

# CERTIFICATE OF APPROVAL IN PRINCIPLE

## WAPS and Solar Panels Newcastlemax Bulk Carrier AiP-Certificate no. 202300311

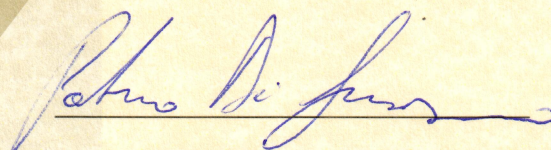
This is to declare that the Approval in Principle (AiP) of the following Project:

Project:	205k DWT Bulk Carrier	
Applicant:	Aurelia Operetteweg 4 1323 VA Almere-Stad The Netherlands	
Designer:	Aurelia The Netherlands	
Description:	Bulk Carrier, WAPS-H-Ventofoils, Solar , Battery Powered, Green Plus, Unrestricted Navigation	
Characteristics:	Length Overall	299 m
	Breadth	50.0 m
	Scantling Draft	17.9 m
	Max. Service Speed	14.5 knots
	Gross Tonnage	102000 GT
	Deadweight	203000 t
	Propulsion Power	14330 kW
	Battery Capacity	6600 kWh

has been carried out in compliance with the process described in the "RINA Guide for Approval in Principle of Novel Technologies" (GUI/19/ENG- Edition 2014), on the basis of the below listed technical criteria.

- ❖ RINA Rules for the Classification of Ships
  - Part F, Chapter 13 Section 46 (Wind Assisted Propulsion System – WAPS)
  - Part F, Chapter 7, Section 1 (Green Plus)
  - Part C, Chapter 2, Appendix 2 (Battery Powered Ships)
  - Part E, Chapter 4, (Bulk Carriers)

Issued in **HAMBURG** on **June 10, 2023**.



**RINA Services S.p.A.**  
**Patrizio Di Francesco**

This certificate consists of this page and one Annex.





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### WAPS and Solar Panels Newcastlemax Bulk Carrier

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Annex 1 [Page 1/1]

The following submitted documentation, were reviewed for the Approval in Principle Certificate:

#### Documents/Drawings

- ❖ Aurelia Tender Proposal vessel Rio Tinto
- ❖ 22C03 RIO Tinto – GA Plan
- ❖ 22C07 - Rio Tinto - Electrical Load Analysis - Rev.00i01 - Electric Load Balance
- ❖ 22046D01 Rio Tinto Single Line Diagram Rev00i00 (2) – Power Distribution
- ❖ 22C07 - Fuel Consumption Analysis v.02 – Endurance Study
- ❖ 22C07 - Rio Tinto - Batteries selection REV00i02 – Battery System Information

It is intended that the general conditions and requirements listed and detailed in RINA Document:

- ❖ “ WAPS and Solar Panels Newcastlemax Bulk Carrier” RINA Approval in Principle Report

have to be fulfilled in the detailed design phase, with the possible addition of further measures introduced by the Administration (Flag Authority).

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