Construction Works Schedule

Hong Kong Offshore LNG Terminal -

Works associated with the subsea gas pipeline for Lamma Power Station (LPS)

and the associated Gas Receiving Station (GRS) in LPS

Version 2
March 2021

Environmental permit no. FEP-02/558/2018/A

Hong Kong Offshore LNG Terminal – Works associated with the subsea gas pipeline for Lamma Power Station (LPS) and the associated Gas Receiving Station (GRS) in LPS

Environmental Certification Sheet

FEP-02/558/2018/A

Reference Document/Plan

Document/~~Plan~~ to be Certified/ Verified:	Construction Works Schedule
Date of Report:	31 March 2021
Date received by ET:	31 March 2021
Date received by IEC:	31 March 2021

Reference EP Requirement

EP Condition: Condition No. 2.7 of FEP-02/558/2018/A

Content: Construction Works Schedule

The Permit Holder shall, no later than 1 month before the commencement of construction of the Project, deposit with the Director 3 hard copies and 1 electronic copy of a construction works schedule of the Project. The construction works schedule shall include but not limited to a detailed schedule, sequence and programme of the construction works and key environmental mitigation measures for the Project. The Project shall be constructed in accordance with the information as contained in the deposited construction works schedule.

ET Certification

I hereby certify that the above referenced document/~~plan~~ complies with the above referenced condition of FEP-02/558/2018/A.

Mr Raymond Chow,
Environmental Team Leader:  Date: 31 March 2021

IEC Verification

I hereby verify that the above referenced document/~~plan~~ complies with the above referenced condition of FEP-02/558/2018/A.

Mr Arthur Lo,
Independent Environmental Checker:  Date: 31 March 2021

Schedule of the works associated with the subsea gas pipeline for Lamma Power Station (LPS) and the associated Gas Receiving Station (GRS) in LPS						
WORK	**Q3 2020**	**Q4 2020**	**Q1 2021**	**Q2 2021**	**Q3 2021**	**Q4 2021**
Preparation Phase						
Pre-survey						
Removal of obstructions						
Construction Phase						
Pre-trenching including Deployment of Silt Curtain and Pilot Test						
De-burial of pre-installed pipeline by Mass Flow Excavator						
Pipeline Laying						
Intermediate Hydrotesting for Pipeline						
Post-trenching including Deployment of Silt Curtain and Pilot Test						
Rock Armour Placement						
Final Hydrotesting for Pipeline						
Gas Receiving Station (GRS) including pipe rack construction, preparation works at the vent header for tie-in of the new GRS, fencing, new gas receiving facility and new pipeline connection, and pre-commissioning, commissioning and start up						
Remarks: Pilot tests on the efficiency of silt curtain system shall be conducted during the early stage of construction to confirm the removal efficiency of the silt curtains.						

Note (Key Environmental Mitigation Measures):

1. The key environmental mitigation measures are stipulated in Conditions 3.1 to 3.8 of FEP-02/558/2018/A and are summarized below:
   - No working vessels for construction of the Project shall enter into, transit through, stop over or anchor within the existing marine parks and the Southwest Lantau Marine Park and the proposed South Lantau Marine Park, unless otherwise agreed by the Director of Environmental Protection.
   - Working vessels for construction of the Project shall not be operated at a speed higher than 10 knots when moving within the areas frequented by Chinese White Dolphin or Finless Porpoise, including the waters near Sha Chau and Lung Kwu Chau Marine Park, the waters at the west of Lantau Island and the waters between Soko Islands and Shek Kwu Chau. The working vessels shall be equipped with tracking devices to record their operating speeds and marine travel routes during construction of the Project.
   - Implementation of a 250 m radius marine mammal exclusion zone for dredging and jetting works
   - Implementation of waste management measures in accordance with the Waste Management Plan
   - Working rates for dredging and jetting, silt curtain arrangement and other measures at specific work locations are provided in the table below.

Work Location	**Plants Involved**	**Allowed Maximum Work Rate**	**Silt curtain at plants**	**Double silt curtain**	**Other Location Specific Measures**
Pipeline Riser Sections at Double Berth Jetty					
Pipeline Riser (LPS KP0.0 –0.1)	1 Grab Dredger	8,000m^3 day^{-1} for 24 hours each day	Yes	No	• No dredging and jetting works for the section of subsea gas pipeline between South of Shek Kwu Chau and the jetty shall be carried out from 1900 hours to 0700 hours of the following day. Construction works for the subsea gas pipeline shall be carried out in accordance with the construction programme described in the Pipeline Construction Plan approved under Condition 2.8 of FEP-02/558/2018/A.
LPS pipeline					
Existing pipeline end section east of LPS pipeline (LPS KP17.3-17.4)	1 MFE Machine (Note 1)	1,000m day^{-1} for 24 hours each day	Yes	No	-
West Lamma Channel (LPS KP14.5- 17.4)	1 Jetting Machine	1,000m day^{-1} for 24 hours each day	Yes	No	-
South of Shek Kwu Chau to West Lamma Channel (LPS KP5.0- 14.5)	1 Jetting Machine	7,000m day^{-1} for 24 hours each day	Yes	No	-
Double Berth Jetty to South of Shek Kwu Chau (LPS KP0.1-5.0)	1 Jetting Machine	720m day^{-1} for 24 hours each day	Yes	Yes	• No dredging and jetting works for the section of subsea gas pipeline between South of Shek Kwu Chau and the jetty shall be carried out from 1900 hours to 0700 hours of the following day. Construction works for the subsea gas pipeline shall be carried out in accordance with the construction programme described in the Pipeline Construction Plan approved under Condition 2.8 of FEP-02/558/2018/A.

Note: (1) MFE denotes Mass Flow Excavator, which is a variance of jetting machine.