Summary of Response to Feedback on Environmental Study Report for Nearshore Floating Photovoltaic (PV) Farm at Pulau Sebarok

1. Overview of development

EDPR with the support of Solar Energy Research Institute of Singapore (SERIS), has been awarded a grant by Energy Market Authority (EMA) of Singapore to deploy a nearshore floating photovoltaic (PV) platform with energy storage at Pulau Sebarok. EDPR has signed an agreement to work with Vopak Terminals on a commercial basis, to decarbonise their energy consumption on Sebarok with plans to deploy two (2) floating solar platforms off the south-east tip of Pulau Sebarok. The system is expected to generate an energy output of 1.2-megawatt peak to support energy demand on the island.

The floating solar platform is an innovative membrane system by OceanSun. The installation consists of a 75 m floating buoyancy ring fitted with a hydro-elastic membrane. Each floater has a diameter of 75 m, and the diameter of the membrane is 72 m, an area of approximately 0.44 hectares. The floaters are anchored to the seabed through a mooring system that consists of mooring ropes and concrete sinkers. There will be no anchor to the shoreline.

2. Summary of EIA findings and recommended mitigation measures

EDPR engaged DHI Water & Environment (S) Pte Ltd to conduct a Feasibility and Environmental Study for this project.

The objectives of this EIA study include:

- Provide scientific information and assessment on the nature and extent of the potential environmental impacts arising from the project
- Recommend a robust Environmental Management and Monitoring Plan (EMMP) framework for the construction phase, based on the predicted impacts.

The study identified a reef crest with 44.2% hard coral coverage and a reef slope with 17.9% hard coral coverage on the eastern tip of Pulau Sebarok where the development was planned to be established. Two concrete sinkers were originally planned to be placed on the reef crest and would result in a minor impact. As such, a new mooring plan optimising the location of two concrete sinkers to stay outside of these coral reefs, and careful placement of the sinkers during installation was defined in the study to mitigate damage to the coral habitat. Conversely, there is also potential of the sinkers acting as an artificial reef to encourage recolonisation of hard coral.

Impacts due to other pressures such as water quality, water temperature, light disturbance and electromagnetic field were found to have slight to no impact on the environment and specific mitigation measures to address the slight impacts has been recommended. To verify that there would be slight to no impact on the coral reef, a pre-construction marine habitat (i.e., coral and benthic fauna) monitoring to assess the corals and benthic fauna presence at the new concrete sinker locations is proposed. This is followed with quarterly marine habitat monitoring for up to a year to ensure that scouring is not an issue.

Overall, the environmental impact is sufficiently managed with mitigation measures, and EDPR will follow the recommended mitigation measures to manage the risks highlighted.

3. Engagement of stakeholders

EDPR engaged agency stakeholders and representatives from various nature groups to share the details of the development and gathered their feedback on measures to further mitigate potential environmental impacts. This was conducted prior to the public disclosure in December 2023, and all comments from the engagement were addressed in the published report.

4. Feedback received and response

This environmental study report was published on both EDPR and URA's websites for public feedback from 4 Dec 2023 to 31 Dec 2023. There was one feedback received as shown below.

Feedback	Response by EDPR/DHI
Mooring system must avoid impacting the coral-populated shoreline, both during the construction (e.g. controlling sedimentation) and during operation (e.g. no loose lines moving around and affecting coral; maintenance fleet using responsible anchorage practices and routes; maintenance chemicals to be carefully controlled from leaking into marine environment). EMMP to be publicly released when it is ready.	This has been carefully considered during the design phase to avoid mooring near the coral habitat, and a monitoring regime was included as a mitigation measure. The risk was sufficiently covered and elaborated in Section 7.1.4 of the environmental study report with the respective mitigation measures outlined. As part of the Environmental Impact Assessment process, mitigation measures are included in the EIA reports, which are publicly disclosed unless there are specific reasons to maintain confidentiality such as security considerations. Developing agencies also develop Environmental Monitoring and Management Plans (EMMPs), which are internal technical documents that guide the implementation of the proposed mitigation measures. We will assess and consider sharing them where it may be meaningful to do.