The Hong Kong and China Gas Company Limited

WESTERN HARBOUR SUBMARINE GAS PIPELINE AND ASSOCIATED STATIONS

PROJECT PROFILE

April 2001

Maunsell Environmental Management Consultants Ltd

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FIGURE

1. BASIC INFORMATION

Project Title

1.1 The title of the proposed project is "Western Harbour Submarine Gas Pipeline and Associated Stations" (hereafter referred to as the Project).

Purpose and Nature of the Project

1.2 The Project was initiated in the mid 90's, and the timely completion of the project by early 2004 is essential to meet the demand growth in the territory especially Hong Kong Island. Therefore, it is planned to lay a gas submarine pipeline across Victoria Harbour extending the 7 bar gas source to the western side of Hong Kong Island.

1.3 The Project comprises mainly the civil and mechanical engineering works for the construction of a single 600mm diameter steel submarine gas pipeline, and two gas stations located respectively at the new Western Kowloon Reclamation area near Yau Ma Tei and Sai Ying Pun in Hong Kong Island.

Name of Project Proponent

1.4 The Project Proponent is The Hong Kong and China Gas Company Limited (HKCG).

Location and Scale of Project and History of Site

1.5 The Project is to lay a single nominal 600 mm diameter submarine pipeline of length about 1850m across Victoria Harbour, from the Western Kowloon Reclamation area to Sai Ying Pun, and to lay a landline section of length about 450m in the said new reclamation area. The submarine pipeline will be laid with approximately 200m distance from the Western Harbour Tunnel. Figure 1 shows the location of the Project.

1.6 Both Yau Ma Tei and Sai Ying Pun landfalls will include a gas station for pressure regulation and pigging operation as required.

1.7 The preliminary route selection of the pipeline was completed in 1998, in consultation with the concerned government departments. The sites for the landfalls are constrained by land availability and are now designated under mutual understanding between HKCG and the Government. These proposed landfall sites have determined the submarine pipeline route which has to be a straight line connecting the two landfall sites due to technical requirement. Applications for the Permanent Land Grant for both stations and application of licence for the submarine pipeline are being processed by the District Lands Office.

1.8 The landfall site at Sai Ying Pun will be on previously reclaimed land. The pipeline at Yau Ma Tei will run through the West Kowloon Reclamation after landing. The use of land over the landline section at Yau Ma Tei has been zoned as open space according to the latest information from Lands Department.

1.9 The pipeline route crosses a busy harbour and the pipeline has to be buried in sufficient depth to protect from third party damage. The previous marine impact and engineering study revealed that the practical way for laying the pipeline is by means of dredging the seabed and then laying the pipeline by bottom pulling method in view of physical site constraints and the busy marine traffic. Dredging will be conducted with the use of a closed type grab dredger. Only one dredger will operate at any time whether in or out of the fairway. The works area will be limited to 50m x 50m and dredging will commence from the West Kowloon Reclamation and progress towards Sai Ying Pun. The dredged channel will then be

backfilled with selected materials followed by rock or decomposed granite to provide protection of the pipeline from damage by ship anchors. A typical cross-section of the proposed submarine pipeline is shown in Figure 1.

Number and Types of Designated Projects Covered by the Project Profile

1.10 The Project involves the construction and operation of a gas submarine pipeline and the two associated gas stations at the two ends. Only the "submarine gas pipeline" component of the Project is a Designated Project under item H.2 of Part I of Schedule 2 of the Environmental Impact Assessment Ordinance (EIAO) (Cap. 499).

Name and Telephone Number of Contact Person(s)

1.11 All queries regarding the Project can be addressed to:

2. OUTLINE OF PLANNING AND IMPLEMENTATION PROGRAMME

Responsibilities of Parties

2.1 HKCG is the Project Proponent with overall responsibility for the planning, design, construction and operation of the Project. The Project Proponent has commissioned an Engineering Consultant to undertake the engineering design work, and an Environmental Consultant to conduct an Environmental Impact Assessment (EIA) Study. The Project will be implemented by Contractor(s) to be appointed by the Project Proponent at the subsequent stage.

Project Time Table

2.2 Construction is scheduled to begin in November 2002 for completion in March 2004.

Interactions with Other Projects

2.3 There is no other project~~s~~ likely to interact with this proposed Project.

3. POSSIBLE IMPACT ON THE ENVIRONMENT

General

3.1 The potential environmental impacts that may arise from the construction and operation of the Project, focusing on the submarine gas pipeline, are discussed below.

Construction Phase

Air Quality

3.2 The likely air quality impacts associated with the construction activities of the Project are gaseous emissions from the required marine crafts such as grab dredger and hopper barge. However the few number of crafts involved would have negligible impact on the background air quality.

Noise

3.3 The main potential construction noise impacts would be related to the noise emitted from marine crafts including one grab dredger, several hopper barges, workboats and a survey vessel during dredging and backfilling; and a derrick lighter, workboats and a survey vessel during pipe-pulling. The number of vessels will be kept to a minimum to ensure the least interference to normal marine traffic. The dredging work is expected to be a 24 hour operation.

3.4 Given that the construction operation will be carried out in the busy part of the harbour and that the landfall locations are located well away from residential areas, no adverse construction noise impact is to be expected.

Marine Water Quality

3.5 The key potential environmental impact of the submarine pipeline will be mainly related to the release of sediments to the water column during dredging and filling works for the submarine pipeline, as well as potential release of any hitherto bound contaminants and their effect on the water sensitive receivers. The estimated total quantity of dredged material is approximately 700,000 m^3 and the expected dredging rate will be approximately 27,000 m^3 per week.

Waste

3.6 The management and disposal of the dredged material of the submarine pipeline will follow the procedures and requirements specified in the Works Bureau Technical Circular (WBTC) No.3/2000 Management of Dredged/Excavated Sediment, and a Marine Dumping Permit will be obtained. Other construction wastes such as land excavated material and general refuse will be limited and normal waste management practices will be implemented.

Ecology

3.7 Significant marine ecological resources are not known to be present within the central harbour area, and the intertidal artificial seawall and soft bottom benthic habitats that would be affected are likely to be of low ecological value. Therefore the Project is not considered to present adverse ecological impact.

Operation Phase

3.8 There is no pollutant emission source associated with the normal operation of the Project.

3.9 The potential risks associated with the submarine gas pipeline will be assessed to ensure that the risk guidelines of the Environmental Protection Department will be met.

3.10 The Gas Standard Office will be consulted of the two stations and the pipeline.

4. MAJOR ELEMENTS OF THE SURROUNDING ENVIRONMENT

4.1 The land section of the Project in Kowloon will be located on the newly formed West Kowloon Reclamation near Yau Ma Tei. The use of land for this part of the reclamation area is planned to be constructed into a regional park but is subject to the final outcome from a Concept Plan Competition.

4.2 There are water sensitive receivers in the vicinity of the submarine pipeline landfall areas that may be impacted, such as seawater intakes that include the Yau Ma Tei Water Supplies Department Seawater Intake, and cooling water intakes such as the Western Intakes, Central Water Front Intake and Central Intakes.

4.3 The landfall at Sai Ying Pun will be on previously reclaimed land. The nearest recreational facilities are the Western District Indoor Games Hall and playground at distances over 50m and 170m away respectively. The nearest commercial/residential buildings along Connaught Road West are separated from the landfall site by the existing massive transport corridor. The nearest residential building is the Connaught Garden approximately 240m away.

5. ENVIRONMENTAL PROTECTION MEASURES TO BE INCORPORATED IN THE DESIGN AND ANY FURTHER ENVIRONMENTAL IMPLICATIONS

Mitigation Measures

5.1 The main potential for adverse environmental impacts will be related to elevation of suspended sediments due to dredging and filling operations impacting on those waterfront seawater or cooling water intakes that are close to the work. Mitigation measures such as the following will be implemented to minimise the impact to acceptable levels:

- Silt curtains will be used around the grab dredger to contain suspended sediment within the dredging area.
- Silt screens will be placed around the water intakes that are very close to the dredging work to further minimise intake of suspended sediment within the sea water, if necessary.
- Mechanical grabs should be designed and maintained to avoid spillage and sealed tightly while being lifted. For dredging of any contaminated mud, closed watertight grabs must be used.
- Loading of barges or hoppers will be controlled to prevent splashing of dredged material into the surrounding water. Barges or hoppers should not be filled to a level that will cause the overflow of materials or polluted water during loading or transportation.

5.2 Dredged sediment management and disposal arrangement will be in compliance with the WBTC 3/2000 requirements. A programme for sampling and testing the dredged sediment will be implemented to determine the appropriate disposal sites. A Marine Dumping Permit will be obtained from the Environmental Protection Department (EPD) prior to commencement of the dredging works.

5.3 Standard good construction practice such as construction runoff and dust control and waste management will be implemented.

5.4 A Construction Noise Permit will be obtained from EPD for any dredging activities during restricted hours as defined in the Noise Control Ordinance.

Possible Severity, Distribution and Duration of Environmental Effects

5.5 Potential environmental impacts identified will mainly be associated with the construction period (a maximum period of 16 months). As such the effects are considered to be temporary and short term. With the implementation of appropriate mitigation measures, no insurmountable impacts are expected.

6. USE OF PREVIOUSLY APPROVED EIA REPORTS

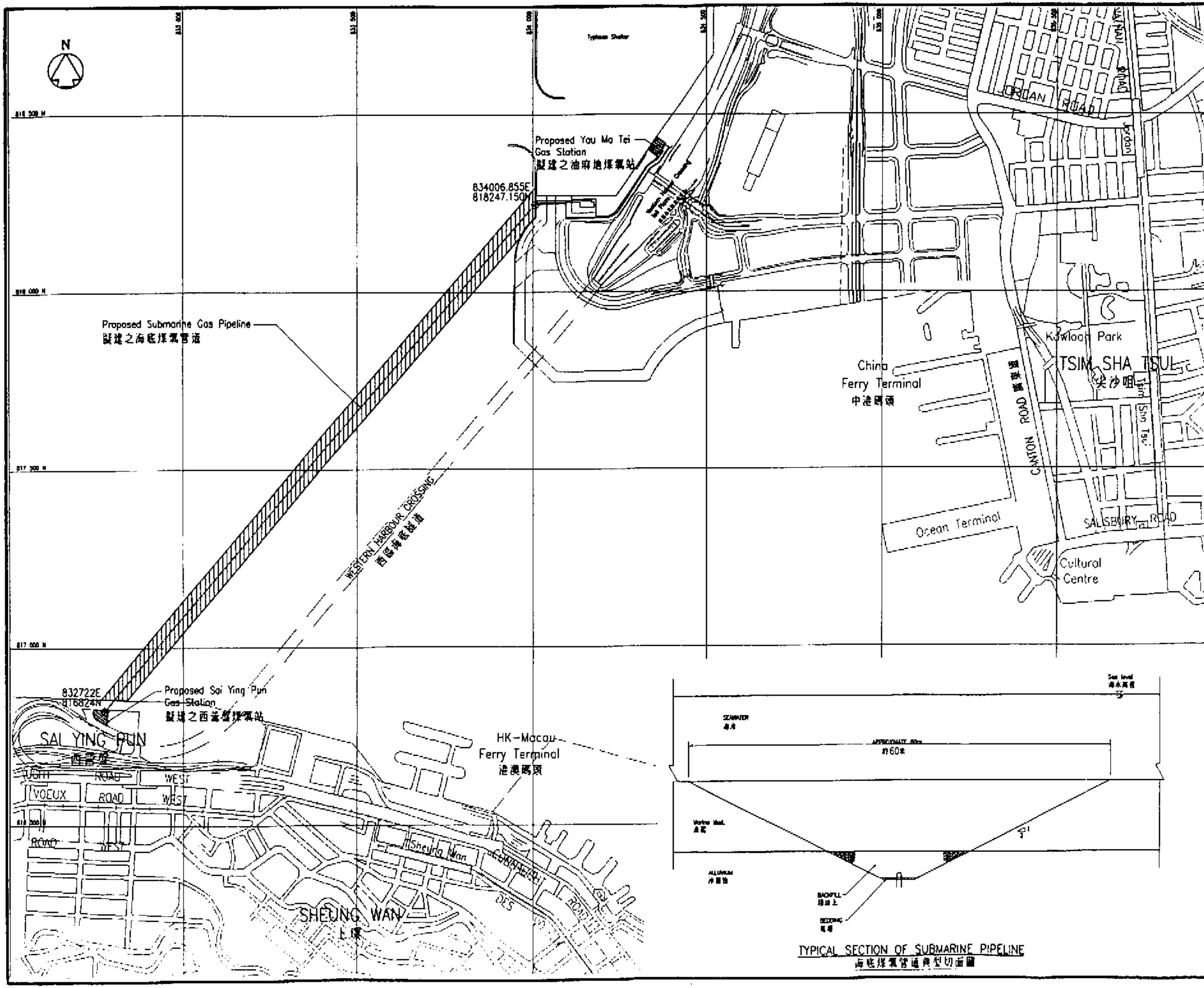
6.1 No previous EIA report has been approved or submitted for the subject Project.

7. PUBLIC CONSULTATION

7.1 All concerned Government departments were consulted and the preliminary route selection of the pipeline was completed in 1998. The landfall sites for both gas stations are identified and HKCG has started the communication with District Lands Office showing our intention of land grant offer; this has fixed the route of the pipeline.

7.2 District Lands Office/Kowloon West is preparing the gazette process of the Project under the Foreshore and Seabed (Reclamations) Ordinance.

7.3 A Marine Impact Assessment has been submitted, discussed and approved by the Marine Department.



TYPICAL SECTION OF SUBMARINE PIPELINE
海底煤氣管道典型切面圖

NOTES 説明

1. ALL LEVELS ARE IN METRES ABOVE PRINCIPAL DATUM.
2. GRID LINES ARE HONG KONG GRID 1980.
3. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.

LEGENDS

SUBMARINE GAS PIPELINE

LAND PIPELINE

AREA TO BE GAZETTED UNDER FORESHORES AND SEA-BED (RECLAMATIONS) ORDINANCE (CHAPTER 127)

LOCATION PLAN
位置圖

drawing no.	scale
1	1 : 5000

Hong Kong and China Gas Company Limited

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