



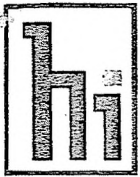
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REPAIR FILE

SERVICE ENGINEERING
SUPPORT FOR
THIN-FILM DISTILLER TF12-2CB
SS EXXON GETTYSBURG, JUNE 12-15, 1978

1. On verbal request from Mr. L. A. Hanft for service engineering and supervision of shipyard labor to install new demisters ordered on DC 7780 in the 12,000 GPD distiller while the ship was at Newport News Shipbuilding and Drydock Co., R. E. Anderson reported to the shipyard on June 13, 1978, with all material and equipment essential to the work to be undertaken.
2. Heat retention asbestos insulation, piping and gauge board were removed for accessibility. Rectangular holes were cut in the front and rear vertical plates of the evaporator body to remove the original demisters. Inspection indicated both demisters to be still functional but in a deteriorating condition from 12 years operation that would have led to vapor by-pass in due course. The lower several layers of the 16 layers comprising the demister were badly shredded. Demister material could drop into the brine sump and foul the brine pump.
3. Both new demisters were satisfactorily installed by means of open-ended canisters. Once the demisters were properly positioned, the canisters were withdrawn. The four rectangular holes were then reinforced with prefabricated 3/16" x 1" 90-10 frames brought from Portland, Maine, and the holes covered with 3/16" 90-10 CuNi plates seal welded to the frame and permitting future accessibility by simply grinding off the seal weld.
4. All fluted tubes were inspected and found to be clean. However, the 32 tubes in the first effect and 5 tubes in the second effect did not have 90-10 CuNi inserts installed to take the impact of sea water spray from the nozzles. The tubes were, therefore, eroding rapidly in that area. A quantity of 37 inserts were subsequently supplied under DC 8422 for later installation. Due to the eroded condition of the top of the DF tubes, the installation of the inserts should be mechanically locked by staking.
5. Inspection of the feedwater headers indicated some bowing from excessive pressure. This is a condition that has been noted to a more severe degree on several other installations on each of which the feedwater flowmeters had been removed. The utilization of both pressure gages and flowmeters permits determining whether spray nozzles are clean, but when



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one or the other is not employed it is impossible to determine if nozzle fouling is beginning to develop. As fouling develops in nozzles, the only evidence of reduced flow is the level of brine shown on the brine sump sight glass in those instances when flowmeters are not used and this crude means of observation does not reveal the developing fouling until it has progressed to the point where inlet feed pressure has been raised to higher than design level in an effort to achieve a "normal" flow and normal brine level in the sight glass. All nozzles were inspected and found to be clean.

6. On completion of all welding, the evaporator was hydrostatically tested at 15 PSIG. A number of leaks were noted in the new welds and marked. The hydro was completed at 1130 hours on June 15 and locations of leaks noted by Shipyard Foreman, Exxon Port Engineer and Chief Engineer for corrective welding later. Hydro connections were retained for final check.
7. Returned to Portland June 15.

R. E. Anderson/lb

June 28, 1978

cc: A. G. Haug, Chief Engineer, Exxon Gettysburg
W. A. Ingham, Houston
L. A. Hanft, Houston

EXX-MOR-010799