



# DET NORSKE VERITAS

DNV Id No:  
32878  
Date of issue:  
2014-02-18

## CERTIFICATE OF BOLLARD PULL

### Particulars of Ship

Name of Ship: "OCEAN OSPREY"  
Type of Ship: Stand by / Rescue vessel  
Signal Letters: 2GUP4  
Port of Registry: ABEERDEN  
Gross Tonnage: 2284  
Length: 62.23 m  
Owner: Atlantic Offshore Rescue Ltd.

### Particulars of Bollard Pull

	Total Number	Make	Type	RPM (MCR)	Power (kW)
Engines Main	2	MAN Diesel	9L21/31	1000	1935
Engines					
Engines					
Engines					
Propellers	2	Casuso Propeller	D2800mm, 4 blades		
Prop. Thrusters	1	Schottel	Azimuth, SRP550ZSV, D1650, 4 blades	1200	800
Nozzles	2	Damen Marine	D2830x1400		
Rudders	2	Becker	Flap rudder, 4.98m2		

Test location: Bilbao, Spain

Test date: 2014-02-18

Det Norske Veritas, after having surveyed and examined the relevant data according to our recommendations for the testing of bollard pull, hereby declare that the above named vessel and its towing gear have been tested giving these results:

	Continuous Bollard Pull (t)*	Mode description (Engine configuration, utilisation, active propellers, duration of test period if less than 10 min, etc)	Propulsion Engine Power (kW)**
Mode 1	67.8	Diesel mode: 2 main engine, no PTO engage.	3870
Mode 2	71.7	Combine diesel-electric mode: 2 main engine + azimuth thruster, no PTO engage, 2 auxiliary generators working.	4670
Mode 3			
Mode 4			

\*The figure (metric tonnes) certified as the vessel's continuous bollard pull is the towing force (mean value) recorded as being maintained without any tendency to decline for a duration of not less than 10 minutes, unless noted otherwise.

\*\*The propulsion engine power is the sum of actual engine power driving propellers. (Combustion engines for mechanical propulsion deducted any PTO power, electrical motors on propulsion thruster, electrical motors for PTI, etc.)

Remarks:

Issued at Bilbao on 2014-02-18



for Det Norske Veritas AS

Andrés Castro  
Surveyor

## Test Data

Length of towing wire:	600 m		
Draught:	Aft 4.20 m	Midship 4.15 m	Fwd 4.10 m
(at zero speed and zero bollard pull)			
Max. allowed draught (Loadline):		Midship 5 m	
Ballast onboard:	786 ton	Ballast total capacity:	1150.81 ton
Fuel onboard:	56 ton	Fuel total capacity:	591.37 ton
Vessel heading:	137.9°		
Wind direction:	160°	Wind Force:	6.3 m/s
Current setting:	-	Current Speed:	0.3 knots
Air temp:	14°C		
Sea water temp:	-		

### Remarks:

Mode 1: Main engines 100% MCR, 998 rpm; Average scavenge air main engines, T.C.: 3.2bar; Fuel rack:32mm(F.O.index 100%); Propeller pitch 90% Fwd.; Shaft propeller 186rpm;  
Mode 2: Main engines 100%; Diesel generators 80%; Azimuth retractable proppeller 100%.

## Recommendations For Bollard Pull Testing

The BP of the vessel shall be verified by a special test approved by the Society. Based upon the results of the test a Bollard Pull Certificate will be issued.

The BP testing procedure shall be as given in DNV Rules for Classification of Ships Pt.5 Ch.7 Sec.12 A504 and A505.

Measured BP will be entered into the "Register of vessels classed with DNV", as information.