

Executive summary

A consortium of GE Energy Financial Services Inc, a subsidiary of General Electric Company (GE), and Sumitomo Corporation (the developer or consortium) submitted a proposal to Sharjah Electricity and Water Authority (SEWA) to design, build, own and transfer a new 1,800MW independent power project (IPP, the project) within the Hamriyah power and water plant (HWPP/Hamriyah Power and Desalination complex) in the Emirate of Sharjah, United Arab Emirates (UAE).

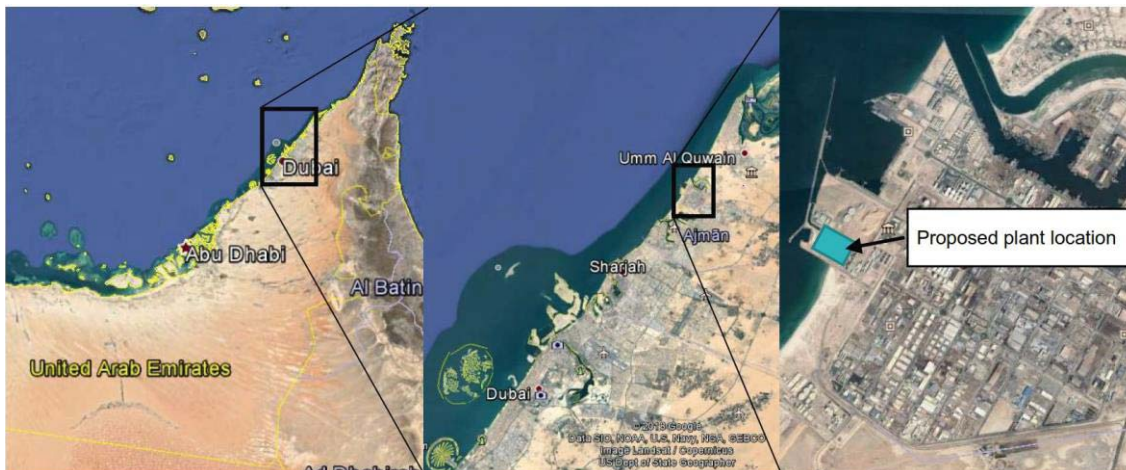
The proposed new combine cycle power plant is designed with flexibility to accommodate gas (natural gas or imported LNG) and liquid (distillate) fuels. The proposed plant will consist of three identical power blocks and each will consist of the following key components:

- H-class gas turbine
- Heat recovery steam generators (HRSGs)
- Steam turbine

The gas turbines will operate on both natural gas/imported LNG as the main fuel or distillate oil as a back-up fuel in the event of unavailability of gas.

The project will be developed within the Hamriyah Power and Desalination complex and will be adjacent to the existing power plant, 600m south of Hamriyah Port, adjacent to and west of Hamriyah Free Zone (HFZ) about 1.2km north of Al Zahwra power and desalination plant located in the emirate of Ajman. The site location is shown in Figure 1.

Figure 1: Location of the 1,800MW Hamriyah IPP



Google Earth, Mott MacDoanld, July 2018

No marine structures will be built as part of the project. The project will use the existing intake and outfall facilities that were built to accommodate production of approximately 2500MW and 140MIGD of power and desalination water, respectively.

Environmental baseline

The project site is located on levelled reclaimed land which was used as a laydown area during construction of the intake and outfall structures. The site is currently cleared with no significant

land features or drainage lines and no signs of potential ground or groundwater contamination. Sparse vegetations/shrubs exist on site.

The proposed project laydown area will be located 150m north-east of the project site. Currently the site contains stockpiled sand. The source of the sand is unknown but may be dredged material generated during construction of the intake and outfall facilities or excavated or surplus materials from construction of the complex.

Based on available data, ambient PM₁₀ concentrations exceed the respective UAE daily average standard of 150µg/m³. Although there are no applicable annual mean national standards for PM₁₀ and PM_{2.5}, the monitored ambient values exceed the WHO guideline values. Exceedances of the PM₁₀ and PM_{2.5} standards are not unexpected due to the arid environment, the proximity to the sea and associated contribution of marine salts to the atmosphere and the presence of nearby industrial sources.

Exceedances were not recorded for any of the gaseous pollutants monitored (i.e. SO₂, NO₂, and CO). Considering the monitored ambient annual mean NO₂ concentrations it can be concluded that there are unlikely to be exceedances of the national ambient air quality standards which are set for one hour and 24-hour averaging periods. In addition, the annual average is well below the WHO standard which is applicable in the absence of an equivalent national standard.

The project is located within Hamriyah Power and Desalination complex and within an industrial area. The site is adjacent to the Hamriyah Port and Hamriyah Free Zone Authority (HFZA) which hosts a significant number of industries, including oil and gas processing and storage facilities.

The predominant marine habitat recorded in the survey area is hard bottom covered in sand, as would be expected in the Arabian Gulf due to it being a relatively shallow sea. Moreover, this ecological system is subject to natural pressures of high temperatures and high salinity. From the data recorded it can be extrapolated that pockets of exposed hard substrate provide 'islands' of habitat. In some areas off to the left of the existing power station inflow, there is an area of sparsely populated coral and hard bottom and hard substrate populated with pearl oysters to the right of the power station.

Key sensitive human receptors identified within the project area and its vicinity include:

- Users of the beach area adjacent to the project site
- The Oberoi Beach Resort Al Zorah in Ajman approximately 2.5km to the south of the site
- Al Zorah mangrove area approximately 2.5-3km south-east of the site
- Al Zorah villa complex and golf club approximately 2.5-3km south-east of the site
- Ajman residential area approximately 4km south-east of the site
- Rest area 40m from south-west boundary
- Residential and fishing community of Al Hamriyah to the north east of project area (approximately 3km away)

Stakeholder consultation

Stakeholder consultation was undertaken through a series of meetings and formal communications to disclose project information and record the feedback or concerns. These stakeholders include Environment Protected Area Authority (EPAA), Ajman Municipality, Sharjah Municipality, Hamriyah Free Zone Authority (HFZA), Hamriyah Municipality and EWS-WWF. No significant concerns have been raised during the meetings or communications with stakeholders.

It is noted that direct consultation with local communities is not culturally acceptable in the UAE and government or municipality departments and agencies have communicated to the Project that they will adequately represent the interests of these communities.

Construction phase key impacts

Air quality

Air quality impacts are anticipated to result from fugitive dust emissions during construction. The impact magnitude of construction activities is conservatively described as major for the whole construction period, however, not all construction activities have a high dust-raising potential and it can be considered that potential dust episodes may only occur over short periods and not throughout the whole construction phase. The assessment identified one residential receptor (the beach campers camping area) and several adjacent industrial receptors within 500m of the project boundary. The beach campers' receptor is classified as having low sensitivity as they are located approximately 230 metres from the project boundary. Adjacent industries sensitivities range from medium to negligible as they are located from directly adjacent to the project boundary to well beyond the 500m buffer to the east and north of the project boundary.

Greenhouse gases emissions (GHGs)

Sources of GHGs emissions during construction are based on current project data, methodology and emission factors taken from the plant technical specifications and World Bank guidance. Construction emissions may be in the order of 1.0MtCO₂e. This is a significant impact; however, it is noted that the construction emissions are around 21% of one year's operational emissions. Therefore, in an operating period of around three months, emissions associated with gas combustion are likely to exceed total construction emissions.

Marine ecology and water quality

Dewatering activities and secondary impacts of leakages or spills of hazardous materials or sewage have been assessed to present a potential for minor impacts to marine ecology without appropriate mitigation. The project aims to avoid dewatering during construction, but in the event that dewatering is required a permit will be obtained from the competent authorities (e.g. EPAA and SM) in order to discharge dewatering effluent to the existing stormwater network or to the marine environment. Through the application of dewatering control measures such as flow control through sedimentation tanks with visual monitoring and regular water quality testing against applicable UAE standards by an approved service provider, the residual impacts are expected to be minor.

Soil, groundwater and land contamination

Soil and groundwater quality could be impacted during construction of the project, particularly site preparation activities, considering the shallow depth of the water table (1.55 to 4m bgl). Although the EPC contractor has confirmed that dry excavation will be carried out during construction, in the event dewatering activities are necessary during construction, they could lead to potential soil contamination and the need to manage significant quantities of contaminated waters. The ESIA includes mitigation measures within the marine ecology and water quality chapter and the environmental and social management and monitoring plan (ESMMP) to reduce potential impacts associated with dewatering.

Following the results of the subsurface investigation at the site, there is not expected to be significant contamination within the soils or groundwater. There remains a potential for subsurface contamination to be discovered during construction activities, but any such

contamination will be managed and addressed by the EPC contractor in accordance with the CESMMP.

Earthworks may potentially include piling and excavations associated with new structures as well as trenches for service interconnections. Piling presents a potential pathway for any currently unknown existing soil contamination to impact groundwater.

Construction activities will involve the use of potentially hazardous substances would be used, such as oils, lubricants and fuels. In addition, sewage will be generated by the the construction workforce. Accidental spills or leakages of hazardous substances may result in local contamination of soils, with potential implications for groundwater, surface water and human health.

Waste management and material use

The environmental impacts of generated wastes associated with the construction phase of the project will be short-term and mostly reversible impacts. These potential impacts will be effectively managed through a construction waste management plan that will be developed by the EPC contractor as part of the detailed CESMMP.

While quantities of hazardous materials and wastes onsite are anticipated to be relatively low, the assessment has identified potential for minor adverse impacts to soils, groundwater and secondary impacts on the marine environment should leakages or accidental spills occur. This potential impact has been classified as minor to insignificant based on the expected implementation of an environmental incident and spill response procedure as part of the CESMMP.

Excavated spoil from construction will be reused on site wherever practicable. Consequently, volumes of waste spoil are predicted to be low in comparison to the volumes of waste generated in the Emirate of Sharjah overall and the significance of impacts of materials used and waste generated at the construction phase prior to mitigation is assessed to be minor.

Noise and vibration

Results indicate that noise levels from the construction works at the closest noise sensitive receptor (rest area located approximately 40m south of the site perimeter) are not expected to exceed the 60 dB(A) noise level limit of the UAE Federal Environment Agency for daytime impacts during all stages of the work. The impacts would be lower at all other, more remote, receptors. The overall assessment concluded that construction noise is expected to result in minor adverse impacts at the rest area receptor location during site clearance and preparation, excavation and ground works and site road, paving and hard standings phases and negligible impacts during all other project stages. The assessment additionally demonstrated negligible impacts during all stages of construction at all other residential receptors, including Hamriyah Town (<36 dB(A)), Oberol Beach Resort (<36 dB(A)) and Al Zorah Golf Club noise sensitive receptors (<35 dB(A)).

It should also be noted that noise level limits of the UAE Federal Environment Agency's '*Requirements for the Reduction of Construction and Demolition Noise*' are expected to be met if the receptor area is classified as '*Residential Areas with Some Workshops & Commercial or near Highways*'. This is because the upper limit is 60 dB(A) for daytime impacts.

Terrestrial ecology

The site is reclaimed land that has been cleared and levelled with no significant land features or drainage lines. The site comprises low vegetation cover, with limited number of common species, dominated by *Tetraena qatariensis*. No trees were observed, and no signs of small

mammals or reptiles were noticed. Overall the impact to terrestrial ecology during the construction phase has been assessed to be not significant.

Wastewater management

The environmental impacts associated with wastewater management during the construction phase of the project will be short-term and mostly reversible impacts. These are related to the generation, storage, handling and final disposal of wastewater streams from the discharge of dewatering water, washdown water from construction facilities, vehicles, and concrete batch plants, as well as any sewage generated by the workforce. These potential impacts will be effectively managed through a construction wastewater management plan developed by the EPC contractor as part of the CESMMP.

Socio-economic issues

Construction of the project has been assessed to provide a minor beneficial socio-economic impact to migrant labourers through employment generation.

It is estimated that at peak construction there will be 1,150 workers on site with a total of 1,550 during the full construction period and all are likely to be migrant workers. Migrant workers pose social risks with respect to human rights and health disparities UAE nationals are afforded better health care than is likely to be available to the migrant workers used on this project, although all workers will be provided with health insurance at least to a basic standard. These risks are most relevant for migrant subcontracted construction workers, as oversight of labour issues can be more difficult for the project company to manage among subcontractors. Typical risks in the region can include poor accommodation provision, retention of workers' passports, payment of exorbitant fees by workers to recruitment agents, workplace accidents and injuries and health-related issues related to working in extreme temperatures. Risks to workers' rights will be carefully managed and mitigated through the adoption and implementation of appropriate measure as defined within the environmental and social management and monitoring plan (ESMMP) framework of this ESIA study.

Impact on biodiversity, in particular reduction of fish stocks due to entrainment of plankton, eggs or fish larvae, may reduce fisheries' stocks, which would potentially impact the livelihood of traditional fishermen from Al Hamriyah. The Ajman Municipality has indicated that they will provide an alternative site and relocate the local fishermen belonging to the Al Hamriyah Cooperative Association for Fisherman. Based on information available at this time, we do not consider that the fishermen will experience adverse impact from relocation to an alternative site, as they are highly likely to be Emiratis who receive appropriate protection and social welfare provisions from the state. Thus, combining low sensitivity and minor magnitude, this impact is considered to be minor adverse.

Construction works to take place on the project site may disrupt access to the amenities available on the adjacent beach, which is used by recreational campers and tourists. Given that the disruptions will likely affect a small number of local residences and there are several alternative beaches with amenities in the Emirate of Sharjah and neighbouring emirates, combining low sensitivity and minor magnitude, this adverse impact is considered to be minor.

Traffic and transport

The number of anticipated additional vehicle movements during the construction phase is assessed to be low in comparison to existing traffic volumes and capacity of the road network in Sharjah and surrounding areas. Overall the significance of impacts with respect to traffic and transport at the construction stage prior to mitigation is assessed to be insignificant. A traffic management plan (TMP) will be required as part of the site management plan.

Cultural heritage

As the construction work will take place within the boundaries of the existing SEWA complex, the impact on archaeology and cultural heritage is anticipated to be not significant. A 'chance finds procedure' will be developed by the EPC contractor and included within the CESMMP.

Landscape and visual impacts

Given the existing extent of industrial development in the immediate surrounding area, the significance of impacts on the surrounding landscape prior to mitigation is assessed to be not significant.

Operational phase key impacts

Air quality

Nitrogen dioxide (NO₂) is the only significant pollutant emission from gas fired power plants and advanced air dispersion modelling has been undertaken to assess the potential for impacts on air quality.

The proposed main stack height of 60m will provide adequate dispersion of NO_x from the plant when operating on natural gas. Across the range of normal gas-fired operational scenarios, the modelling demonstrates that the maximum predicted NO₂ process contribution based on five years of meteorological data is 127.0µg/m³. This is approximately 32% of the national standard and results in a predicted environmental concentration of 176.0µg/m³ which, is below 50% of the national standard. The results show that the 1-hour 99.79th percentile process contribution is 64.1µg/m³ which, is approximately 16% of the national standard and results in a predicted environmental concentration of 113.1µg/m³. This indicates that the highest predicted one-hour impacts would be limited to a small number of hours a year. The maximum 24-hour process contribution concentration is approximately 22% of the daily average standard. No exceedances of the annual WHO guidelines are expected as the annual process contributions are less than 10% of guideline and located within the industrial area. In accordance with the significance criteria adopted for the assessment the predicted impacts for all averaging periods are considered insignificant.

The proposed bypass stack height of 45m will provide adequate dispersion of NO_x from the plant when operating on natural gas. In general, the modelling shows that air quality impacts will be lower with the proposed project operating on open cycle mode using the bypass stack, compared to combined cycle mode using the main stack. This is due to the increased exhaust gas temperature as there is no heat recovery operating in open cycle mode. The modelling results if the 1-hour 99.79th percentile is considered is significantly lower, with a process contribution of 8.4µg/m³. This demonstrates that the highest one-hour contribution is not expected to occur frequently. The maximum 24-hour process contribution concentration is approximately 9.4% of the daily average standard. In accordance with the significance criteria adopted for the assessment the predicted impacts for all averaging periods are considered insignificant.

Under abnormal operational scenarios, firing on fuel oil may be necessary in emergency cases and not on a permanent basis. Modelling demonstrates that the maximum process contribution predicted based on five years of meteorological data is 280.1µg/m³ which, is approximately 70% of the national standard and results in a predicted environmental concentration of 329.1µg/m³ which is within the national standards. The 1-hour 99.79th percentile is considerably lower, with a process contribution of 134.2µg/m³. This demonstrates that the highest one-hour contributions are not expected to occur frequently and therefore the likelihood of fuel oil operation coinciding with the worst case meteorological conditions which would result in the highest process

contributions occurring is unlikely. The maximum 24-hour process contribution concentration is approximately 47% of the daily average standard although it is unlikely that the proposed project would operate for 24 consecutive hours of fuel oil firing unless there was an emergency with gas supply. In accordance with the significance criteria adopted for the assessment the predicted impacts for all averaging periods are considered insignificant.

Cumulative impacts have been assessed through consideration of existing ambient air quality baseline within the project area. Air quality monitoring data provided by HFZA for one year (2017) is considered sufficient for the overall assessment.

Greenhouse gases

Sources of greenhouse gas emissions that have been considered are from natural gas combustion during the operational phase of the project. The calculations were based on current project data, and the methodology and emission factors taken from the plant technical specifications and World Bank guidance. This assessment quantified the emissions associated with the plant running under design conditions. The calculated emission can be summarised as:

- The overall GHG emissions from the operational phase are estimated to be 4.84MtCO_{2e} per year
- The potential GHG emissions from electricity production by the project are 4.78MtCO₂ per year less than if the electricity was generated according to the current national grid average emissions factor.
- The project is expected to produce around 324gCO₂ per kWh, which is in line with the typical performance from a new gas fired thermal power plant. This is at the lower end of the typical ranges presented in Table 4 of the IFC Environmental, Health and Safety Guidelines for Thermal Power Plants (325-439g CO₂/kWh for CCGT).

A best available technique (BAT) study that was undertaken as part of this ESIA (see full study in Appendix B) demonstrated that given the efficiency of the proposed CCGT is best available technology for this plant.

Marine ecology and water quality

Expected impacts during the operation of the power plant include:

- Entrainment at the pumping station intake - Abstraction of water has the potential to draw fish into the water pumping system to either be trapped on the intake screens or to pass through these into the water circuit
- Changes to water quality due to discharge of cooling water with consequent temperature rise and a potential increase in contaminant concentrations which is likely to impact on marine habitats and associated benthos, mammals and fish

The proposed Hamriyah power station and existing 20 MIGD desalination plant will result in a maximum worst-case combined discharge of water approximately 0.5 - 1ppt above existing salinity which is well within the 5% threshold outlined in Abu Dhabi's marine water quality standards, resulting in maximum mixing areas of 0 ha. While surface temperatures are increased over a maximum mixing zone area of 235.7ha, it will be cooled as it mixes with the seawater and the sea bed mixing zone area is therefore 2 ha, that is likely to be contained within the outfall channel. The average surface water temperatures which have a mixing zone area of 81.4 ha, is likely to be contained within the port area, which is approximately 100 ha.

There is a possibility that marine fauna could become entrained at the intake structure. The design includes screens, barriers/fenders and other structures to prevent marine fauna from being trapped in the pipelines. A procedure for returning any live entrained fauna to the sea will

be developed as part of the OESMP. Dead organisms will be required to be disposed of in approved landfills.

Soil, groundwater and land contamination

The main potential land quality impacts for the project during the operation phase are associated with the use, transport and storage of hazardous materials and liquid waste disposal. Impacts to soil and groundwater may result from leaks and spills from the dedicated chemical stores, wastewater collection basins/sumps, dedicated waste management areas and uncontrolled drainage of contaminated run-off from hard surfaced areas due to poor maintenance of drainage system and waste management system.

Impacts may result from the use of pesticides and fertilisers on landscaped areas. Excess usage of chemicals, or usage at inappropriate times (such as prior to heavy rainfall) can result in leaching to underlying soils.

Impacts may also result from incidents such as firefighting, including the infiltration of contaminated waters into the subsurface and dispersion of airborne contaminated material to surrounding areas, with the potential to impact both human health, land and water quality.

Best practice management procedures will minimise potential impacts

Waste management and material use

Environmental impacts of generated wastes associated with the operational phase of the project are associated with the production, management and handling of a number of waste streams, hazardous and non-hazardous. Potential impacts will be effectively managed through a detailed waste management plan (WMP) that will be developed as part of the operational environmental and social management and monitoring plan (OESMMP). The production of a detailed WMP for all operations at the project will be fundamental to ensuring best practice waste management is undertaken and embedded into the operational philosophy of the project.

While quantities of hazardous materials and wastes onsite are anticipated to be relatively low, the assessment has identified potential for minor adverse impacts to soils, groundwater and secondary impacts on the marine environment should leakages or accidental spills occur.

The operational phase overall potential impact is expected to be minor to not significant based on the implementation of an environmental incident and spill response procedure as part of the CESMMP.

Noise and vibration

The main noise impacts during operation are expected to arise due to the continuous operation of the plant and equipment to be installed on the site.

Adverse noise impacts from operation of the plant and equipment associated with the project have been assessed through noise modelling. The results of predicted noise levels show that the combined noise levels from all plant to be installed is expected to be no greater than 36.9dB(A) at Hamriyah Town, Oberol Beach Resort and Al Zorah Golf Club noise sensitive receptors. This is below the day and night-time noise limit values and contributes to a negligible increase to existing ambient noise levels. The day and night-time noise impacts at these receptors are therefore assessed as negligible.

Noise levels at the rest area, which is located approximately 40m south of the southern site boundary, are predicted to be 60.8 dB(A) which marginally exceeds both the 60dB(A) limit for the daytime period. For the night time period the existing baseline noise already exceeds the 50dB(A) limit in Article 42 of Local Order No. 61. The addition of the IPP is predicted to increase

night time noise levels by 3.8dB(A). The change in ambient noise level is marginally above 3dB during the day time periods. The day and night-time noise impacts at the rest area location is assessed as moderate.

It should be noted that the classification of this receptor is unclear due to the uncertainty of its use. It is understood that security staff use the area periodically when working in the HFZA area. It is also noted that this assessment is based on a conceptual design using the assumptions stated above. It is recommended that the calculation of operational noise impacts at this location is revised as design details become more certain. If moderate impacts are confirmed consideration should be given to relocating these buildings or providing additional noise attenuation to the existing structures

Terrestrial ecology

No impacts on terrestrial ecology have been identified in the operational phase.

Waste water management

Potential impacts will be effectively managed through a wastewater management plan that will be developed as part of the operational environmental and social management and monitoring plan (OESMMP) or the environmental management system. As a result any impacts related to wastewater are expected to be minor.

Socio-economic

Operational phase employment and increase in availability of electricity generation in Sharjah have been assessed as not significant to minor beneficial impacts. Through development and compliance with health and safety management system requirements and procedures including incident, emergency and fire preparedness and response, the potential for occupational health and safety risks to operational staff has been assessed from moderate to minor adverse. The operational phase presents opportunities for beneficial impacts through Emiratisation, which is a UAE government initiative to preferentially give suitable employment opportunities to Emiratis. Given the low number of additional operational staff or trainee positions likely to be associated with the project post-construction, the significance of the beneficial impact has been assessed to be not significant.

Traffic and transport

Additional land-based vehicle movements in the operational phase have been assessed to be negligible and where feasible, waste collection, will be incorporated within the existing trips required by the existing SEWA power and desalination station's operation. The residual impact has subsequently been assessed to be not significant.

Cultural heritage

No impacts to cultural heritage have been identified in the operational phase.

Landscape and visual impacts

Given the existing extent of industrial development in the immediate surrounding area, the significance of impacts on the surrounding landscape prior to mitigation is assessed to be not significant.

Table 1 provides a brief assessment against the IFC Performance standards and provides cross references to mitigation measures in the body of the report and the ESMMP.

Table 1: Summary of mitigation measures to comply with IFC Performance standards

Performance standard	Background information	Compliant ¹	Mitigation measure
PS 1 Assessment and Management of Environmental and Social Risk and Impacts	An environmental and social impact assessment (ESIA) has been undertaken for national permitting purposes and to demonstrate compliance with IFC PS requirements A framework environmental and social management plan (ESMP) is included in the ESIA report	Yes	Cross references to mitigation measures are detailed in the relevant rows below
PS2 Labor and Working Conditions	A social impact assessment was undertaken as part of the ESIA process. Labour and working conditions formed part of the assessment	Yes	Refer to section 13.8 and Table 11 of the framework ESMMP for mitigation measures
PS3 Resource Efficiency and Pollution Prevention	The ESIA report and ESMP framework set out management and monitoring approaches to be adopted to ensure pollution control and efficiency	Yes	Mitigation measures are provided as follows ESIA report section Air quality 5.7 Greenhouse gases 6.5.4 Soil and groundwater 8.7 Solid waste management 9.6 Noise 10.7 Waste water 12.8 Landscape and visual impacts 15.5 Transport and traffic 17.5 ESMMP Table 4 - Table 7 Table 6 Table 8 Table 10 Table 12 Table 14
PS4 Community Health, Safety, and Security	Community health and safety is addressed in the relevant sections of the ESIA report and ESMP	Yes	Refer to section 13.8 and Table 11 of the framework ESMMP for mitigation measures

¹ The project is considered compliant with relevant IFC PS provided the mitigation measures in the ESIA report and the ESMMP and all conditions applied by the environmental regulator (Sharjah EPAA) in the environmental permit are complied with by the project company and the EPC contractor as appropriate.

Performance standard	Background information	Compliant ¹	Mitigation measure
PS5 Land Acquisition and Involuntary Resettlement	Not applicable	Not applicable	
PS6 Biodiversity Conservation and Involuntary Resettlement	Potential impacts on the marine environment from construction and operation of the project have been assessed to be minor at worst There are no significant impacts on terrestrial ecology	Yes	Mitigation measures are provided as follows Marine environment Terrestrial ecology ESMMP Table 5 Table 9
PS7 Indigenous Peoples	Not applicable	Not applicable	
PS8 Cultural Heritage	The risk of adverse impacts on cultural heritage is very low given that the project site is reclaimed land	Yes	Refer to section 16.6 and Table 13 of the framework ESMMP for mitigation measures

Source: Mott MacDonald.

Notes: ¹ The project is considered compliant with relevant IFC PS provided the mitigation measures in the ESIA report and the ESMMP and all conditions applied by the environmental regulator (Sharjah EPAA) in the environmental permit are complied with by the project company and the EPC contractor as appropriate.