.

Scratch pada face flange di lapping manual.



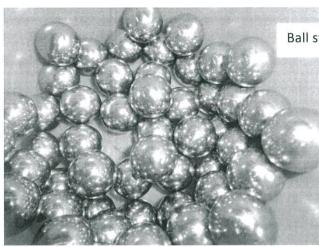
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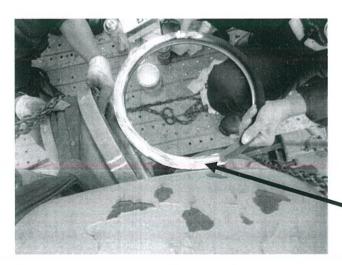
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Ball swivel joint setelah di cleaning.



Pengikatan baut flange swivel joint menggunakan kunci torsi.



Primary product seal di olesi pelumas sebelum di pasang.



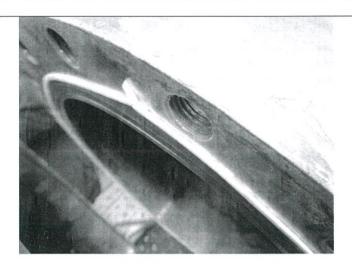
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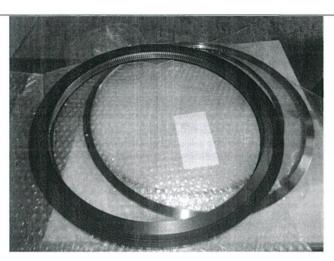
Date : 25-Aug-20

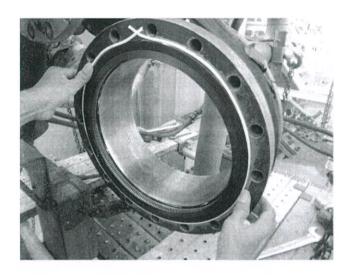
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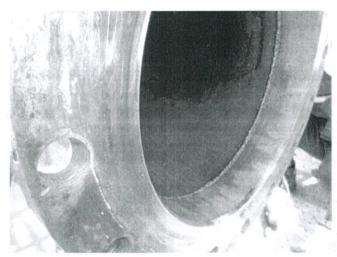
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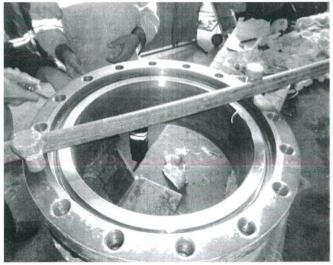














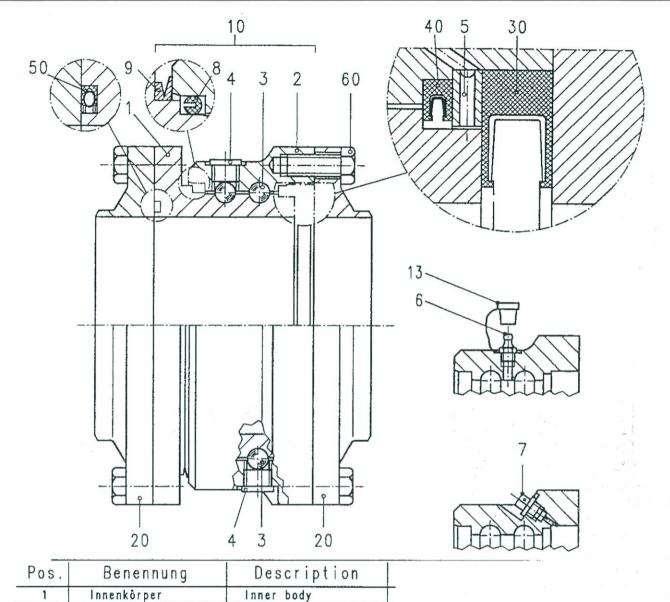
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Pos.	Benennung	Description
1	Innenkörper	Inner body
2	Außenkörper	Outer body
3	Kugel	Ball
4	Verschlußschraube	Ball plug
5	Druckring	Pressure ring.
6	Schmiernippel	Grease nipple
7	Leckstopfen	Leakage plug
8	Kammerdichtung	Ball Chamber seal
9	Staubdichtung	Dust seal
10	Migel	Mid part
13	Schmiernippelkappe	Grease nipple cop
20	Flonsch	Flange
30	Primärdichtung	Prim. product seal
40	Sekundärdichtung	Sec. product seal
50	Flanschdichtung	Flange seal
60	Schraube	Bolt



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### III. COUNTERMEASURE/ACTION

Penggantian primary produk seal, secondary product seal, dust seal, flange seal, dan ball chamber seal.

Penggantian pelumas swivel joint (DOW molykote FS 1292).

Lapping manual seat face flange dudukan primary product seal.

Cleaning ball swivel.

Sebelum primary product seal di pasang, harus di olesi pelumas (DOW molykote FS 1292) pada face contact sisi dalam, pelumasan tidak perlu tebal tapi rata.

Saat pemasangan swivel joint baut flange harus di torsi = 386 Nm.

OUTPUT RECOMMENDATION No. :	1. 184/Rec-INS/TSP/IX/2020
4	2.
	3.