

COPY

Lloyd's Register of Shipping.

(UNITED WITH THE BRITISH CORPORATION REGISTER)

No. LA-19911

Port HONG KONG

19th July, 1952.



This is to Certify that

D. CURRIE & L.T. WILLIAMS,

the undersigned Surveyor to this Society did at the request of

Lloyd's Agents on behalf of the Salvage Association attend on board the S.S. "EMPIRE VICEROY" 7803 Gross Tons of London on the 13th August, 1952 whilst the vessel lay afloat outside Kobe Harbour and subsequently in order to ascertain the condition of the machinery. (See copy of Lloyd's Agents Kobe letter of instruction dated 13th August, 1952).

For further particulars see previous correspondence and Log Book.

The Undersigned upon examination,

DEFECTS

H.P. aft turbine bearing seized, the labyrinth packing worn and aft end leaking badly as also were the I.P. & L.P.

The turbines were examined in March, 1952 & were found in deteriorated and wasted condition and recommended to be re-bladed within a period of 6 months i.e. Sept., 1952).

H.P. Casing was opened up. The blading appeared in same condition as when examined 6 months previously but labyrinth packing was excessively eroded.

It is considered that the cause of the H.P. bearing overheating was due to the leakage of Steam from the gland.

The L.P. glands were so badly worn that even when carrying high gland steam pressure steam was unable to be maintained.

RECOMMENDED

Vessel be brought into port to a Dockyard for opening up of turbine and further inspection.

The turbines be completely re-bladed and reconditioned throughout.

This Certificate is issued upon the terms of the Rules and Regulations of the Society, which provide that:— While the Committees of the Society use their best endeavours to ensure that the functions of the Society are properly performed, it is to be understood that neither the Society nor any Member of any of its Committees is under any circumstances ever to be held responsible for any inaccuracy in any report or certificate issued by the Society or its Surveyors, or in any entry in the Register Book or other publication of the Society, or for any error of judgment, default or negligence of any of its Committees or any Member thereof, or the Surveyors, or other Officers or Agents of the Society.

FOR LONDON

5M-7, 54 Kobe

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As the vessel was required for an important Charter the Owners requested an examination and recommendations for temporary repairs for six months limit during which time blades would be placed on order and delivered to Japan where permanent repairs would be carried out.

The following is the result of further examination.

The I.P. turbine casing and rotor examined found in more deteriorated condition than when seen 5 months ago.

L.P. turbine rotor and casing examined. Gland labyrinth packing in very deteriorated condition, also dummy piston packing.

H.P., I.P., L.P., rotors and top casings were taken ashore.

The roots of previously removed blades were cut out in order to ascertain sizes necessary for ordering new blades.

H.P. top casing 1st row of 1st stage.

I.P. " " " " " " " "

L.P. " " " " " " " "

H.P. rotor 1st & 2nd row of 1st stage and 1st row of 1st stage.

I.P. Rotor 1st row of 1st stage.

The grooves were found in a very badly corroded condition and will require machining before fitting new blades.

The rotors and casings were in a very dirty and rusted condition and recommendations were made to clean and polish casings and rotors.

The H.P. Turbine thrust pads white metal was found in poor condition and has now been renewed including a spare set.

H.P. Labyrinth packing renewed.

Labyrinth boxes renewed.

Rotor Balanced.

L.P. Labyrinth packing renewed.

Labyrinth boxes renewed.

5th and 6th rows shrouding part renewed about 8 inches each.

4th, 7th, 8th, 9th, 10th and 11th rows shrouding renewed complete.

Centre gland labyrinth packing renewed.

Centre gland labyrinth box renewed.

Rotor balanced on completion.

L.P. Labyrinth packing renewed.

Labyrinth boxes renewed.

Dummy cylinder renewed.

Dummy piston packing renewed.

Rotor balanced; after considerable difficulty had been experienced in balancing this rotor, it was discovered that scale had formed inside and become loose.

This was removed through the plug holes.

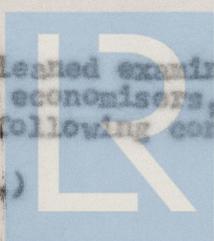
All corroded blades were cleaned up and the rotors put into reasonable condition.

All bearings cleaned up and the rotors re-bedded into the casings.

Gearing generally examined through sight doors and found in good condition.

Both main boilers opened up cleaned examined in their entirety together with their mountings economisers, superheaters, doors and fastenings and found the following conditions.

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A total of 400 air pre-heater tubes wasted now renewed. The economiser tubes of both boilers found in very poor condition and blanked off. Intermediate feed check valves renewed on both boilers.

Starb'd boiler:- Side wall tubes and roof tubes found distorted and it was recommended that these tubes be renewed together with the economiser tubes of both boilers, concurrently with the M.E. permanent repairs. The starb'd boiler due to the above condition was Hydro tested and found tight.

Donkey Boiler:- Opened up cleaned examined in its entirety together with its mountings, doors and fastenings and found or now placed in good condition.

Repairs:- 15 smoke tubes renewed and the remainder expanded. A large number of shell rivets found leaking together with the seams and these have been caulked. The feed water regulator was opened up for examination and a soft carbon deposits found therein (an analysis of this deposit was forwarded to London) It was therefore recommended that the entire feed system including all tanks, heaters, and condenser be opened up and cleaned (See also previous report of a similar deposit found at a previous survey already forwarded to you for information). In order to ascertain the possibility of electrolysis action a megger test was carried out on all circuits and although some were found low it was considered that this was not the cause of the heavy corrosion and deposit. All circuits now show good readings.

Several mooring and short sea trials were carried out during which time the vacuum showed a very low reading with a maximum of 15 ins. to a minimum of 5 ins.

The boiler water level of the starb'd boiler reached a very dangerous low level twice and was never constant. It was also discovered that raw water was being used for make up feed and the distiller was blanked off, also that evaporation from the Cochran boiler direct to the main condenser was the normal means of make up feed.

It view of the forgoing the starb'd boiler was again opened up and examined and the distortion of the tubes examined and they were found to be as follows:-

Roof tube 8 $\frac{1}{2}$  ins.  
Side wall tubes 11 $\frac{1}{2}$  ins.

On these findings it was recommended that both boilers be cleaned in their entirety, the starb'd boiler be retubed completely and renew the economiser tubes of the Port boiler. The main and auxiliary machinery including feed and steam piping and all feed and steam units be opened up examined in their entirety and reconditioned as found necessary by the Surveyors.

Since the last sea trial the vessel has remained at Anchor awaiting instructions from the Owners.

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The sea trials were originally carried out to ascertain whether the vessel could maintain a speed of 9 knots as required by the Charterers.

The trials were attended by Messrs. A.E. Munro, Principal Surveyor for Japan, L.T. Williams and H. Warkman, Salvage Association Surveyor and all agreed with the above mentioned recommendations.

See also Mr. H. Warkman's report and copy of letter to Lloyd's Register dated 16th January, 1953.

The vessel has now been sold to Henry J. Kaiser Co., Ltd., San Francisco and will fly the Panama Flag. She is to have new engines and boilers and be converted into a Bulk Ore Carrier with A.S. Class.

*L. Burns & H. Warkman*

Surveyors to Lloyd's Register  
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