

# FY2021 Simplified Ex-Post Evaluation Report of Japanese Grant Aid Project

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Duration of the Study: September 2021 – September 2022

Duration of the Field Study: 7 December 2021 – 18 December 2021

Country Name

Sri Lanka

## <The Project for the Maritime Safety Capability Improvement>



Location of the Project site (Prepared by External Evaluator)

Patrol vessel (501)

### I. Project Outline

Background	Sri Lanka was an island nation in the Indian Ocean with 1,340 km of coastline, 21,000 km <sup>2</sup> of territorial waters, and 517,000 km <sup>2</sup> of exclusive economic zones (EEZs), whose maritime-related industries such as shipping, fishing, and tourism accounted for approximately 50% of the GDP. It was also located on an important maritime transportation route (a sea lane) from the perspective of Japanese trade and strategy. However, the country lacked sufficient patrol vessels for conducting adequate patrol operations, especially in the western sea area where the largest port, the Port of Colombo, is located, and the southern sea area near the sea lane.			
Objectives of the Project	The project aims to strengthen maritime safety capabilities such as Maritime Search and Rescue (MARSAR), Maritime Law Enforcement (MARLEN), and Maritime Environmental Protection (MAREP) in Sri Lanka's western and southern waters by deploying patrol vessels in the Sri Lanka Coast Guard (SLCG) ports, which is responsible for the waters in these areas, thereby contributing to maritime safety in both areas.			
Contents of the Project	<ol style="list-style-type: none"> <li>1. Project Site: Port of Colombo and Port of Galle</li> <li>2. Japanese side: 1) Procurement of two patrol vessels and 2) consulting services (detailed design, procurement, and construction supervision)</li> <li>3. Sri Lankan side: 1) Navigation to the ports of deployment, and 2) development of facilities at the ports of deployment</li> </ol>			
Implementation Schedule	E/N Date	June 30, 2016	Disbursement Date	-
	G/A Date	June 30, 2016	Completion Date	July 10, 2018 (Date of delivery)
Project Cost	E/N Grant Limit / G/A Grant Limit: 1,830 million yen, Actual Grant Amount: 1,826 million yen			
Executing Agency	Sri Lanka Coast Guard: SLCG			
Contracted Agencies	Main Contractor: Sumidagawa Shipyard Co., Ltd. Main Consultant: Shipbuilding Research Centre of Japan			

### II. Result of the Evaluation

**Summary**

The project aims to strengthen maritime safety capabilities such as Maritime Search and Rescue (MARSAR), Maritime Law Enforcement (MARLEN), and Maritime Environmental Protection (MAREP) in the western and southern waters of Sri Lanka by deploying patrol vessels in the SLCG ports, which is responsible for the waters in these areas, thereby contributing to maritime safety in both areas. The project was appropriate in light of Sri Lanka's development plans and needs, as well as the project plan and approach. It was consistent with the development cooperation policy of the Government of Japan and JICA, and although no synergy exists in its relationship with other JICA projects, concrete outcomes have been arising from the planned collaborations. In addition, coordination with international frameworks is also recognized. Therefore, the relevance and coherence are high. The project outputs have been achieved as planned. While the project cost on the Japanese side was almost as planned, the total project cost increased slightly due to customs duty, etc., on the Sri Lankan side, thereby resulting in an increase of 104% compared to the plan. The project period also exceeded the plan by three months and was 113% of the plan, but there were no significant delays. Therefore, efficiency is high. Operational indicators, (1) the area of patrol operations, (2) the oil collection capability, and (3) the ratio of the annual days of patrol operations have all achieved the target values. The SLCG could not only dispatch patrol vessels for the MARSAR, MARLEN, and MAREP incidents that occurred in the western and southern waters but also took appropriate measures in the event of the X-Press Pearl catastrophe that occurred at the Port of Colombo in May 2021 by using the oil spill response techniques transferred by individual experts. Furthermore, the project has been contributing to

Japan's energy security policy and foreign and security policy, as originally planned. Thus, the effectiveness and impacts of the project are high. There are no problems with the operation and maintenance policies and systems, institution and organization, technology, finance, environmental and social considerations, and risk management. However, a problem has been detected in the starboard engine of one of the two vessels (CG502). SLCG is currently taking concrete measures to resolve it, and the prospects for improvement and resolution are high, so the sustainability of the project is high. In light of the above, the project is evaluated to be highly satisfactory.

<b>Overall Rating<sup>1</sup></b>	<b>A (Highly satisfactory)</b>	<b>Relevance &amp; Coherence</b>	③ <sup>2</sup>	<b>Effectiveness &amp; Impacts</b>	③	<b>Efficiency</b>	③	<b>Sustainability</b>	③
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<Special Perspectives Considered in the Ex-Post Evaluation/Constraints of the Ex-post Evaluation>

None in particular.

1 Relevance/Coherence

<Relevance>

- Consistency with the Development Policy of Sri Lanka at the Time of Ex-Ante Evaluation

*Mahinda Chintana: Vision for the Future (2010–2016)*, a revision of *the Mahinda Chintana: Vision for a New Sri Lanka (2006–2016)*, a national development plan, which highlighted the development of transportation infrastructure and the provision of a safe transportation system in the "Development of Road Network and Transportation System," one of the seven priorities based on Sri Lanka's location on a strategically important sea lane. In addition, *the SLCG Action Plan (2012–2016)*, a sector plan, called for strengthening Maritime Search and Rescue (MARSAR),<sup>3</sup> Maritime Law Enforcement (MARLEN),<sup>4</sup> and Maritime Environmental Protection (MAREP).<sup>5</sup>

- Consistency with the Development Needs of Sri Lanka at the Time of Ex-Ante Evaluation

SLCG owned only 20 vessels, all of which were smaller than 23 meters. In particular, only two vessels were deployed in the western part of the country, where the Port of Colombo, Sri Lanka's largest port, was located, and only four vessels were deployed in the southern part, which was closer to the sea lane. All the vessels were less than 15 meters in length, and their patrol area was limited to the coastal area (generally territorial waters and connecting waters within 24 nautical miles). Therefore, there was a need to improve maritime safety capabilities in offshore areas (EEZs generally beyond 24 nautical miles offshore) and on the high seas.

- Appropriateness of Project Design/Approach

The ex-post evaluation results of similar projects in the past denoted the importance of securing human resources and the budget for the operation and maintenance of the vessels. In this regard, the project involved prior discussions with the Ministry of Defense, SLCG's supervising authority, and obtained written assurances in advance. As mentioned in the sustainability section, the project plan was appropriate considering that SLCG managed to secure human resources and the budget for operation and maintenance. The two patrol vessels to be procured under the project were planned to be deployed at the ports of Dikowita and Galle but are currently deployed at the ports of Colombo and Galle. The reason for deploying one vessel at the Port of Colombo is because it has better facilities for operation and maintenance and is more efficient than the Port of Dickowita. Both ports are located close to each other, only about 6 km apart in a north-south direction, and both serve the western coastal area. Since the change of deployment port had no adverse effect, making the change was appropriate. Furthermore, since the two vessels were water-jet propelled, concerns arose regarding the difficulty in maneuvering these vessels during the monsoon season when waves from the southwest will likely increase. Therefore, initially, the ports of deployment were planned to be changed during this season. However, since SLCG finds it no problem in actual operation, they are deployed in the ports of Colombo and Galle throughout the year. These changes were an appropriate approach.

<Coherence>

- Consistency with Japan's ODA Policy at the Time of Ex-Ante Evaluation

The Government of Japan newly decided on *the National Security Strategy (2013)* as a replacement for *the Basic Policy for National Defense (1957)* and stated that the government would support the improvement of maritime security capabilities of sea lane littoral states and other countries to maintain and develop an "open and stable ocean." This strategy has also been positioned as a guideline for ODA, and one of the three priority issues, "Sharing Universal Values and Realizing a Peaceful and Secure Society," in *Development Cooperation Charter (2015)* stated that considering that threats to stability and security impeded economic and social development, the charter would provide the necessary support by improving the capabilities of law enforcement agencies, including maritime safety capabilities. *The Country Assistance Policy for Sri Lanka (2012)* also emphasized the importance of securing the safety of maritime transportation routes in light of Sri Lanka's geopolitical importance.

- Internal Coherence

At the time of the ex-ante evaluation, JICA was attempting to strengthen SLCG's capabilities in MARSAR, MARLEN, and MAREP by conducting country-specific training for *Maritime Cooperation (2012–2016)* and Search and Rescue, Disaster Prevention and Environment Protection Course for Maritime Safety Officials at the Operational Level (2016). It also provided Advisor Services for Maritime Disaster Measures and Marine Environment Protection (2014–2016). At the time of the ex-post evaluation, it is still attempting to do it by continuously conducting country-specific training for Search and Rescue, Disaster Prevention and Environment Protection Course for Maritime Safety Officials at the Operational Level (2017-2018) and providing Advisory Services for Improving Oil Spill Management Capabilities of Sri Lanka Coast Guard up to Tier I in Open Seas (2018–2021). Thus, coherence with the JICA project was confirmed both at the time of the ex-ante and ex-post evaluation.

<sup>1</sup> A: Highly satisfactory, B: Satisfactory, C: Partially satisfactory, D: Unsatisfactory

<sup>2</sup> ④ : Very high, ③: High, ②: Moderately low, ①: Low

<sup>3</sup> Maritime Search and Rescue (MARSAR) is searching for vessels in the case of maritime accidents and rescuing their passengers and crew.

<sup>4</sup> Maritime Law Enforcement (MARLEN) is regulating illegal activities such as smuggling, poaching, and piracy at sea.

<sup>5</sup> Maritime Environmental Protection (MAREP) is responding to marine pollution caused by oil, waste, and other substances at sea.

• External Coherence

The Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia(2006), to which 20 countries including Japan and Sri Lanka were parties at the time of the ex-ante evaluation, was designed to secure the safety of maritime transportation routes mainly in Southeast and South Asia. In addition, the U.S. Coast Guard (USCG) conducted Oil Spill Prevention Training and introduced past incidents and shared lessons learned. At the time of the ex-post evaluation, the Agreement has 21 parties with the addition of Germany in 2021. It continues to ensure the safety of maritime transportation routes in the same regions. Furthermore, the Indian Coast Guard (ICG) has conceded one used patrol vessel (67 meters long) to SLCG in 2018. Thus, coherence with the efforts of other agencies was confirmed both at the time of the ex-ante and ex-post evaluation.

<Evaluation Result>

In light of the above, the relevance and coherence of the project are high<sup>6</sup>.

2 Effectiveness/Impact<sup>7</sup>

<Effectiveness>

(1) Quantitative effects

	Baseline values (2014))	Target values 3 years after completion (2021*)	Actual values Completion year (2018)	Actual values 1 year after completion (2019)	Actual values 2 years after completion (2020)	Actual values 3 years after completion (2021)
<b>Operational Indicators</b>						
(1) Area of patrol operations of CG501 and CG502 (nautical miles) (round trip from mooring base)	Approx. 300 (within 24 nautical miles from the coast)	Approx. 750 (50 nautical miles from the coast)	Approx. 750 (50 nautical miles from the coast)	Approx. 750 (50 nautical miles from the coast)	Approx. 750 (50 nautical miles from the coast)	Approx. 750 (50 nautical miles from the coast)
(2) Oil collection capability of CG501 and CG502 (m <sup>3</sup> /hour/ship)	0	Approx. 15	Approx. 15	Approx. 15	Approx. 15	Approx. 15
(3) Ratio of annual days of patrol operations <sup>1</sup> of CG501 and CG502 (%)	Approx. 30	80 or more	80 or more	80 or more	80 or more	80 or more

Source: SLCG

\*In the ex-ante evaluation, 3 years after completion of the project was set to be 2020 but was corrected to 2021 as it was completed in 2021.

<sup>1</sup> It was a theoretical ratio based on sea tides and the cruise capacity of the new vessels, and the vessels were expected to patrol for at least 80% of 365 days (292 days).

Operational indicators (1)–(3): All operational indicators achieved the target values.

(2) Qualitative effects

None in particular.

<Impacts>

(1) Quantitative effects

	Baseline values (2016)	Actual values Completion year (2018)	Actual values 1 year after completion (2019)	Actual values 2 years after completion (2020)	Actual values 3 years after completion (2021)
1) Rate of MARSAR missions dispatched to the western and southern waters (%)	NA	0	3.8	13.6	16.7
2) Rate of MARLEN missions dispatched to the western and southern waters (%)	NA	100	100	100	100
3) Rate of MAREP missions dispatched to the western and southern waters (%)	NA	100	0	100	100

Source: SLCG

\*Since no quantitative effect indicator was set for impacts in the ex-ante evaluation, the external evaluator set the indicators above based on the project's characteristics.

1) Distress signals for MARSAR incidents are sent to the Maritime Rescue Coordination Centre of the Sri Lankan Navy, and this center is the first to respond to such incidents. However, if no naval vessel exists in the waters near the scene of the incident, the Navy requests assistance from SLCG. The rate of MARSAR missions dispatched by SLCG is therefore low. However, this low rate is due to institutional reasons, and the MARSAR missions dispatched by SLCG after 2019 would not have been possible without the procurement of patrol vessels under the project. Therefore, the impact is being realized.

2) 3) MARLEN and MAREP incidents are communicated to the SLCG headquarters. Since the project made it possible to deploy two patrol vessels to the ports of Colombo and Galle, the headquarters could also dispatch missions to all MARLEN and MAREP incidents that occurred in the western and southern waters. Thus, the project's impact is being realized.

<sup>6</sup> Relevance: ③, Coherence:③

<sup>7</sup> When providing the sub-rating, Effectiveness and Impacts are to be considered together.

<The result of both hardware and knowledge building support>

On May 20, 2021, a large container ship (X-Press Pearl) registered in Singapore caught fire in the waters 5 km off the coast of the Port of Colombo, spilling a large amount of oil, microplastics, etc. JICA has been dispatching Japan Coast Guard staff to SLCG for Advisor Services for Maritime Disaster Measures and Marine Environment Protection and Advisory Services for Improving Oil Spill Management Capabilities of Sri Lanka Coast Guard up to Tier I in Open Seas since 2015. They have conducted not only classroom lectures on oil spill response but also practical training using the patrol vessel procured under the project. As a result, CG501, which had been deployed to the port of Colombo at the time of the incident, could respond appropriately to the oil spill by spraying 400 liters of chemical dispersant on the oil. CG502, which had been deployed to the Port of Galle, was also dispatched to the accident site to assist the ICG's patrol vessel that came from India to support the firefighting operation based on the memorandum of understanding with SLCG. This was the result of many years of support by JICA in terms of both hardware and knowledge building.



X-Press Pearl on fire

Source: SLCG



Spraying chemical dispersant

Source: SLCG

## (2) Qualitative effects

### 1) Contribution to Japan's energy security policy and foreign and security policy

Japan depends on oil and gas from the Middle East, and these come through the sea areas 6 to 10 nautical miles (11–18 km) from the southern coast of Sri Lanka. In 2018, three incidents of piracy occurred off the coast of Somalia in the Middle East, at a location on the sea lane. These incidents threatened tankers' navigational safety regarding the transportation of oil and gas to Japan. Therefore, the Japanese government dispatches maritime self-defense force ships to the waters off Somalia, and the southern part of Sri Lanka is also a refueling area for the ships. In this regard, securing the safety of the southern waters of Sri Lanka is a crucial issue for the Japanese government's energy security policy. Furthermore, in "the Free and Open Indo-Pacific", promulgated in August 2016 based on "the Open and Stable Oceans" that foreign and security policy referred to in the National Security Strategy of December 2013, securing the safety of the sea lane is sought in the public interest in the "pursuit of peace and prosperity in the Indo-Pacific region as a whole" which goes beyond the national interest of Japan's energy security alone. Therefore, the project contributes to securing the safety of the southern coast of Sri Lanka and even the sea lane for Japan. Ultimately, it contributes to the energy security policy and the foreign and security policy of the Japanese government.

\*Since no qualitative effect indicator was set for impacts in the ex-ante evaluation, the external evaluator set the aforementioned indicator based on the project's characteristics.

### 2) Other positive and negative impacts

#### (i) Impact on the natural environment

According to *the Guidelines for Environmental and Social Considerations (2010)* of the Japan International Cooperation Agency, the project belonged to category C. The patrol vessels were constructed in Japan, and no impact was observed on the natural environment during their construction. No impact has been observed so far after starting the service.

#### (ii) Resettlement and land acquisition

None.

#### (iii) Gender

There is no female crew member aboard the patrol vessels deployed in the project, so there is no gender impact.

#### (iv) Socially vulnerable groups and human rights

No piracy incident has been observed in the western and southern waters of Sri Lanka in recent years. When the external evaluator interviewed two fishing vessel owners fishing in the EEZ in the southern part of Sri Lanka, they expressed a feeling of assurance despite injury or illness while operating in the EEZ because they knew SLCG would rush to their aid. Currently, it is only CG501 and CG502, as well as the vessel donated from ICG, that can sail as far as to the EEZ in the southern part of Sri Lanka. With these vessels, SLCG is now able to respond to injured or sick people in the EEZ.

#### (v) Social systems, norms, and people's well-being

None.

#### (vi) Other positive and negative impacts

None.

#### <Evaluation Result>

The operational indicators (1) through (3) have all achieved their target values. SLCG could dispatch patrol vessels to MARSAR, MARLEN, and MAREP incidents that occurred in the western and southern waters, and take appropriate measures in the event of the X-Press Pearl disaster by applying oil spill response techniques transferred by individual experts. Furthermore, the project contributes to the Japanese government's energy security policy and foreign and security policy, as initially planned, and is realizing impacts. Therefore, the effectiveness and impacts of the project are high.

#### 3 Efficiency

##### (1) Outputs

Procurement of two patrol vessels with planned specifications. The specifications are as follows: length 30 m, width 5.8 m, depth 3.0 m, draft 1.2 m, maximum speed 33 knots, range 750 nautical miles, 12 crew members, space for 10 rescuees, and an oil collection system.

##### (2) Inputs

###### 1) Project cost

Japan side: While the planned project cost was 1,830 million yen,<sup>8</sup> the actual cost was 1,826 million yen,<sup>9</sup> which was within the plan.

Sri Lanka side: While the planned project cost was 5.84 million Sri Lankan rupees (5 million yen), the actual cost was 108.84 million Sri Lankan rupees (78 million yen<sup>10</sup>), which was much higher than planned. Although bank charges (4.23 million Sri Lankan Rupees) and costs for navigation to the ports of deployment (1.61 million Sri Lankan Rupees) were as planned, the customs duty for the import of two patrol vessels (98 million Sri Lankan Rupees) and the unplanned construction of simple accommodation for crew and the storage of equipment and materials at the port of Colombo (5 million Sri Lankan Rupees) substantially increased these costs.

Therefore, the total project cost was 1,904 million yen, which was 104% of the planned project cost of 1,835 million yen and slightly higher than planned.

###### 2) Project period

While the planned project period was 23 months from June 2016 (signed month of G/A) to April 2018,<sup>11</sup> the actual period extended to 26 months from June 2016 (signed month of G/A) to July 2018 (final delivery),<sup>12</sup> which was 113% of the planned project period and slightly longer than planned. The detailed design was delayed by one month due to Christmas and New Year vacations, and an additional two months were required for construction, resulting in a three-month delay.

#### [Evaluation Result]

Although both the project cost and the project period were slightly higher/longer than planned, the efficiency of the project is high.

#### 4 Sustainability

##### • Policy/Systems

Although SLCG is under the Sri Lankan Ministry of Defense, Articles 6 and 10 of *the Coast Guard Act (2009)* puts it as a non-military organization. SLCG prepares a plan for a single year. Since the FY2022 plan continues to include responses to MARSAR, MARLEN, and MAREP incidents and prioritizes the maintenance of existing vessels including CG501 and CG502, there is no problem with the policy and systems.

##### • Institutional/Organizational Aspect

SLCG has 27 crew members for the CG501 operation (1 captain, 1 officer, 2 senior crew members, 4 engineers, 4 electricians, and 15 general crew members) and 28 crew members for the CG502 operation (1 captain, 1 officer, 2 senior crew members, 4 engineers, 4 electricians, and 16 general crew members), each with 15 crew members on duty around the clock 365 days a year. At the time of the ex-ante evaluation, 12 crew members (1 captain, 1 officer, 1 senior crew member, 2 engineers, 2 electricians, and 5 general crew members) were planned to be on duty at all times, but the number of crew members has increased since. Engineers and electricians on board are responsible for the daily inspection of both CG501 and CG502. Meanwhile, SLCG engineers and electricians and those of the Sri Lankan Navy at the facilities of the Sri Lankan Navy base in Colombo, Galle, and Trincomalee carry out routine maintenance and major repairs. Therefore, no problem exists in terms of the institutional and organizational aspects.

##### • Technical Aspect

Maintenance of CG501 and CG502 includes daily inspections, routine maintenance, and major repairs. During daily inspections, CG501 and CG502 engineers and electricians check all engines and electrical systems before departure and after return to the ports, and no problem has been observed so far. Further, eight SLCG engineers and electricians stationed at the Colombo and Galle bases, where CG501 and CG502 are deployed, carry out routine maintenance work for each item specified in the manuals for engines and electrical systems based on the operating hours, and no problem has been observed so far. At the time of ex-post evaluation, neither CG501 nor CG502 had reached the specified operating hours, so no major repair has yet been carried out. Engineers and electricians of the Sri Lankan Navy stationed at the Trincomalee base will carry out future major repairs. Since the personnel carries out major repairs on warships every day, no technical problem exists in major repairs of the vessels.

<sup>8</sup> The equipment cost was 1,768 million yen and the design supervision cost was 61 million yen, for a total of 1,829 million yen, although the E/N limit was 1,830 million yen.

<sup>9</sup> The equipment cost was 1,766 million yen and the design supervision cost was 60 million yen.

<sup>10</sup> Converted to yen at the average IFS rate during the project period.

<sup>11</sup> Completion was not defined at the time of ex-ante evaluation.

<sup>12</sup> The related documents provided by JICA at the time of project completion had set August 2018, when the commissioning ceremony was held, as the completion month. However, since the final delivery of the patrol vessel was in July and the defect inspection period also started in July, the external evaluator considered July as the completion month.



- Financial Aspect

The operation and maintenance costs for CG501 and CG502 for the last three years are shown in the table on the right. At the time of ex-ante evaluation, the details of the operation plans for CG501 and CG502 were assumed to be developed by SLCG in the future. Hence, no appropriate planned values exist, and relative comparisons cannot be made. However, effects and impacts have been observed as mentioned above. Both the evaluators and the Japanese Coast Guard staff for Search and Rescue, Disaster Prevention and Environment Protection Course for Maritime Safety Officials at the Operational Level have determined that CG501 and CG502 are in excellent condition. Thus, the cost of operation and maintenance should not be a problem. Concerning major repairs that take place every six years, the first major repairs will take place in 2023. SLCG is planning to create a budget for it.

Annual operation and maintenance cost (Unit: Million Sri Lankan Rupees)			
	2019	2020	2021
Operation cost	31.3	42.6	34.6
Maintenance cost	2.0	3.2	4.1

Source: SLCG

- Social and Environmental Aspect

None.

- Preventative Measures to Risks

None.

- Current Status of Operation and Maintenance

Due to the malfunction of the control panel on CG502's starboard engine in December 2019, a replacement control panel was procured from the Sri Lankan Navy in January 2020 and was continuously used at the time of ex-post evaluation. However, since it needs to be returned to the Sri Lankan Navy in 2022, SLCG is currently requesting the Sri Lankan Navy to repair the malfunctioned control panel.

<Evaluation Result>

In sum, although there is a minor problem in the operation and maintenance status of the project, there are good prospects for resolution of this problem. Therefore, the sustainability of the project effects is high.

### III. Recommendations & Lessons Learned

- Recommendations to Executing Agency

SLCG is expected to repair the control panel on CG502 starboard engine as soon as possible.

- Recommendations to JICA

JICA is expected to follow up on SLCG's efforts mentioned above.

- Lessons Learned

The project cost on the Sri Lankan side was planned to be 5 million yen, but the actual cost was 78 million yen. This increase was due to unforeseen customs duty and facility development costs. Facility development costs associated with changes in plans during the project period could not be anticipated beforehand. However, customs duty is the exclusive authority of the customs authority, and thus the possibility of imposition of customs duties can be anticipated. Therefore, assuming that customs duty may be imposed in the future, it must be included in the project cost on the counterpart cost at the time of ex-ante evaluation.

### IV. Non-Score Criteria

- Performance

JICA successfully established good communication and a cooperative relationship with SLCG during the planning and implementation of the project.

- Additionality

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Patrol vessel (502)



Starboard engine (bottom right) and its control panel (back)