

Annex

Requirements for the Emergency Response Pollution Clean-up Capability of Vessel-induced Pollution Clean-up Entities

Item	Capability		Grade I	Grade II	Grade III	Grade IV	Specific Requirements
Oil boom	Open waters (m)	Total height \geq 1500mm	\geq 2000	\geq 1000	—	—	<p>1. If, according to the characteristics of the local waters, the type and total height of the oil boom are required to be adjusted, it should be approved by the national maritime administration.</p> <p>2. The fire prevention requirements for the oil boom apply only to the vessel-induced pollution clean-up entities providing pollution clean-up service for tankers and oil exploration platforms.</p>
	Non-open waters (m)	Total height \geq 900mm	\geq 3000	\geq 1000	\geq 1000	\geq 1000	
	Shoreline protection (m)	Total height \geq 600mm	\geq 4000	\geq 2000	\geq 1000	\geq 400	
	Fire prevention (m)	Total height \geq 900mm	\geq 400	\geq 200	\geq 200	—	

Item	Capability		Grade I	Grade II	Grade III	Grade IV	Specific Requirements
Oil recovery machine	Recovery rate (m ³ /h)	High viscosity	≥300	≥150	≥30	≥15	<p>1. Recovery rate refers to the total amount of oil and water mixture recovered per hour by a single or multiple sets of oil recovery machine.</p> <p>2. Oil recovery machine with high viscosity should have the ability to recover the following oils:</p> <p>(1) Crude oil with density greater than or equal to 900kg/m³ at 15 °C;</p> <p>(2) Fuel oil with a flow viscosity greater than or equal to 180mm²/s at a density greater than or equal to 900kg/m³ at 15 °C or 50 °C.</p> <p>3. Oil recovery machine with medium and low viscosity should have the ability to recover the following oils:</p> <p>(1) Crude oil with density less than 900kg/m³ at 15 °C;</p> <p>(2) Fuel oil with a flow viscosity less than 180mm²/s at a density smaller than 900kg/m³ at 15 °C or 50 °C.</p>
Oil recovery machine	Recovery rate (m ³ /h)	Medium and low viscosity	≥100	≥100	≥50	≥10	

Item	Capability	Grade I	Grade II	Grade III	Grade IV	Specific Requirements
Spraying device	Vessel (unit)	≥ 4	≥ 2	—	—	1. The vessel spraying device should have a spraying rate not less than 135L/min/unit. 2. The portable spraying device should have a spraying rate not less than 18L/min/unit.
	Portable (unit)	≥ 8	≥ 4	≥ 2	≥ 1	
Cleaning device	Hot water (unit)	≥ 4	≥ 2	≥ 1	≥ 1	1. The temperature of the hot water cleaning device should not be lower than 80 °C with the pressure at least 8mpa. 2. The pressure of the cold water cleaning device should be at least 8mpa. 3. Hot water cleaning device can replace the cold water cleaning device. 4. If it is necessary to adjust the proportions and quantity of hot and cold water cleaning devices according to the climate characteristics of the service waters, it shall be approved by the national maritime administration.
	Cold water (unit)	≥ 2	≥ 1	≥ 1	≥ 1	
Oil-absorbing material	Oil absorbent boom (m)	≥ 4000	≥ 1000	≥ 500	≥ 300	The diameter of oil absorbent boom is greater than or equal to 200mm.
	Oil absorbent mat (t)	≥ 12	≥ 6	≥ 3	≥ 1	

Item	Capability	Grade I	Grade II	Grade III	Grade IV	Specific Requirements
Oil spill dispersant	Conventional (t)	≥ 20	≥ 10	≥ 2	≥ 1	<p>1. If a concentrated oil spill dispersant is provided, it should be converted to the allocating amount of the conventional oil spill dispersant based on its concentration ratio.</p> <p>2. The oil spill coagulant is provided, the corresponding amount of oil dispersant can be replaced in accordance with its processing capacity.</p>
Unload equipment	Total unload capacity (t/h)	≥ 300	≥ 200	≥ 100	≥ 25	<p>1. Unloading capacity refers to the total amount of oil unloaded per hour for a single set or multiple sets of unloading devices.</p> <p>2. Grade I units shall be equipped with at least one unloading pump capable of unloading high-viscosity oils with a capacity of $150\text{m}^3/\text{h}$ or above; Grade II units shall be equipped with at least one unloading pump capable of unloading high-viscosity oils at $100\text{m}^3/\text{h}$ and above; Grade III units shall be equipped with at least one unloading pump capable of unloading high-viscosity oils with a capacity of $50\text{m}^3/\text{h}$ or above; Grade IV units shall be equipped with at least one unloading pump capable of unloading high-viscosity oils with a capacity of $15\text{m}^3/\text{h}$ or above.</p>

Item	Capability	Grade I	Grade II	Grade III	Grade IV	Specific Requirements
Temporary storage device	Temporary storage capacity (m ³)	≥1600	≥1000	≥400	≥100	Temporary storage capacity refers to the total storage amount of single or multiple temporary storage devices.
Disposal of pollutants	Disposal capacity of liquid pollutant (t/d)	≥100	≥50	≥20	≥10	1. Pollutant disposal capacity refers to the number of daily processing tons of liquid, solid pollutants or other hazardous pollutants. 2. The cleaning entities may own or agree to have a pollutant disposal device compatible with the cleaning capacity.
	Disposal capacity of solid pollutant (t/d)	≥10	≥5	≥2	≥1	
Vessel	Emergency response vessel for oil spill	≥2	≥1	—	—	1. Emergency response vessel for oil spill refers to the professional vessel used for oil spill containment, recovery and removal, temporary storage, oil dispersant spraying, emergency assistant unloading, and sewage oil treatment. 2. The design speed of an emergency response vessel for oil spill shall not be less than 12 knots, ensuring that it has an operating speed capability less than 3 knots, and at least meet the airworthiness requirements of the coastal navigation zone. The slop tank capacity of emergency response vessel for oil spill in Grade I unit should not be less than 500m ³ ; and the slop tank capacity of emergency response vessel for oil spill in Grade II unit should not be less than 300m ³ . 3. Auxiliary vessel should meet the functional requirements of towing, laying, and cleaning operations of the oil boom.
	Auxiliary vessel	≥8	≥6	≥3	≥2	

Item	Capability	Grade I	Grade II	Grade III	Grade IV	Specific Requirements
Operating personnel	Senior commander	≥3	≥3	≥2	≥2	<p>1. The senior commander shall have the macro control ability for emergency response to the vessel pollution accidents, be able to comprehensively assess the risks according to the accident situation, make timely emergency response decisions, effectively organize the implementation, and shall be trained according to the requirements of the national maritime administration.</p> <p>2. The on-site commander shall be able to formulate specific plans for pollutant cleaning up and organize the implementation of emergency operating personnel in accordance with the countermeasures of the commanding organization, combining with on-site conditions, and shall be trained according to the requirements of the national maritime administration.</p> <p>3. Emergency response operator should possess the basic knowledge and skills for emergency response, use the emergency response equipment and facilities correctly, carry out the cleaning up, and shall be trained according to the requirements of the national maritime administration.</p>
	On-site commander	≥8	≥6	≥4	≥3	
	Emergency response operator	≥40	≥30	≥20	≥15	

Item	Capability	Grade I	Grade II	Grade III	Grade IV	Specific Requirements
Comprehensive protection	Emergency response time (h)	≤4	≤4	≤2	≤2	<p>1. The emergency response time for Grade II unit is the time when the main equipment and personnel arrive at the place 20 nautical miles away from the shore after receiving the notification.</p> <p>2. The emergency response time for Grade IV unit refers to the time when the main equipment and personnel arrive at the outer boundary of the waters in the port area after receiving the notification.</p>
	Communication support	With a variety of communication means, a sufficient number of communications equipment to ensure the smooth communications.				
	Logistical support	Provide storage place for emergency response equipment, transportation methods, spare parts to the emergency response equipment and facility, safety protection supplies, emergency response personnel accommodation, medical care and other safeguards to ensure the smooth implementation of emergency response operation.				

Item	Capability	Grade I	Grade II	Grade III	Grade IV	Specific Requirements
Other hazardous pollutants cleaning-up operation, except for oils	<p>1. The Grade II pollutant cleaning-up entities providing cleaning-up agreement service for the vessel carrying oil-like liquids with harmful polluting goods, shall be equipped with emergency response facilities, equipment and apparatus for oil spill according to the requirements of this table.</p> <p>2. The Grade II pollutant cleaning-up entities providing cleaning-up agreement service for the vessel carrying non-oily bulk liquids with harmful polluting goods, shall be equipped with the corresponding emergency facilities, equipment and apparatus according to the characteristics of the goods and the degree of risk, among which, the vessel-induced pollution clean-up entities serving in the specialized chemical docks should be equipped with at least 3 tons of chemical absorbent.</p>					

Note: 1. The related equipment and apparatus should comply with relevant national standards.

2. The related equipment, apparatus and vessels that are owned by the agreement, if not explicitly stated, shall be self-owned.