



Analysis on PSC Deficiencies

Sewage Treatment Plant

January 29, 2018

KR Survey Team

Contents

I . Sewage treatment plant, Major Deficiencies

II. Preventive Measures

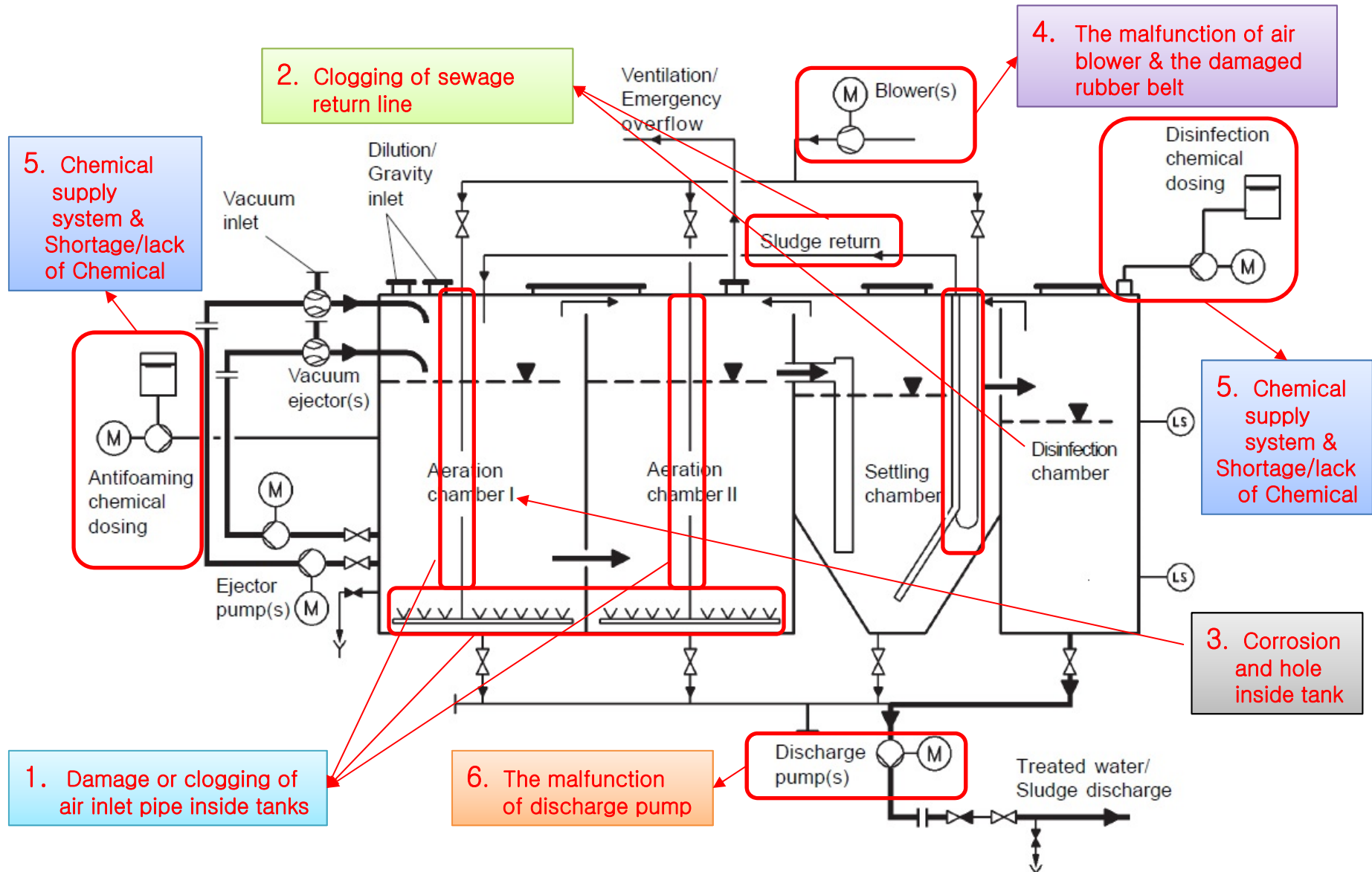
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Sewage treatment plant, Major Deficiencies

Analysis on PSC Deficiencies



I. Sewage Treatment Plant, Major Deficiencies



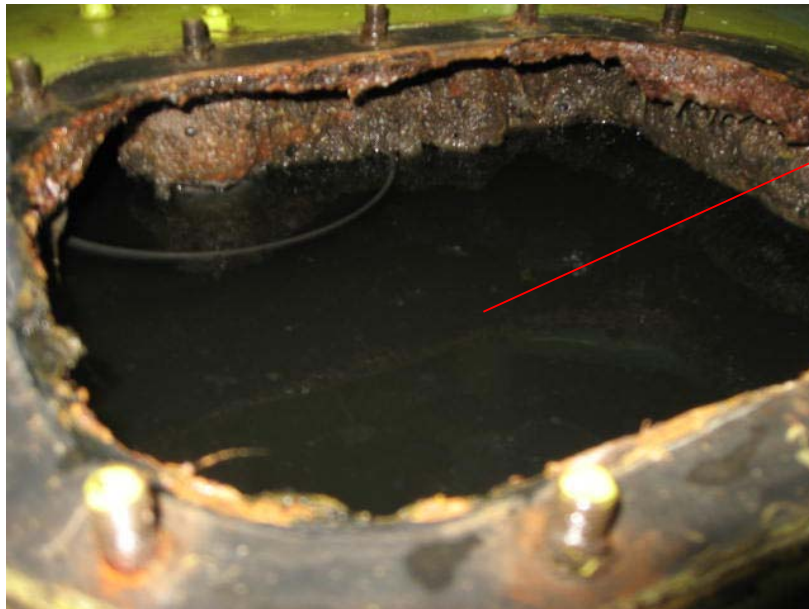
[Sample Dwg : Biological Vacuum Sewage Treatment Plant]

Analysis on PSC Deficiencies

I. Sewage Treatment Plant, Major Deficiencies



1. Damage or clogging of air inlet line inside tanks (See the previous sample dwg. 1.)



[Deficiency]

Holed and clogged air inlet line inside tanks.
-> **No air is supplied at all.**

(Environment in which aerobic bacteria can not live to break down the sewage)



[Normal Operation]

If air is fully supplied in tanks, a sufficient amount of air bubbles can be checked when opening the top cover of tank.

- ✓ Check Point : Check a sufficient amount of air bubbles after opening the top cover.
- ✓ Causes : Air blower, Damage/Clogging of air inlet line inside tank, No regular maintenance inside the tank
- ✓ Detention Items

Analysis on PSC Deficiencies

I. Sewage Treatment Plant, Major Deficiencies



2. Clogging of sewage return line (See the previous sample dwg. 2.)



[Deficiency]

Clogging of sewage return line on tank top.

-> Sewage can not be circulated btw. tanks at all.



If air is normally supplied, this is usually checked by the flow through the clear plastic pipe presented on top of the tank.

[Normal Operation]

- ✓ Check Point : Check the sewage flow through the plastic pip on top of the tank.
- ✓ Causes : Air blower, Damage/Clogging of air inlet line inside tank, No regular maintenance inside the tank
- ✓ Detention Items

Analysis on PSC Deficiencies

I. Sewage Treatment Plant, Major Deficiencies



3. Corrosion and hole inside tank (See the previous sample dwg. 3.)



[Deficiency]

Deficiency was found due to corrosion and hole inside tank



[Normal Operation]

- ✓ Check Point : Check the water level inside the tank after lowering it partially, and carry out the closed-up survey if the problem is identified.
- ✓ Causes : No regular maintenance inside the tank in accord. with manual or PMS
- ✓ Detention items

Analysis on PSC Deficiencies

I. Sewage Treatment Plant, Major Deficiencies

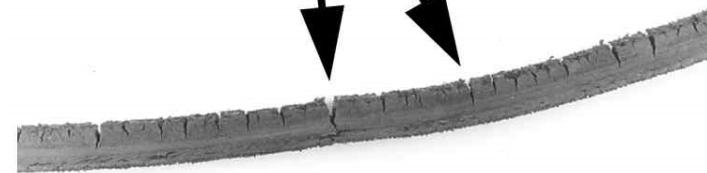


4. The malfunction of air blower & the damaged rubber belt

(See the previous sample dwg. 4.)



The malfunctioned air blower & if applicable,
damage of rubber belt
-> Influence of air supply



[Deficiencies]

- ✓ Check Point : Check pressure gauge and if applicable, the condition of rubber belt
- ✓ Causes : Problem on air blower(motor), No regular change of rubber belt
- ✓ Detention items or items to be rectified before ship's departure

5. Chemical supply system & Shortage/lack of chemical

(See the previous sample dwg. 5.)



Deficiency was issued due to the malfunctioned chemical supply system & shortage/lack of chemical.

[Deficiencies]

- ✓ Check Point : Check the test of motor for chemical supply system & storage condition/quantity of chemical
- ✓ Causes : No regular inspection & no checking of chemical
- ✓ Detention items or items to be rectified before ship's departure

Analysis on PSC Deficiencies

I. Sewage Treatment Plant, Major Deficiencies



6. The malfunction of discharge pump (See the previous sample dwg. 6.)



Deficiency was issued due to the malfunctioned pump.

[Deficiency]

- ✓ Check Point : Check the operation of pump
- ✓ Causes : No regular inspection
- ✓ Detention items or items to be rectified before ship's departure

7. Other deficiencies

- 1) Lack of familiarization
- 2) Being stuck of overboard valve
- 3) If applicable, the malfunction of UV lamp for a sterilization system





Preventive Measures



Sewage Treatment Plant

Check Points	Yes / No
1. Check any error alarms on display	
2. Check the sewage flow during the operation of the blower through the clear plastic hose on top of the tank, if applicable	
3. Check the sufficient air was supplied inside the tanks	
4. Check the operation of chemical supply system and/or the storage of chemical	
5. Check the internal condition of tank	
6. Check the operation of discharge pump	
7. Check air blower, the pressure gauge and if applicable, rubber belt	
8. Check overboard valve	
9. Check UV lamp, if applicable	
10. Check the familiarization and the manual	

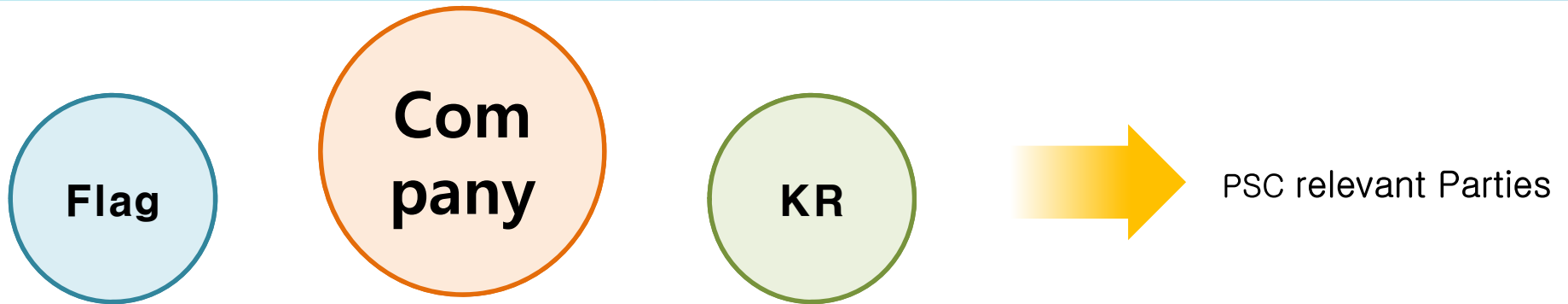
✓ Do thoroughly self-checking before entering port

✓ Report the identified deficiencies to Port authority, Flag & KR

Analysis on PSC Deficiencies



II. Preventive Measure



PSC Cooperation

PSC Main Party

PSC Cooperation

- 1 Practical/Effective maintenance & self-checking
- 2 Fully support by company (physical, policy)
- 3 Report Identified deficiencies to Port authority/Flag/KR
- 4 Share information with KR in case of PSC problems
- 5 **Improve crew training and qualities**

Awareness of Recognition

Preventive Measures for Company



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