MARINE OCCURRENCE REPORT

GROUNDING

OF THE BULK CARRIER "CHRISTOFFER OLDENDORFF"
LAKE ST. PIERRE, QUEBEC
12 SEPTEMBER 1994

REPORT NUMBER M94L0027

The Transportation Safety Board of Canada (TSB) investigated this occurrence for the purpose of advancing transportation safety. It is not the function of the Board to assign fault or determine civil or criminal liability.

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SUMMARY

At about 0617 EDT on 12 September 1994, as the self-unloading bulk carrier "CHRISTOFFER OLDENDORFF" was transiting Lake St. Pierre bound for Sorel, Quebec, with a load of anthracite, a complete power failure caused the main engine and the steering gear to stop operating. The vessel sheered and ran aground. No injuries or pollution were reported as a result of this occurrence.

FACTUAL INFORMATION

Particulars of the Vessel

Name	"CHRISTOFFER OLDENDORFF"
Port of Registry	Monrovia, Liberia
Flag	Liberian
Official Number	9972
Type	Self-unloading bulk carrier
Gross Tonnage	37,959
Length	227.73 m
Draught	Forward: 10.00 m Aft: 10.35 m
Built	Steel
Propulsion	One diesel engine, 11,382 kW driving a single fixed-pitch propeller.
Owners	Egon Oldendorff Germany

Just before coming abreast of buoy S77, the vessel experienced a complete power failure when the two auxiliary generators shut down. The main engine then stopped because its electric pumps had stopped working. An emergency generator came on line shortly thereafter, but it was not designed to provide power to the steering gear or the main engine pumps. The vessel sheered and ran aground on the edge of the channel, some four cables downstream of buoy S77. The "CHRISTOFFER OLDENDORFF" was able to manoeuvre free and refloat herself in the hours following the grounding.

ANALYSIS

An overload on the No. 2 generator reportedly tripped its circuit breaker. The overload was apparently caused by the simultaneous starting of two compressors, one which is started manually and the other which is automatic. A second generator, operating in parallel with the first, experienced a voltage overload which exceeded the resistance of its circuit breaker. When the two generators shut down, the main engine stopped working.

Post-occurrence tests seemed to indicate that this scenario is unlikely. Each generator can produce a maximum load of 625 kW. As these generators are connected in parallel, they have a combined total capacity of 1,250 kW.

Before the compressors started up, the power consumption on each generator was 250 kW. These compressors require 46 kW each to operate. Even given the overload needed to start them up, the load applied could not have been sufficient to trip either of the circuit breakers.

The generators were started up again within minutes of the grounding, and the whole system resumed operating normally. No

mechanical problem was noted during subsequent tests, and there is no indication that such an overload did cause the two generators to shut down.

FINDINGS

1. The vessel experienced a complete power failure.

2. The fact that the generators shut down caused the main engine and the steering gear to stop operating.

3. No mechanical problem was noted on the generators and/or the electrical system after the power failure.

CAUSES

The "CHRISTOFFER OLDENDORFF" grounded because of a complete power failure on board the vessel. This power failure cannot be attributed to a mechanical problem. The cause of the complete power failure could not be determined.

This report concludes the Transportation Safety Board's investigation into this occurrence. Consequently, the Board, consisting of Chairperson, John W. Stants, and members Zita Brunet and Hugh MacNeil, authorized the release of this report on 10 May 1995.