

MV “Detroit Express” Report

Client

Anglo Eastern Ship Management Ltd., Hong Kong

Purpose of Installation

100% chemical free treatment of lime scale build-up, bacteria growth, algae and slime inside the inlet pipe on the seawater side and the titanium plates of the heat exchanger in the freshwater generator. Chemical free cleaning of heat exchanger plates.

System Installed

HydroPath Marine HM-100

Date of Installation

August 12, 2016

Trial Period

12 months



Figure 1. M/V “Detroit Express”

Installation Location

The HM100 unit was installed on the seawater inlet pipe after the seawater feeding pump and in front of the freshwater generator

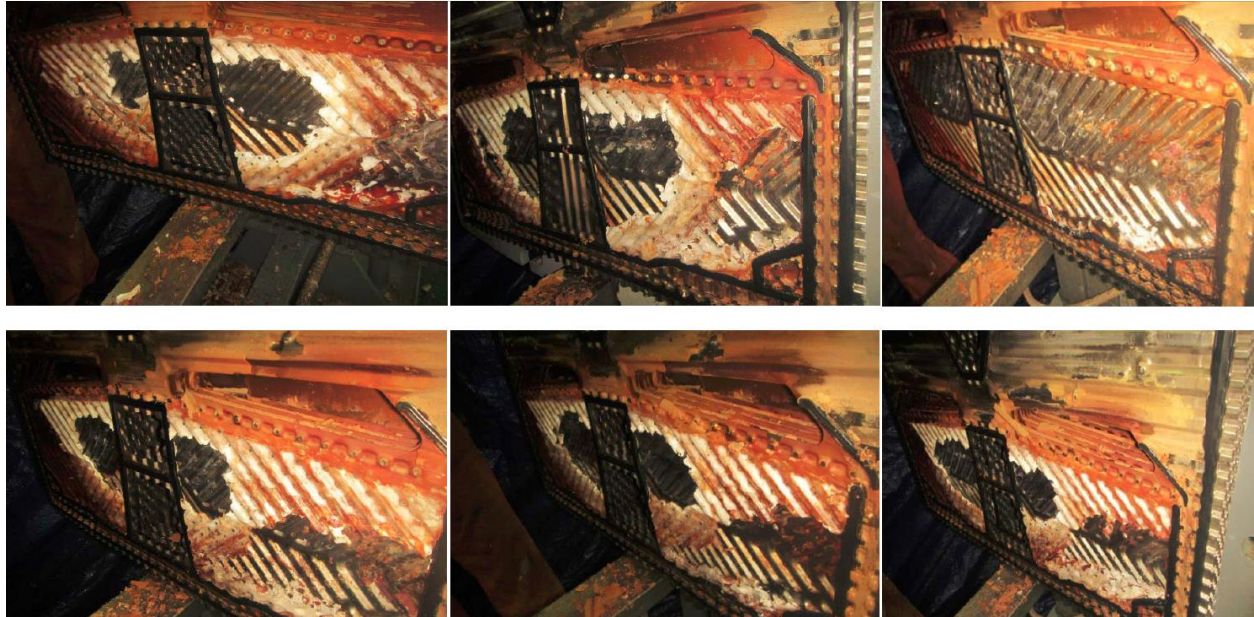
Findings

CIP Cleaning improvement:

Before installation of HydroPath Marine technology the vessel's crew carried out CIP cleaning every 10-12 days. In a period of 4 months after installation of the HydroPath Marine technology on August 12, 2016 the CIP cleaning was only carried out 3 times instead of normally ar. 12 cleanings. This is a 75% reduction in CIP cleaning detected in the first 4 month of the trial.

FWG Opening for cleaning:

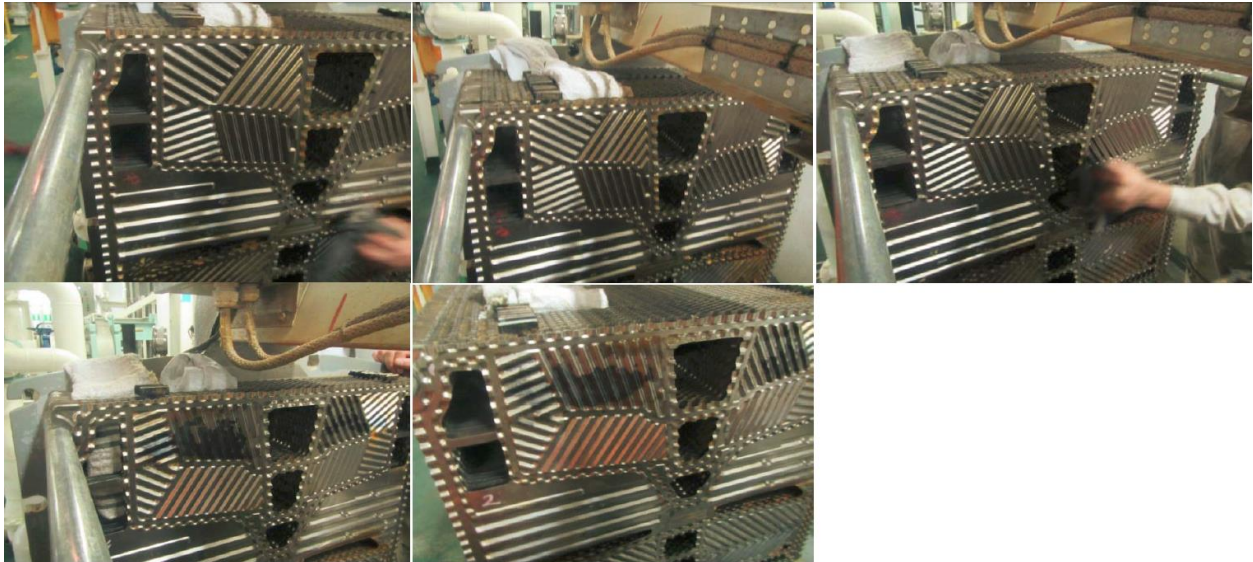
Before installation of HydroPath Marine technology the vessel's crew opened the FWG for cleaning once in a month. In the same period of 4 months after installation of the HydroPath Marine technology the number of openings for cleaning was reduced to 2 times instead of normally 4. This is a 50% reduction in FWG openings for cleaning detected in the first 4 month of the trial.



Opening Condition of FWG before cleaning



Removed soft scale without use of chemicals



Condition of plates after cleaning

Performance of FWG with HydroPath Marine Technology:

After the first 4 months the following performances were observed according to vessel's crew data report:

Between February 3 and April 22, 2017 there was no need to open or CIP clean the FWG which documents a successful operation period of ard. 2,5 months which clearly shows the HydroPath technology has improved the general condition and performance of the freshwater generating system onboard the vessel.

Conclusions:

In a period of 12 months after installation of HydroPath Marine technology from August 12 2016 to August 24, 2017 the records from vessel's crew shows following performance:

CIP Cleaning:

Only 5 CIP cleanings were reported instead of earlier ard. 36 necessary cleanings for the same period before installation of HydroPath Marine technology

Opening of FWG for cleaning:

Only 5 openings of FWG for cleaning were carried out instead of earlier 12 necessary openings before installation of HydroPath Marine technology.

The crew reported that when opening for cleaning they found soft scale on the heat exchanger plates which was easy to remove without using chemicals.

Final Comments:

An overall look at the trial period shows a very successful and improved performance of the freshwater production system onboard the M/V "Detroit Express" and the fact that in addition to the above also the use of chemicals for daily dosing into the FWG as well as those used for cleaning of the heat exchanger plates has stopped.

Savings in cost for chemicals, logistics around same, protection close for crew and time for cleaning is to the benefit for both crew and ship owner.