

KGJS's MARPOL ANNEX I COMPLIANCE.

WAR 09.04.2013



OILY WATER SEPARATORS WAS NOT ABLE TO HANDLE BILGE WATER IN THE PAST, HOW DID CREW BYPASS?

- Flexible hoses with flanges.
- Hard piping modifications.
- Cross over to ballast or sewage system.
- Use of emergency discharge or shore discharge systems.
- Fresh water injection into the PPM-monitor.
- Closing the flow to the PPM-monitor.



IF SUCH MISCONDUCTS TAKE PLACE ON YOUR VESSEL, IT COULD BRING THE MASTER, CH. ENGINEER AND 2ND ENG. IN PRISON FOR QUITE SOME TIME.

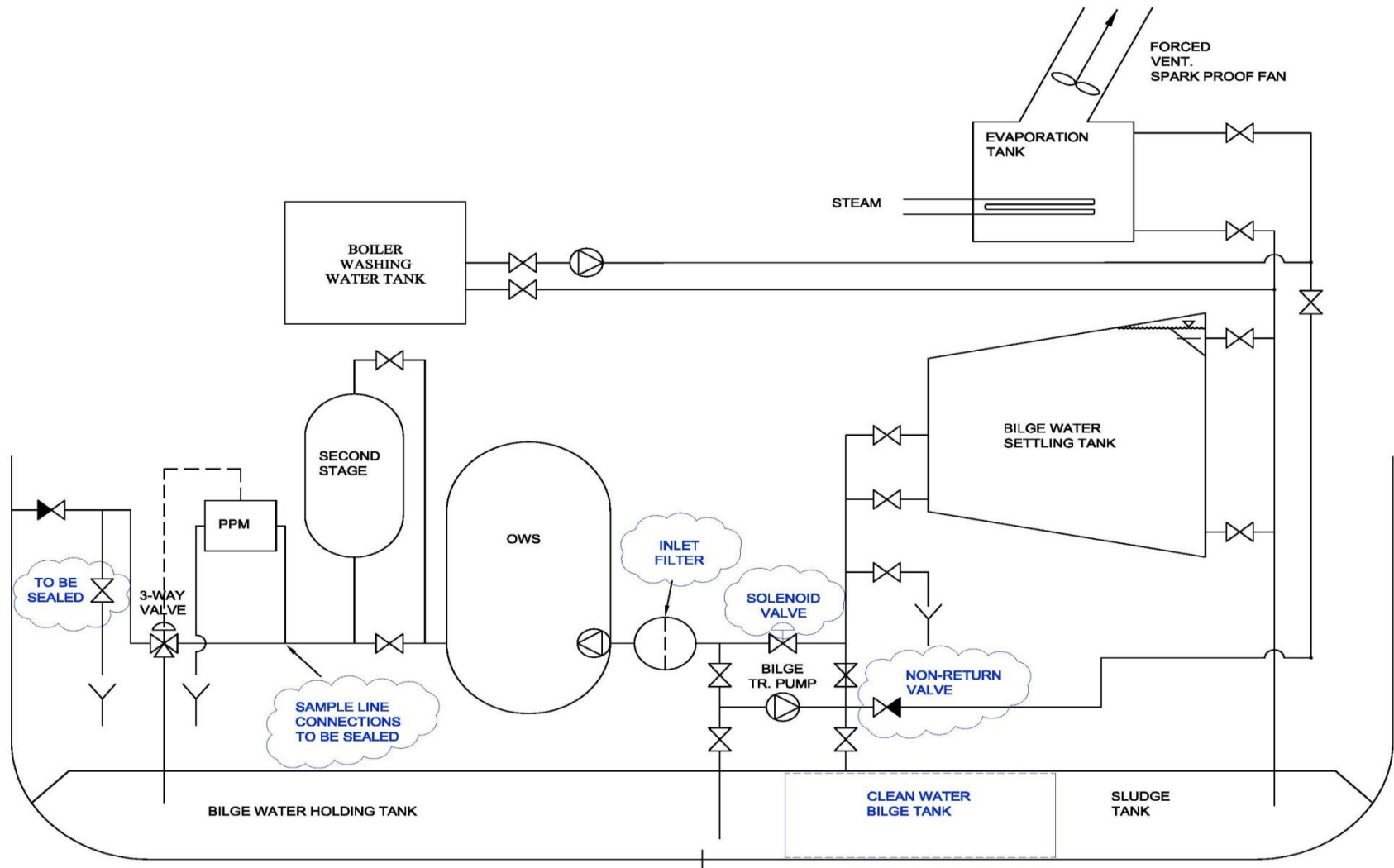


Dirty secrets
that end in jail

in September, \$145m in corporate criminal fines have been collected since 1998 in prosecutions involving oily water separator (OWS) and environmental infractions. Individuals, senior shipboard staff among them, but not excluding some shoreside executives, have been sentenced to a total of 18 years' incarceration. Dozens of companies have been successfully prosecuted, and hundreds of ships are obliged to sail with US-man-



KGJS Standard system:



WE STANDARIZED ON OWS FROM RWO.



**OLD TYPE
ACCORDING TO
IMO
RESOLUTION
MEPC 60 (33)**





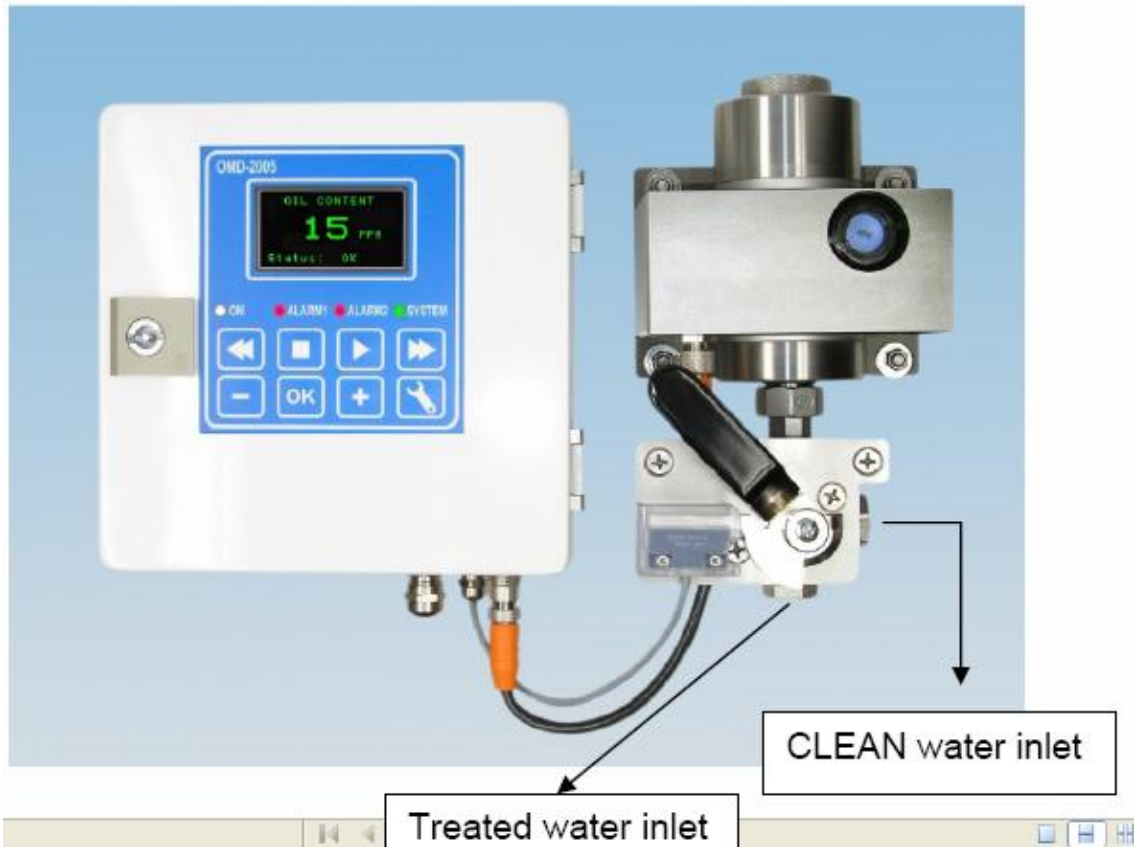
**NEW TYPE, WITH
2ND. STAGE
FILTER
INCLUDED.
ACCORDING TO
IMO RESOLUTION
MEPC.107 (49)**



WE STANDARDIZED ON PPM MONITORS FROM DECKMA.



FRESH WATER LINE TO THE PPM-MONITOR SHALL BE REMOVED.



This was met by a lot of opposition and it was necessary to support it with statements from suppliers.



RWO GmbH • Leerkaempe 3 • D-28259 Bremen • Germany

Phone : + 49 - 4 21 - 5 37 05 16
Fax : + 49 - 4 21 - 5 37 05 40
e-mail : werle@rwo.de
Internet : <http://www.rwo.de>

Date : 18.08.2004
Page: 1 of 1
From: Helmut Werle

To : Kristian Gerhard Jebsen Skipsrederi A/S
Fax no. : 00 47 - 55 - 17 53 95
Attn. : Mr. Willy A. Reinertsen

Ref. :

Dear Mr. Reinertsen,

We confirm that for the function of the 15 ppm oil content alarm device a fresh water connection is not necessary. The fresh water connection is recommended for cleaning purpose only.

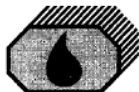
"Zero adjustment" can be made by filling the measuring cell with clean water, and 15 ppm alarm point calibration has to be done with a Formazin Solution with the right NTU-Turbidity value.

Best regards,

RWO GmbH


Helmut Werle
-Managing Director-





DECKMA HAMBURG GmbH

DECKMA Decksmaschinen und Automation Vertriebsgesellschaft in Hamburg mbH

DECKMA HAMBURG GmbH • Kieler Straße 316 • 22525 Hamburg • Germany

Works/Office/Delivery Address:

Kieler Straße 316
22525 Hamburg
Germany

Telephone: ++49 (0)40 54 88 76 - 0

Telefax: ++49 (0)40 54 88 76 - 10

E-Mail: post@deckma.com

Internet: www.deckma.com

VAT-Registration No.: DE 118 540 659

TO WHOM IT MAY CONCERN

Your Ref.:

Your letter dated:

Our Ref.:

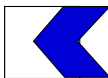
Date: **Year 2007**

It concerns: 15 ppm Bilge Alarms OMD-11, OMD-21 and OMD-2005

We herewith confirm that for the operation of the OMD-series of 15 ppm bilge alarms, type OMD-11, OMD-21 and OMD-2005 no continuous clean water connection is needed.

DECKMA HAMBURG GmbH

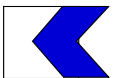

ppa. Joachim Gehrt



THERE SHALL BE NO POSSIBILITIES FOR CLOSING THE SAMPLE LINE INLET TO THE PPM MONITOR.



TO BE REMOVED



THERE SHALL BE NO FLOW CONTROL VALVE BEFORE OR AFTER THE PPM MONITOR, MAKING IT POSSIBLE TO CLOSE THE FLOW.





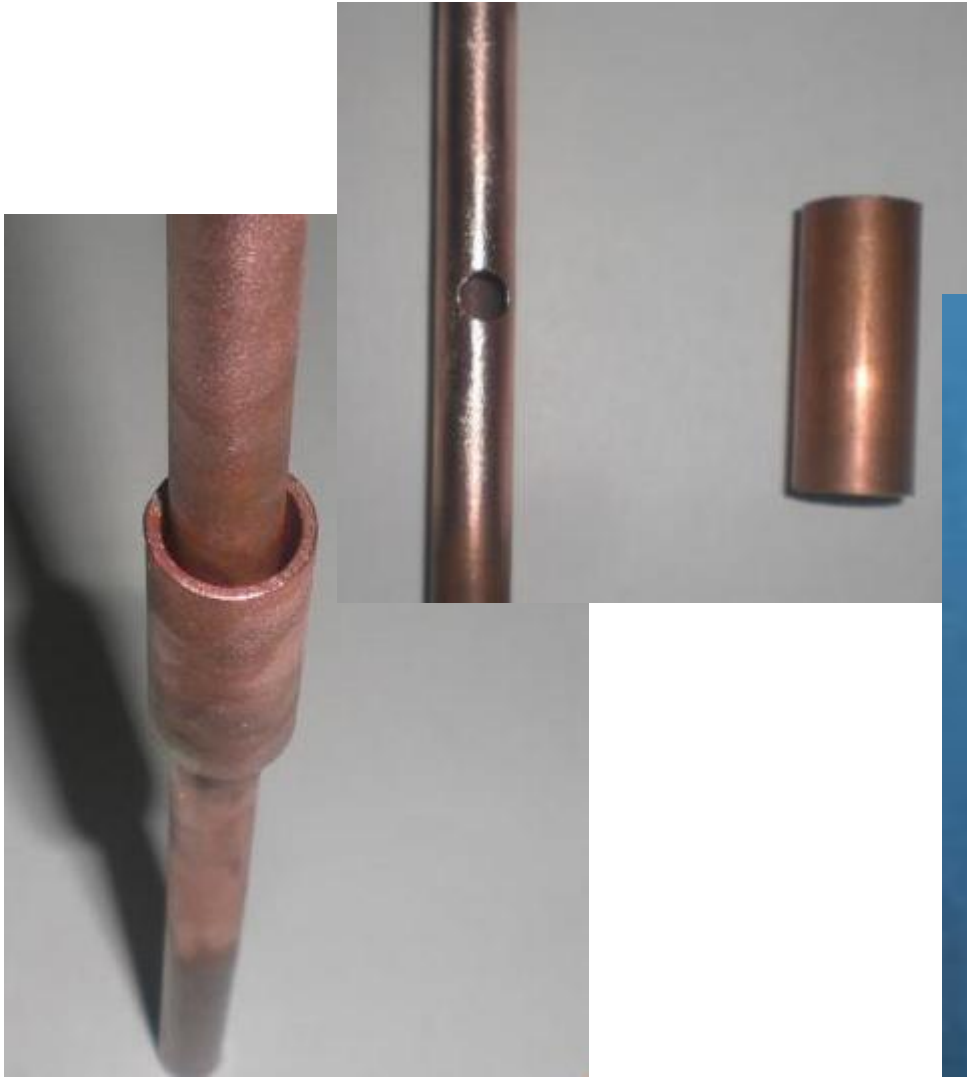
**VESSELS SHALL
BE SUPPLIED
WITH A NEW CAP
TO THE PPM
MONITORS FROM
DECKMA THAT
ALLOWS EASY
TESTING.**



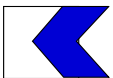
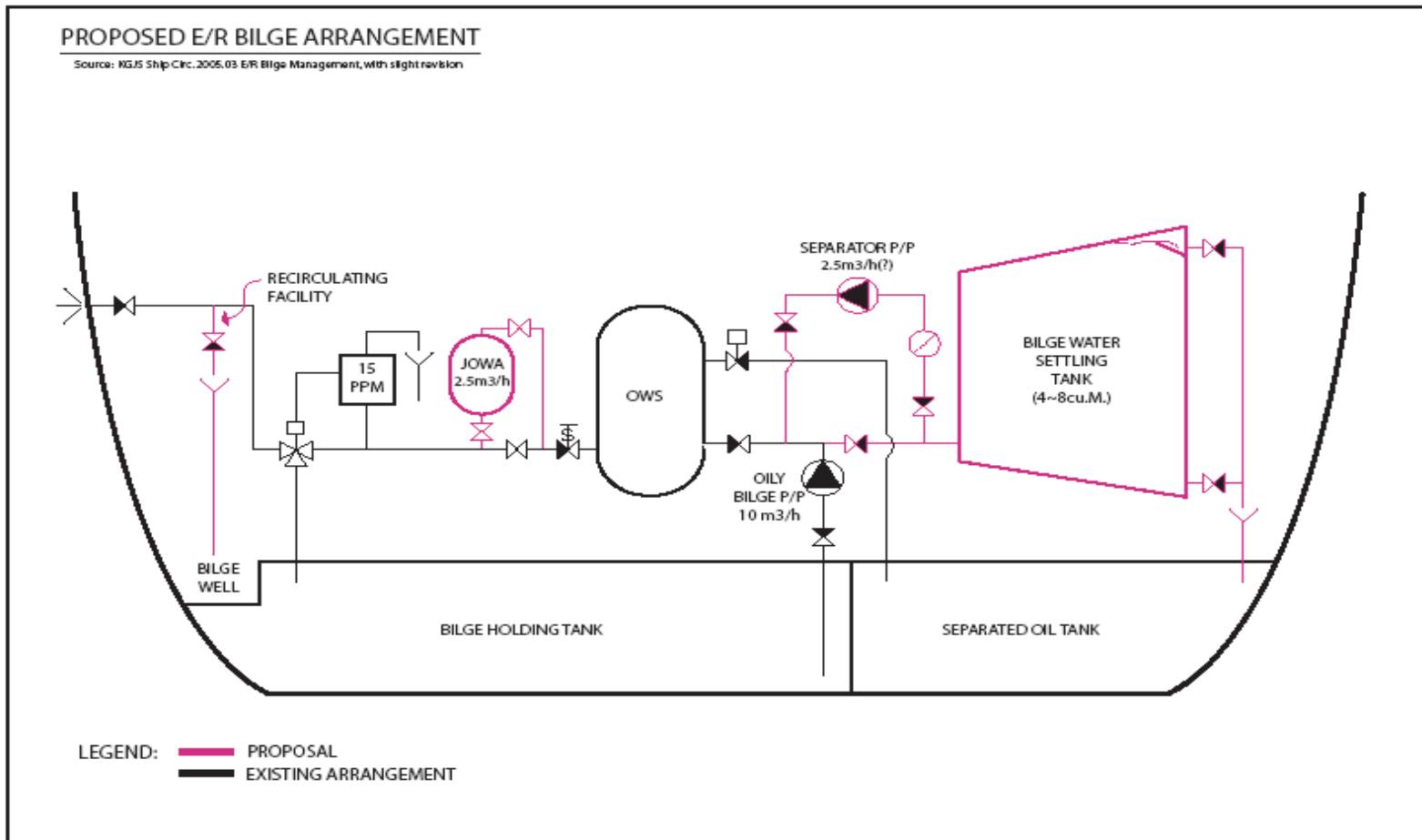
THERE SHALL BE NO POSSIBILITIES FOR CLOSING THE SAMPLE LINE OUTLET FROM THE PPM MONITOR.



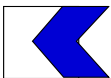
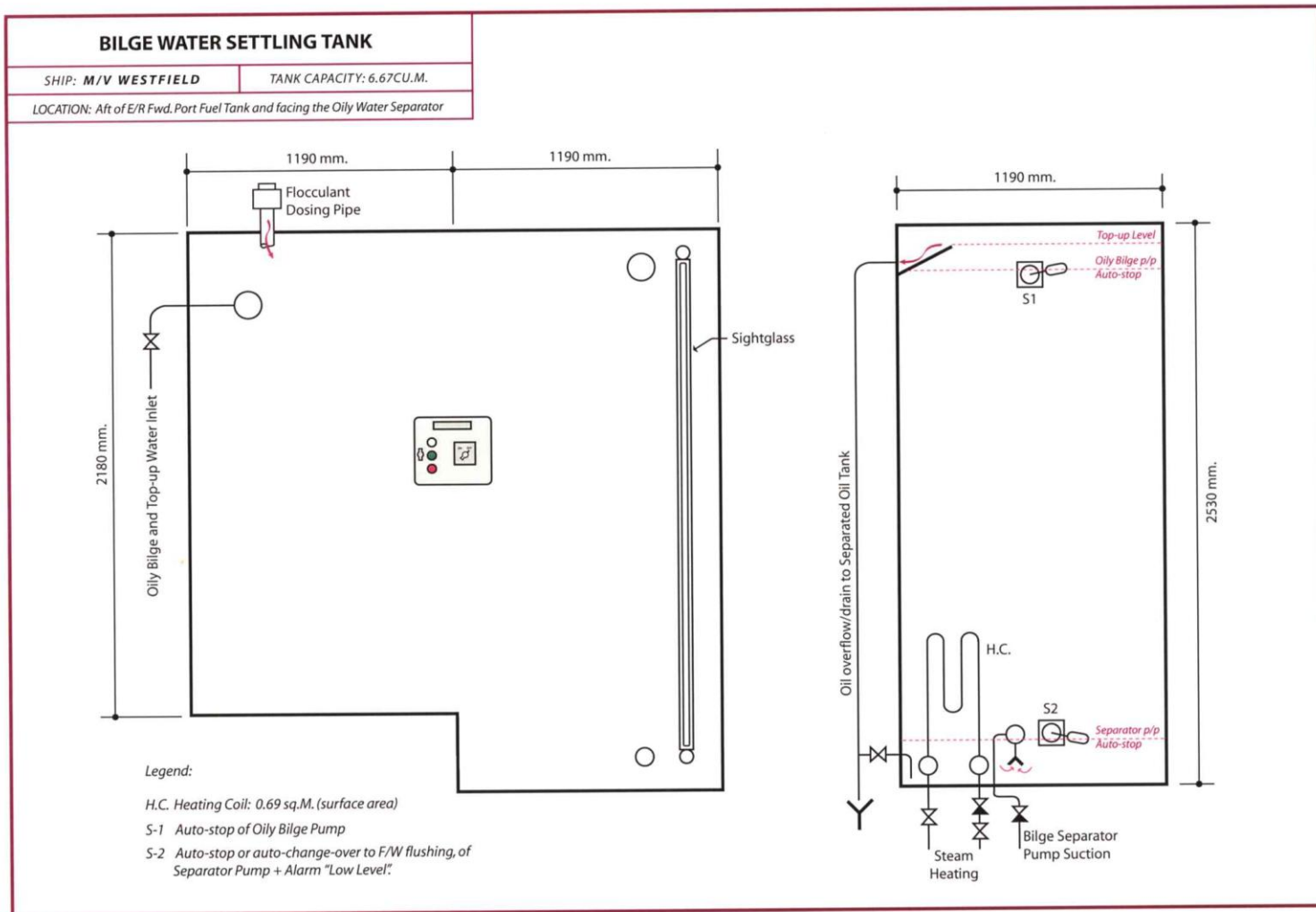
**THERE SHALL BE NO POSSIBILITIES FOR CLOSING THE
SAMPLE LINE OUTLET FROM THE PPM MONITOR.**



THERE SHALL BE BILGE WATER SETTLING TANK, 2nd. STAGE FILTER AND A RECIRCULATING DEVICE.



BILGE WATER SETTLING TANK.



WE STANDARDIZED ON A 2ND. STAGE FILTER UNIT OF JOWA TYPE.



THERE SHALL BE A RECIRCULATING FACILITY ENABLING SIMULATION OF THE PROCESS IN PORT.



CHEMICALS FOR USE IN BILGE WATER SETTLING TANK.

General result:

Nalfleet's; Nalco 71225 Flocculant and Untior's; Bilge Water Flucullant 690669 required overnight settling.

Marisol BC – Plus provided the fastest settling and was decided to be our standard chemical for use in bilge water settling tank.



CLEANING AGENTS FOR ENGINE ROOM BILGES.

Only one type of cleaning agent should be used in engine bilges or drained to engine bilges.

We standardized on:

- Seashield Multiclean from Nalfleet, or
- Cleanbreak from Unitor.



RESULTS FROM CANELO ARROW:

- ATT : WAR
- FROM : CANELO
- DATE : 08/11/2004
- SUBJECT : BILGE TREATMENT PLANT
- OWS with new installed JOWA filter (after the oil water separator) in use already tree months, installed in August, and performing w/out any problem with monitor reading 3 PPM of discharging water.
- Brgds C/E



RESULTS ON PETREL ARROW

Date:08/10/2004
From:C/E Petrel Arrow
To:WAR
CC:KAS,AND
Subject:OWS separ.filter.

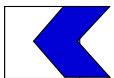
We performed pumping bilge water after using Sea Shield Multiclean for cleaning E/R bilges during voyage from Santander to Santos.

Water after cleaning was stored in bilge holding tank for period abt. 18hrs.

We have been running separator partly with filter & partly without with switching over abt. every 2hrs.

The ppm monitor was showing 0-3ppm with filter & 8-12 without filter, so was close to alarm.

C/E
Brgds.



RESULTS FROM PETERSFIELD

To: KGJS WAR/AND/KAS.

From Petersfield.

Date: 9/11/04

Subject: Oily Water Seperator.

The newly installed OWS takes suction from the Bilge holding tank direct.

When the holding tank is full, about 40 m³ the seperator works well but as

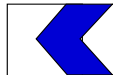
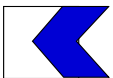
The tank comes down at approx 10 m³ the ppm steadily rises until alarm

The water at the monitor is discolored but not oily.

Without the filter in use it would not be possible to keep below 15ppm.

Brgds,

Master/Cheng



WE ARE MAPPING THE ACTUAL BILGE WATER AND SLUDGE PRODUCTION AND STORAGE CAPACITY ON EACH VESSEL, IN ORDER TO MONITOR THE PROCESS.

- **THERE SHOULD BE BILGE WATER STORAGE CAPACITY FOR 30 DAYS PRODUCTION.**
- **THERE SHOULD BE SLUDGE STORAGE CAPACITY FOR 60 DAYS PRODUCTION.**



February 2013	A		B		C	D	E	F
	Approximate monthly production based on 4 last weekly r. In ltr.		Landed, burnt, disch. Via ows or evaporated this month from e.report in ltr.		This month ROB from engine report in Ltr.		Official storage capacity in ltr.	
Vessel name	Sludge	Bilge W	Sludge	Bilge W	Sludge	Bilge W	Sludge	Bilge W
Alcem Lugait	9500	14300	1450	12000	13400	11200	23700	20000
Antigua	3430	9730	0	11040	13980	3770	36700	28090
Capri Cement	1214	6420	0	6200	9200	4800	22080	16350
Cembalo	1120	2750	5500	9200	3900	6300	22460	11090
Cembay	3840	4730	2540	4340	4500	3240	12860	13430
Cemtrans	3600	1500	7500	1500	900	0	7540	7000
Cyprus Cement	4900	4600	0	0	7600	10400	19830	25980
Falkland Cement	800	3500	4300	3700	400	100	9660	8460
Glory Atlantic	12200	8160	10000	7500	10600	800	40520	9690
Glory Ocean	8720	3800	3	4202	12460	1200	54190	15800
Glory Pacific	5440	2220	680	1850	8230	9680	28000	14000
Glory River	3179	0	24	0	13628	5992	40520	9690
Glory Sky	4394	13307	6000	13001	1032	535	28000	14000
Glory Sun	2950	11000	15000	11000	4390	1800	9800	32000
Glory Tellus	6309	672	21272	150	0	2842	40520	9690
Ibiza Cement	-3590	-900	16200	6000	7160	700	17550	3600
Iceland Cement	800	800	1000	2400	1100	1500	6900	20900
Malta Cement	2400	150	3400	600	200	50	11300	4500
Mariana III	5290	14400	0	14400	7880	1200	10700	13800
Shetland Cement	350	6300	0	0	300	1500	1000	2890

Monthly monitoring of bilge water and sludge production & processing.

Alarms:

- No values for processed bilge water for Cyprus Cement
- No values for processed bilge water for Glory River
- No values for processed bilge water for Shetland Cement

Alarms will be sent on e-mail when:

- Monthly bilge water production, reported in 4 last weekly reports, exceeds 15000 ltrs
- Missing engine reports
- Missing weekly reports
- No value for landed, discharged via PPM or evaporated bilge water in last engine report
- Bilge water exceeds 70 % of storage capacity
- Sludge water exceeds 70 % of storage capacity

* Last 4 weekly reports refers to the 4 immediately previous to the date this was ran, which currently is the 10th of each month.



POSTERS SHALL BE FITTED.



It is forbidden to retrofit flexible hoses or make any piping modifications which can be used for discharge of oily water or for continuous fresh water injection into PPM Monitor

KGJS Fleet Management 03/03



RWO Operation Instructions

Oily Water Separator SKIT/S-DEB

Marine Water Technology

Start of the OWS	Remarks:
Open compressed air.	Pressure 6-8 bars.
Open valve for back flushing water.	Pressure 1 bar (max. 1.5 bar).
Open valves in the suction line of the OWS.	The OWS operates under vacuum condition. Ensure that the OWS does not suck air via leaks in the system.
Open valve for overboard discharge.	Caution! The pump is a positive displacement type and should never operate against close valve
Turn on the main switch „POWER“.	
Check the rotation direction of the pump.	The direction rotation of the pump is clockwise seen from the motor! Wrong direction will destroy the pump stator by dry running.
Check oil monitor.	Automatically stop of overboard discharges, if oil content is too high (start of recirculation mode)

Significance of signal LED'S

	<ul style="list-style-type: none"> green red green green green red orange on / off
	<p>OWS is in operation.</p> <p>Pump Motor current overload. Relay switch released.</p> <p>OWS is in operation / If level switches installed indication for bilge water available.</p> <p>Water over board (pump is in operation).</p> <p>Oil discharge (pump stop).</p> <p>Back flushing (pump stop).</p> <p>Operation with adsorber / operation without adsorber</p>

What is to do if

- OPERATION MODE / BILGELEVEL aren't green illuminated although OWS is switched on.	Either the bilge water level isn't high enough (level switch = open) or the terminals X2- 4+5 and X2- 6+7 are not bridged
- The pressure difference between both vacuum meters (at the pump and separator cover) is bigger than 0.3 bar.	The coalescer must be cleaned or changed, see instruction book.
- The pressure behind the pump bigger than 3 bar or the limiting values of the oil monitor is exceeded permanently.	The adsorber cartridges must be changed, because they are clogged (pressure > 3 bar) or the capacity is exhausted (exceed limiting values)
- The vacuum meter displays more sucking heights than the real height is between OWS and bilge water level.	The suction line is dirty or clogged.

General Notes

Oil water emulsions have to be avoided.	Using fast separate and environmentally friendly cleaners only when required.
Solid particles have to be avoided Ventilate adsorber regularly Servicing Bilge Alarm monitor regularly	Clean the bilge from particles. Open ball valve (pos 59) until clear water comes. Cleaning glass cell regularly and executing nullification regularly. (see monitor instruction book chapter 5.3. c and 6)
Monitor <ul style="list-style-type: none"> - Memory card - Calibration certificate 	If for any reasons the computer unit shall be changed, it must be made sure that the memory card remains on board for at least 18 months. The certificate with the date of the last calibration must be kept on board.

RWO Marine Water Technology

Leerkämpfe 3 • D -28259 Bremen • Germany
Tel. +49-421-537050 • Fax +49-421-5370540
e-mail rwo@veoliawater.com • Internet www.rwo.de



Solutions & Technologies

**ALL VESSELS
SHALL POST
AN
EQUIPMENT
SPECIFIC
INSTRUCTION
ON HOW TO
USE THE OWS.**



WE HAVE REISSUED THE USCG POSTER WITH UPDATED TEXT.



Discharge Of Oil Prohibited

The Federal Water Pollution Act prohibits the discharge of oil or oily waste into or upon the navigable waters of the United States, or the waters of the contiguous zone, or which may effect natural resources belonging to, appertaining to, or under the exclusive management authority of the United States, if such discharge causes a film or discoloration of the surface of the water or causes a sludge or emulsion beneath the surface of the water.

Violators are subject to substantial civil penalties and/or criminal sanctions including fines and imprisonment.
(Ref 33 CFR § 155.450)

KGJS 00107



WE WILL RELY ON COOPERATION FROM LOYAL EMPLOYEES.



Dear concerned employee

Compliance with environmental and safety regulations is every employee's responsibility. As part of that responsibility, it is your duty to promptly inform the Master of any practice onboard that contradicts MARPOL, any other regulations or KGJS policy.

Kindly report such information to the Master or contact:

DPA - Cement: Juan Garcia: +47 98223425, e-mail: juan.garcia@kgjs.no

or

DPA - Tank: Jørn-Erik Hausmann: +47 95881939, e-mail: jorn-erik.hausmann@kgjs.no

or

KGJSM:

Crew Manager, Tank: Hideliza E. Navato: +63917 5632594, e-mail: hen@kgjs.no

Crew Manager, Cement: Marianne B. Cuaresma: +63920 9170299, e-mail: mca@kgjs.no

by telephone call, text message or e-mail.

Your identity will be held in strict confidence, you will not have to tell your name.

KGJS Fleet Management, August 2011

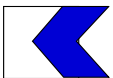
KGJS 0106

FluorLux

PIPELINES CONNECTED TO THE BILGE WATER TREATMENT PLANT SHALL BE PAINTED IN DISTINCTIVE COLOUR.



**ALL FLANGES ON PIPES CONNECTED TO THE OWS AND
SETTLING SHALL BE WELDING AND SEALED. PIPELINES
CONNECTED TO THE OWS SHALL BE PAINTED IN A
DISTINCTIVE COLOUR.**

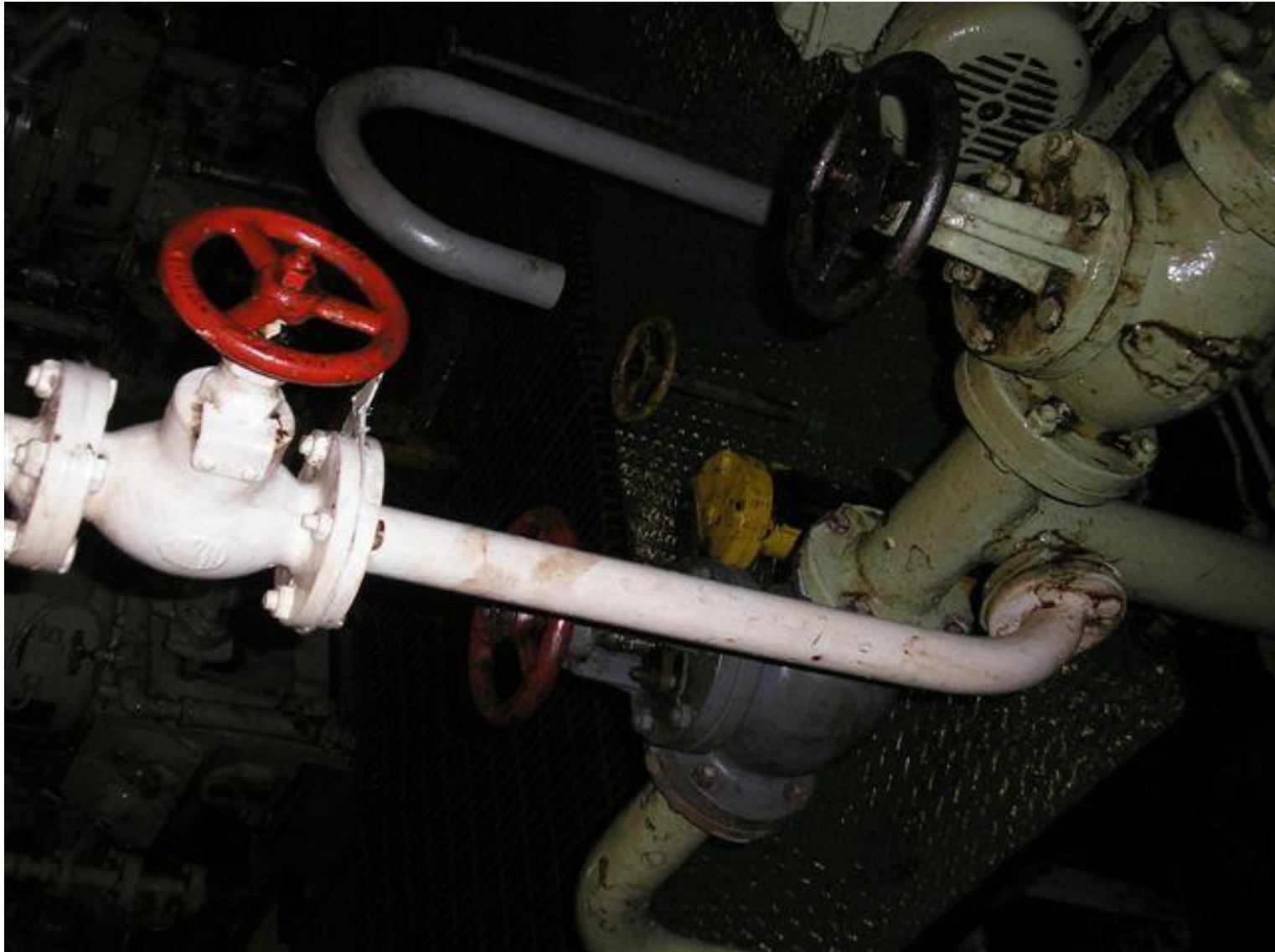


ALL VESSELS SHALL HAVE CLEANED THEIR BILGE PIPING SYSTEM FOR POSSIBILITIES THAT CAN BE MISUSED:

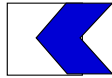
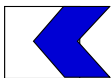
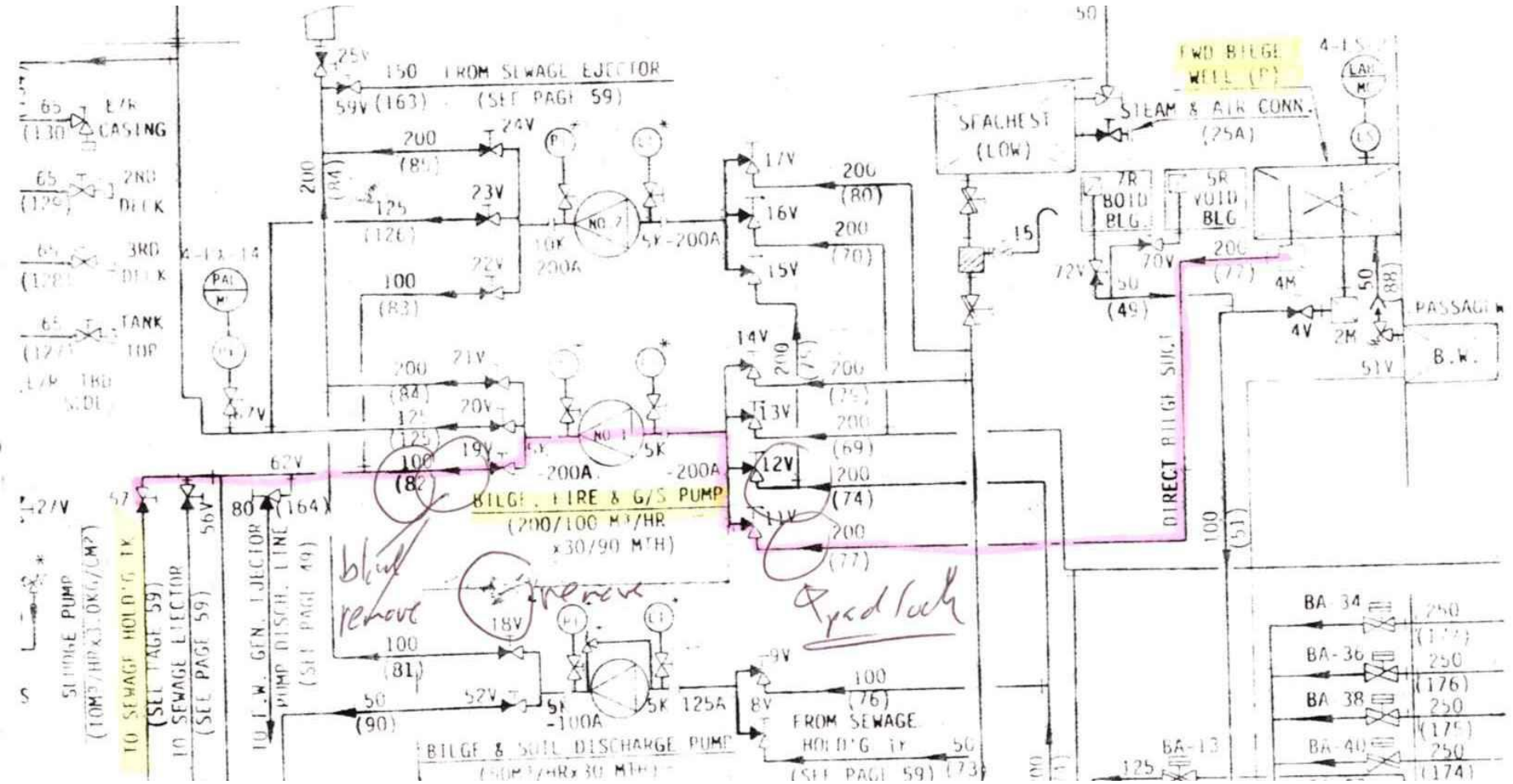
- Connections between bilge and sludge system.
- Connections between bilge & sludge and other systems as sewage, emergency discharge, boiler blow down, ballast or emergency discharge.
- Suction valves on emergency discharge shall be sealed.



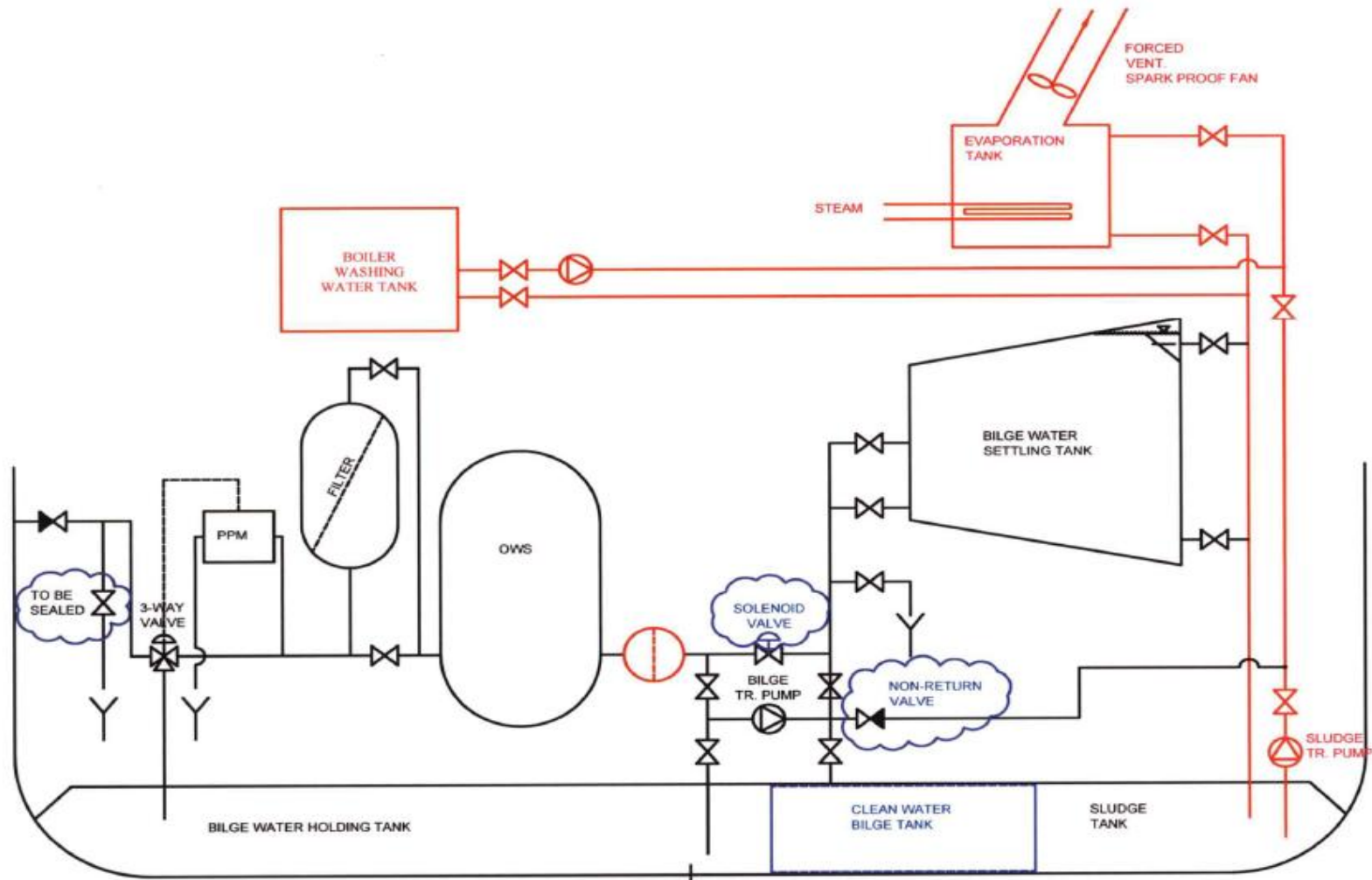
Typical retrofit



TYPICAL EXAMPLE: G/S PUMP CAN TRANSFER FROM BILGE WELL TO SEWAGE TANK, AND IT IS CLASS APPROVED!!!



OUR STANDARD SYSTEM INCLUDES: EVAPORATION TANK, CASCADE TANK FOR BOILER WASHING WATER AND FILTER ON OWS INLET



VESSELS SHALL HAVE FILTER ON INLET TO OWS.



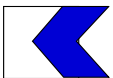
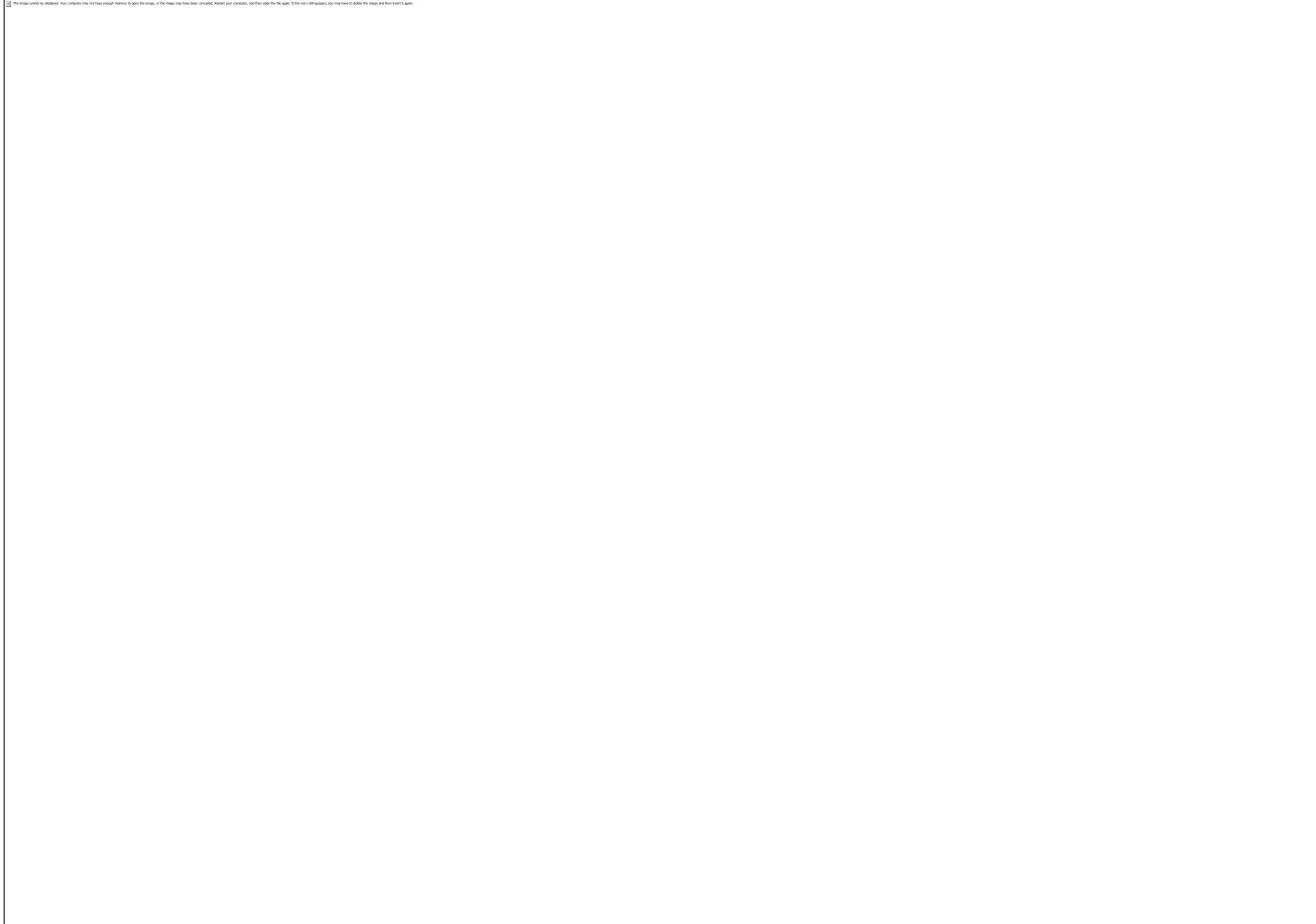
WE HAVE FOUND IT VERY USEFULL TO DRESS THE INLET FILTER TO THE OWS WITH COTTON WOOL INSERT. THE INSERT TO BE RENEWED AT EACH OPERATION.



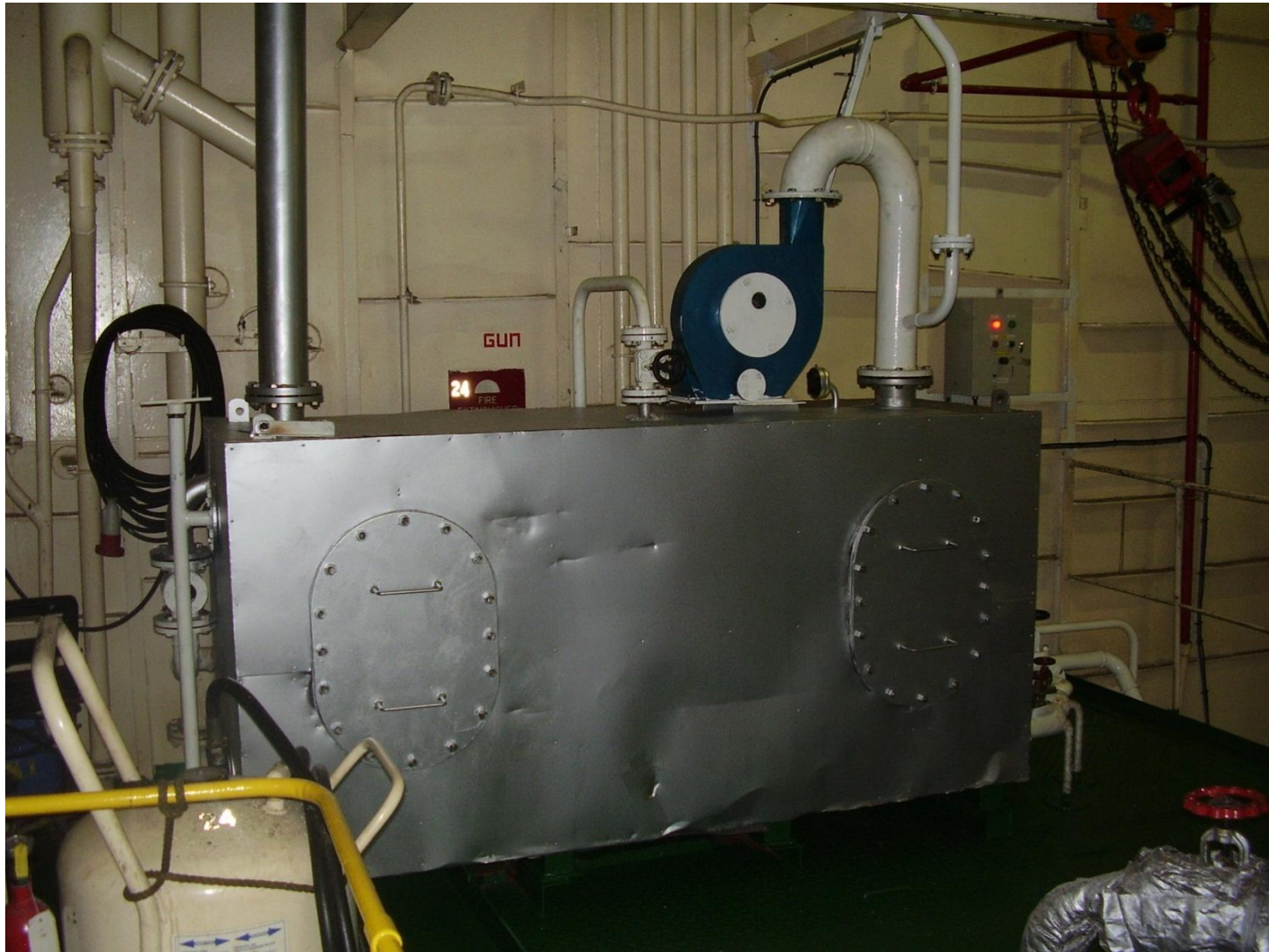
VESSELS SHALL HAVE BILGE WATER EVAPORATION TANK.



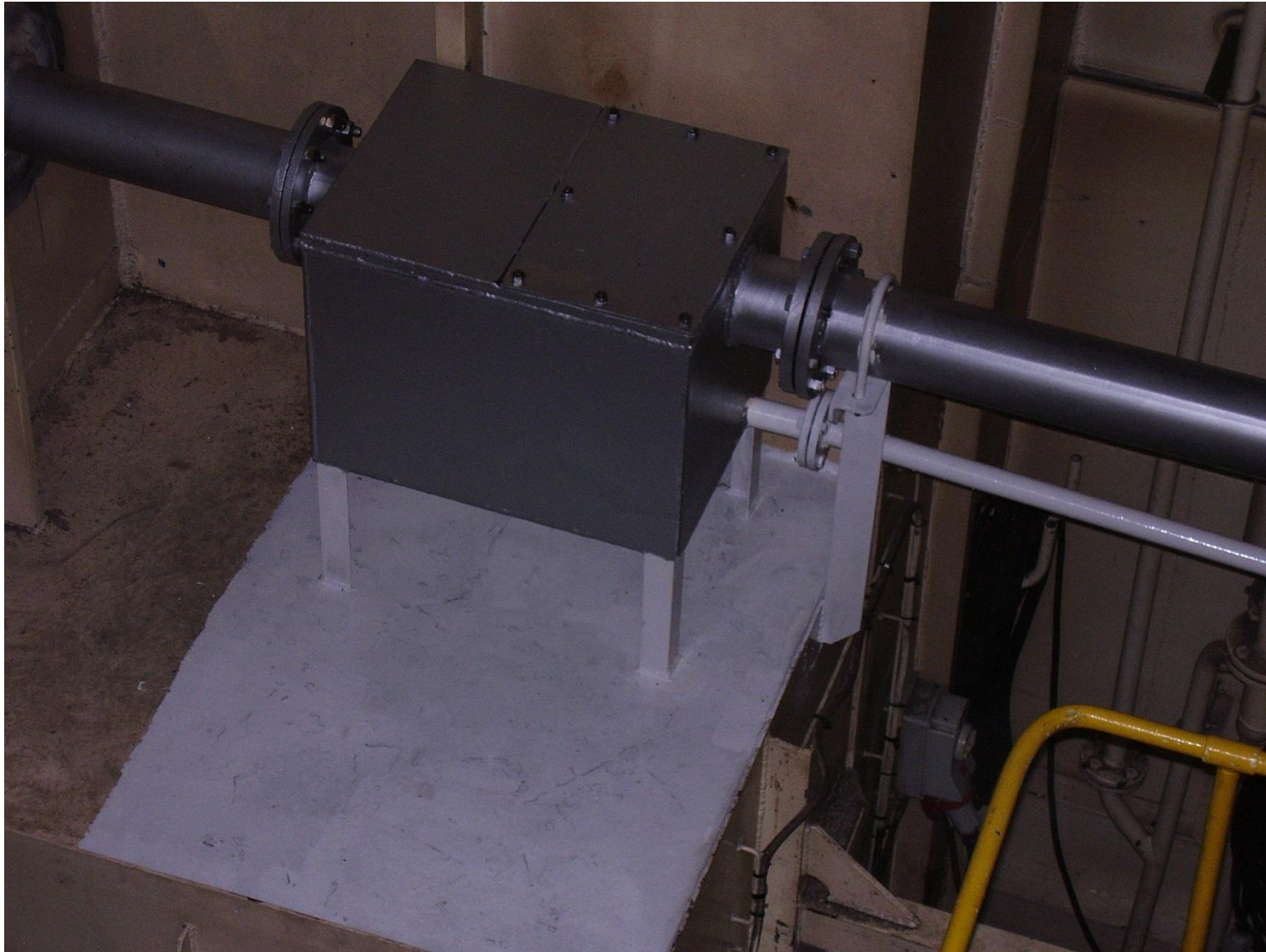
VENTILATION SYSTEM ON EVAPORATION TANK.



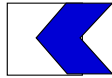
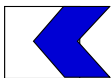
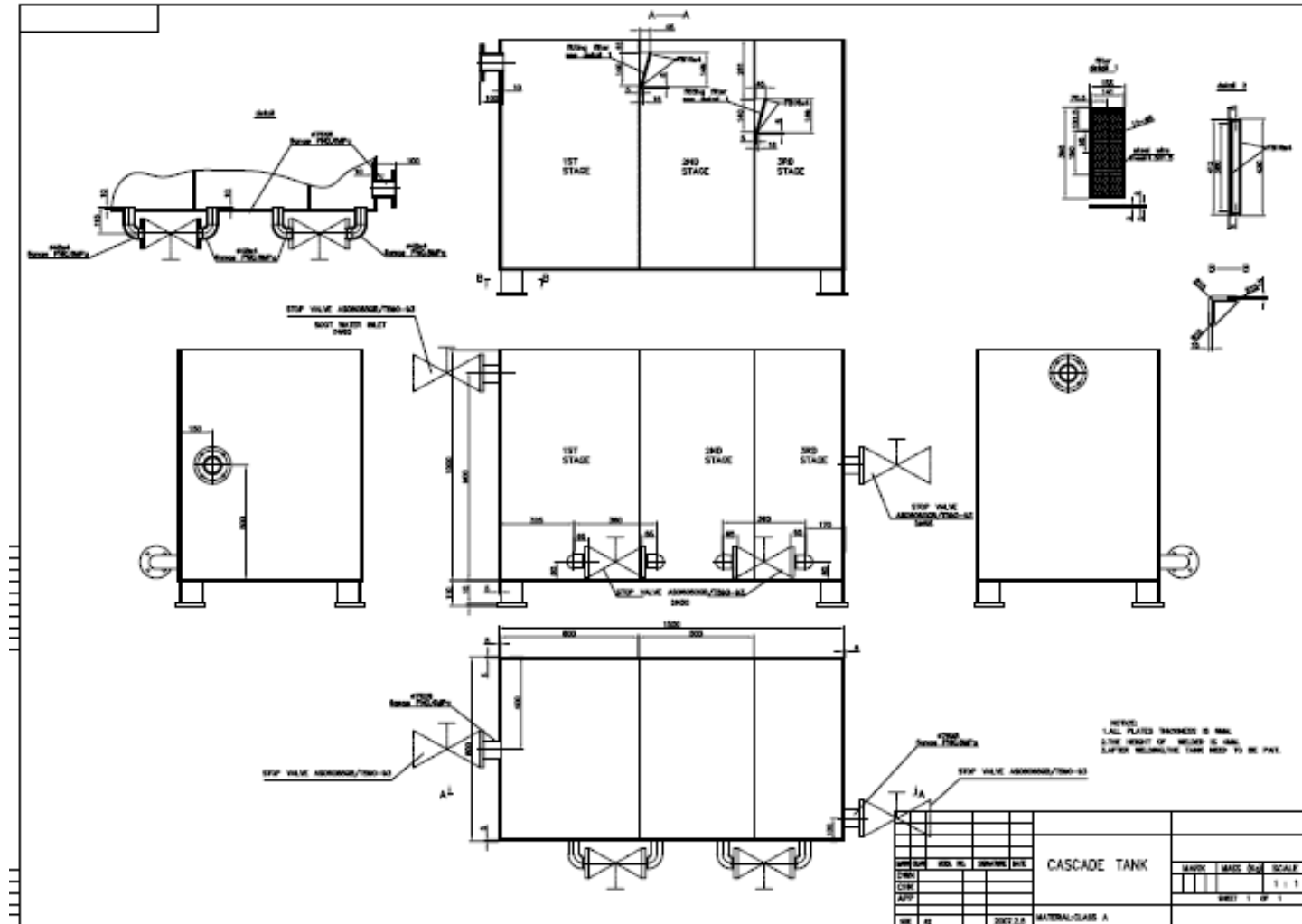
EVAPORATING TANK.



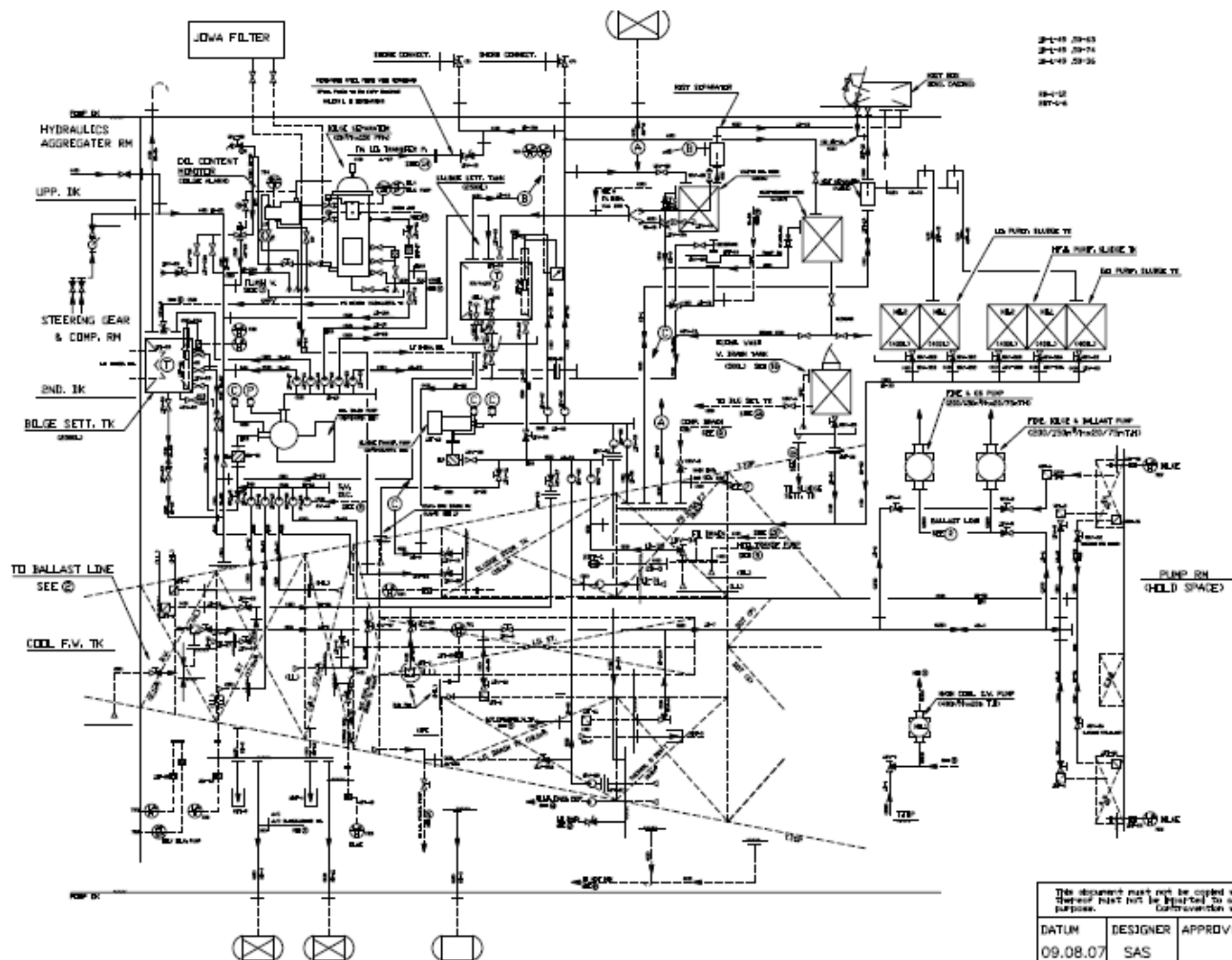
DRAIN BOX.



VESSELS SHALL HAVE CASCADE TANK FOR SETTLING OF BOILER WASHING WATER.




CLASS APPROVED DRAWINGS OF THE ENGINE ROOM PIPELINES & TANKS, WITH ALL MARPOL MODIFICATIONS INCLUDED HAVE TO BE UPDATED.

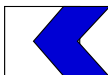


2P-1-10, 2P-1-11
2P-1-10, 2P-1-11
2P-1-10, 2P-1-11

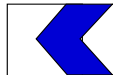
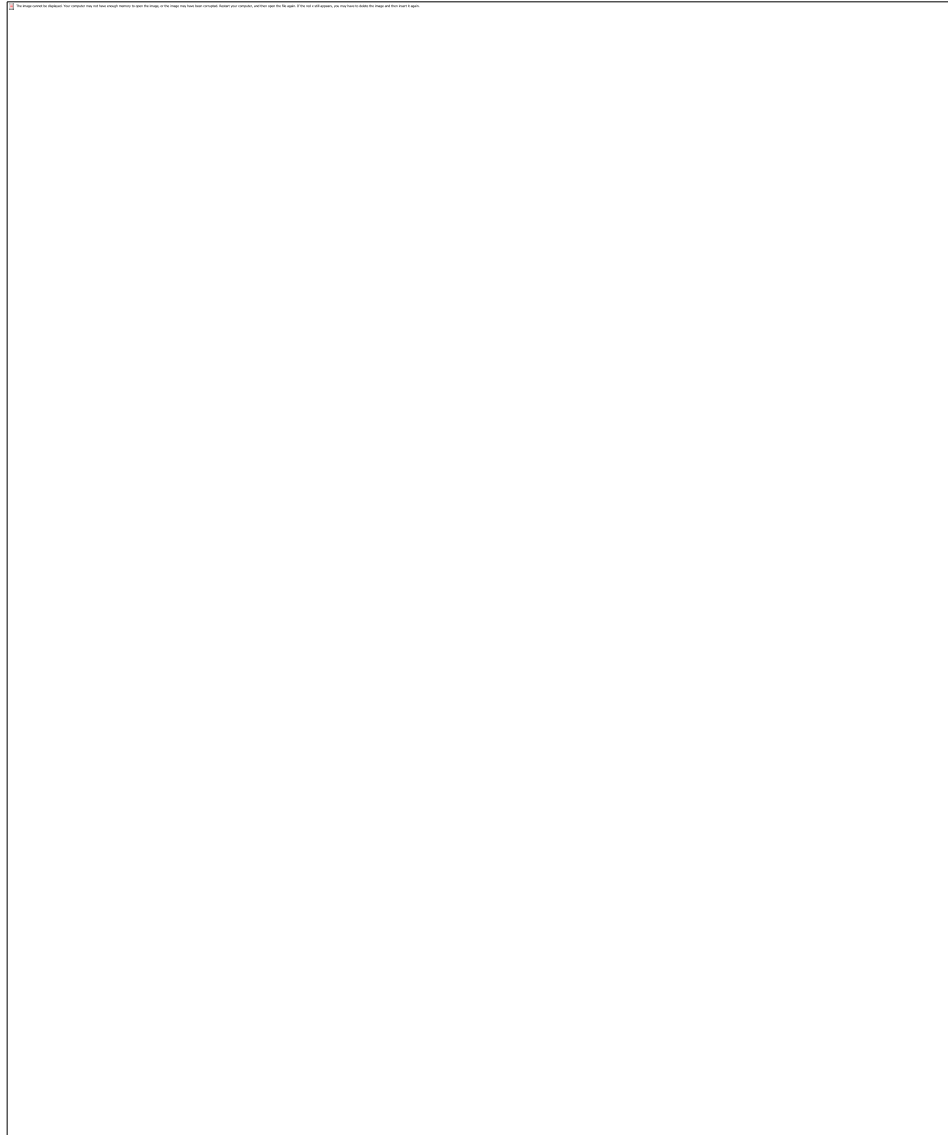
2P-1-10, 2P-1-11
2P-1-10, 2P-1-11

This document must not be copied without our written permission, and the copyright thereof must not be assigned. To a third party not be used for any unauthorized purpose. Copy-reproduction will be prosecuted.

DATUM	DESIGNER	APPROVED	SCALE	 KRISTIAN GERHARD JENSEN AS 025000001 R/S
09.08.07	SAS		1:1	
PROJECT	SUNBIRD ARROW BILGE LINE			DRAWING NO. SA-001
Reference //	Version 01	Format A2	PROJECT NO: XXX	



Approval of the new installation.



OUR INSTRUCTIONS TO THE CREW:

- You are expected to comply 100 pct with MARPOL regulations.
- You are expected to deliver sludge and bilge water to receipt facilities whenever and wherever it is needed.
- You are expected to contact the office if any problems with the operation of the OWS or PPM monitor.
- You are expected to ask for renewal or service if any doubt about the condition of the equipment.
- You are expected to advise the Company about any misconducts.



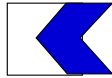
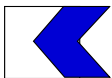


Safer ships
and cleaner seas.

Bypassing The Oily Water
Separator Is A Short Cut To Jail!



The risk is
engineers from
other companies
joining our fleet.



Monthly job expected carried out by Master

Work Order 07/003276

Discipline: Chief Engineer

Criticality: 4-High

Dunlin Arrow/DUN

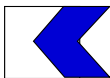
07.03.2007 W10/07

Title: 803530 - OWS test in presence of Master & Cheng
Component: 803.025.001 Oily water separator
Function: 803.025.001 Oily water separator

Maker: 9353 - RWO WATER TECHNOLOGY
Type: SKIT/S-DEB 2,5
Serial No.: 7513
Location:

Planned Start: 08.03.2007 W10 Counter: 1 Month(s)
Planned Completion: 08.03.2007 W10 Last Done: 08.02.2007

Oily water separator and PPM monitor to be tested in the presence of Master and Chief engineer
Obtained PPM to be reported in AMOS (history)



What to check:

Maker: 9353 - RWO WATER TECHNOLOGY

Type: SKIT/S-DEB 2,5

Serial No.: 7513

Location:

Planned Start: 15.02.2007 W7

Counter: 1 Week(s)

Planned Completion: 15.02.2007 W7

Last Done: 08.02.2007

Regular checks (weekly):

- * Differential pressure before and after Coalescer (max. 0.2 bar)
- back flushing the coalescer
- check the coalescer

- * Differential pressure before and after the Adsorber (max. 0.2 bar)



Is use of settling tank necessary ?

- FLEXIS & 5TH GEN / WAR
- I would appreciate your experience and opinion on the use of the settling tank. This tank is a voluntary measure that we have introduced. We did it back in 2004 when the oily water separators in the fleet were according to the requirements prior to 01.01.2005, i.e. MEPC 60(33)/IMO A 393 (X).
- These separators only had one stage and we introduced a 2nd stage JOWA filter.
- Now several of oily water separators in the fleet are according to the requirements after 01.01.2005, i.e. MEPC 107 (49). These separators have two stages and are claimed to be better suited to handle emulsions.
- My question is:
- **Are settling tank still a useful or necessary piece of equipment on vessels with new type of OWS?**

Vessel with old type of Oily water separator, 1.

- WAR/CH.ENG Oystein Rong

We have here on Mandarin OWS type Turbulo type TCS 5 HD. With OMD-2005 monitor, and JOWA filter.

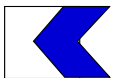
Here onboard we are always using the settling tank, when discharging bilge water.

Also we are using MARISOL and caustic soda almost every time, usually monitor showing about 5 ppm.

Our opinion is that the settling tank is **very useful**.

We are not able to pump anything without settling and treatment with Marisol/caustic soda.

Brgds



Vessel with old type of Oily water separator, 2.

- To: **Willy.Arne.Reinertsen@kgjs.no**
From: Plover Arrow

GOOD DAY.

On Plover Arrow we have OWS "Turbulo" type: TCS 5 HD. As mentioned in maker's manual, oil is separated in two stages.

In fact, it is one stage separator with coalescer inside as second stage.

Water emulsion is not separated effectively.

In addition, we have JOWA filter installed. Our experience is, that only proper treatment of water in Oily Water Settling Tank, helps us to have low oil content in discharged water. Usually it is between 1 and 5 ppm.

Oily water settling tank is still very useful.

Brgds
Master / Cheng



Vessel with new type of Oily water separator, 3.

WAR/POA

Refer to your below question please find POA experience with bilge settling tank.

Settling tank is useful and according our opinion necessary equipment on vessels.

--

--

POA OWS Type;DVZ 2500 PC-"OILCHIEF" with OMD-2005 ppm monitor.

Brgds
C/E

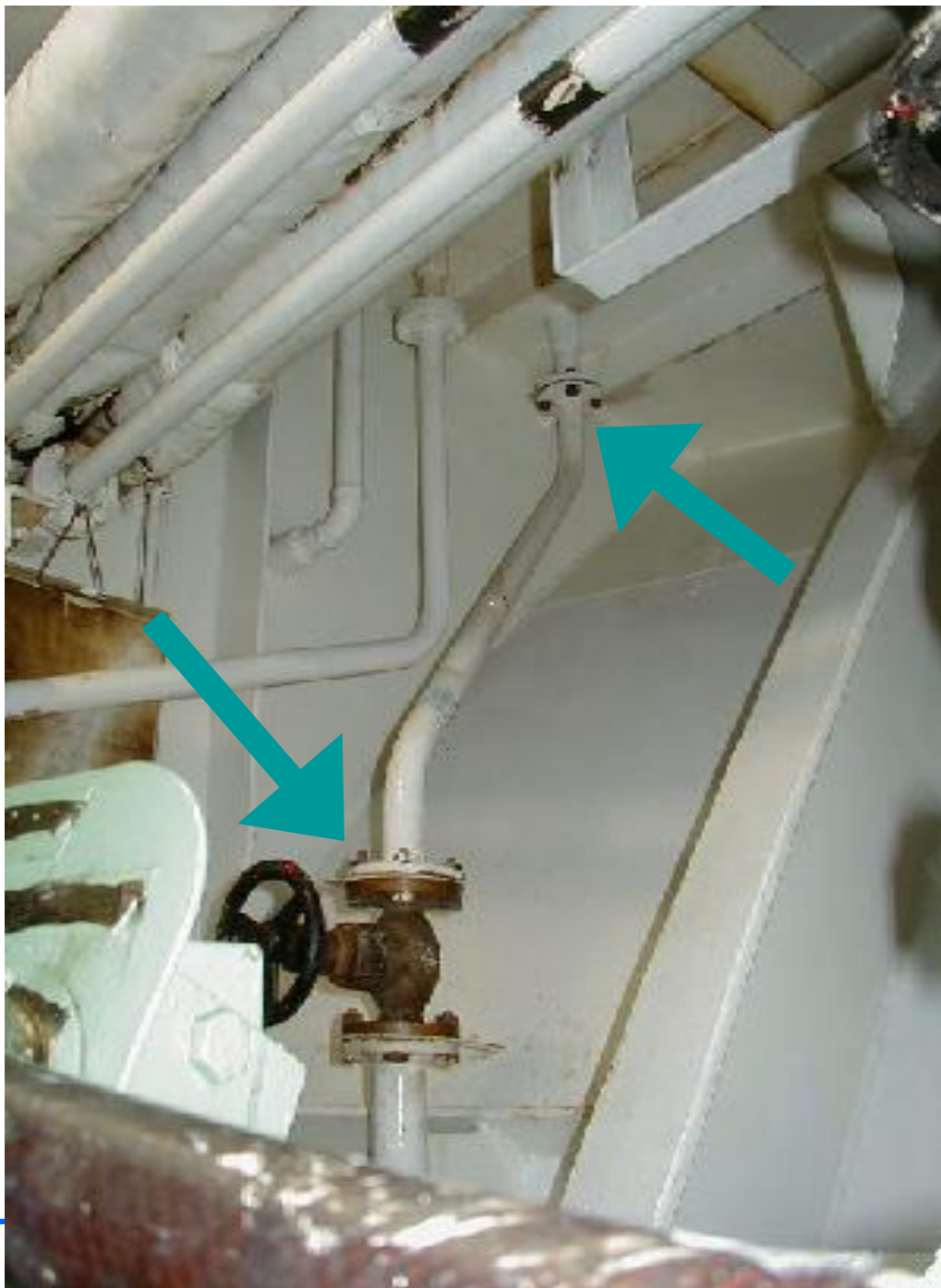


Recap:

What do USCG Officers look for?

- Flexible hoses with flanges.
- Blank flanges on piping associated with the OWS and / or overboard discharge valve.
- Evidence that nuts and bolts on flanges have been turned recently.
- Fresh paint or disturbed paint on the OWS piping system.
- Different colours / ages of paint on couplings and pipes.
- Traces of oil inside overboard pipes.





**OWS overboard
discharge valve with
disturbed flanges
arouses suspicion of
possible use of bypass
hose**







Hose stored in engine rack





Pipe line
modifications on the
bilge system will
cause USCG to
investigate further





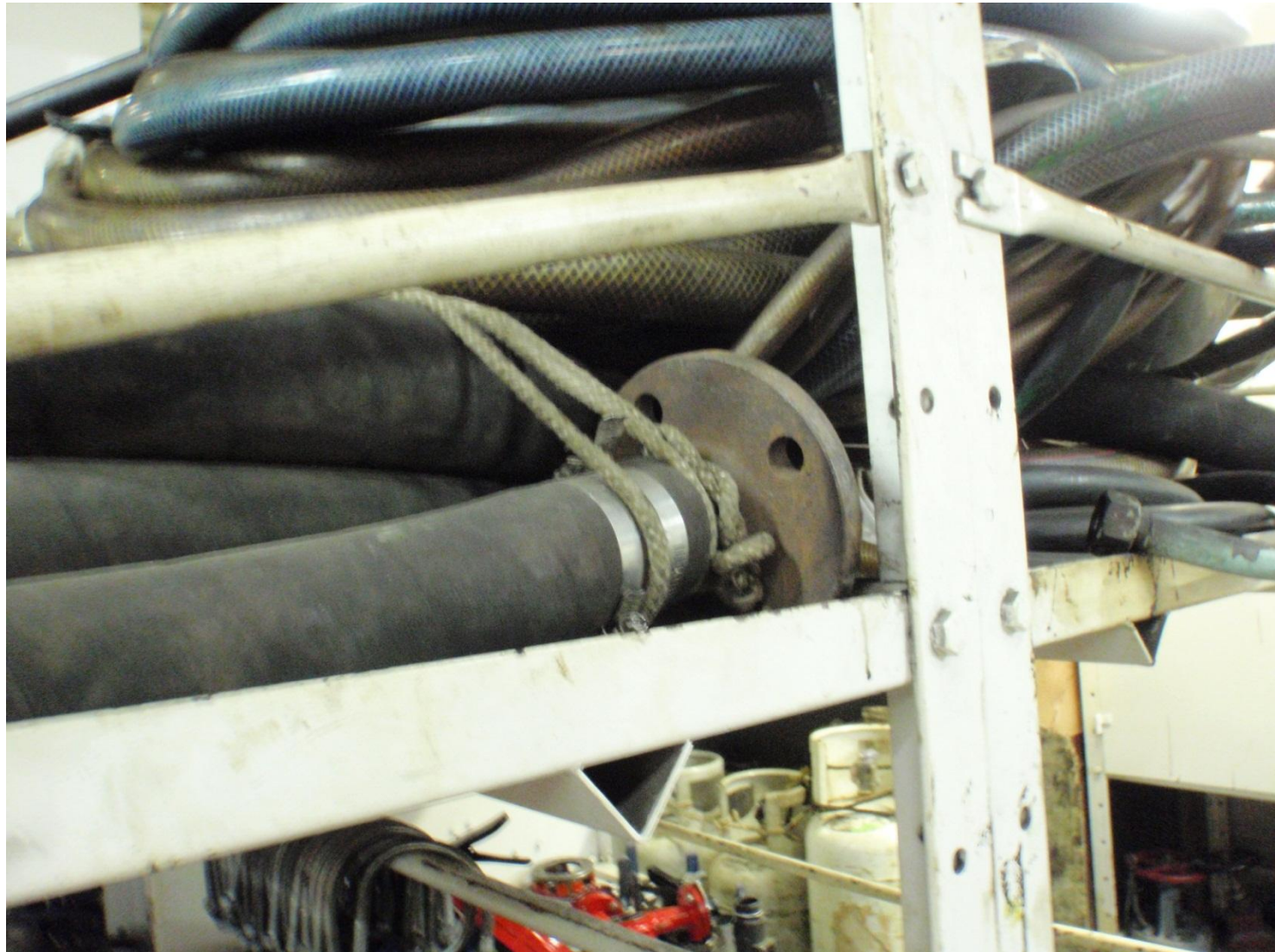
Flange near the OWS to discharge from bilge pump.



Valve near the OWS to pipe on suction side of SW pump.



Hoses with flanges matching flanges on pipelines connected to the OWS.



WE DO NOT WANT OUR CREW TO END UP HERE!



THE END.

