

NOTICE TO MARINERS

Firefly Offshore Wind Farm Marine Survey

Date of Issue	22. March, 2023
Notice to Mariner Number	Firefly-S-03

Marine Survey Information

Location Description	Firefly offshore wind farm and export cable corridor
Work Location	Details in table below
Work Scopes	Marine mammal, Reptiles and Seabird Acoustic Monitoring,
Estimated Start Date	April 01, 2023
Estimated End Date	April 30, 2023

<Detail Schedule>

Date	Survey
11 . April. 2023	Acoustic Monitoring
14~17. April. 2023	Marine mammal, Reptiles and Seabird

Description of Hazard/Operation


The survey vessel M/V 2005 Pacific Ocean will undertake Marine mammal, Reptiles and Seabird, Marine physics and Acoustic Monitoring survey works along with the Firefly offshore wind farm areas and export cable route in Ulsan offshore and coastal areas.

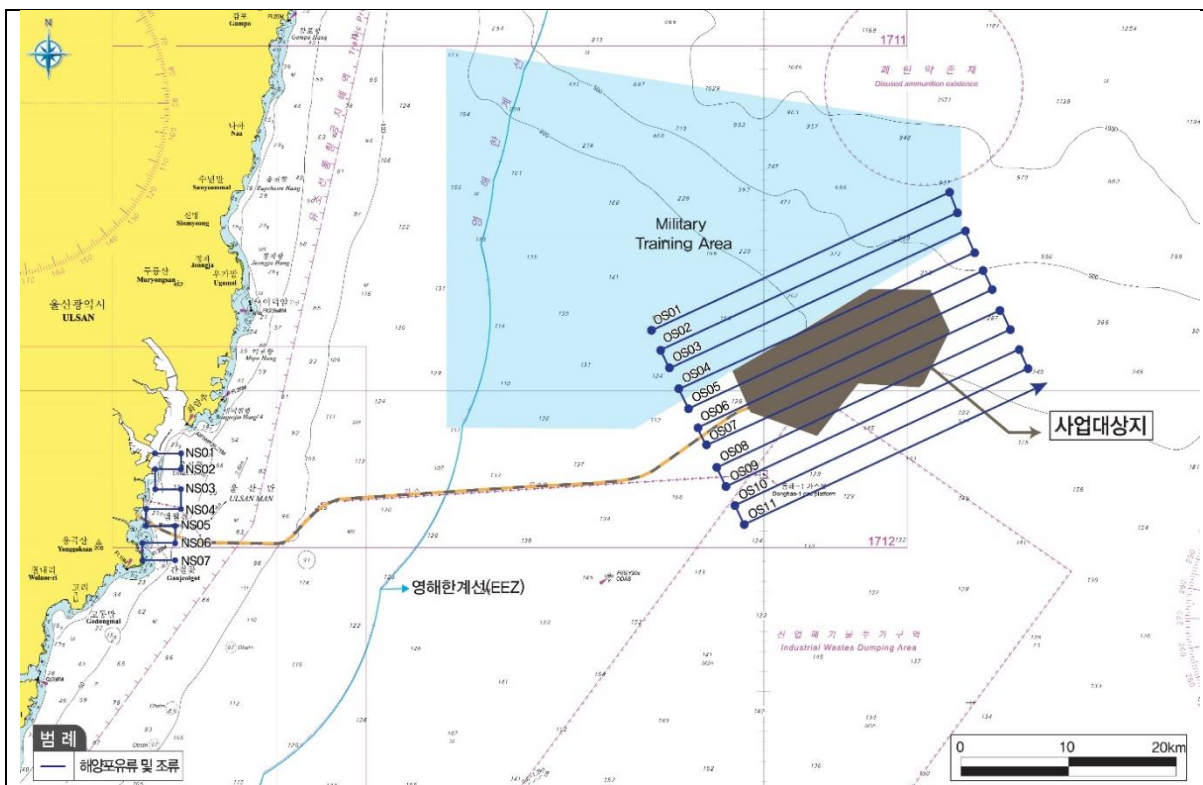
During the operations, the vessel will be restricted in its ability to maneuver and will display the appropriate day shapes and lights. Vessels sailing around the area need to keep safety distance (at least 500m) from the Marine Survey vessel and slow down to minimize the disturbance in sailing.

Contact Details

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Marine survey Coordination	Jongjin Baek - Sekwang Engineering Consultants Co., LTD. joyhymn@empas.com / Mobile: +82-(0)10-3686-8431

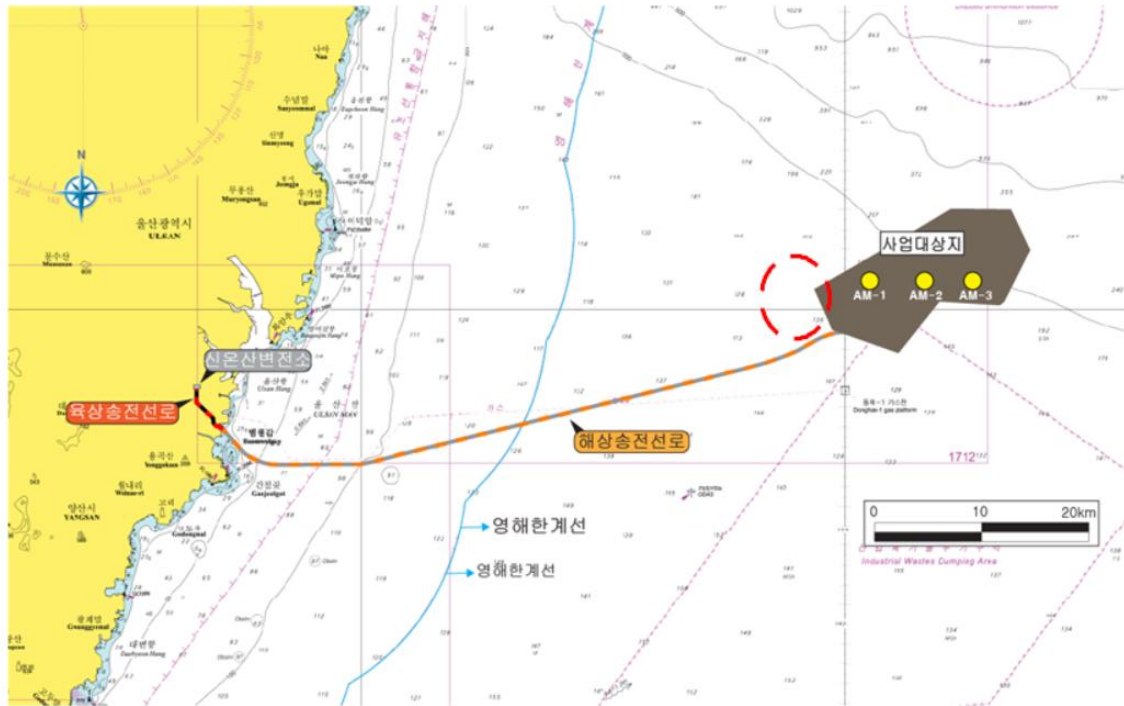
Supporting Information

Vessel Name: M/V 2005 PACIFIC OCEAN		Vessel Contact Details		
 <p>2005 PAIFIC OCEAN Ship Name : 2005 Pacific Ocean Gross Tonnage : 271 Ton Main Engine : 750HP X 2 units Generator : 160HP/120KVA X 2 units L x W x D : 41.89m x 9.0m x 3.25m Crane / A-frame / winch / Bow thruster</p>	Flag	Korea		
	Call Sign	D7UW		
	Port of Registry	Busan		
	VHF Ch.	16		
	Crane Capacity	5 Ton		
	Vessel Details			
	Bow Thruster	100HP / 100KW		
	Main Engine	270HP x 2 Units		
	Class	KOMSA		
	Gross Tonnage	271ton		
A-Frame Capacity	29Ton/7.5m(Height)			
Other Information				
Marine survey vessel				



Map of marine survey points (Marine mammal, Reptiles and Seabird)

Category		Location	Coordinates	
			Latitude	Longitude
NS01	Start	Nearshore transect	35°26'52.02"N	129°22'26.75"E
NS01	End	Nearshore transect	35°26'49.66"N	129°24'4.96"E
NS02	Start	Nearshore transect	35°26'3.25"N	129°22'26.56"E
NS02	End	Nearshore transect	35°26'4.00"N	129°24'4.47"E
NS03	Start	Nearshore transect	35°25'2.15"N	129°22'26.75"E
NS03	End	Nearshore transect	35°25'2.39"N	129°24'4.11"E
NS04	Start	Nearshore transect	35°24'2.61"N	129°21'52.58"E
NS04	End	Nearshore transect	35°24'3.36"N	129°24'3.96"E
NS05	Start	Nearshore transect	35°23'11.69"N	129°21'53.52"E
NS05	End	Nearshore transect	35°23'10.98"N	129°23'41.90"E
NS06	Start	Nearshore transect	35°22'20.25"N	129°21'38.86"E
NS06	End	Nearshore transect	35°22'20.31"N	129°23'42.75"E
NS07	Start	Nearshore transect	35°21'28.76"N	129°21'40.84"E
NS07	End	Nearshore transect	35°21'28.82"N	129°23'42.06"E
OS01	Start	Offshore transect	35°32'57.58 "N	129°52'59.14 "E
OS01	End	Offshore transect	35°39'45.00 "N	130°11'21.36 "E
OS02	Start	Offshore transect	35°31'57.54 "N	129°53'32.31 "E
OS02	End	Offshore transect	35°38'45.99 "N	130°11'51.53 "E
OS03	Start	Offshore transect	35°31'8.92 "N	129°54'6.50 "E
OS03	End	Offshore transect	35°37'53.58 "N	130°12'19.69 "E
OS04	Start	Offshore transect	35°30'6.97 "N	129°54'40.19 "E
OS04	End	Offshore transect	35°36'48.21 "N	130°12'54.65 "E
OS05	Start	Offshore transect	35°29'9.19 "N	129°55'16.46 "E
OS05	End	Offshore transect	35°35'55.57 "N	130°13'23.61 "E
OS06	Start	Offshore transect	35°28'11.75 "N	129°55'51.03 "E
OS06	End	Offshore transect	35°34'59.62 "N	130°13'59.15 "E
OS07	Start	Offshore transect	35°27'20.14 "N	129°56'22.68 "E
OS07	End	Offshore transect	35°33'56.07 "N	130°14'28.22 "E
OS08	Start	Offshore transect	35°26'11.65 "N	129°57'0.81 "E
OS08	End	Offshore transect	35°33'0.97 "N	130°15'6.52 "E
OS09	Start	Offshore transect	35°25'18.04 "N	129°57'35.11 "E
OS09	End	Offshore transect	35°32'0.66 "N	130°15'40.44 "E
OS10	Start	Offshore transect	35°24'21.68 "N	129°58'7.27 "E
OS10	End	Offshore transect	35°31'5.73 "N	130°16'10.61 "E
OS11	Start	Offshore transect	35°23'25.45 "N	129°58'41.45 "E
OS11	End	Offshore transect	35°30'8.60 "N	130°16'45.77 "E



Map of marine survey points (Acoustic Monitoring)

Category		Location	Coordinates	
			Latitude	Longitude
Acoustic monitoring	AM-1	Offshore transect	35°31' 20.23"N	130°01' 10.60"E
	AM-2	Offshore transect	35°31' 18.18"N	130°05' 04.75"E
	AM-3	Offshore transect	35°31' 16.50"N	130°08' 07.88"E