5.5 It is anticipated that the committed developments will have minor impacts on the road network. However, the overall impact of these development, including the expected 2% future baseline traffic increase, is judged to be not significant on traffic and transportation during the construction phase. The impacts from these developments have therefore been scoped out of the assessment.

6 ASSESSMENT OF POTENTIAL SIGNIFICANT EFFECTS

Construction Phase

6.1 The construction phase of the proposed development is anticipated to require 120 loads, therefore 240 two-way trips. The duration of the construction phase is expected to last 24 months, but delivery of materials will not be evenly spread over this timeframe. A robust worst-case situation therefore predicts all 240 trips during a six month period, averaging less than two journeys per day. A worst-case daily scenario would comprise of 10 trips. It is also expected that the six engines, will be transported to the site by sea, therefore the 10 two-way trips offers a very robust scenario.

6.2 These scenarios are displayed in full in Appendix TT2 and a summary is provided in Table TT6.1 below.

Table TT6.1 Expected Future Construction Traffic Data, Measured Against Future Baseline.

Road	% HGVs				
	Future Baseline	2 Trips	Hourly Max[a]	10 Trips	Hourly Max[a]
Devil's Tower Road	5.28	5.29	8.39	5.34	9.07
Winston Churchill Road	4.60	4.61	6.88	4.64	7.24
Glacis Road	7.66	7.67	11.67[b]	7.72	12.43[b]
Waterport Road	5.47	5.48	7.11	5.53	7.62
North Mole Road (East)	4.92	4.94	6.85	4.99	7.41
North Mole Road (West)	5.21	5.24	8.38	5.36	9.88
Mons Calpe Road	0.01	0.28	5.10	1.02	18.63[b]

[a] Demonstrates the maximum possible hourly %HGV if all projected HGVs were to arrive in a single hour.

[b] Trips exceeding the worst-case daily scenario.

6.3 Projected traffic flows, show that for all the assessed routes, the projected daily increase of 2 or 10 two-way trips will result in a percentage increase in traffic that is significantly below the 10% threshold for sensitive road receptors, following IEMA Guidelines.

6.4 For hourly trips, if assuming all projected daily HGVs arrive during a single hour, the maximum hourly percentage HGVs for Winston Churchill Avenue, Waterport Road and North Mole Road (East) are significantly below the 10%

threshold. Devil's Tower Road and North Mole Road (West) are below the threshold. Glacis Road and Mons Calpe Road exceed the threshold. However, where values are near to or exceed thresholds, this is because the background flows of total traffic are low, relative to the hourly averages. This worst-case for the worst-case scenario is highly unlikely to occur, especially with the implementation of a construction traffic management plan (CTMP). It is therefore unlikely that there will be significant effects from traffic or HGV increases.

Assessment of Likely Significant Effects

Effects of Changes in Traffic Flows

6.5 The expected increase in traffic for the North Mole Reclamation, including construction HGVs, is likely to fall below the IEMA Guidelines' threshold (Table TT6.1). The traffic increases in this table provide robust worst case scenarios, therefore it is likely there will be **no significant effects** from changes in traffic flow.

Road and Junction Capacity

6.6 The IEMA Guidelines suggest that significant effects for road and junction capacity will only occur for traffic increases above 30% for all roads, and above 10% for roads already at or near capacity. The projected worst-case scenarios for traffic increases from the power station development, including construction HGVs, demonstrate that the expected increase in traffic is very likely to be well below this threshold (Table TT6.1). It is therefore expected that there will be **no significant effect** on road and junction capacity.

Severance

6.7 The low increase in traffic from the power station development, including construction HGVs (Table TT6.1), mean that it is unlikely that the changes in traffic will have a significant effect on severance for local users. It is therefore expected that there will be **no significant effect** on community severance.

6.8 Specific attention has been placed upon cruise liner passengers, and special measures will be taken to avoid HGV and passenger road use conflicts. Therefore is expected there will be **no significant effects**.

Driver Delay

6.9 The increase in future traffic baselines, including construction HGVs, is unlikely to have a significant effect on traffic flows, and given that the majority of junctions are well below capacity, it is unlikely that the proposed development will have a significant effect on driver delay. It is expected that there will be **no significant effect** to journey times or driver delay.

Pedestrian and Cycle Delay

6.10 The increase in future traffic, including construction HGVs, and the below capacity road network combined with the regularity of pedestrian crossing facilities mean that it is likely that there will be **no significant effect** on pedestrian or cycle journey times during the construction phase.

Pedestrian Amenity

6.11 The site and North Mole area is barriered and guarded, so it is not accessible to members of the general public, and combined with the expected insignificant increases in traffic volume as a result of construction, it is expected that there will be **no significant effect** to pedestrian amenity.

Road Safety

6.12 The increase in future traffic numbers, including construction HGVs, , has predicted that there will be no significant changes to traffic flows, relative to the IEMA Guidelines (Table TT6.1). Therefore it is expected that there will be **no significant effects** to road safety.

Hazardous and Dangerous Loads

6.13 The engines will be transported to the site by sea. It is therefore expected that there will be **no significant effect** to the local or wider highway network from hazardous and/or dangerous loads.

Public Transport Accessibility

6.14 The North Mole area has a barriered and guarded access therefore it is not open to the general public and does not contain any bus stops. It is expected that there will be **no significant effect** on public transport accessibility.

Construction Traffic Management Plan

6.15 The Construction Traffic Management Plan (CTMP) identifies the potential traffic impacts in and around the site during the construction and operational phases of the proposed development; the CTMP introduces mitigation measures to remove or reduce any potential effects. Key inclusions are:

- Access routes to and from the site:
    - Access routes from the frontier to site follow Winston Churchill Avenue – Glacis Road – Waterport Road – North Mole Road, and reversed for exit. Immediate access to the site is granted via Mons Calpe Road for light vehicles and vans or via North Mole Road West for Heavy and Emergency Vehicle Access.
    - A close, daily relationship will be established with the Port Authority to manage construction and operation traffic and deliveries relative to other port traffic, including cruise ship arrivals.
    - Speed limits will be in line with the local highway network, which includes 50 kph (31 mph) limits on Mons Calpe Road and 30 kph (19 mph) on North Mole Road West.
- Vehicle trip generation and distribution:
    - Principal vehicle movements to and from the site include staff cars and general product deliveries (light vehicles), special product deliveries (heavy vehicles) and concrete delivery trucks (heavy vehicles, agitators).
- Site working hours and access:
    - Site working hours are 08:00-20:00 Monday – Saturday. Deliveries may occur outside the main working hours of the site in order to reduce traffic impacts to the local highway network.
- Car parking:
    - Designated car parking is provided on site, which holds 25 car and 15 motorcycle spaces. Allocated parking is provided for Client representatives, site staff and visitors. Limited car parking will be available for subcontractors and operatives.
    - To limit the need for car parking, dedicated bus services for operatives will be arranged.

- Signage:
    - All work areas outside of the enclosed sites will display appropriate signage for warning, instructions and guidance for pedestrians and drivers. Signage will be compliant with the Highways Agency.
    - Where works may create significant, but temporary, changes ot the traffic environment, prominent advance warning signs will be provided.
- Vehicle management and road cleaning:
    - Vehicles will ensure their tyres are appropriately clean before leaving site. If weather and/or site conditions result in mud onto local road surfaces, street-cleaning surfaces will be employed.
    - Stationary vehicles will be required to be switched off.
    - Also includes minimum maintenance requirements for noise and exhaust emissions.
- Traffic Marshals/ Vehicle Banksmen:
    - Traffic management situations may require the appointment of a Traffic Marshal or Vehicle Banksmen to direct traffic/pedestrians to prevent accidents or incidents that could lead to harm.
    - Marshals/Banksmen will always be used to manage pedestrian arrivals through the cruise terminal or reversing vehicles in the vicinity of the site.
- Other highway users:
    - Pedestrians:
        - Segregation from traffic will be provided, wherever possible, by the provision of physical barriers. Signage and demarcation will be provided where this is not possible.
    - Taxis and port employees:
        - Close, daily relationships will be established with the Port Authority to anticipate construction and port traffic. A schedule of arrivals and deliveries, on a daily basis, will be established with the Port Authority.

6.16 The CTMP dictates the necessity for all employees, contractors, subcontractors and utility staff to undergo site induction training, which will address: the CTMP, any traffic restrictions, delivery hours and locations, reporting and recording of traffic-related environmental issues, and traffic control measures and the implementation of traffic control plans.

6.17 The CTMP also outlines the behavioural requirements for drivers, including: driving in a manner to minimise noise and emissions, follow nominated routes to and from the site, parking in nominated areas, driving in a manner and

speed appropriate for the changing conditions of the site and avoiding blocking intersections and local roads.

6.18 The TMP details of the need for regular inspections, both to the site and the surrounding area, to check, amongst other points, that all access routes are safe for pedestrians and vehicles. The TMP also includes the facility, and the necessity, to regularly review, revise and update components.

6.19 The close proximity to the Cruise Terminal makes it necessary to establish a close daily relationship with the Port Authority to anticipate and manage possible conflicts between construction and port traffic. The total number of annual cruise liner visits is 200-250, averaging approximately 4-5 per week. During peak periods, April-May and September-November, multiple cruise ships berths can be expected daily, with passenger numbers between 100 and 4,500.

6.20 By establishing a close daily communication with the Port Authority and Tourism Board, dates and timings of passenger movements will be identified. HGVs movements will avoid the influx and efflux of passengers along North Mole Road and the majority of HGV movements will be outside of the times for passenger disembarkation and re-embarkation.

6.21 By employing the principles from the construction traffic management plan it is anticipated that construction phase traffic impacts can be minimised, therefore it is predicted that there will be **no significant effects** during the construction phase.

6.22 The principles of this plan will also be utilised during the operational phase of the proposed power station.

Shipping

6.23 The location of the site within the North Mole Harbour means that shipping materials to the site is a viable, and highly effective and efficient, option. This transportation method also minimises the impact that bringing materials to the site, would otherwise have had, on the local highway network; this includes reducing the potential effects from increased traffic numbers, but is most notable to minimise the need for HGVs to transport materials that require

special organisation due to their size, weight or other unusual transport requirements.

6.24 Shipping shall be utilised to bring the six engines to site. The engines will be brought in on a single vessel, minimising impacts to the harbour and the shipping channels, which will berth in North Mole Harbour.

6.25 The transport of material via shipping requires coordination with the Port Authority and the Gibraltar Tourist Board. The location of the site in the vicinity of Gibraltar International Airport means that coordination will also be sought with the Civil Aviation Authority (CAA) and the Royal Air Force (RAF) Ministry of Defence (MOD).

7 MITIGATION AND RESIDUAL SIGNIFICANT EFFECTS

7.1 A Construction Environmental Management Plan (CEMP) will be provided that will identify requirements for cooperation between site traffic, including workers and deliveries as well as the arrival of site materials by sea, and the Port Authority to ensure minimal disruption from the proposed site. The CEMP will also detail the timings, routes and access for site traffic to minimise any potential impacts. This will further ensure that there are **no significant** effects due to interactions between site traffic and external sources.

Construction Phase Traffic Management

7.2 It is expected that the construction of the new power station will result in minor increases to traffic and transportation levels in the port and through the local highway network, however comparing these increases against best practice guidelines identifies that there will be **no significant effect**. Combined with the enactment of the principles of the CTMP and CEMP, and the expectation for many of the materials for the site (including the engines) to be delivered by sea, it is ultimately anticipated that there will be **no residual significant effects** from the construction phase of the proposed development.

Operational Phase Traffic Management

7.3 Traffic management during the operational phase, will adopt the principles from the CTMP. This includes maintaining routes and access points (specifically for emergency services access and site passes for visitors), maintain relationships with the Port Authority, and maintain road signage.

Shipping

7.4 The location of the site within the North Mole Harbour means that shipping materials to the site is a viable, and highly effective and efficient option. This transportation method also minimises the impact that bringing materials to the site would otherwise have had on the local highway network; this includes reducing the potential effects from increased traffic numbers, but is most notable to minimise the need for HGVs to transport materials that require special organisation due to their size, weight or other unusual transport

requirements. The transport of material via shipping requires coordination with the Gibraltar Port Authority.

Residual Significant Effects

7.5 It is anticipated that the low increase in traffic, combined with the implementation of the CTMP and CEMP will result in **no significant residual effects** from the proposed development.

8 CONCLUSION

8.1 The immediate site is accessed via North Mole Road (West), which connects into the greater highway network via North Mole Road (East) and Mons Calpe Road, Waterport Road, Glacis Road, Winston Churchill Avenue and Devil's Tower Road. These routes provide the likely access routes for construction and operation site-traffic.

8.2 It is expected that construction phase traffic numbers will be greater than the operation phase traffic. IEMA Guidance establishes a threshold at 10% increase in traffic flows in sensitive areas before the impact becomes significant.

8.3 The maximum change in traffic levels for all locations is significantly below the 10% sensitive area threshold, therefore, there are expected to be no significant traffic effects from the development proposals. The proportionate increase in HGVs is also predicted to be not significant. Additionally the implementation of best practice guidelines and a CTMP will ensure that all traffic for the proposed development is appropriately managed for the area and its sensitivities.

9 REFERENCES

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APPENDICES

APPENDIX TT1 – GIBRALTAR TRANSPORT LEGISLATION

Table TT.A1.1 Transport Related Legislations

Policy		
No.	**Name**	**Description**
TR1	Promotion of Alternative Means of Transport	Encourage proposals that promote alternative means of transport to private transport.
TR2	Highway Considerations	Provide appropriate cycle parking provision. Any new road layouts should be designed to provide safe conditions for all users and meet the requirements of the highways department. Car parking provision has been made in compliance with car parking standards, contained within the regulations.
TR3	Construction Activities	Construction activities are limited to the site of the application
TR4	Car Parking	Provision of public car parking shall be kept under review
TR5	Provision of Car Parking for New Development	Car parking should be located to not create dead frontages at ground level.
TR6	Loss of Public On-Street Car Parking	Presumption against the loss of public on-street parking, only exceptional cases with clear benefits will be allowed in such situations.
TR7	Parking Proposals in Underground Structures	Parking in underground structures will normally be favoured provided that there are no adverse effects and adequate access is provided.
TR8	Public Parking Provision for Disabled Persons	Special provision shall be made in car parks for the sole use of disabled persons.
TR9	Parking Provisions for Disabled Persons in New Developments	Encouragement shall be given to the incorporation of parking provision for disabled persons within the developments proposed parking scheme.
TR10	Cycling Routes	Encourage cycling as a means of transport and encourage the provision of safe cycling routes and facilities.
TR11	Cycling Parking Facilities	Encourage the provision for secure cycle parking facilities, which should be incorporated into the design of new car parks.
TR12	Coach Park	The operation of the coach park shall be kept under review and appropriate action taken to ensure the requirements of coach travel are adequately kept.
TR13	Gibraltar Airport	Planning permissions will not be granted for developments that contravene the safeguarding requirements for Gibraltar airport and are considered a serious risk to aeronautical safety.

Policy		
No.	**Name**	**Description**
GDS2	Design	The design must have no significant effects to local amenity, including traffic movements; there must be satisfactory access; and car parking provision, where appropriate.

APPENDIX TT2 – BASELINE TRAFFIC FLOWS

Table TT.A2.1 Baseline Traffic Flows, April 2012-13

Time of Day	Winston Churchill Avenue			Glacis Road			Waterport Road		
	Total Traffic	HGV	HGV%	Total Traffic	HGV	HGV%	Total Traffic	HGV	HGV%
07:00-08:00	1675	47	2.81	773	36	4.66	1359	65	4.78
08:00-09:00	2525	116	4.59	1122	88	7.84	1563	104	6.65
09:00-10:00	2739	143	5.22	1323	115	8.69	1457	90	6.18
10:00-11:00	2437	156	6.40	1202	122	10.15	1533	107	6.98
11:00-12:00	2152	146	6.78	1028	118	11.48	1527	98	6.42
12:00-13:00	2593	158	6.09	1332	129	9.68	1575	79	5.02
13:00-14:00	2574	122	4.74	1296	97	7.48	1589	95	5.98
14:00-15:00	2573	134	5.21	1245	114	9.16	1710	100	5.85
15:00-16:00	2793	130	4.65	1353	100	7.39	1525	65	4.26
16:00-17:00	2638	98	3.71	1332	76	5.71	1548	30	1.94
17:00-18:00	2603	62	2.38	1284	59	4.60	1359	65	4.78
18:00-19:00	2138	43	2.01	1044	44	4.21	1563	104	6.65
TOTAL	29440	1355	6.78	14334	1098	11.48	18308	1002	6.98

Time of Day	North Mole Road (East)			North Mole Road (West)			Mons Calpe Road		
	Total Traffic	HGV	HGV%	Total Traffic	HGV	HGV%	Total Traffic	HGV	HGV%
07:00-08:00	670	28	4.18	340	1	0.29	62	0	0.00
08:00-09:00	1376	57	4.14	664	32	4.82	87	0	0.00
09:00-10:00	1506	87	5.78	650	32	4.92	86	0	0.00
10:00-11:00	1244	74	5.95	494	39	7.89	58	1	1.72
11:00-12:00	1260	77	6.11	509	40	7.86	76	0	0.00
12:00-13:00	1387	93	6.71	546	36	6.59	94	0	0.00
13:00-14:00	1375	79	5.75	581	30	5.16	113	0	0.00
14:00-15:00	1468	84	5.72	608	49	8.06	88	0	0.00
15:00-16:00	1510	71	4.70	632	39	6.17	92	0	0.00
16:00-17:00	1317	46	3.49	508	22	4.33	99	0	0.00
17:00-18:00	1370	34	2.48	548	11	2.01	106	0	0.00
18:00-19:00	1138	39	3.43	350	4	1.14	96	0	0.00
TOTAL	15621	769	6.71	6430	335	8.06	1057	1	1.72

Time of Day	Devil's Tower Road		
	Total Traffic	HGV	HGV%
07:00-08:00	661	21	3.18
08:00-09:00	1167	96	8.23
09:00-10:00	1417	96	6.77
10:00-11:00	1347	83	6.16
11:00-12:00	1323	96	7.26
12:00-13:00	1423	93	6.54
13:00-14:00	1435	79	5.51
14:00-15:00	1573	100	6.36
15:00-16:00	1605	72	4.49
16:00-17:00	1483	38	2.56
17:00-18:00	1231	35	2.84
18:00-19:00	986	17	1.72
TOTAL	15651	826	8.23

CHAPTER 17

WASTE AND MATERIAL RESOURCES

CONTENTS

LIST OF TABLES

GLOSSARY AND ABBREVIATIONS

Aggregate	Inert particulate matter which is suitable for use (on its own or with the addition of cement or bituminous material) in construction as concrete, mortar, finishes, road stone, asphalt, or drainage course, or for use as constructional fill or railway ballast.
CEMP	Construction Environmental Management Plan
EC	European Commission
EIA	Environmental Impact Assessment
ES	Environmental Statement
HM	Her Majesty's
Recycling	The collection and separation of materials from waste and subsequent processing to produce new marketable products.
Re-use	Using an item for a different use once its original function has been fulfilled.
Waste	Waste is defined in circular 11/94 and in the Waste Management Licensing Regulations 1994 as 'any substance or object which the holder discards, or intends to discard or is required to discard'.

1 INTRODUCTION

1.1 This chapter presents the findings of an assessment of the environmental effects of materials used and of waste management for the proposed power station.

1.2 This report sets out the:

- Approach to the assessment;
- Use of material resources for the construction of the proposed development;
- Provides estimated quantities of waste arising during construction;
- Assesses these quantities in terms of significant environmental effects, appropriate mitigation and any residual effects;
- Considers the impact of waste and litter arising from the operation of the proposed power station on the environment, appropriate mitigation and any residual effects.

1.3 Under the Construction Environmental Management Plan (CEMP) requirements, the Contractor will be obliged to produce a waste management plan with clear procedures for managing waste. This will provide strategies to minimise the generation of waste during all phases of the works.

1.4 Relevant sources of information referred to for the assessment are listed in the Reference section at the end of this chapter.

2 LEGISLATIVE CONTEXT

2.1 This section provides a summary of the key laws and policies that are relevant to waste management and the sustainable use of resources for the proposed development.

European Law

Waste Framework Directive

2.2 The Waste Framework Directive (2008/98/EC) sets out the overall framework and policy throughout member states, laying down "*measures to protect the environment and human health by preventing or reducing the adverse impacts of the generation and management of waste and by reducing overall impacts of resource use and improving the efficiency of such use*" (European Union, 2008:Article 1). This includes a household recycling target of 50% by 2020, and 70% re-use, recycling and recovery target for construction and demolition waste.

2.3 The key element of the Waste Framework Directive is the Waste Hierarchy, outlining a priority order in waste prevention and management legislation and policy:

- prevention
- preparing for re-use
- recycling
- other recovery
- disposal.

Landfill of Waste Directive

2.4 The waste management hierarchy states that landfilling is the least preferable option for waste, and therefore must be kept to a minimum. The Landfill of Waste Directive 1999/31/EC sets a target for the maximum biodegradable waste that shall be sent to landfill in 2016 as 35% of the value produced in 1995. This has been transposed into Gibraltar law through the Landfill Act 2002 (HM Government of Gibraltar, 2002).

Industrial Emissions Directive

2.5 The Industrial Emissions Directive's (2010/75/EU) objective is to avoid or minimise polluting emissions in the atmosphere, water and soil, as well as waste from industrial and agricultural installations, with the aim of achieving a high level of environmental and health protection. This directive defines obligations to be met by industrial activities with major pollution potential, establishes a permit procedure and lays down requirements, with particular regard for discharges.

Waste Electrical and Electronic Equipment Directive

2.6 The Waste Electrical and Electronic Equipment Directive (2002/96/EC, as amended) sets a minimum waste collection target per private household inhabitant for a range of waste electrical goods. It also includes a responsibility for producers to make a financial contribution to cover disposal costs and report on electrical and electronic equipment waste.

National Law

The Public Health Act

2.7 The Public Health Act (HM Government of Gibraltar, 1950) (as amended) outlines the responsibility for the development of laws, policies, monitoring and enforcement of environmental control measures so that high standards of public safety and good environmental conditions are maintained.

2.8 All wastes exported from Gibraltar follow the requirements of the Gibraltar Public Health Act (Transfrontier Shipment Regulations amendment, 1995) and the European Council Regulation No. 1013/2006 on shipment of waste.

2.9 Responsibility for delivering environmental management is with the Environmental Agency. In turn, they are accountable to the Minister for the Environment.

The Litter Control Act

2.10 The Litter Control Act (HM Government of Gibraltar, 1990) (as amended) established litter authorities, creation of the offence of litter and the ability to impose Litter Control Areas.

2.11 Designated litter authorities include the Chief Environmental Health Officer, Chief Fire Officer, Customs, Police Commissioner, Permanent Secretary to the Minister for the Environment.

The Landfill Act

2.12 The Landfill Act 2002 transposes into Gibraltar's national law the EU Landfill of Waste Directive 1999/31/EC, providing details for the classification of landfills, and the classification of waste accepted in different landfill classes. As well as permitting conditions, monitoring and closure procedures.

Pollution Prevention and Control Regulations 2013

2.13 The Industrial Emissions Directive (2010/75/EU) has been transposed into the Pollution Prevention and Control Regulations 2013 (HM Government of Gibraltar, 2013a) to control industrial activities with a high pollution potential. Establishing procedures for authorising and requirements of these activities in the form of permits, with the aim to prevent or reduce pollution in the atmosphere, soils and water.

Environment (Waste) Regulations 2007

2.14 The Waste Electrical and Electronic Equipment Directive (2002/96/EC) has been transposed into Gibraltar law through the Environment (Waste) Regulations 2007 (as amended, HM Government of Gibraltar, 2007) in order to control the disposal of all electronic and electrical equipment.

Policy Framework

2.15 Non-legislative guidance is provided in the form of the Environmental Action and Management Plan 2013 (HM Government of Gibraltar, 2013a), Waste Management Plan 2013 (HM Government of Gibraltar, 2013b), British Standards and Pollution Prevention Guidelines (UK). The Department of the

Environment and Climate Change and the Gibraltar Environmental Agency are responsible for waste generally.

Gibraltar Development Plan 2009

2.16 The Gibraltar Development Plan 2009 stipulates within Policy UW5 – Construction Waste, that *"[a] suitable site for the disposal of construction waste shall be identified*" (HM Government of Gibraltar, 2009:84). This function is typically carried out by the Environmental Agency which is responsible for issuing waste licences, and enforcing their conditions,

Environmental Action and Management Plan 2013

2.17 The Environment Action and Management Plan 2013 (HM Government of Gibraltar, 2013c) supports the Environmental Charter. It provides government commitments to a number of environmental improvement policies including those in encouraging waste reduction and reuse.

Waste Management Plan 2013

2.18 The Waste Management Plan 2013 details the government's commitment to and methods for managing waste (HM Government of Gibraltar, 2013b). This provides information as to the government's intentions to develop a Municipal Treatment Plant and for the stockpiling of inert construction waste at the Eastside Reclamation site.

2.19 A number of technical studies (e.g. Waste Characterisation Study and Waste Management Study – Golder Associates, 2007a,b) were used to develop the Gibraltar Waste Management Plan 2013, providing greater understanding of the scale of the waste issue and indicating how this may be addressed.

Pollution Prevention Guidelines PPG8

Safe storage and disposal of used oils guideline (PPG8) (Environment Agency (UK), 2004) provides guidance for all industrial oil users to help reduce risk of oil pollution to surface waters, groundwaters, sewers and drains. Correct management, storage and disposal of waste oils aid in protecting the environment.

3 SCOPE AND METHODOLOGY

3.1 This section discusses the scope of the assessment, and the methodology used to assess the effects of the proposals.

Scope

3.2 A scoping assessment was undertaken as part of the environmental assessment. The scoping exercise found that there may be significant environmental effects from the use of material resources and from waste arising from the proposed development. The assessment has included:

- The quantity and types of excavated materials from the proposed development;
- Materials and quantities for the new development;
- The quantity and nature of waste to be disposed of from excavation;
- The management and control of any waste arising from the operation of the proposed power station.

Transboundary Effects

3.3 There is potential for wastes arising from the site to be removed and disposed of in Spain, therefore transboundary effects have also been considered within the scope of this assessment.

Data Collection

3.4 In undertaking this assessment, information has been gathered from the following sources:

- Gibraltar Waste Management Plan 2013
- Gibraltar Environmental Action and Management Plan 2013

3.5 The collection of data has included:

- Desk Study – a review of Gibraltar, Spain and UK strategies, plans and guidelines for waste and material resources;
- Assessment of information provided by the project team about construction quantities and schedules;
- Research into similar facilities and likely operational waste and how this will be managed;

- Consultation with the Technical Services Department, the Town Planner, the Ministry of Defence, and the Gibraltar Port Authority to identify other potential plans or development proposals that may affect waste or material resources cumulatively.

Assessment Methodology

3.6 The Waste Hierarchy is a recognised framework for managing waste. It suggests that, in the first instance, waste generation should be reduced at source. If this is not practical, materials should be re-used where possible, either for their original purpose or for other uses. Failing this, value recovery should be considered via recycling, composting or energy recovery. Disposal should occur only if none of the other options are appropriate.

3.7 This assessment has considered options for moving waste up this Waste Hierarchy. Opportunities for re-use of material resources may be a possibility depending on the practical and economic factors applying when the works are carried out.

3.8 The assessment has considered options of waste management that places the emphasis on reducing use of resources, and the re-use and the recycling of materials. The most desirable waste management options are set out on a sliding scale, with the least preferable option being disposal.

3.9 The material resources required and the waste generated for the proposed development were broken down, quantified and classified by type.

3.10 Operational waste from activities were also assessed.

Significance Criteria

3.11 It is necessary to make a qualitative assessment, using professional judgement, to consider both available data and likely requirements. However, there are no published guidelines that provide significance criteria for either waste arising or material resources.

3.12 Significance criteria for waste arising are difficult to establish due to the lack of information regarding location, extent and sustainability of the approved areas for inert geological waste disposal. The criteria used for assessment of

significance have therefore been derived for this assessment, based upon similar development projects.

3.13 The criteria for this assessment have been developed by measuring the effects against existing parameters for regional use of resources and generation of waste. The percentage significance criteria are to some extent arbitrary thresholds, although it is considered that they represent a reasonable estimate of the sensitivity of the various resources. The significance thresholds for waste and materials are shown in Table WM3.1.

Table WM3.1 Significance Thresholds for Waste and Material Resources

Material	***Location Derived From***	***% Significance for Spain / Gibraltar***	***Total Annual Production***	***Significance Threshold***
Engineering Fill	Spanish quarry (unspecified) within 50 km of site	Spain – 5%	155 million tonnes (Spanish annual national production for 2010)	7.75 million tonnes
Bituminous Materials	Spain	Unknown	Unknown	Unknown
Concrete	Spain	Unknown	Unknown	Unknown
Steel	Spain	Unknown	Unknown	Unknown
Waste	Construction Waste (landfill or sea disposal)	Spain – 1%	26 million tonnes	260,000 tonnes
		Gibraltar – 5%	Approximately 236,000 tonnes	11,750 tonnes

Engineering Fill

3.14 There are many sources of engineering fill, such as, quarried material and waste rubble products. For this criterion, quarried materials have been used as an assessment guideline for an indication on significance threshold levels. The total annual production of rock from Spain was 155 million tonnes in 2010 (European Aggregates Association, 2012). The significance criterion has been set at 5% of the Spanish annual production of quarried material, which equates to 7.75 million tonnes.

Bituminous Materials

3.15 Bituminous material refers to the main construction material used for the layout of the car parking and road surfaces around the site.

Concrete

3.16 Concrete will be a minor construction material. The material will most likely be imported from Spain.

Steel

3.17 The majority of the building structure will be steel. The material will most likely be imported from Spain.

Waste Arising

3.18 A significance criterion has been set for the quantity of waste derived from the annual production of construction and demolition waste in Spain, which was approximately 26 million tonnes in 2012 (Eurostat, 2015). The significance criterion has therefore been set at 1% of Spanish annual production, which equates to 260,000 tonnes, if waste is to be exported to Spain. In Gibraltar, the annual quantity of inert waste from construction was approximately 236,000 tonnes in 2009/2010 (HM Government of Gibraltar, 2013b:47). Therefore, significance criterion for disposal of inert waste in Gibraltar has been set at 5% of Gibraltar's annual production 2009/2010, i.e. 11,750 tonnes.

Assumptions and Limitations

3.19 Although there are no published guidelines for significance criteria, other studies for similar assessments have been followed. In Gibraltar, this has included several assessments conducted by Engain which have received approval (e.g. Airport Frontier and Access Road – Environmental Gain Ltd, 2007; Lathbury Barracks Power Station – Environmental Gain Ltd, 2009).

3.20 Cumulative impacts of waste arisings and material resources from other potential developments have not been quantified, although this assessment discusses the information provided in generic terms.

4 EXISTING CONDITIONS

4.1 Waste from Gibraltar is generally disposed of to landfill in Spain. The EC Landfill Directive 1999/31/EC has introduced financial measures that seek to reduce the biodegradable waste that is sent to landfill.

4.2 The government has embarked on an education-based programme to reinforce the Waste Hierarchy and promote sorting of waste and recycling initiatives.

4.3 Currently aluminium, glass, plastics, tetra brick, paper, cardboard and waste electrical and equipment are recycled at licenced facilities in Spain.

4.4 Inert materials from construction are processed and held in Gibraltar for future use. In 2006, this was estimated to be around 30,000 tonnes per annum (Golder Associates, 2007a) although it was noted that it was difficult to assess and predict quantities of materials as volumes are dependent on the degree of building construction activity taking place at any given time. In 2009/10 236,250 tonnes of inert material was received at the Eastside Reclamation site as part of the reclamation programme (HM Government of Gibraltar, 2013b:47).

4.5 In 2012, 16,954 tonnes of non-hazardous municipal waste was transferred to Spain for disposal. HM Government of Gibraltar has introduced a recycling target of 50%. As Gibraltar moves towards achieving this target, kerbside recycling schemes have been introduced resulting in 126,400 kg of glass and 14,620 kg of cans being recycled in 2012 (HM Government of Gibraltar, 2013b:65).

5 FUTURE BASELINE

5.1 There are no known permitted developments involving significant quantities of demolition and/or waste arisings in the area. The planning applications provided by the Town Planner do not provide details on the waste arising estimates for schemes that are likely to be developed.

5.2 Consideration has been made for pending applications for developments in the vicinity of the proposed power station.

6 POTENTIAL IMPACTS

6.1 Likely amounts of construction materials and waste have been estimated and assessed against the significance criteria.

6.2 Possible impacts during the construction phase include large volumes of construction materials leading to a large number of construction heavy goods vehicle trips, and therefore have a detrimental impact on the local transport network. This has been individually assessed in Chapter 16 – Traffic and Transportation.

6.3 In terms of impacts associated with waste, should arisings surpass significance thresholds, designated destinations for disposal in Gibraltar and Spain may reach capacity and require waste to be diverted to other disposal facilities. This diversion would contradict Gibraltar's waste management strategy and disposal proximity principle.

Materials

6.4 The estimated volumes and types of materials are shown in Table WM6.1.

Table WM6.1 Main Construction Materials

Type	***Quantity***	***Source***
Fill	Approximately 2,000 m^3	Spoil, aggregates, earthworks.
Concrete	Approximately 5,500 m^3	Foundations, ground beams, retaining walls.
Pre-cast beams and blocks (concrete)	Approximately 1,900 m^3	Pillars, beams, stairs, reinforced walls.
Concrete blockwork	Approximately 1,600 m^2	Façade, indoor/outdoor.
Bituminous Materials (Tarmac)	Approximately 2,700 m^2	Roads and car park
Steel	Approximately 500 tonnes	Structure
Aluminium	Approximately 2,600 m^2	Façade, roof system, internal walls

Spoil and Waste

6.5 The estimated generation of spoil and waste material are shown in Table WM6.2.

Table WM6.2 Main Waste Arisings

Type	*Quantity*	*Source*
Spoil	Approximately 2,000 m^3	Earthworks and excavation.
Demolition waste (concrete, brick, hard core, gravel, etc.)	n/a	There will be no demolition during the works of the proposed power station.
Construction waste	n/a	Offcuts, packaging and office wastes.
Operational waste	n/a	Administration building office waste.

7 ASSESSMENT OF SIGNIFICANT EFFECTS

7.1 This sections offers an assessment of the potential significant effects associated with material resources and waste arisings.

Material Resources

7.2 In comparison to other power stations, the proposed North Mole Power Station is of relatively small size. The materials required for the construction of the proposed power station are standard to most infrastructure projects of a similar size and nature.

7.3 Table WM3.1 identified that the total annual production of engineering fill (for Spain) is approximately 155 million tonnes. Based on a standard 5% significance criteria, it is assumed that any requirement for over 7.75 million tonnes of engineering fill would have a significant effect on this resource. It is estimated that approximately 2,000 m^3 of fill will be needed for the proposals. The density of aggregate varies by type, but even the most dense of aggregate/fill would not reach the significance threshold of 7.75 million tonnes at this scale. It is therefore likely that there will be **no significant effect** on local, national or international material resources.

Spoil and Waste Arisings

Spoil and Inert Demolition Waste

7.4 Table WM6.2 identified the amount of spoil that is likely to be produced during construction of the proposed power station as approximately 2,000 m^3. To convert this to tonnage, an average density of 2 tonnes m^{-3} was assumed, resulting in a production of approximately 4,000 tonnes of spoil and inert demolition waste. This represents approximately 1% of the significance threshold of 260,000 tonnes of Spanish annual production of construction waste and below 35% of Gibraltar's significance threshold.

7.5 To assess the significance of any waste arising, it is necessary to consider the amount of similar waste that is produced in Gibraltar on an annual basis. The Gibraltar Waste Management Plan 2013 states that volumes of waste arisings are "*extremely difficult to quantify as this depends on the degree of building construction activity going on at any given time"* (HM Government of Gibraltar,

2013b:47). It goes on to state that in 2006, construction and demolition waste amounted to 30,000 tonnes per annum whereas in 2009/2010 the amount received at one particular facility in Gibraltar amounted to 236,250 tonnes. Clearly, the waste associated with construction of the proposed power station would have a much higher significance if compared to the 2006 data as opposed to the more recent data.

7.6 It is not possible to detail the exact amount of construction waste that will be produced from packaging, off-cuts etc. However, the techniques and materials to be used will be standard to small infrastructure projects and so there will be no abnormal quantity of waste produced in this way.

7.7 The Waste Management Plan 2013 states that "[a]*ll inert demolition and construction waste is recovered and re used for back filling*" and that "[a]*ll material is taken by individual contractors to the Eastside Reclamation*" (HM Government of Gibraltar, 2013b:55). There are no charges for non-hazardous construction and demolition waste arriving at the Eastside Reclamation site.

7.8 Accounting for the proximity of the Eastside Reclamation and the availability to store inert excavation waste there, as well as the volumes of waste that have previously been received at the site annually, it is considered that there will be **no significant effects** as a result of this proposal.

Operational Waste

7.9 The primary operations of a power station are not directly waste producing. A Waste Management Plan has been prepared by Bouygues Energies and Services to outline best operational practice for employees, including waste identification, sorting and storage, targets and monitoring, which if followed directly, shall lead to **no significant effects**.

Transboundary effects

Based on the full implementation of the CEMP, OEMP and Waste Management Plan, there are foreseen to be **no significant transboundary effects** associated with waste and material resources arisings from the proposed development.

8 MITIGATION AND RESIDUAL SIGNIFICANT EFFECTS

8.1 The following section describes appropriate mitigations measures to minimise impacts from material resources and waste arisings, predominantly through the implementation of a CEMP, and a Waste Management Plan.

Spoil and Waste Arisings from Construction

8.2 The spoil and waste arisings from construction are typical of a construction project of this scale, that is, there is nothing unusual about the construction method, ground conditions or demolition/site preparation that give rise to any 'abnormal' waste requiring specialist mitigation (see Chapter 11 - Contaminated Land).

8.3 Waste will be sorted at source with any identified potentially contaminated material (to be determined at detailed survey stage by the Contractor) transferred under licence to a registered waste facility. Most of the material is inert and will be handled within Gibraltar in accordance with the Waste Management Plan 2013 (HM Government of Gibraltar, 2013b).

8.4 Excavation of the site for foundations will generate non hazardous sand and some rock, which will be handled within Gibraltar in accordance with the Waste Management Plan 2013 (HM Government of Gibraltar, 2013b).

8.5 The Contractor will be obliged to prepare and implement a CEMP. This will include any waste arising from construction itself, segregating the waste on site and transferring to the appropriate facility thereafter. The plan will detail the waste that will be generated by the construction operations, the preferred options for storage and disposal, and opportunities for re-use or recycling where possible. The detailed options for waste management will be assessed at this stage, and will take into account current good practice and the principle of Waste Hierarchy.

8.6 Incorporating waste material into the works or re-using in Gibraltar, will reduce vehicle trips disposing of material away from Gibraltar. This re-use of waste has therefore also been accounted for in the Traffic and Transport Chapter (Chapter 16).

8.7 The residual effects of this development on waste are therefore assessed as **not significant.**

Operational Waste

8.8 A Waste Management Plan will describe the processes by which any waste production during the operation of the power station will be both managed and minimised, including solutions by way of design and layout, as well as social and material solutions and enforcement.

8.9 The Waste Hierarchy will be applied during the operation of the proposed power station and will form the basis of the Waste Management Plan to be adopted by the power station operator.

8.10 The Waste Management Plan will include the following;

- Identify the sources of waste;
- Develop a management plan that reduces waste and increases re-use and recycling;
- Have a methodology and programme for monitoring waste arising;
- Prepare and publish an annual report of performance against the Waste Management Plan and responsive actions taken.

8.11 Waste will be managed appropriately and the residual effects are assessed as **not significant.**

9 CONCLUSION

9.1 The proposed development has been determined to be a small scale industrial project in terms of material resources and waste arisings.

9.2 Potential impacts associated with movement of construction materials such as concrete, steel and aluminium, and disposal of waste arising from earthworks, packaging and office operations have been assessed against significance criteria to be of **no significant effect**.

9.3 Correct and full implementation of a CEMP and Waste Management Plan will lead to **no significant residual effects** from material resources and waste arisings during both construction and operation phases of the proposed development.

10 REFERENCES

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CHAPTER 18

CUMULATIVE EFFECTS

18 CUMULATIVE EFFECTS

18.1 Cumulative effects, for the purposes of this assessment, are defined as:

- The combined (accumulated) effect of individual impacts from the proposed development on receptors;
- Incremental impacts caused by separate developments within a defined study area including the proposed development.

18.2 Whilst an individual development may not have any significant environmental effects when considered on a stand-alone basis, the effects of several developments occurring at the same time or place may become more significant as a result of the cumulative or combined effects either affecting a larger area or having a more concentrated or a greater duration of impact.

18.3 The proposed, intended or consented development projects provided by the Town Planner, that are considered for this assessment are:

- North Mole Reclamation (BA12714)
- North Mole Sullage Plant (BA12734)
- North Mole Tank Farm (BA11849)
- Coaling Island Boats Marina (BA12306)
- North Mole Industrial Park (BA12692)
- Coaling Island Reclamation (BA13479)
- Western Beach Basin for land reclamation (BA13145)
- Proposed floating oil storage vessel; steel barges to separate the storage vessel from the Detached Mole; a piping network on the Detached Mole; bunkering loading locations (BA13273)
- North Mole Security Upgrades, Ticket Office and Taxi Bay with Canopy (BA13480).

Construction

18.4 There could be significant accumulated effects on local users and residents from construction activities of the proposed power station. Noise, lighting, dust, general disturbance and traffic flow changes could disrupt local users and affect local residents. The Construction Environmental Management Plan will be informed by the specific mitigation measures to manage the environmental effects during construction, and as such, there are no residual cumulative significant effects during construction.

18.5 The use of resources for several developments being constructed simultaneously is difficult to assess without construction programmes and schedules for each development. It can only be assumed that sufficient resources will be planned as details have not been available for each proposed development to be accounted for in this assessment.

18.6 The cumulative effects of construction traffic are not considered to be significant given the very low levels of construction traffic movements required for this proposal. The Traffic Management Plan will set time periods for construction traffic movements that avoid peak travel volumes.

18.7 There are no other cumulative effects identified from any of the technical assessments for the construction activities.

Operation

18.8 Cumulatively, the assessed impacts of the operational power station may lead to significant effects of degraded air quality potentially affecting human health, noise emissions, and the effect of accidental contamination affecting site operations. Mitigation includes air pollutant removal and noise abatement (such as insulation and silencers on the power station) and the appropriate contaminant handling and management through design and the implementation of an Operational Environmental Management Plan, such that no residual cumulative effects remain.

18.9 None of the technical assessments have identified that there will be significant cumulative effects during the operation of the power station.

18.10 The operation of the power station at North Mole in 2017 will allow the future decommissioning of the existing Waterport Power Station and remove the dependence on the operation of the temporary generation sets. The existing Waterport Power Station and gensets units lie adjacent to residential areas and it is highly likely that the reduced noise and air pollutant levels which will accompany the cessation of their operation will constitute beneficial effects for those living in these areas. The decommissioning of the existing power supplies may be the subject of future EIA.

CHAPTER 19

SUMMARY OF POTENTIAL SIGNIFICANT EFFECTS, MITIGATION AND RESIDUAL SIGNIFICANT EFFECTS

19 SUMMARY OF POTENTIAL SIGNIFICANT EFFECTS, MITIGATION AND RESIDUAL SIGNIFICANT EFFECTS

19.1 This section of the ES summarises the potential significant effects of the proposed new power station. These effects are reported for each technical subject in turn. Where potential significant effects have been reported, it is necessary for the Applicant to offer measures to mitigate these. It is not always possible to reduce or remedy the effects of a proposed development and where this is the case this has been reported in this ES. It is also the requirement of EU and Gibraltar laws to report any potential significant effects that remain after mitigation has been applied. Such remaining effects are described as 'residual' significant effects.

19.2 Tables 19.1 and 19.2 summarise the significant effects, and mitigation through the design and assessment processes, which have been identified during the assessment of the proposed development, for construction and operational phases respectively.

19.3 The Applicant has adopted mitigation measures to minimise the effects of the proposed new power station where possible. Both of the tables provide the mitigation measures that the Applicant has proposed in order to reduce or avoid potential significant effects. However, even with industry good practice mitigation applied, some remaining significant adverse effects are predicted. Options to mitigate these residual effects have been investigated to attempt to reduce their level of significance wherever possible. There are some significant residual effects that are beneficial.

Approach to Mitigation

19.4 For the purposes of the proposed development, the term 'mitigation' has been used to refer to a measure that brings about a reduction in the severity of an identified adverse (or negative) environmental effect. The type of mitigation adopted generally falls into one or other of the following categories:

- **Inherent mitigation** is derived from the consideration of the integrated design team to ensure that the potential environmental effects are accounted for during the early stages of the design process. Inherent mitigation is that which forms part of the fundamental design of the proposed development to meet specific objectives and functionality; or

- **Additional mitigation** is that which is proposed (by consultees or the environmental assessment team) in order to alleviate an environmental effect but which is in addition to the core design. Such measures might, for example, include controls on construction or prevention of pollution measures.

19.5 The Applicant has accepted and approved the mitigation reported in this ES. Wherever possible the Applicant has considered avoiding significant effects as the first mitigation option. Where disturbance has been unavoidable (for example with some construction activities) the Applicant has then considered reducing the impact magnitude of the activity (e.g. by changing the nature or scale of the activity).

19.6 A detailed CEMP will be provided by the Contractor to manage the key environmental effects from construction, as outlined in the ES. The proposed new power station will adopt a CEMP that provides control measures for air quality, noise, dust, lighting, and construction traffic. The CEMP will be required to be approved by regulatory authorities, and will include a spill contingency and emergency response plan. A site health and safety plan will also be adopted which will include appropriate signage and fencing. A site waste management plan will be implemented to manage re-use of materials and disposal. With these plans in place, temporary construction effects will be responsibly managed.

19.7 An OEMP and general good practice guidance will be developed for the operation of the power station. This will meet the requirements of all relevant legislation and will incorporate sustainable design and use of responsibly sourced materials following codes of good practice.

Table 19.1 Summary of Significant Effects and Mitigation during Construction

Subject	Issue	Sensitivity/ Importance of Receptor	Impact Type	Magnitude of Impact	Duration/ Risk of Impact	Significant Effect	Mitigation	Residual Significant Effect
Chapter 9 Air Quality	Construction traffic and works.	Medium (to dust soiling) High (to human health)	Dust soiling effects in local vicinity Increased ambient PM_{10} concentrations	Low	Temporary during construction	-	Methods to suppress dust emissions, as managed through a CEMP: Imposition and enforcement of a suitable low speed limit on unpaved ground; Sheeting of lorries carrying dusty material on and off site; Early sealing of open ground; Location of stockpiles of potentially dusty material as far from sensitive locations as possible; Regular use of a water-assisted dust sweeper on local roads if necessary, to remove any material tracked out of the site; Regular cleaning of paved areas on-site; Use of wheel washing for all vehicles leaving the site; Use of water suppression during any cutting of stone or concrete.	Not significant
Chapter 10	Flooding or wave action	High	Risk of damage to site and/or	Low	Temporary	Moderate	North Mole Reclamation project offers protection to the proposed site from wave action and	Not significant

Subject	Issue	Sensitivity/ Importance of Receptor	Impact Type	Magnitude of Impact	Duration/ Risk of Impact	Significant Effect	Mitigation	Residual Significant Effect
Coastal Processes and Water Quality	onto site		contaminant discharges to surrounding water			adverse	coastal flooding during construction. All chemicals will be bunded and stored away from the site perimeter near the coastal areas.	
Chapter 10 Coastal Processes and Water Quality	Accidental chemical releases	High	Risk to surrounding water and marine ecosystems	Medium	Temporary	Moderate adverse	Implementation of the CEMP containing details of on-site practices to reduce likelihood of contamination to surrounding waters, and clean up measures after leaks or spillages. Accident and spill contingency plan to be agreed with relevant statutory authorities. Marine Action Plan already in place for Gibraltar.	Not significant
Chapter 11 Contaminated Land	Contamination – risk to human health	Medium to high	Potential risks to ground workers by contact, inhalation, or ingestion during construction.	Low	Temporary during construction	Low adverse	If contaminated ground is encountered during Phase 2 site investigations, this will be addressed in accordance with the CEMP such that the risks to site workers and the environment is minimised and any contamination is remediated or contained as agreed with statutory parties. During construction, all personnel will use appropriate personal protective equipment.	Not significant

Subject	Issue	Sensitivity/ Importance of Receptor	Impact Type	Magnitude of Impact	Duration/ Risk of Impact	Significant Effect	Mitigation	Residual Significant Effect
Chapter 11 Contaminated Land	Accidental chemical release	Medium to high	Pollution to surrounding area.	Low	Temporary during construction	Low adverse	The Contractor will consult with the relevant authorities to agree methods to safely manage and/ or dispose of any contaminated material. These measures (if required) will mitigate the risk and result in no residual significant effects. Any contaminated material moved offsite will be through an appropriately licensed waste contractor and disposed of to a suitably licensed facility with the appropriate consents.	Not significant

Subject	Issue	Sensitivity/ Importance of Receptor	Impact Type	Magnitude of Impact	Duration/ Risk of Impact	Significant Effect	Mitigation	Residual Significant Effect
Chapter 12 Ecology and Nature Conservation	Dust deposition	High	Risk of damage to vegetation of the Rock of Gibraltar SAC.	Low to none	Temporary	Low to none	Dust suppression measures to be included in the CEMP will control dust generation.	Not significant
	Accidental spills	High	Risk of pollution of marine waters.	Medium	Temporary	Medium adverse	Strict on site measures will be implemented during construction under the CEMP for the handling, storage and use of oils and chemicals. An accident and spill contingency plan will be approved and implemented	Not significant
Chapter 13 Landscape and Visual	Landscape designations	Low to High	Rock of Gibraltar SAC and Nature Reserve	Low adverse	Temporary	None	None required	Not significant
	Transboundary effects	Low	Impact to Spain –La Linea, coast road and Algeciras	Low adverse	Temporary	None		Not significant
	Local effects	Low to Medium	Commercial, tourism and residential uses adjacent to site	Low adverse	Temporary	None		Not significant

Subject	Issue	Sensitivity/ Importance of Receptor	Impact Type	Magnitude of Impact	Duration/ Risk of Impact	Significant Effect	Mitigation	Residual Significant Effect
	Character of the site	Low	Change in industrial use	Medium adverse	Temporary	Low adverse		Not significant
	Visual effects	Low to High	Direct, intermittent and distant elevated views of the site.	Low	Temporary	Low-Medium adverse	Façade barriers and fencing to decrease impacts to cruise liner terminal and users of the North Mole Road.	Not significant
Chapter 14 Land Use and Community	On site construction activities	High	Airport operations	Medium	Temporary	High adverse	Agreement of CEMP and specific safety measures to avoid any risk to operational safety.	Not significant
Chapter 14 Land Use and Community	On site construction activities	Low	Combined effects of construction on affected parties.	Low	Temporary	None	Consultation and information management with Port Authority, RAF/MOD, local businesses and local residents.	Not significant
Chapter 15 Noise and Vibration	Construction noise	High	Disturbance to residential and non-residential receptors	Low	Temporary	Low adverse	Implementation of the CEMP containing details of noise and vibration requirements to minimise impacts from noise and vibration during the construction phase, as agreed with the relevant authority. This will include hoarding as an acoustic screen.	Not significant
	Construction vibration	High	Disturbance to residential and non-residential receptors	Low	Temporary	Low adverse		Not significant

Subject	Issue	Sensitivity/ Importance of Receptor	Impact Type	Magnitude of Impact	Duration/ Risk of Impact	Significant Effect	Mitigation	Residual Significant Effect
Chapter 16 Traffic and Transportation	Construction vehicles, junction capacity, traffic flows, severance, driver delays, pedestrians, public transport.	Low to Medium	Increased pressure on local road/transport network from increased construction traffic.	Low	Temporary	Low adverse	Road traffic for construction will be minimised to a very low level as shipments will be vie sea whenever possible. A Traffic Management Plan will mitigate construction traffic by: Establishing appropriate start and end times for construction traffic using the local road network from the Frontier to the site to avoid busiest traffic periods; Designing suitable approach routes for vehicles within Gibraltar to avoid constrained local roads; and Preparing an employee Travel Plan to limit the volume of construction staff car traffic.	Not significant
Chapter 17 Waste and Material Resources	Construction waste arisings and material use	Medium	Significant quantities of waste and/or unsustainable use of material resources for construction	Low	Temporary	Low adverse	The quantities of waste are not significant. The CEMP will require re-use of inert spoil if appropriate. The detailed design will incorporate sustainable construction materials. Development and implementation of a	Not significant

Subject	Issue	Sensitivity/ Importance of Receptor	Impact Type	Magnitude of Impact	Duration/ Risk of Impact	Significant Effect	Mitigation	Residual Significant Effect
							comprehensive site Waste Management Plan in agreement with relevant authorities.	
Chapter 18 Cumulative Effects	Construction activities on local users	Medium	Combined effects of noise, dust, disruption to traffic, and visual changes.	Medium	Temporary	Medium adverse	Combined mitigation to control activities, and continued information and consultation with local parties.	Not significant

Table 19.2 Summary of Significant Effects and Mitigation during Operation

Subject	Issue	Sensitivity/ Importance of Receptor	Impact Type	Magnitude of Impact	Duration/ Risk of Impact	Significant Effect	Mitigation	Residual Significant Effect
Chapter 9 Air Quality	Emissions to air	High	Degraded air quality and effect on human health	High	Permanent	High adverse	The proposed power station will be designed to modern standards and will operate in compliance with local regulations regarding Integrated Pollution Prevention and Control. For example, the engines will be equipped with fuel injection and valve timing to minimise NOx emissions. Further abatement of NOx levels in the exhaust gases will be achieved by the use of SCR. Mitigation measures have thus already been built into the design of the facility.	Not significant
Chapter 10 Coastal Processes and Water Quality	Flooding or wave action onto site	High	Risk of damage to site and/or contaminant discharges to surrounding water	Low	Permanent	Medium adverse	North Mole Reclamation project offers protection to the proposed site from wave action and coastal flooding during operation. All site fuels, tank farm, urea tanks etc. will be suitably bunded and leak protection will be provided.	Not significant
	Accidental chemical releases	High	Risk to surrounding water and marine ecosystems	Medium	Permanent	Medium adverse	The proposed development includes suitable bunding for all oil and chemical containers, and automatic leak detection equipment. Implementation of an OEMP including actions in the event of spillages.	Not significant

Subject	Issue	Sensitivity/ Importance of Receptor	Impact Type	Magnitude of Impact	Duration/ Risk of Impact	Significant Effect	Mitigation	Residual Significant Effect
Chapter 11 Contaminated Land	Operational contamination -risks to humans	High	Dermal contact and ingestion of chemicals and/or oils	Low	Permanent during operation	Low adverse	By incorporating mitigation measures in the development design the potential contamination risks will be rendered insignificant. In particular, hard surfacing for around and under the power station will mitigate the pollutant linkages via dermal contact and soil/dust inhalation. Future maintenance or excavations on the operational site will be undertaken through an OEMP which will serve to minimise potential risks to site workers and the environment.	Not significant
Chapter 11 Contaminated Land	Accidental chemical or oil releases	High	Risk to groundworkers, surrounding soils and groundwater.	Low	Permanent during operation	Low adverse	Secondary containment and leak detection will be provided for any fuel and chemical storage, to minimise the potential for a spill to impact the environment. Suitably managed onsite activities including bunding of chemical storage areas, spill response plans, providing appropriate workforce training and covering of spoil, will minimise the potential for a spill to occur and also enable any spills to be controlled and remediated effectively. The control of storm water run-off will be through the use of appropriate sediment controls such as settlement ponds and covering of any contaminated areas. This will prevent storm water washing sediment (with or without contamination) off the area into the local water courses and drains.	Not significant

Subject	Issue	Sensitivity/ Importance of Receptor	Impact Type	Magnitude of Impact	Duration/ Risk of Impact	Significant Effect	Mitigation	Residual Significant Effect
Chapter 12 Ecology and Nature Conservation	Increased airborne NO_x concentration and increased nitrogen deposition on Rock of Gibraltar SAC	High	Nutrification effects to vegetation and ecosystem.	Low to none	Permanent	None	None required	Not significant
	Stacks and artificial lighting	Medium	Risk to birds, particularly protected migrating bird species	Low	Permanent	None	None required	Not significant
Chapter 12 Ecology and Nature Conservation	Accidental spills	High	Risk to surrounding marine ecosystems.	Medium	Permanent	Medium adverse	The design of the power station includes leak detection and automatic cut-off valves. Implementation of an OEMP containing spill contingency response measures will reduce risks.	Not significant
	Bird strike	Medium	Risk to Gibraltar International Airport due to increase in bird	High	Permanent	Medium adverse	Design of the power station incorporates bird deterring measures.	Not significant

Subject	Issue	Sensitivity/ Importance of Receptor	Impact Type	Magnitude of Impact	Duration/ Risk of Impact	Significant Effect	Mitigation	Residual Significant Effect
			numbers.					
Chapter 13 Landscape and Visual	Landscape designation	Low to High	Rock of Gibraltar SAC and Nature Reserve	Low	Permanent	None	None required	Not significant
	Trans-boundary effects	Low	Impact to Spain – La Linea, coast road and Algeciras	Low	Permanent	None	None required	Not significant
	Local Effects	Low to Medium	Commercial, tourism and residential uses adjacent to site	Low	Permanent	None	None required	Not significant
Chapter 13 Landscape and Visual	Character of the Site	Low	Change in industrial use	Low to none	Permanent	None	None required	Not significant
	Visual effects	High to Low	Direct, intermittent and distant elevated views of the site.	Low	Permanent	None	Mitigation on the façade with landscaping and building design to reduce impacts to cruise liner terminal passengers and users of the North Mole Road.	Not significant
Chapter 14 Land Use and	Change in land use	Low	Change in use	Low	Permanent	None	None required	Not significant

Subject	Issue	Sensitivity/ Importance of Receptor	Impact Type	Magnitude of Impact	Duration/ Risk of Impact	Significant Effect	Mitigation	Residual Significant Effect
Community								
Chapter 15 Noise and Vibration	Operational noise	High	Noise breakout causing disturbance to residential and non-residential receptors.	Low	Permanent	Low - High adverse	Mitigation included in the design of the building for include attenuators and anti-vibration mounts. Noise monitoring at sensitive receptors.	Significant Flying Angel significantly affected. Waterport Terrace improved on current situation.
	Operational vibration	High	Disturbance to residential and non-residential receptors.	Low	Permanent	Low adverse		Not significant
Chapter 16 Traffic and Transportation	Staff traffic	Low	Disruption of traffic network.	Low	Permanent	None	None required	Not significant
Chapter 17 Waste and Material Resources	Operational waste	Medium	Production of litter. Waste oils and chemicals.	Low	Permanent	None	To be managed under the OEMP and Waste Management Plan.	Not significant

Subject	Issue	Sensitivity/ Importance of Receptor	Impact Type	Magnitude of Impact	Duration/ Risk of Impact	Significant Effect	Mitigation	Residual Significant Effect
Chapter 18 Cumulative Effects	Operational activities on local residents and businesses.	Medium to high	Combined effects of noise, dust, disruption to traffic, and visual changes.	Low to medium	Permanent	Low to medium beneficial	None required, but combined management to control activities, and continued information and consultation with local parties.	Beneficial

CHAPTER 20

REFERENCES

20 REFERENCES

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APPENDICES

APPENDIX 1 LIST OF CONSULTEES AND CONSULTATION LOG

Consultee Organisation	Date	Representatives		Key Issues Raised
Civil Aviation	17/02/2015	Chris Purkiss (Director of Civil Aviation)	Meeting	Crane Management Plan Bird management FOD (foreign object debris) Lighting Wind and turbulence Reflectivity Emissions Aeronautical study
Department of the Environment and Climate Change	17/02/2015	Dr. Liesl Mesillio-Torres (Chief Executive Officer) Dr. John Cortes (Minister for the Environment) (formal Consultation) Stephen Warr (Senior Scientist)	Meeting	Site location Public perception Gas more favourable Airfield proximity Benefits Land availability Public project Public participation Public concerns Transboundary
	18/02/2015	Dr. Liesl Mesillio-Torres (Chief Executive Officer)	Meeting	National renewable action plan Dutch levels for contamination testing Noise baseline - develop approach with EA
	10/03/2015	Stephen Warr (Senior Scientist)	Meeting	Time Extension Notification MOD pipelines Contamination assessment
	11/03/2015	Dr. Liel Mesilio-Torres (Chief Executive Officer)	Email	Information for air quality assessment
	20/04/2015	Dr Liesl Mesillio-Torres (Chief Executive Officer) Secretary)	Meeting	Progress update
	22/06/2015	Stephen Warr (Senior Scientist)	Email	*Pinna rudis* and designated listed habitats in the North West Marine Conservation Zone
Department of Town Planning and Building Control	17/02/2015	Paul Origo (Town Planner)	Meeting	Statutory consultee list Other proposed development projects AMEC ES DPC meeting dates Visual and Landscape Key views 2009 Development Plan Public participation for EIA project - 21 days consultation Electronic copies of ES in pdf
	13/03/2015	Chris Key	Email	Cumulative Impacts
	07/04/2015	Paul Origo (Town Planner)	Email	Provision of a list of statutory consultees List of proposed, intended or consented development projects
	21/04/2015 23/04/2015	Paul Origo (Town Planner) Giovanni Baglietto	Meeting and emails	Environmental Scoping Report Responses Cumulative Impacts: Provision of further contacts for attainment of Environmental Impact Assessments for other developments in the vicinity of the proposed development.
	29/04/2015	Giovanni Baglietto	Email	Remaining responses to Scoping Report which were not provided initially.

Consultee Organisation	Date	Representatives		Key Issues Raised
Department of Town Planning and Building Control	07/05/2015	Paul Origo (Town Planner)	Email	Proposed floating oil storage vessel NW1 Business Park development
	27/05/2015	Paul Origo (Town Planner)	Email	Provision of approved Scoping Opinion
	03/06/2015	Giovanni Baglietto	Email	Provision of the Non-Technical Summary for the North Mole Sullage Plant
Environmental Safety Group	20/04/2015	Ms Janet Howitt and interested colleagues	Meeting	Noise Fuel Air dispersal Baseline measured PM10 and PM2.5 Include the reclamation Safety Potential cumulative effects
Gibraltar Electricity Authority	20/04/2015	Ian Payas (Senior Generation Engineer)	Meeting	1 hour of shut off time for Waterport Power Station Time agreed 00:00 to 01:00hrs on the 21st April 2015.
	21/04/2015	Ian Payas (Senior Generation Engineer)	Email	Confirmation of the temporary switch off of Waterport Power Station
	19/05/2015	Ian Payas (Senior Generation Engineer)	Email	Confirmation of the number of temporary generator sets
Gibraltar Environmental Agency	17/02/2015	Glen Banda (Chief Environmental Health Officer) Ilan Williamson (Health Officer)	Meeting	Noise and baseline Air quality Drainage discharges IPC Water quality samples
	19/02/2015	Ilan Williamson (Health Officer)	Email	Provision of map showing measurement locations for noise survey
	19/03/2015	Glen Banda (Chief Environmental Health Officer)	Email	Photos of possible stationary monitoring locations at Waterport Terraces
	10/03/2015	Glen Banda (Chief Environmental Health Offiicer)	Meeting	Agreed approach and method for assessing background noise Noise Sensitive receptors Agreed timing of monitoring Agreed wind data
	15/04/2015	Louis Poggio	Email	Methodology update agreed
Gibraltar Ornithological and Natural History Society (GONHS)	11/03/2015	Dr. Keith Bensusan (Director)	Meeting	Effects of lighting Attraction of breeding gulls Drainage Landscape planting
	18/03/2015	Dr. Keith Bensusan (Director)	Email	Plant species: Trees: Tamarix sp. Smaller shrubs Flowering plants

Consultee Organisation	Date	Representatives		Key Issues Raised
Gibraltar Port Authority	18/02/2015	Commodore Bob Sanguinetti (Captain of the Port) Manuel Tirado (Deputy Captain of the Port) Suyenne Catania (Tourism Board)	Meeting	Screening of construction site CEMP Port Operation Consult Port Authority for large shipments Security and controlled area Safety protocols Tourism board: - 200 liners per season - 500 people up to 10,000 per day - 60 small coaches and 200 taxi cars max in a day. Port Authority has cruise liner visits known in advance TSD to advise on construction access
	18/02/2015	Manuel Tirado (Deputy Captain of the Port)	Email	Provision of maps containing Port Estate Operators.
	02/06/2015	Manuel Tirado (Deputy Captain of the Port)	Email and telephone	Established that there is still a ferry service which arrives at the Western Arm of the North Mole Friday evening and returns to Tangies Sunday evening. Established there are no plans to create a new ferry terminal.
Gibraltar Tourist Board	06/05/2015	Chris Grech (PA to CE)	Email	Cruise ship visits and schedule.
	02/06/2015	Suyene Catania (Senior Product Manager)	Email	Vehicle movements from cruise terminals Taxis operate the shuttle to and from the Port to Market Place
RAF	18/02/2015	Wg Cdr Greg Smith (Station Commander)	Meeting	Aeronautical study
RAF and MOD	21/04/2015	Mr Wilfred Gavito and Sqn Ldr Gareth Wiggins	Meeting	Consideration for context with other developments Waterport/Ocean Village RAF OLS Safety, plume visibility, disruption to aviation. Traffic Management Plan Construction Management Plan RAF/MOD to agree protocols. Fuel supply Transboundary effects
Ricardo-AEA	15/06/2015	Andrew Kent	Meeting and email	Agreement of the use of Harbour Views stationary monitoring diffusion tubes to inform air quality baseline. Data average from 2009-2013 to be used as representative of area prior to installation of temporary generators.

Consultee Organisation	Date	Representatives		Key Issues Raised
Technical Services Department	18/02/2015	Emil Hermida (Chief Executive)	Meeting	Road improvements - none planned in 24 months Drainage strategy AMEC ES Land contamination Government projects Traffic data - from Amec's ES Government will require access to the new reclamation whilst power station is constructed and operating Consult TSD on drainage system Caissons are 1 m higher than existing quay walls, and above there is a 2 m overtopping wall No records of existing reclaimed site
	21/04/2015	Hector Montado (Chief Technical Officer)	Meeting	Legal review

APPENDIX 2 SCOPING REPORT

H.M. GOVERNMENT OF GIBRALTAR

NEW POWER STATION

NORTH MOLE

Environmental Scoping Report

A	19/03/15		Final		C Paine	N Wood	JF Conci
0	26/02/15		First Draft		C Paine	N Wood	JF Conci
REV	DATE	MF	MODIFICATIONS	STATUS	DRAWN	CHECKED	APPROVED

DRAWN	CP		DATE :	SHEETS	N°	SIZE
CHECKED	NW		19/03/15			
APPROVED	JFC			SCALE	- - - -	

WP	ZONE	TRADE	PROJECT SITE	ISSUER	TYPE	SEQUENCE	REV
WP	7900	A86	GIB2	ENG	STY	0010	A

New Power Station, North Mole, Gibraltar: Environmental Scoping Report

Date: March 2015

For: Bouygues Energies and Services

Ref: WP7 900 A86 GIB2 ENG STY 001 A

Produced by:

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Approved: N Wood, Managing Director

Date: March 2015

CONTENTS

ABBREVIATIONS

CEMP	Construction Environmental Management Plan
CO	Carbon Monoxide
COMAH	Control of Major Accident Hazards
DPC	Development and Planning Commission
EIA	Environmental Impact Assessment
ES	Environmental Statement
ESR	Environmental Scoping Report
EU	European Union
Gibelec	Gibraltar Electricity Authority
GONHS	Gibraltar Ornithological and Natural History Society
HGV	Heavy Goods Vehicle
HRA	Habitats Regulation Assessment
IEMA	Institute of Environmental Management and Assessment
IPPC	Integrated Pollution Prevention and Control
LNG	Liquefied Natural Gas
MoD	Ministry of Defence
MW	Megawatt
NO_2	Nitrogen Dioxide
NOx	Nitrogen Oxides
OEMP	Operational Environmental Management Plan
PM_{10}	Particulate Matter
RAF	Royal Air Force
SAC	Special Area of Conservation
SO_2	Sulphur Dioxide
SPA	Special Protection Area
TSD	Technical Service Division
UK	United Kingdom

EXECUTIVE SUMMARY

Bouygues Energies and Services will submit an application in 2015 to the Development and Planning Commission for a proposed 80 megawatt gas and dual-fuel engine power station at North Mole, Gibraltar. Environmental Gain Limited has been requested to carry out an Environmental Impact Assessment (EIA) to identify the likely significant environmental effects that will require assessment.

The EIA approach follows the requirements of the Gibraltar Town Planning (Environmental Impact Assessment) Regulations 2000, the European Commission EIA Directive and the Institute of Environmental Management and Assessment Guidelines for EIA.

This is a public development proposal and therefore requires an Environmental Statement to be submitted to the Commission in order to apply for an 'EIA Certificate'.

The new power station will provide a power supply to the current network, with sufficient capacity to replace the existing power stations in Gibraltar and to meet future demands.

The EIA has been informed by consultation with the applicant and statutory organisations, site visits and analysis of technical reports, data and drawings. The scope of the EIA includes the following subjects:

- Air quality;
- Coastal processes;
- Contaminated land;
- Ecology;
- Land use and community;
- Landscape and visual amenity;
- Noise and vibration;
- Traffic and transportation; and
- Waste and material resources.

Cumulative effects and transboundary air quality effects will also be investigated.

This report provides sufficient information to the Town Planner for a formal Scoping Opinion.

1 INTRODUCTION

1.1 The report provides the likely scope of an Environmental Impact Assessment (EIA) for the proposed North Mole Power Station, Gibraltar. The location area is shown in Appendix I.

1.2 This is a public development proposal that falls within List 2 development under the EIA Regulations[1] (Schedule 2, 1(3) Energy industry (a) industrial installation for the production of electricity, steam and hot water). Following the requirements of the Gibraltar Town Planning (Environmental Impact Assessment) Regulations 2000[2], the project will require an 'EIA Certificate' and therefore an Environmental Statement (ES) will be submitted to the Development and Planning Commission (DPC).

1.3 The EIA analyses the effects from multiple sources, whether direct or indirect; secondary or cumulative; short, medium or long-term; and temporary or permanent, as well as whether the impacts have negative or positive effects. The construction and operational phases of the proposed development are assessed.

1.4 Consultation with statutory organisations and regulators, and key affected parties, has significantly contributed to the scoping of the EIA. In particular, the Ministry for the Environment, the Department of the Environment, the Environmental Agency, the Ports Authority with the Tourism Board, and the Military and Civil Aviation Authority have provided important information to be considered during the detailed design and EIA. Further consultation will be conducted, and the Town Planner has been requested for a list of statutory parties to the EIA.

1.5 The following sections of this report provide a description of the development proposals, an outline of the approach to the EIA, an explanation of the scope of the EIA and the proposed methodology for each respective environmental subject.

1.6 This report is provided to the Town Planner to inform a formal request for a Scoping Opinion.

2 SITE LOCATION AND EXISTING LAND USE CONDITIONS

Introduction and Location

2.1 The site location is shown in Appendix I. The proposed power station site is located on previously reclaimed land at the western end of the North Mole, to the southwest of the Gibraltar Airport runway, within Gibraltar land area.

Historical Land Use

2.2 The North Mole is a breakwater in the northern section of the Gibraltar Harbour, formerly known as the 'Commercial Mole', and a late 19th to early 20th century extension of the Old Mole. Its quay has been used for both commercial and defensive needs. The proposed power station site is a reclamation formed approximately 30 to 40 years ago, from dredged sand.

Current Land Use of the Site

2.3 The quay on the North Mole is used for cruise ships, cargo handling and bunkering. The harbour itself is isolated from the open waters of the outer bay by the harbour walls.

2.4 The nearest residential receptor is approximately 300 m to the east of the site, and the nearest commercial receptor is adjacent to the site. The Flying Angel venue and accommodation is directly opposite to the site across North Mole Road.

2.5 A port office, other commercial buildings and a pump station are situated close to the western boundary of the proposed site. The dock and cruise liner terminal are to the southwest of the site. Directly to the east of the site there is some light industry and warehouses. The existing Waterport Power Station (approximately 400 m to the southeast of the new site) is scheduled for decommissioning following commissioning of the proposed new power station.

Future Land Use and Development Baseline

2.6 It is important to determine likely future baseline conditions against which the potential impacts of the proposed development will be assessed.

2.7 In order to determine the likely future baseline, it is necessary to take account of any known or likely changes in local land use within the general area of the site. Planning consents, planning application sites, public development and infrastructure plans will be reviewed during the assessment to establish future baseline conditions when the new proposed power station becomes operational in 2017.

2.8 The scoping exercise has been guided by two key documents for EIA provided by the United Kingdom (UK) Government Department with responsibility for environmental issues[3] and the UK environmental regulator, the Environment Agency[4].

3 DESCRIPTION OF THE PROPOSALS

3.1 The proposed development consists of the construction and operation of a new dual-fired natural gas and oil fired power station with an installed capacity of 80 megawatts (MW). The proposed power station will comprise of three natural gas-fired generating units and three dual-fired generating units (natural gas as the primary fuel and diesel as back up).

3.2 The works also include a plant control system for control and monitoring of the electricity generation system, connection to the existing supervisory control, data acquisition for the network system and an electrical distribution centre for the power station.

3.3 The necessary infrastructure for delivery of lubrication oil and other auxiliary consumables, including connectors on site, will be provided. The delivery of both gas and diesel fuels will be by pipeline to the site boundary.

3.4 The gas and diesel fuels will be stored off-site. Natural gas will be stored as liquefied natural gas (LNG), to reduce volume of storage. This fuel is then depressurised to natural gas before transfer to the power station. Storage containers will be formed of a double steel skin, coated in concrete, and bunded. There will be some storage of diesel at the west of the site to provide short-term supply.

3.5 Diesel oil is combustible rather than flammable, due to its high flash point, and therefore does not pose a particularly high explosion or fire risk. Natural gas is flammable and requires additional safety protocols. Transportation, transfer and use of the fuels will be carefully managed under an Operational Environmental Management Plan (OEMP) and specific safety procedures, such as COMAH (Control of Major Accident Hazards) Regulations[5]. The contractor will carry out all necessary risk assessments including explosive risk relative to the power station, and will consult with any potentially affected parties, such as the Port Authority, Ministry of Defence (MoD) and Director of Civil Aviation. The UK Health and Safety Executive has conducted a safety audit of the proposed site and confirmed it to be acceptable for the proposed use.

3.6 A detailed aeronautical study is being undertaken, due to the proximity of the proposed development to the airport. This will inform the EIA process and be reported in the ES. The scope of the aeronautical study is being informed by information provided by and discussions with Ministry of Defence, Civil Aviation Authority and Air Traffic Control.

Design

3.7 The works will be designed in accordance with relevant British and/or equivalent international or European Union (EU) standards and shall comply with Gibraltar and relevant EU legislation and requirements, including the EU Industrial Emissions Directive[6]. Parameters for operation will be set under Integrated Pollution Control licensing, which will be authorised by the Environmental Agency/Department of the Environment and under guidance provided by the UK Environment Agency.

3.8 The six generating units will be connected to two multi-flue stacks for improved lift and dispersal. The stack height is limited to a maximum of 28 m due to the proximity of the airport and the airport operational height restrictions. Stack height is likely to be designed below 28 m for further contingency.

3.9 Engines and the waste heat recovery (Organic Rankine Cycle) systems will be cooled using an air cooling system. The heat recovery system will operate on the gas engines and will recover 3.8 % of thermal energy.

3.10 Gas and diesel oil will be provided at the fenceline and transmission cables will be installed by Gibraltar Electricity Authority (Gibelec). Connecting infrastructure outside of the site boundary will not form part of the EIA, although any potential effects of off-site LNG bunkering will be considered.

Construction

3.11 The estimated timescale for construction is 24 months.

3.12 The main elements of construction will include:

- Site preparation, e.g. access for construction vehicles, temporary services, construction compound, safety fencing and signage;
- Earthworks and disposal of waste materials;

- Laying of foundations for the buildings and station;
- Construction of the permanent site infrastructure: roadways, water supply, etc.;
- Construction of the permanent buildings, including those for housing the power and auxiliary plant and offices;
- Testing and commissioning of the power plant; and
- Landscaping.

3.13 A Construction Environmental Management Plan (CEMP) is required from Bouygues under their contract for the works. The ES will refer to the approach to environmental management, and Bouygues will provide the detailed documents separately to the ES.

Operation

3.14 The power station will be operated by Gibelec and will have a design life of 30 years.

3.15 Bouygues will test, commission, operate and maintain the power station for the first year. The power station will then be operated by Gibelec, who will be responsible for the environmental performance of the power station to standards set by the Environmental Agency under Integrated Pollution Prevention and Control (IPPC) guidelines[6].

3.16 An OEMP shall be agreed with the engineer, employer and relevant authorities to manage operational activities on the surrounding environment, facilities and people. This OEMP will be provided by Bouygues. The ES will make reference to the approach for the OEMP.

4 APPROACH TO SCOPING ENVIRONMENTAL IMPACT ASSESSMENT

4.1 The Environmental Scoping Report is based on the proposed development plans (produced by Bouygues) and consultation with Gibraltar statutory parties. The EIA will assess the details of the design and construction strategy to provide a robust assessment.

4.2 The aim of an EIA is to identify potential significant effects on the environment from the proposed development scheme and, if possible, inform the design to either avoid or reduce the potential significant negative effects.

4.3 It is important to identify those processes or actions from a project that will lead to an impact (i.e. a change in the environment or an activity), evaluate the magnitude of this change/activity and then identify any environmental resources or receptors upon which the impacts may act. It is the product of the impact acting on the receptor that produces an environmental effect. The significance of the effect is determined by comparison, wherever possible, with a nationally or internationally relevant standard or guideline. If no standards are available, then it is necessary to develop project specific limits in consultation with statutory parties and technical experts.

Scoping

4.4 The EIA Regulations and the EU EIA Directive (Annex IV) require that all potential environmental effects (not just those considered to be 'significant') are included in the initial EIA process. It is important to fully assess issues that are considered significant or to prove why potential issues are not considered significant.

4.5 The magnitude of the impacts of the proposed development on any of these environmental issues, or the interactions between them, indicates the extent of study required to adequately and robustly assess the potential significant effects. Consultation with affected and statutory parties is an essential part of defining the EIA scope.

Consultation and Public Participation

4.6 The scope of the EIA has so far been informed by consultation with:

- Air Traffic Control;
- Civil Aviation Authority;
- Department of the Environment;
- Environmental Agency;
- Gibraltar Electricity Authority;
- Gibraltar Heritage Division;
- Gibraltar Ornithological and Natural History Society (GONHS);
- Gibraltar Tourism Department;
- Ministry for the Environment;
- Ministry of Defence (MoD)/Royal Air Force (RAF);
- Ports Authority;
- Technical Services Division (TSD); and
- Town Planner.

4.7 Further consultation will take place with these parties as the EIA progresses. Additional consultation will include the Gibraltar Heritage Trust, Environmental Safety Group, and affected parties identified by the Town Planner.

4.8 Public participation is a legal requirement and the ES will be made available via appropriate advertising and notices.

Potential Transboundary Effects

4.9 The location of the proposed power station in proximity to the border with Spain makes a requirement for potential transboundary significant effects to be considered in the assessment.

Legal Review

4.10 The importance of this project suggests the EIA may require legal review and this will be decided upon by the Government of Gibraltar.

Content of the Environmental Statement

4.11 The EIA process and findings will be reported in an ES, which will support an application to the Commission. The ES will include:

- A non-technical summary that summarises the assessment findings and any mitigation proposed;
- A main report providing the details of:
  - The assessment process and the scope of the EIA;
  - A description of the area proposed for development and the nature of the development;
  - The need for the development;
  - Alternatives considered;
  - An evaluation of current baseline conditions;
  - The identification of potential impacts from the construction and operation of the proposed development;
  - An assessment of significant effects of the proposals;
  - Details of any proposed mitigation; and
  - Any predicted residual significant effects after mitigation.
- Any supporting documents (where required), including:
  - Specialist studies and necessary figures; and
  - Engineering drawings and engineering reports (where required).

5 SCOPE OF ENVIRONMENTAL IMPACT ASSESSMENT

5.1 Table 5.1 provides the initial scope of the EIA for the proposed development. The scope and proposed outline methodology for each environmental issue follows thereafter.

Table 5.1 Proposed Environmental Scope for North Mole Power Station

Environmental Issue	Receptor	Impact	Potential Significant Effect	EIA Scope
Air quality	Humans, facilities, ecology.	Air pollution and emissions from construction activities and operational traffic flows. Fallout/pollution from stack emissions particularly NOx and SO_2, dust/$PM_{10.}$	Yes	In
Archaeology and Cultural Heritage	The site is located on made ground and no archaeological interest is anticipated. The site is within an industrialised area and there are no effects to built heritage.	None. However a watching brief during earthworks may be agreed with relevant authorities. This will be reported in the ES.	No	Out
Coastal Processes	The power station infrastructure.	Wave overtopping and flooding.	Yes	In
Contaminated land	Humans, facilities, ecology, ground, sea.	Potential spillages, accidental pollution or disturbance of existing contaminants.	Yes	In
Ecology	Habitats (marine) and species (marine), protected sites.	Fallout from air pollution, noise, disturbance, pollution, landscaping and attraction of nuisance species.	Yes	In
Land use and community	Airport, roads, dwellings, recreational users, commercial uses, cruise liner terminal.	Impingement on adjacent land use activities.	Yes	In
Landscape and visual amenity	Landscape character, important views, residents, tourists and other visitors.	Change in views, obstruction to views, lighting.	Yes	In
Noise and vibration	Residents, adjacent users.	Elevated noise and vibration levels during construction and operation.	Yes	In
Socio-economics	No identified businesses detrimentally affected. Employment benefits during construction.	Benefits if labour sought locally and if maintain access during construction. This will be reported in the ES.	No	Out

Environmental Issue	Receptor	Impact	Potential Significant Effect	EIA Scope
Traffic and transportation	Local road network, junction capacity. HGV routing.	Congestion/disruption from construction vehicles.	Yes	In
Waste and material resources	Waste quantities, reuse, landfill and available natural resources.	Construction materials, and use of fossil fuels.	Yes	In
Water resources	Existing drainage system.	Drainage onsite to existing drainage system, confirmed by TSD to be sufficient. No other discharges. This will be reported in the ES.	No	Out

Air Quality

Preliminary Scoping of Issues to be Considered

5.2 The proposed development of the power station has the potential to affect air quality. During the construction period, fugitive emissions of dust may give rise to temporary soiling or risk of increases in particulate matter (particularly PM_{10}, which is particulate matter less than 10 microns in diameter that can exacerbate existing health problems such as asthma and chest complaints) and the introduction of construction traffic pollutants may affect air quality at a local level. Once operational, emissions from the power station resulting from the process of combustion have the potential to impact on air quality and sensitive receptors, including human health and ecology.

5.3 Dust emissions will arise during the initial phases of construction, during earthworks and removal of waste, but this can be controlled through appropriate best practice mitigation measures. Particulate matter from construction traffic is unlikely to be significant given the relatively small scale nature of the works and the limited need for construction vehicles, especially after vehicle dust suppression methods are employed.

5.4 An overall CEMP will include commitments on the suppression of dust during the construction process and mitigation will be based on standard good practice during construction.

5.5 During operation it is possible that the power station will cause significant changes in local air quality conditions through the emission of combustion gases (including sulphur dioxide (SO_2), nitrous oxides (NO_x), carbon monoxide (CO) and PM_{10}). The potential for transboundary air quality impacts will also need to be investigated.

5.6 The design of the power station will be such to meet Gibraltar Environment (Control of Dust) Regulations 2010[8], IPPC standards and EU - Industrial Emissions Directive emission values as agreed with the Environmental Agency. The design will take account of significant effects from air pollution to humans and ecology.

Outline of Assessment Methodology

5.7 Baseline Study:

- Identify all sensitive receptor locations within approximately 2 kilometres (km) of the stacks (covering human health exposure and ecosystems);
- Describe the local topography and surrounding buildings geometry;
- Describe existing air quality conditions based on local monitoring data (including concentrations of SO_2, NO_x, PM_{10} and CO) and interpret data with regard to relevant air quality limit values;
- If deemed relevant, identify suitable meteorological data for dispersion modelling. Identify any other local meteorological data, particularly if there is expected topographical channelling of winds;
- Identify any required input parameters (see below) for impact assessment; and
- Identify assessment criteria (e.g. EU and Gibraltar limit values).

5.8 Impact Assessment – Operational:

- Undertake dispersion modelling to predict impact of the proposed power station during normal operations. If deemed relevant, modelling will be carried out using the internationally recognised Atmospheric Dispersal Modelling System-5 software, which is approved by the UK Environment Agency;
- Predictions will be carried out to generate isopleths for annual mean SO_2, NO_x and PM_{10} concentrations. Predictions of CO will be provided in tabular format as it is unlikely that concentrations will exceed standards.
- The model will also be used to generate isopleths of relevant short-term standards (e.g. hourly SO_2 and NO_x and daily PM_{10} means);

- Assess impact of emissions during normal operation, taking into account likely background contributions. Impacts will be assessed with regard to the relevant EU limit values; and
- Predict impacts of short-term emissions during start up. Modelling predictions will be provided as downwind profiles for both a typical and worst-case hour, assuming start-up emissions prevailed for that period. Assess impacts related to short-term standards.

5.9 Impact Assessment – Construction:

- Describe the duration and nature of construction activities, and distances from closest receptor locations;
- Describe the mitigation measures that will be applied; and
- Assess the likelihood of impacts, and if necessary additional mitigation measures that will be employed.

Archaeology and Cultural Heritage

5.10 There are no listed buildings within the proposed site boundary. There are no Registered Historic Parks and Gardens, Registered Battlefields or Conservation Areas on or adjacent to the site. The site itself is made ground, and not considered of archaeological interest.

5.11 It is not considered that there will be any effects on potential areas of archaeological importance. This subject is, therefore, scoped out of the assessment. A watching brief during earthworks will be conducted should authorities require it. Consultation will confirm this and this will be reported in the ES.

Coastal Processes

5.12 The proposed site boundary's proximity to the sea raises potential risk of impacts to the power station from wave overtopping, flood risk and changing conditions in the future in relation to climate change.

Outline Assessment Methodology

5.13 Modelling and assessment carried out by the Government of Gibraltar shall inform a desk-based investigation and impact assessment. These elements and mitigation options will be described in the ES.

Contaminated Land

5.14 The development of the power station has the potential to disturb any existing contaminants in the made ground during earthworks and piling activities. These activities are limited to earthworks for drainage and driven piles. Waste arisings from these activities are anticipated to be minimal.

5.15 In addition to necessary consents and permits for construction, an overall CEMP will include commitments on the appropriate containment and handling of potential contaminants, such as hydrocarbons and cements. This will be discussed and agreed with appropriate regulators, such as the Environmental Agency. The design will include appropriate bunding, interceptors for oils and grease traps (where necessary) for site protection during operations. Bouygues is responsible for producing the CEMP, and the EIA will inform it.

Outline of Assessment Methodology

5.16 A site investigation and contamination testing (Phase 1) is being organised to establish ground conditions and develop the approach to construction, including management of any contaminated ground. Chemical testing for contaminants to threshold levels have been established with the statutory authority (Department of the Environment) and the Dutch guideline levels will be used. Should contaminated waste need to be transported to a suitable waste receptor site, then CEDEX guideline levels will be additionally applied.

5.17 Mitigation of any potential adverse contamination risk will be described for ground and groundwater resources. Risks from accidental spillages on site during construction and operation, and mitigation measures, will be described in the ES and specified in a CEMP.

Ecology

Terrestrial Ecology

5.18 The impacts of the proposed power station on local ecology and nature conservation have the potential to affect habitats and species. There is a terrestrial Special Area of Conservation (SAC) and a Special Protection Area (SPA) within 1 km of the project, located at The Rock of Gibraltar.

5.19 The potential impact on terrestrial ecology is the deposition of atmospheric pollutants and this will be informed by the air quality and air dispersal studies. The site itself, and its immediate land area surroundings, are industrial and no species are considered to exist that may be adversely affected. Consultation with GONHS has confirmed this.

Marine Ecology

5.20 There is a marine SAC and SPA within 1 km of the project, located at the Southern Waters of Gibraltar. It is not considered that the location of the power station will impact this SAC/SPA.

Outline of Assessment Methodology

5.21 This will include:

- Gathering existing ecological data. A desk study will be undertaken for species and habitats of potential importance within approximately 1 km of the project (depending upon the geographical extent of air pollution fallout);
- Consultation with and information gathering from GONHS;
- The scope of the ecological assessment will include the two SACs; the Upper Rock Nature Reserve; protected flora and fauna (as set out in the Gibraltar Nature Protection Ordinance); and any other identified sensitive habitats and species;
- The provision of information specifically to inform an Habitats Regulation Assessment (HRA) under the EU Habitats Directive will be dependant upon the air quality and air dispersal studies. The requirement and scope of an HRA will be discussed and agreed with the Department of the Environment; and
- Mitigation measures will be described following consultation with the statutory organisations.

Land Use and Community

5.22 The North Mole and surrounding area is used by a number of different industries and organisations, including cruise liners and other port activities. The proposed power station is also adjacent to military and civil aviation operations. The nearest residential area is some 300 m from the proposed site boundary (Waterport Gardens), but there is also a building used for accommodation and meeting (The Flying Angel) directly adjacent to the site on North Mole Road. All of these activities require careful consideration for the

design of the new power station, and detailed consultation has already begun with some of the key affected parties.

Impact Assessment Methodology

5.23 Consultation is being undertaken with the Port Authority, the MoD and RAF, the Civil Aviation Authority, the Cruise Liner Terminal, the Tourism Board and Government Departments and organisations. Land Property Services will be requested to identify other landowners/users and subsequently there may be further consultation with any potentially affected parties. The ES will report on how the design has considered any specific potential conflicts with existing users and avoided unacceptable risk of adverse effects.

Landscape and Visual Amenity

Baseline Conditions

5.24 There is localised industrialisation and urbanisation in the northwest of Gibraltar. The Town Planner has confirmed that views from the Upper Rock Nature Reserve will not be affected by the new power station. Clearly passengers from the cruise ships will need to be considered as they traverse North Mole Road, particularly during the construction of the proposed power station.

Outline of Assessment Methodology

5.25 Assessment studies will be carried out to determine the impact of the proposed development on the character of the area and its landscape. The initial baseline surveys and assessment will be used to develop opportunity and constraint drawings that will influence the design and determine the landscape strategy for the site. The Town Planner has provided initial guidance on the key views to be considered. The Minister for Environment has requested for tree planting along the site boundary. The Ports Authority and Tourism Board has requested that the site be screened to prevent tourists experiencing the extent of the construction site.

5.26 The landscape and visual impact analysis procedures for EIA is well established, using the methodologies developed by The Landscape Institute and the Institute of Environmental Management and Assessment (IEMA)[9].

5.27 The landscape assessment will include:

- Desk study;
- Field and photographic survey;
- Landscape character description and assessment;
- Site description, including topography, history, character areas, designations and landscape planning policy;
- Assessment of proposed design; and
- Landscape strategy and mitigation.

5.28 Visual impact and assessment will include:

- Predicted visual impacts with impact matrix;
- Strategy and mitigation; and
- The assessment will be supported by suitable illustrative material, and the detailed assessment methodology will be agreed with relevant organisations.

Noise and Vibration

5.29 The construction and operational phases have the potential to create significant noise and vibration disturbance to local receptors. The significance of these potential effects is dependent upon the level of change of noise, the number/sensitivity of receptors affected, the duration of noisy activities and the timing of such activities. The main receptors may include local users/residents, sensitive adjacent land uses/operations, sensitive buildings (e.g. listed buildings) and ecology.

5.30 The potential for significant noise and vibration arising during construction will be managed by an overall CEMP which will set restrictions for hours of working near sensitive receptors, the use of less noisy construction equipment for sensitive works and limitations to periods of work. The Environmental Agency is being consulted on these measures.

5.31 The most likely causes of operational noise effects are noise from the exhaust stacks and noise breakout from the generator hall.

5.32 Vibration will be mainly linked to the engines, although ancillary equipment may also produce some vibration. The design will account for and mitigate vibration effects.

5.33 Noise from operational activity is predicted to be low once appropriate noise abatement measures and features are included in the design of the power station, in compliance to EU legislation.

Outline of Assessment Methodology

5.34 A noise survey will be carried out to determine existing noise levels at selected noise sensitive receptors adjacent to the site of the proposed power station, and along proposed construction traffic routes. Monitoring periods at each location will be of a sufficient duration to encompass likely variations in ambient/background noise levels. As the site currently has existing temporary generators on it, the background noise environment is not representative of the future scenarios for the proposed power station. Discussions with the Department of the Environment and the Environmental Agency have been held and a suitable approach has been agreed to the recording methodology for the background noise. Guidance from British Standard BS4142[10] has been used to develop the baseline noise methodology.

5.35 The assessment of construction noise and vibration impacts will include noise arising from construction activities and the passage of additional construction traffic on the existing road network. The potential effect of construction noise will be assessed at residential properties on the basis of the time of day of the activity and change in noise levels. The potential effect on non-residential noise sensitive properties will be assessed using criteria taking into account their specific usage.

5.36 The potential effect of operational noise from the power station on dwellings will be assessed using criteria based on the British Standard BS4142, Method for Rating Industrial Noise Mixed Residential and Industrial Areas. A significant impact will be identified where the calculated rated ambient noise level from the power station exceeds the prevailing background noise level at the nearby dwelling by 5 decibels. Non-residential noise sensitive facilities will be assessed using criteria that take into account their specific usage.

Socio-Economics

5.37 There are no identified businesses affected specifically in economic terms by the proposals. All land use issues will be discussed under the Land Use assessment. As such, Socio-Economics has been scoped out of the EIA.

Traffic and Transportation

5.38 There will be a requirement for the local infrastructure to accommodate construction traffic, including Heavy Goods Vehicles (HGVs) transporting requisite materials or waste arisings.

5.39 Construction traffic is most likely to access North Mole Road from Winston Churchill Avenue, as Gibraltar's main thoroughfare to and from the Frontier, Winston Churchill Avenue is currently significantly congested at peak times and is affected by take-off and landing of airport traffic.

Outline Assessment Methodology

5.40 A local traffic assessment report, informed by the outline construction programme, will be produced. This will address any issues related to construction access and impact of HGVs on the road network. Options for transport of construction materials and waste arisings will be investigated. A Construction Traffic Management Plan will be developed by Bouygues to determine organise access to and from the site and to minimise traffic impacts at peak periods. The ES will refer to this Plan.

Waste and Material Resources

5.41 During construction there may be a requirement for earthworks at North Mole. It is anticipated that there will not be significant waste arisings and material produced will be inert.

5.42 The CEMP will make provision for the appropriate handling, storage and disposal of any waste generated during the construction period. The Environmental Agency and TSD will be consulted on such measures.

5.43 Materials for construction are unlikely to be significant in resource use terms and it is not anticipated that there will be any significant effects from waste

arising or materials used. The quantities and types of waste are to be determined and will be reported in the ES.

Outline Assessment Methodology

5.44 The quantities of waste generated will be predicted and assessment made against the capacity of the local environment, services and facilities operating to absorb waste. A statement on material quantities (and potential sources where known) will be included in the ES.

Water Resources

5.45 The contractor will follow good practice guidelines to limit the risk of pollution to receiving waters and the sea; these will be outlined in the CEMP, and are covered under the Contaminated Land assessment. There are no required discharges to the sea. Flood risks will be assessed under Coastal Processes. Water resources will therefore not be included in the EIA.

Cumulative Effects

5.46 Cumulative effects of the proposals to resources and receptors will be assessed for:

- Aggregated potential significant effects from this development; and
- Cumulative effects in combination with other (known) future developments, for which appropriate details can be obtained.

5.47 The Town Planner will provide a list of validated planning proposals/applications and other public developments or plans that are to be taken into account for this cumulative impact assessment. The IEMA guidelines will be used to inform the assessment methodology.

Alternatives

5.48 As part of the requirements of the EIA process, the main alternatives considered by the applicant will be reported in the ES. These may include location, fuel type, and design alternatives. Information will be provided by the Government of Gibraltar, Gibelec and Bouygues.

Transboundary Effects

5.49 The EIA Regulations and EU EIA Directive require that any project likely to have potentially significant environmental effects upon a neighbouring country will require consultation with the affected party, and assessment of the effects and mitigation proposals are to be reported in the ES. The only potential transboundary issue that may be relevant to this proposal is air pollution. Given the relatively small-scale of the power station, and prevailing winds at this location, it is highly unlikely that there will be significant transboundary air quality effect. Transboundary effects will be considered and reported in the ES.

6 CONCLUSIONS

6.1 In accordance with legislative requirements intended to ensure that environmental issues are fully considered in the development design process, this report seeks to identify those particular issues to be dealt with by an EIA. The environmental issues to be considered in the full EIA at this stage of the assessment process are:

- Air quality;
- Coastal processes;
- Contaminated land;
- Ecology;
- Land use and community;
- Landscape and visual amenity;
- Noise and vibration;
- Traffic and transportation; and
- Waste and natural resources.

Consultation

6.2 The detailed methodologies will be developed from best practice guidance and agreed with relevant authorities.

6.3 Consultation has provided important understanding of the issues likely to be affected by the proposed development. Appropriate consultation will continue throughout the EIA process and will inform the developing design.

Public Participation

6.4 There is already a comprehensive public consultation programme being undertaken by the government and this will continue and be reported in the ES.

Agreement of EIA Scope

6.5 A formal Scoping Opinion is requested from the Town Planner, based upon the information provided in this report.

7 BIBLIOGRAPHY

1. European Council Directive on the assessment of the effects of certain public and private projects on the environment 2014/52/EU: The EU EIA Directive.

2. Gibraltar Town Planning (Environmental Impact Assessment) Regulations, 2000.

3. Department of the Environment, Transport and the Regions, 2000. Environmental Impact Assessment: a Guide to Procedures.

4. Environment Agency, 2002. Scoping Guidelines on the Environmental Impact Assessment (EIA) of Projects.

5. The Control of Major Accident Hazards Regulations 1999 (Amended 2005), UK Legislation.

6. European Council Directive on industrial emissions (integrated pollution prevention and control) 2010/75/EU: The Industrial Emissions Directive (IED).

7. Department for Environment, Food and Rural Affairs, UK. Environmental permitting guidance: Integrated Pollution and Prevention Directive, 2011.

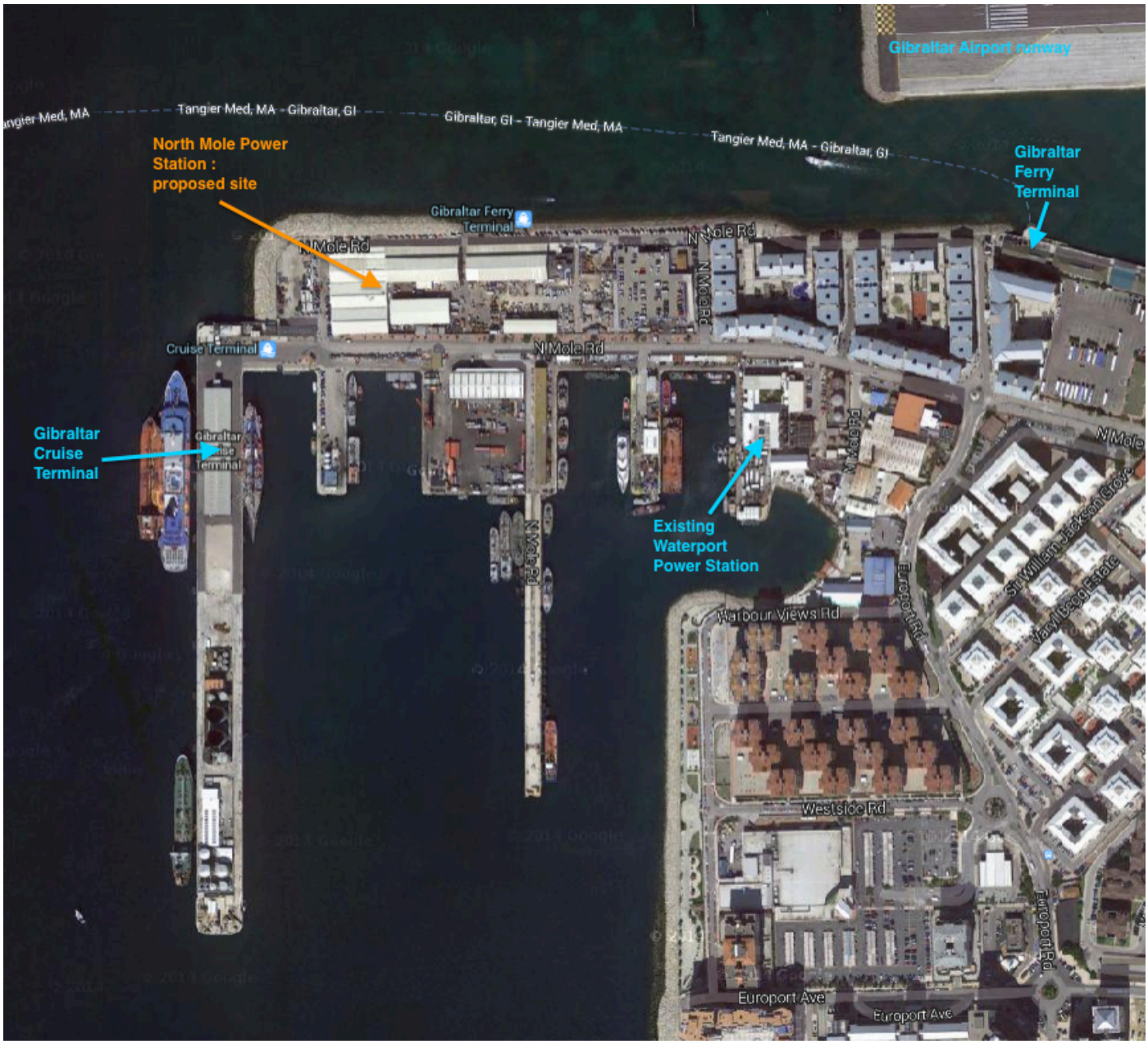
8. Gibraltar Environment (Control of Dust) Regulations, 2010.

9. Landscape Institute & Institute of Environmental Management & Assessment (LI-IEMA), 2002. Guidelines for Landscape and Visual Impact Assessment. 2nd edition. Spon Press, London.

10. BSI British Standard, Methods for rating and assessing industrial and commercial sound. BS4142:2014.

APPENDICES

APPENDIX I Site Location Plan



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ON BEHALF OF

Bouygues Energies and Services

PROJECT

New Power Station, North Mole, Gibraltar
Environmental Scoping Report

SCALE

NTS

DATE

March 2015

PROJECT NO

WP7 900 A86 GIB2 ENG STY 001 A

APPROVED

NW

TITLE

APPENDIX I
Site Location Map

APPENDIX 3 SCOPING DIRECTORY, SCOPING OPINION AND SCOPING RESPONSES

Reference Paragraph	Scoping Opinion	Comment	Chapter
1	This Scoping Opinion has been provided in accordance with Regulation 7 of the Town Planning (Environmental Impact Assessment) Regulations, 2000.		
2	The Town Planner agrees with the scope as indicated in the letter dated from Engain (reference WP7 900 A86 GIB2 ENG STY 001 A), subject to the comments set out below		
Proposed Development Description			
3	Include appropriate plans showing full details and a full description of all aspects of the development.	Provided in application and Environmental Statement	Chapter 5 - Project Description
4	Include full details of the construction timescales, identify duration of each construction phase.	Provided in application and Environmental Statement	Chapter 5 - Project Description Appendix 3 - Construction Schedule
Legislation and Policy			
5	Overview of planning policy framework within which the development has to be considered.	Provided in Environmental Statement	Chapter 4 - Planning and Regulatory Context
6	Specific environmental legislation and planning policy relevant to individual disciplines.	Individual technical chapters contain overviews of relevant legislation and planning policy.	Chapter 9 to 17, Section 2
Methodology			
7	Prior to work, authors should agree methodologies for individual disciplines with relevant authorities.	Air quality and Noise and Vibration methodologies established with relevant authorities.	Appendix 1 - Consultation Log
Air Quality			
8	Confirmation of dust suppression measures. Modelling predictions based upon maximum operational capabilities as well as normal operations. Assessment of potential impacts and mitigation.	Provided in Environmental Statement	Chapter 9 - Air Quality, Section 3: Scope and Methodology, Section 8: Mitigation and Residual Significant Effects
9	Air Quality should be included in ES.	Provided in Environmental Statement	Chapter 9 - Air Quality
10	Reporting on design and mitigation measures to keep potential impacts on air quality to minimum. ES should include real-time monitoring in North Mole zone.	Agreed methodology with HM Government of Gibraltar's air quality consultant	Chapter 9 - Air Quality, Section 8: Mitigation and Residual Significant Effects, Section 3: Scope and Methodology Appendix 1 - Consultation Log
11	Study should be based on local monitoring data. Meteorological data is important.	Agreed methodology with Department of Environment and HM Government of Gibraltar's air quality consultant	Chapter 9 - Air Quality, Section 3: Scope and Methodology Appendix 1 - Consultation Log
Water Quality			
12	Close proximity to Southern Waters of Gibraltar Special Area of Conservation. Potential impact must be assessed.	Included in EIA	Chapter 12 - Ecology and Nature Conservation
13	Discharges to marine environment must meet statutory requirements.	Air cooling only. No discharges to water.	Chapter 5 - Project Description
14	Review and report impact to sea water if cooling water returned to sea. Increased bird activity.	Air cooling only. No discharges to water.	Chapter 5 - Project Description
Nature Conservation and Ecology Marine and Terrestrial			
15	Potential impacts to terrestrial and marine ecology of the Southern Waters of Gibraltar SAC/SPA, Rock of Gibraltar SAC/SPA, and Marine Conservation Zone	Assessed in EIA	Chapter 12 - Ecology and Nature Conservation, Section 6: Potential Impacts

Reference Paragraph	Scoping Opinion	Comment	Chapter
16	Use locally based expertise advice for landscaping.	Consultation with GONHS.	Chapter 12 - Ecology and Nature Conservation Appendix 1 - Consultation Log
17	Site of limited ecological value. Marine environment impacted by port activity, but still has pockets of marine life. *Patella ferruginea* is protected under Annex IV of the EU Habitats Directive. *Pinna rudis* also found in the area. Mitigation in terms of oil spill response plan. Elevated temperatures of sea water if used for cooling.	Assessed in EIA	Chapter 12 - Ecology and Nature Conservation, Section 7: Assessment of Potential Significant Effects
Noise and Vibration			
18	Potential for significant effects to residents from noise and vibration.	Assessed in EIA	Chapter 15 - Noise and Vibration, Section 6 Assessment of Potential Impacts and Potential Significant Effects
19	Clear explanation of assessment methodology.	Assessed in EIA	Chapter 15 - Noise and Vibration, Section 3 Scope and Methodology
Flood Risk			
20	Potential risk of impact to the power station from flooding, wave action and potential future effects as a result of climate change.	Assessed in EIA	Chapter 10 - Coastal Processes and Water Quality, Section 7: Assessment of Potential Significant Effects
Landscape and Visual			
21	Scope should provide illustrative material of the visual impact of the power station during construction and operational phases taken from the following locations: a) Cruise Liner Terminal - ground level and average height of simulated cruise liner berthed along Western Arm (both inside and outside berths). b) From the sea that is approaching from the west into Marina Bay c) From the east along North Mole Road. d) From the west facing public viewing platform at Princess Caroline Battery, Willis Road, Upper Rock.	Provided in application and Environmental Statement	Chapter 13 - Landscape and Visual, Section 3: Scope and Methodology Volume 2: Figures
Transport			
22	Likely to be no significant impact on safety or capacity of local network, still needs to be an assessment of effects during cruise liner visits.	Assessed in EIA	Chapter 16 - Traffic and Transportation, Section 6: Assessment of Potential Significant Effects
23	Deliveries and construction routes will need to be agreed with Highway Agency, Gibraltar Tourist Board and Port Authority.	Consultation conducted and reported in ES	Chapter 16 - Traffic and Transportation, Section 7: Mitigation and Residual Significant Effects
24	Construction Traffic Management Plan will need to be reviewed by Ministry of Defence to assess impact of vehicle crossing the runway on Winston Churchill Avenue.	Assessed in EIA	Chapter 16 - Traffic and Transportation, Section 7: Mitigation and Residual Significant Effects
Contaminated land/soil			
25	Construction of the power station has potential to disturb existing contaminants. And created potential for spillages to adjacent marine environment. The Scoping Report states a Construction Environmental Management Plan will be established. And that a site investigation and contamination test will be organised prior construction.	Reported in Environmental Statement	Chapter 11 - Contaminated Land, Section 3, Scope and Methodology, Section 8: Mitigation and Significant Residual Effects

Reference Paragraph	Scoping Opinion	Comment	Chapter
26	Findings from the initial contamination test in the Scoping Report should form part of the EIA and CEMP.	Reported in Environmental Statement	Chapter 11 - Contaminated Land, Section 3: Scope and Methodology
Cumulative, Socio Economics & Aeronautical requirements and effects			
27	ES will need to report on any cumulative effects of the development. Department of Town Planning will provide a list of relevant planning applications.	Reported in Environmental Statement	Chapter 18 - Cumulative Effects
28	Access is primarily along North Mole Road which has large volume of users (pedestrians, vehicles). Cumulative impacts on access in conjunction with proposals. Traffic Management Plan advisable.	Reported in Environmental Statement	Chapter 16 - Traffic and Transportation, Section 5: Future Baseline
29	A traffic plan must be presented with the EIA for construction and operation phase. This must take into consideration the requirements of the Gibraltar Port Authority. Study ought to include: a) A communication plan must be set in order for the building site managers liaise with GPA during construction phase b) Access to the power station must be via Emerson's Way and not through the Port Estate. Only escape routes should be through the port.	Reported in Environmental Statement Traffic management Plan has been summarised in the Traffic and Transportation technical chapter	Chapter 16: Traffic and Transportation
30	On aviation related aspect of the project, there shall be a need for carrying out an Aeronautical Study in the EIA process.	An independent aeronautical study has been carried out by NACO, results have been summarised within the Land Use and Community technical Chapter	Chapter 14 - Land Use and Community, Section 7: Assessment of Potential Significant Effects
31	On 'Socio-Economics' the EIA ought to study the potential economic impact on the airport operations if limitations need to be imposed due to plume dispersal issues.	Airport operations will be safeguarded	Chapter 14 - Land Use and Community
32	The fuel storage requirements for this proposed power station shall need to be assessed under a separate assessment. It is noted that delivery of both gas and diesel will be by pipeline to the site boundary, that gas and diesel will be stored off-site, while some storage of diesel will be placed west of the site.	Site will provide connecting pipelines onsite. Delivery of gas by pipeline. Delivery of diesel by road tanker.	Chapter 5 - Project Description
33	ES may need reassessment when storage and delivery of the natural gas and diesel oil is decided. It is considered that there may be significant effects and a need for additional safety protocols a the power station when using natural gas A full risk assessment must form part of the EIA.		
Transboundary effects			
34	For every discipline assessed, the ES must report potential transboundary effects and mitigation measures.	Each chapter has provided a statement on the requirement for an assessment of transboundary effects. Findings have been reported in individual technical chapters.	Chapter 9 to 17
Management Plans			
35	Details of Construction Environmental Management Plan.	Reported in Environmental Statement	Appendix 5 - Construction Environmental Management Plan and Operation Environmental Management Plan
Consideration of alternatives			

Reference Paragraph	Scoping Opinion	Comment	Chapter
36	Outline of main alternatives studied by the developer, and an indication of the main reasons for this choice taking into account environmental effects.	Reported in Environmental Statement	Chapter 6 - Alternatives
37	Alternatives considered can include alternative strategies, technologies, processes or techniques, or locations.	Reported in Environmental Statement	Chapter 6 - Alternatives
Consultations			
38	The following should have been consulted as part of the process: Department of Town Planning and Building Control, Department of Environment and Climatic Change, Environmental Agency, Chief Technical Officer, Technical Services Department, Ministry for Sports, Culture, heritage and Youth, Gibraltar Heritage Trust, Gibraltar Tourist Board, Gibraltar Ornithological and Natural History Society, Gibraltar Port Authority, Ministry of Defence, Environmental Safety Group.	All statutory and non-statutory parties have been consulted	Appendix 1 - Consultation Log
Presentation and content of the ES			
39	Recommended that the ES includes the agreed Scope as an appendix together with details of subsequent amendments to this scope should these occur during the assessment process.	The final EIA scope is reported in the ES	Chapter 8 - Scope of the Assessment
40	Details of all consultations that have taken place as part of assessment process and how results of assessment have been take into account.	Consultation and the EIA Scope is reported in the Environmental Statement	Chapter 8 - Scope of the Assessment Appendix 1 - Consultation Log
41	Contain concise summaries and utilise summary tables to assist the readers.	Reported in Environmental Statement	Chapter 19 - Summary of Potential Significant Effects, Mitigation and Residual Significant Effects.
42	Include a table summarising all proposed mitigation measures.	Reported in Environmental Statement	Chapter 19 - Summary of Potential Significant Effects, Mitigation and Residual Significant Effects.
43	Non-Technical summary must accompany ES and must include a site plan.	Non-Technical Summary is provided	Non-Technical Summary
Summary of disciplines scoped in			
	Water Quality	Agreed scope	Chapter 10 - Coastal Processes and Water Quality
	Air Quality	Agreed scope	Chapter 9 - Air Quality
	Nature Conservation and Ecology Marine and Terrestrial	Agreed scope	Chapter 12 - Ecology and Nature Conservation
	Noise and Vibration	Agreed scope	Chapter 15 - Noise and Vibration
	Flood Risk	Agreed scope	Chapter 10 - Coastal Processes and Water Quality
	Landscape and Visual	Agreed scope	Chapter 13 - Landscape and Visual
	Transport	Agreed scope	Chapter 16 - Traffic and Transportation
	Contaminated Land and Soil	Agreed scope	Chapter 11- Contaminated Land
	Cumulative, Socio Economics & Aeronautical requirements and Effects	Agreed scope	Chapter 18 - Cumulative effects Chapter 14 - Land Use and Community
	Transboundary Effects	Agreed scope	Chapters 9 to 17
General Comments			

Reference Paragraph	Scoping Opinion	Comment	Chapter
i	The EIA is an iterative process and as the project develops further, close liaison with the Town Planning Department shall be required to ensure that all potential impacts are taken into account. The scope of this assessment may therefore need to be amended in future if other potential significant effects are identified.	Consultation with the Town Planner has been continued throughout the EIA	
ii	The EIA should relate to up to date information and baselines. Appendix 1 is an outdated map which ignores caissons and boundaries of the land reclamation site. There is also an old reference to the Tangier Ferry at Emerson's Place walk. The current and future location of the ferry must be determined in consultation with the Port Authority.	Current maps and figures provided in Environmental Statement Consultation with the Gibraltar Port Authority regarding Tangier Ferry, identified it does not now exist.	Volume 2 - Figures Chapter 14 - Land Use and Community, Section 4: Existing Conditions
iii	The ES must be submitted with the detailed construction plans for the power station so that the assessment is related to the proposed construction and avoid a reassessment when the application is submitted.	Reported in application and Environmental Statement	Appendix 4 - Construction Schedule and Appendix 5 - CEMP
iv	All studies in this assessment must relate to the nearest receptors being -The nearest residential area Waterport Terraces and not Waterport Gardens as was reported in the scoping report. -The nearest work places: the Port Authority local operational offices, cruise liner terminal on the Western Arm as a place of work, cruise liner passengers and crew, the North Mole Industrial Park and its future expansion development and other workers within the Port Authority boundary at the North Mole.	Corrected and reported in Environmental Statement	

TOWN PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2000

TOWN PLANNER'S SCOPING OPINION

Ref:	1380-13
Location:	North Mole, North Mole Road
Proposal:	Proposed construction and operation of new dual-fired natural gas and oil fired power station
Date:	12th May 2015

1. This Scoping Opinion has been provided in accordance with Regulation 7 of the Town Planning (Environmental Impact assessment) Regulations, 2000.

2. The Town Planner agrees with the scope as indicated in the letter dated from Engain (reference WP7 900 A86 GIB2/ ENG STY 001 A), subject to the comments set out below.

Proposed Development Description

3. The Environmental Statement (ES) should include and provide the appropriate plans showing full details and a full description of all aspects of the development.

4. The ES should include full details of the construction timescales and clearly identify the duration of each construction phase. The elements of the construction phasing should be clearly described.

Legislation and Policy

5. The ES shall provide an overview of the planning policy framework within which the development has to be considered.

6. Specific environmental legislation and planning policy relevant to individual disciplines should be discussed in those chapters.

Methodology

7. Prior to commencing work on the ES the authors should agree methodologies for the individual disciplines with the relevant competent authorities.

Telephone: (350) 75483, Centrex 2430; Fax: (350) 74086, Centrex 2425

Scoping of impacts

Air quality

8. The ES should provide confirmation what dust suppression measures will be provided during the construction phase due to the proximity of the airfield to the proposed site. Modelling predictions are to be based upon maximum operational capabilities as well as normal operations so potential impacts can be assessed and mitigated.

9. It is agreed that air quality should form part of the scope of the ES. Emissions from combustion gases will be an inevitable part of the project and would result in a constant impact to air quality in the area from commencement to and including the operational phase.

10. Engain recognises that once operational, emissions from the power station resulting from the process of combustion have the potential to impact on air quality and sensitive receptors, including human health and ecology. The ES should report on the design and mitigation measures to keep these to a minimum the emissions of combustion gases that could cause significant changes in local air quality conditions as cited by Engain: SO_2 sulphur dioxide, NO_x nitrous oxides, CO carbon monoxide and particulate matter PM_{10}). The ES is required to include the need to monitor the parameters to include $PM_{2.5}$ which the WHO cites as one of the most dangerous to human health. With regards to the dispersion modelling being planned to predict the impact of the new power station during normal operations the ES should include real-time monitoring being set up in the North Western zone of Gibraltar, to properly monitor what has become a growing industrial and residential zone, currently only covered by non-real-time diffusion tube monitoring equipment..

11. The study should be based existing air quality conditions based on local monitoring data and real-time data because the area is prone to strong cross winds and it is very difficult for toxic fumes to be accurately captured. The use of meteorological data is really important given that prevalent wind conditions carry pollutants into the many neighbourhoods in the area, have done historically, continue to do so, and will no doubt also affect the way that the new Power station emissions will behave in the area. If there is going to be less given the higher operational standards a new plant will have this should be disclosed.

Water quality

12. The Department of the Environment (DOE) has emphasised that the location of the new power station is in close proximity to the Southern Waters of Gibraltar Special Area of Conservation (SAC) and that the potential impact on the area must be appropriately assessed.

13. Any discharges into the marine environment will need to meet the statutory requirements of the Water Framework Directive (2000/60/EC).

14. The Environmental Impact Assessment should review and report upon the potential impact if sea water is used for power station cooling as the returned sea water will be at an elevated temperature. This may have consequential ecological impact that could lead to increased bird activity in the vicinity of the proposed power station. Bird Strike is the airfields primary hazard and any potential increase in bird numbers must be identified

and mitigated. Moreover, if we look to section 5.25, the impact of increase bird activity as a result of the tree planting also needs to be assessed.

Nature Conservationand Ecology Marine and Terrestrial

15. The proposed development is located approximately 3.5km from the Southern Waters of Gibraltar SAC/SPA, and 1.5km from the Rock of Gibraltar SAC/SPA. Potential impacts to the Rock of Gibraltar SAC/SPA could arise from emissions emanating from the power station. Although the potential impacts of the power station on the Southern Waters of Gibraltar SAC/SPA could be considered as less significant, it is felt that any potential impacts on this area should be scoped into the Environmental Impact Assessment. Furthermore, the proposed development will be located directly beside a Marine Conservation Zone and, therefore, any potential impact to the ecology of the surrounding marine environment needs to be further assessed.

16. The developer should utilise locally-based expertise for advice on landscaping, as weather conditions are harsh and most of the standard landscaping plants are unsuitable.

17. *With respect to Habitat and Protected Species*, the application site is located in an existing area of hard standing within the Port. The application site itself is considered to have very limited ecological value. The marine environment in the vicinity of the application site, albeit significantly impacted by existing port activity, still has some pockets of marine life that warrant protection. There is a thriving population of *Patella ferruginea* in the area. *Patella ferruginea* is a species of mollusc protected under Annex IV of the EU Habitats Directive. *Pinna rudis* was also found in the area. The ES should study in consultation with the department for the Environment any mitigation in terms of an oil spill response plan from the proposed power station to be in place (potentially to include species translocation in certain circumstances); and should review and report upon the potential impact if sea water is used for power station cooling as the returned sea water will be at an elevated temperature and may affect the habitats protected species.

Noise and Vibration

18. Although the proposed power station will now be located less close to residential areas, potential significant noise and vibration during the construction and operational phases should be studied in the ES. Every effort must be taken to minimise the noise and air pollution from the construction phase of this part of the project. The ES should demonstrate the noise to be emitted from the operation of the new power station.

19. The ES should clarify the Assessment Methodology to be used on the operational noise potential effects.

Flood Risk

20. As mentioned in the Scoping Report, the proximity of the proposed development to the sea raises potential risk of impacts to the power station from flooding, wave action and potential future affects as a result of climate change. As such, these issues should be included and evaluated as part of the Environmental Impact Assessment.

Landscape and visual

21. The scoping in of this discipline is agreed with. The scope should provide illustrative material of the visual impact of the power station during the construction and operational phases taken from the following locations:

    a) Cruise Liner Terminal ground level and from an average height of a simulated cruise liner berthed along the Western Arm (both the inside and outside berths);
    b) From the sea that is approaching from the west into Marina Bay;
    c) From the east along North Mole Road, locations to be determined in consultation with the Town Planner;
    d) From the west facing public viewing platform at Princess Caroline Battery top of Willis's Road, Upper Rock.

Transport

22. Although there is likely to be no significant impact on the safety or capacity of the local highway network as a result of the construction of the power station there is a need to carry out an assessment of the effects this may have during cruise liner visits. At peak times of cruise liner visits there are very high volumes of both pedestrian and vehicular traffic running in both directions across North Mole Road and Waterport Road. The current infrastructure at these peaks times can in its current state struggle to support this influx in tourists and traffic movements through and up to and from the town area.

23. According to the applicant's deliveries will be need to be studied with and the construction routes agreed with the Highways Authorities, Gibraltar Tourist Board and the Port Authority.

24. Any Construction Traffic Management Plan will need to be reviewed by MoD to assess the impact of vehicles crossing the runway on Winston Churchill Avenue.

Contaminated land /soil

25. Construction of the power station can potentially disturb any existing contaminants throughout the development, especially during groundworks and piling activities. Additionally, the construction phase of the power station creates the potential of accidental spillages into the adjacent marine environment. The Scoping Report mentions that a Construction Environmental Management Plan will be established, addressing the handling and containment of any contaminated land. In addition, the Scoping Report highlights that a site investigation and contamination test will be organised prior to any construction in order to establish ground conditions, and to develop an approach for managing any contaminated land.

26. The findings from the initial contamination test in the scoping report should form part of the overall Environmental Impact Assessment and should be utilised to inform and develop the Construction Environmental Management Plan as regards contaminated land.

Cumulative, Socio Economics & Aeronautical requirements and effects

27. The ES will need to report on any cumulative effects of the development. The Department for Town Planning will be able to provide a list of all planning applications

that have been granted consent in the area where environmental impacts have been undertaken.

28. It should be noted that access to the site at present is almost exclusively along North Mole Road. This access road is utilised by large numbers of people, buses and taxis on days when cruise ships are in port. The cumulative impact on access from the array of port operations in conjunction with the proposals would be considerable. It would therefore be advisable that a traffic management plan is provided as part of the ES.

29. A traffic plan must be presented with the EIA for the construction and operation phases. This must take into consideration the requirements of the Gibraltar Port Authority in order to de-conflict any port operations. This study ought to include:
    a) A communication plan must also be set in order for the building site managers liaise with the GPA during the construction phase.
    b) Access to the power station must be via Emmerson's Way and not through the Port Estate. Only escape routes only should be through the Port.

30. On the aviation related aspects of the project there shall be a need for the carrying out of an Aeronautical Study in the EIA process.

31. On "Socio-Economics" the EIA ought to study the potential economic impact on the airport operations if limitations need to be imposed due to plume dispersion issues.

32. The fuel storage requirements for this proposed dual-fired natural gas and oil fired power station with 80MW capacity shall need to be assessed under a separate assessment. It is noted that delivery of both gas and diesel will be by pipeline to the site boundary; that gas and diesel will be stored off-site, while some storage of diesel will be placed west of the site.

33. The ES may need to be reassessed if when the storage and delivery of the dual-fired natural gas and oil fired is decided, it is considered that there may be significant effects and there is a need for additional safety protocols at the power station when using natural gas. A full risk assessment must form part of the EIA despite the document stating that the UK Health and Safety Executive has conducted a safety audit and confirmed it to be acceptable for the proposed use.

Transboundary effects

34. For each discipline assessed the ES must report on the potential for any transboundary effects and what, if any, mitigation measures are required to avoid Transboundary effects.

Management Plans

35. The ES must include details of any Construction and Environmental Management Plans that are to be prepared to manage environmental affects during the construction/operational phases.

Consideration of alternatives

36. The EIA regulations require that the ES include an "Outline of the main alternatives studied by the developer and an indication of the main reasons for this choice of power station taking into account the environmental effects."

37. Alternatives considered can include alternative strategies, technologies, processes or techniques, or locations.

Consultations

38. It is important to ensure that comprehensive consultation takes place as part of the preparation of the ES. It is considered that as a minimum, the following should be consulted as part of this process:

- Department of Town Planning and Building Control
- Department of the Environment and Climatic Change
- Environmental Agency
- Chief Technical Officer
- Technical Services Department
- Ministry for Sports, Culture, Heritage and Youth
- Gibraltar Heritage Trust
- Gibraltar Tourist Board
- Gibraltar Ornithological and Natural History Society
- Gibraltar Port Authority
- Ministry of Defence
- Environmental Safety Group

Presentation and content of the ES

39. It is recommended that the ES include the agreed Scope as an appendix together with the details of any subsequent amendments to this scope should these occur during the assessment process. This will enable readers of the ES to assess its content in relation to the agreed scope.

40. The ES should include details of all consultations that have taken place as part of the assessment process and how the results of such consultation have been taken into account.

41. The ES should contain concise summaries and utilise summary tables to assist the reader.

42. The ES should include a table summarising all proposed mitigation measures.

43. A non-technical summary must accompany the ES and must include a site plan.

Summary of disciplines scoped in

- Water Quality
- Air quality
- Nature Conservationand Ecology Marine and Terrestrial
- Noise and vibration
- Flood risk
- Landscape and visual
- Transport
- Contaminated land & Soil
- Cumulative, Socio Economics & Aeronautical requirements and effects
- Transboundary effects

General Comments:

i The EIA is an iterative process and as the project develops further close liaison with the Town Planning Department shall be required to ensure that all potential impacts are taken into account. The scope of the assessment may therefore need to be amended in the future if other potential significant effects are identified.

ii The EIA should relate to up to date information and baselines: Appendix 1 is an out-dated map which ignores the caissons and boundaries of the land reclamation site. There is also an old reference to the Tangier Ferry at Emerson's Place walk. The current and future location of the ferry must be determined in consultation of the Port Authority.

iii The ES must be submitted with the detailed construction plans for the power station so that the assessment is related to the proposed construction and avoid a reassessment when the application is submitted.

iv All studies within this assessment must relate to the nearest receptors being:

- The nearest residential area Waterport Terraces and not Waterport Gardens as was reported in the scoping report;

- The nearest work places: the Port Authority local operational offices, cruise liner terminal on the Western Arm as a place of work, cruise liner passengers and crew, the north Mole industrial Park and its future expansion development and the other workers within the Port Authority boundary at the North Mole.

Town Planner

15th May 2015

North Mole Power Station
Scoping Responses

Organisation	Representative Contact	Date and Correspondence	Main issues raised
Gibraltar Heritage Trust	Claire Montado	21st April 2015 (via email)	In agreement with Environmental Scoping Report. No additional comments.
Technical Services Chief Technical Officer	Hector Montado	28th April 2015 (via email)	In agreement with Environmental Scoping Report. Letter containing comments attached below.
Gibraltar Port Authority (GPA)	Captain Robert Sanguinetti	13th April 2015 (via email)	Acknowledged receipt. Additional comments: - A traffic plan must be put in place, agreed with GPA. - Communication plan for site managers to liaise with GPA during construction phase. - Suggestion of access only through Emmerson's Way, only emergency exit through port. - Extension to the western arm to the north must be made available for berthing vessels with bollards being of adequate strength (65 ton bollard pull). - Quayside running from west to east must be made available for berthing small vessels and harbour crafts. Bollards must also be 65 ton bollard pull. - Consideration for new reclamation to be used for port operations must be given if not being used for new power station. - Access to new reclamation must be through the port estate with emergency exit to Emmerson's Way.
Gibraltar Tourist Board	Nicky Guerrero/ Chris Grech	28th April 2015 (via email)	Acknowledged receipt. Additional comments: - Concern over conflict of operations between Cruise Liner Terminal and power station particularly in relation to pedestrian and vehicle traffic on North Mole Road and Waterport Road. - Request for continual and close communication with Port Authority and Tourist Board. - Suggested any major disruptions should occur at night to minimise impact to visitors and tourists.
Ministry of Sports, Culture, Heritage and Youth	Kevin Lane	28th April 2015 (via email)	In agreement with Environmental Scoping Report. No additional comments.
Technical Services	Emil Hermida	10th April 2015 (via email)	Acknowledged receipt. Letter containing comments attached below.

Department of the Environment and Climate Change	Stephen Warr/ Jonathan Kay	7th April 2015 (via email)	In agreement with Environmental Scoping Report. Letter containing comments attached below.
Environmental Safety Group	Janet Howitt	10th April 2015 (via email)	Acknowledged receipt. Letter containing comments attached below.
Ministry of Defence	Wilfred Gavitto/ Simon Argyle	22nd April 2015 (via email)	Acknowledged receipt. Letter containing comments attached below.
Gibraltar Ornithological & Natural History Society	Keith Bensusan	21st April 2015 (via email)	In agreement with Environmental Scoping Report. No additional comments.
Environmental Agency	Louis Poggio	26th March 2015 (via email)	In agreement with Environmental Scoping Report. No additional comments.
Civil Aviation	Chris Purkiss	28th March 2015 (via email)	In agreement with Environmental Scoping Report. Additional comments: - Confirmation of consultation having occurred. - Agreement with necessity for Aeronautical Study. - Concern over plume disruption to airport operations which could lead to socio-economic impacts. Assume will be explained in 'Land Use and Community' chapter.

Chief Technical Office
HM Government of Gibraltar

Mr P Origo
Town Planner
Department of Enterprise & Development
Suite 631
Europort
Gibraltar

Your ref:
Our ref: CTO1597/0275/15/HM

24 April 2015

Dear Sir

BY EMAIL & POST

RE: Environmental Scoping Report – Proposed New Power Station, North Mole

We refer to your email dated 25 March 2015 requesting our comments regarding the above.

The Scoping Report (ref: WP7 900 A86 GIB2 ENG STY 001A) as submitted states the areas which will be included in the Environmental Statement. It is noted that those areas are the ones considered appropriate for the project and as such there are no further comments.

Yours faithfully

[ORIGINAL SIGNED]

Hector Montado
Chief Technical Officer

Technical Services Department
HM Government of Gibraltar

Mr P Origo
Town Planner
Department of Enterprise & Development
Suite 631
Europort
Gibraltar

Your ref:1380-13 NMPS
Our ref: BA1380-13/0004/16/EH

BY EMAIL & POST

Dear Sir

RE: Environmental Scoping Report – Power Station North Mole

We refer to your email dated 25th March 2015 requesting our comments regarding the above.

We wish to comment as follows:-

1. Under Section 4.6 TSD is referred to as Technical Services Division as opposed to Department. Although this is a minor point it should be highlighted to the authors of the report.

2. Under Section 5.13 we note that modelling will be used to inform a desk-based investigation. The information provided will be that used for the North Mole Reclamation site which was the original location of the new Power station. Whilst this should be sufficient for wave attack from the east consideration should also be given to sea level rise and possible coastal process acting from the north.

3. Under Section 5.38 we note that a traffic assessment will be prepared. This is welcomed in order to assess the potential impacts of construction traffic accessing the site particularly if Mons Calpe Road is earmarked as the main means of accessing the site.

Yours faithfully

[ORIGINAL SIGNED]

Emil Hermida
Chief Executive

Department of the Environment
and Climate Change
HM Government of Gibraltar

07/04/2015

Mr Paul Origo
Town Planner
Department of Town Planning & Building Control
H.M. Government of Gibraltar
Suite 631
Europort
Gibraltar

Dear Paul,

RE: North Mole Power Station – Environmental Scoping Report

We refer to your request for comments regarding the Scoping Opinion in relation to the North Mole Power Station. Having reviewed the Scoping Report produced by Engain, we are in agreement with the proposed Environmental Scope for the North Mole Power Station as outlined in Table 5.1 of the report.

The following include the main likely and significant impacts arising from the proposed development which we feel should be scoped into the Environmental Impact Assessment. The ensuing issues and topics are not additional to those outlined within the Scoping Report, but have nevertheless been highlighted for the benefit of the consultation process.

Air Quality

The proposed development has the potential to affect air quality both during its construction and operational phase.

During the construction period, emissions of dust, as a result of groundworks, are likely to occur, giving rise to suspended particulate matter. In addition, the construction of the proposed power station will involve an increase to traffic coming in and out of the development site therefore increasing traffic emissions. Such effects are likely to cause an impact to nearby sensitive receptors such as residents from Waterport Terraces and visitors entering Gibraltar through the cruise terminal. Once in full operation, emissions from the power station as a result of the combustion process also have the potential to affect air quality and impact on sensitive receptors. As such, issues pertaining to air quality should be included and addressed as part of the Environmental Impact Assessment.

Coastal Processes

As mentioned in the Scoping Report, the proximity of the proposed development to the sea raises potential risk of impacts to the power station from flooding, wave action and potential future affects as a result of climate change. As such, these are issues which the department feels should be included and evaluated as part of the Environmental Impact Assessment.

Contaminated land/soil

Construction of the power station can potentially disturb any existing contaminants throughout the development, especially during groundworks and piling activities. Additionally, the construction phase of the power station creates the potential of accidental spillages into the adjacent marine environment. The Scoping Report mentions that a Construction Environmental Management Plan will be established, addressing the handling and containment of any contaminated land. In addition, the Scoping Report highlights that a site investigation and contamination test will be organised prior to any construction in order to establish ground conditions, and to develop an approach for managing any contaminated land.

The department therefore agrees with the Scoping Opinion and feels that the findings from the initial contamination test should form part of the overall Environmental Impact Assessment and should be utilised to inform and develop the Construction Environmental Management Plan as regards contaminated land.

Ecology - Marine and Terrestrial

The proposed development is located approximately 3.5km from the Southern Waters of Gibraltar SAC/SPA, and 1.5km from the Rock of Gibraltar SAC/SPA. Potential impacts to the Rock of Gibraltar SAC/SPA could arise from emissions emanating from the power station. Although the potential impacts of the power station on the Southern Waters of Gibraltar SAC/SPA could be considered as less significant, we nevertheless feel and agree with the Scoping Opinion that any potential impacts on this area should be scoped into the Environmental Impact Assessment. Furthermore, the proposed development will be located directly beside a Marine Conservation Zone and, therefore, any potential impact to the ecology of the surrounding marine environment needs to be further assessed.

Noise and Vibration

Both the construction and operational phases of the proposed development have the potential to create significant noise and vibration affecting nearby receptors (e.g. residents from Waterport Terraces). During the construction phase, noise and vibration are likely to emanate from groundworks such as piling. According to the Scoping Report, such activities will be managed under the Construction Environmental Management Plan. During the operational phase, noise will most likely be created from exhaust stacks and the generating process. Although most aspects relating to noise and vibration will be managed and restricted to certain periods and times (e.g. piling works), these issues should nonetheless form part of the overall Environmental Impact Assessment

given its potential to affect local receptors. Such an assessment, as outlined in the Scoping Report, should consist of noise modelling, so as to determine existing background noise levels, and how these will be affected by the construction and operation of the power station.

Landscape, Visual Amenities and

The surrounding area of the proposed development site consists mainly of industrialised areas, nearby residential areas, and a cruise terminal point of entry for tourists. In particular, the cruise terminal can get very busy, especially over the summer months, with tourists visiting Gibraltar. It is likely that the power station will affect the activities currently existing throughout the surrounding area especially during the construction phase. The Environmental Impact Assessment therefore needs to take such factors into account and further address these in the Environmental Statement.

Traffic and Transportation

The construction of the power station will most likely have an impact on existing traffic especially throughout the access roads towards the development site. Construction of the power station will include an increase of Heavy Goods Vehicles transporting materials to and from the development resulting in potential impacts on existing levels of traffic. Potential impacts in relation to traffic will most likely be concentrated on the main access roads from the land frontier to the proposed site. Such impacts therefore need to be taken into consideration and studied further as part of the Environmental Impact Assessment.

We trust that the aforementioned clearly highlights our main concerns and issues in relation to the proposed development. Nevertheless, please do not hesitate to contact us should you wish to discuss any of the foregoing or require any further particulars.

Sincerely,

Jonathan Kay
for Chief Executive Officer
Department of the Environment and Climate Change

For attention of: Paul Origo – Town Planner – ccied **to:** G Baglietto **Sent** via Email 10th April 2015
Copied to: Minister for the Environment and Deputy Chief Minister also Minister for Land and Planning

Dear Paul,

Re: ESG Response to EIA Scoping Report on Power Station
Eg15654 North Mole Power Station –
Bouygues Energies and Services Ref: WP7 900 A86 GIB2 ENG STY 001 A

General comments: -

Thank you for providing us with an opportunity of commenting on the Scoping Report for the construction of the new power station. It is unfortunate that we did not see the report earlier as it would have given us more time to compose our submission. This is an issue closely followed by our team as energy and power generation is contained within the groups' core aims and objectives. We hope that our feedback will prove useful to those carrying out the EIA exercise on this major project for Gibraltar.

We understood from discussions with GoG that specific information on the technical, engineering, safety, and risk assessments would be made available for the purposes of a comprehensive EIA analysis on the new Power Station. It is difficult to consider **all environmental impacts** from this part of the project (divided into three), without such material made available to those being asked to feed back into the consultation rounds. *When will more technical information be provided to all consulted so as to ensure that feedback reflects an accurate picture?*

We note from the map included in the scoping report, that the siting of the new power station has apparently moved to the east (right on map), and **closer to Waterport Terraces**. It had been widely understood that the ideal location would be at the furthermost corner of the Mole in newly reclaimed land, and away from residential areas, resulting in the costly and time-consuming land reclamation project now underway. This change, if confirmed, is simply stated in the report without any explanations given. Perhaps it is linked to fuel storage, berth use, or stack heights, or some other reason, but it would have been helpful to have this explained.

The issue of breaking down this project into three parts, and into **3 separate EIA's** is not helping achieve a solid, long-term plan, which should already be in place.

Please see pages 2-4 with our views set out under **Specific comments/questions**, against each relevant reference point within the Scoping Report for ease of reference.

Specific comments/questions:-

- **2.1 - Appendix 1** is an out-dated map which ignores the caissons and boundaries of the land reclamation site. Also includes an old reference to the Tangier Ferry at Emerson's Place walk. There must be detailed construction plans and one of these would have been more informative

- **5.22 - Page 15** refers to 300m distance to nearest residential area as Waterport Gardens, should read Waterport Terraces;

- **3. Description of the Proposals - dual-fired natural gas and oil fired power station with 80MW capacity:**

  3.3, 3.4 - It is noted that delivery of both gas and diesel will be by pipeline to the site boundary; that gas and diesel will be stored off-site, while some storage of diesel will be placed west of the site.
  Q. Why aren't details of fuel storage provided here so these can be considered for impact on nearby residents? Perhaps it will be sited on the Detached Mole? Details needed

- **3.5 -** In spite of GoG assurances that natural gas is safer than diesel, Engain state that there is a need **for additional safety protocols** when using natural gas, as it is flammable, unlike diesel. It goes on to detail the need for various accident and risk assessments to be carried out because of the implied greater safety risk. The document states that the UK Health and Safety Executive has conducted a safety audit and confirmed it to be acceptable for the proposed use, however it sounds like full risk assessments are yet to be completed. **Surely these assessments should be realised before committing to this project as things stand? A full risk assessment must form part of any credible EIA on this project and all parties inputting, consulting, should have sight of this information**

- **3.6 –** Again, details are offered citing how a detailed aeronautical study is being undertaken – why has this not been done yet? The need for this is because of the close proximity to the airport. **What if it is deemed unsafe and high risk for safe use of the airport? What then?**

- **3.8 –** Again the airport proximity is having a bearing limiting stack height to **28m** due to operational height restrictions. The ESG would like to know what modelling studies have been done to ensure that this will not result in poorer dispersal and greater polluting of nearby residential areas?

- **5.2 – Air Quality –** Here Engain recognises that once operational, emissions from the power station resulting from the process of combustion **have the potential to impact on air quality** and sensitive receptors, including human health and ecology

- **5.5 – Highlights** how emissions of combustion gases could cause significant changes in local air quality conditions citing: **SO_2** sulphur dioxide, **NO_x** nitrous oxides, **CO** carbon monoxide and particulate matter **PM_{10}**). **Design and mitigation measures to keep these to a minimum should be supplied during EIA process**

- **5.7** – **Agree** with approach to identify all potential affected parties**.**

- **5.7 – Disagree** that existing air quality conditions based on local monitoring data will provide robust or realistic picture – monitoring is currently undertaken by diffusion tubes and is non-real-time data – zone is party to strong cross winds and it is very difficult for toxic fumes to be accurately captured

- **5.7 – Meteorological data** is really important in our view given that prevalent wind conditions carry pollutants into the many neighbourhoods in the area, have done historically, continue to do so, and will no doubt also affect the way that the new Power station emissions will behave in the area– (hopefully less so given the higher operational standards a new plant will have, but nevertheless the reach should be well understood)

- **5.8 –** With regards to the dispersion modelling being planned to predict the impact of the new power station during normal operations the ESG would also like to see **real-time monitoring** set up in the North Western zone of Gibraltar, to properly monitor what has become a growing industrial and residential zone, currently only covered by **non-real-time diffusion tube monitoring equipment**. There is also a need to increase our monitoring parameters to include **$PM_{2.5}$** which the WHO cites as one of the most dangerous to human health

- **Agree it is important** to scope in impact of emissions during normal operations and during start-up

- **5.9 - On Impact Assessment – Construction –** The ESG calls for distances **to be accurately defined** to closest receptors/people as this will have significant implications on noise/dust/vibrations during construction and on how these are assessed

- **5.23 – On Impact Assessment Methodology -** It is noted that consultation is being undertaken with Port, MoD, RAF, Civil Aviation Authority, Cruise Liner Terminal and Tourism Board, GoG depts. and organisations. It is hoped that substantive discussions will have already taken place between these bodies as the plans are clearly advanced and the proximity of the New Power Station and associated emissions, risk assessments, storage and risks linked to Natural Gas, and more, will need to have been addressed? **If there is feedback from the affected/conflict parties** it is also important that consultees and the DPC commission sees this as it will help form opinions based on concerns raised

- **5.24 – Landscape and Visual Amenity –** Baseline conditions – The ESG has long been concerned about the manner in which Gibraltar continues to mix industry with residential areas often resulting in the lowering of the quality of life for residents from industry impact. In this case, we see the new power station moving closer to Waterport Terraces thereby ensuring that its impacts will be felt more acutely. This is a pity and goes against the spirit of the original plan to site the station at the furthermost point of the North Mole road. It is not only a case of views from the Upper Rock, or how this project could affect the impression on tourists entering Gibraltar – important though these points are – but it also detracts from the environment of those living in the area in a landscape context

- **5.27 and 5.28 –** It is encouraging to see the landscaping considerations – it is hoped that the outcome will result in active measures taken to shield the view of the new station and associated storage from residential areas as well as from tourist entry points

- **5.29 to 5.33 – Noise and Vibration –** This is an issue that concerns the ESG, especially as the power station will now be located closer to residential areas. It is of concern to note that a reference is made on how the construction and operational phases have the potential to create significant noise and vibration disturbance and that this will depend on the **level of change of noise.** Can this be clarified? In our view it is fair to seek to demonstrate the long-term situation regarding noise pollution, by comparing the background noise with a decommissioned GibElec station and the operation of the new compliant power station. The noise produced at the GibElec is intolerably excessive, and indeed, reflects an installation running well past its sell by date demonstrated by an explosion at the plant not so long ago. This long running noise pollution has degraded quality of life for many nearby residents for years, and should not be used as baseline background levels.

- Clearly every effort must be taken to minimise the noise and air pollution from the construction phase of this part of the project

- **5.34 to 5.36 – Under Outline of Assessment Methodology –** it describes how operational noise potential effects will be assessed. However it is not clear to us what levels are to be used to assess acceptable noise and vibration levels from the new power station. Can more information please be provided?

- **5.48 –** Finally, we look forward to seeing additional material as expressed earlier in our document regarding technical information on design, fuel type, and location.

  Therefore we have the following important questions: Has **location** been finalised? If this is to change significantly then all impact modelling will need to be repeated. **Fuel type** is also a contentious issue and clear and supported information on the Government decision on this part of the project needs to be finalised and provided so that credible EIA assessments are produced. **Fuel supply and storage** is also of critical importance and does not feature at all in this stage of assessment other than by reference to it being off site. **Design details** outlining mitigation of air and noise emissions, as well as a construction plan should also be provided.

More information needs to be supplied. This is Government's flagship and most expensive project and it deserves public consultation based on fullest possible scrutiny only after all facts and material have been provided.

Sincerely,

J Howitt
On behalf of the ESG Committee

From: Mr Simon Argyle BA (Hons) MSc MBA CMgr FCMI

Command Secretary
HQ British Forces Gibraltar
The Tower
Gibraltar
BFPO 52
Tel: +350 200 55159
Fax: +350 200 55217

Date: 22 April 2015

Paul Naughton-Rumbo
Town Planner
Government of Gibraltar
Suite 631, Europort
Gibraltar

<by email>

Dear Mr Naughton-Rumbo

NORTH MOLE POWER STATION ENVIRONMENTAL SCOPING REPORT

Thank-you for your Environmental Scoping Report dated 19 March 2015 and associated correspondence asking for the views of the Ministry of Defence (MoD) on the above-mentioned project. I apologise for the slight delay in responding.

In terms of the environmental impact, we would like to offer the following comments at this stage:

- It is not clear whether the scope of this study includes the off site storage of the fuel (both LNG and oil). It appears this scoping report covers only the power station. It is our opinion that the Environmental Impact Assessment should cover both the proposed power station and the storage of fuel for the power station and the cumulative effects of both aspects of the project.

- The study does not address the environmental impact of the closure of the other power stations in Gibraltar. We would like to see this impact considered.

- The report (section 2.1) refers to previous land reclamation but does not make any reference to the area currently being reclaimed at North Mole. We would like clarity on the planned use for all pockets of land currently being reclaimed within the North Mole area.

- It would be extremely helpful if we, and no doubt other relevant stakeholders, could view the plans for the proposed power station. The text in sections 3.1 – 3.10 suggest that plans have been developed.

- The scoping report indicates a 24 month construction period but does not give a proposed start date. It would be helpful for all interested stakeholders if there was further clarity on the anticipated start date for the project.

- The report should provide confirmation that dust suppression measures will require consultation with us due to the proximity of the airfield to the proposed site.

- We would like to see modelling predictions to be based upon maximum operational capabilities as well as normal operations so potential impacts can be assessed and mitigated.

- We believe that the Environmental Impact Assessment should review and report upon the potential impact if sea water is used for power station cooling as the returned sea water will be at an elevated temperature. This may have consequential ecological impact that could lead to increased bird activity in the vicinity of the proposed power station. Bird Strike is the airfields primary hazard and any potential increase in bird numbers must be identified and mitigated. Moreover, if we look to section 5.25, the impact of increase bird activity as a result of the tree planting also needs to be assessed.

- The visual impact assessment should consider the impact on the airfield and aircraft using the airport (section 5.28 refers).

- Any Construction Traffic Management Plan will need to be reviewed by MoD to assess the impact of vehicles crossing the runway on Winston Churchill Avenue (section 5.40 refers).

There are of course wider issues relating to this development that impact the airfield further consideration will need to be given to pluming, stack heights and other related matters. We are in discussion with the Government of these aspects.

We also understand that Bouygues will hand over the power station to Gibelec after 12 months of operation and would therefore like to see more granularity on the specific transfer arrangements as it will no doubt impact upon operational agreements with other parties, of which MoD is one.

Finally, we are unaware of any formal public consultation programme to date and would therefore welcome an opportunity to review the detailed proposals for the proposed power station so we can assess the potential impacts upon our operations.

I trust that you will take our comments into consideration and we stand ready to discuss these matters in more detail as this project develops.

I am copying this letter to the Governor, Chief Minister, Deputy Chief Minister, the Minister for the Environment, the Chief Secretary, Director of Civil Aviation, Commander British Forces Gibraltar, Station Commander RAF Gibraltar and the MoD Defence Infrastructure Organisation Area Manager.

Yours sincerely

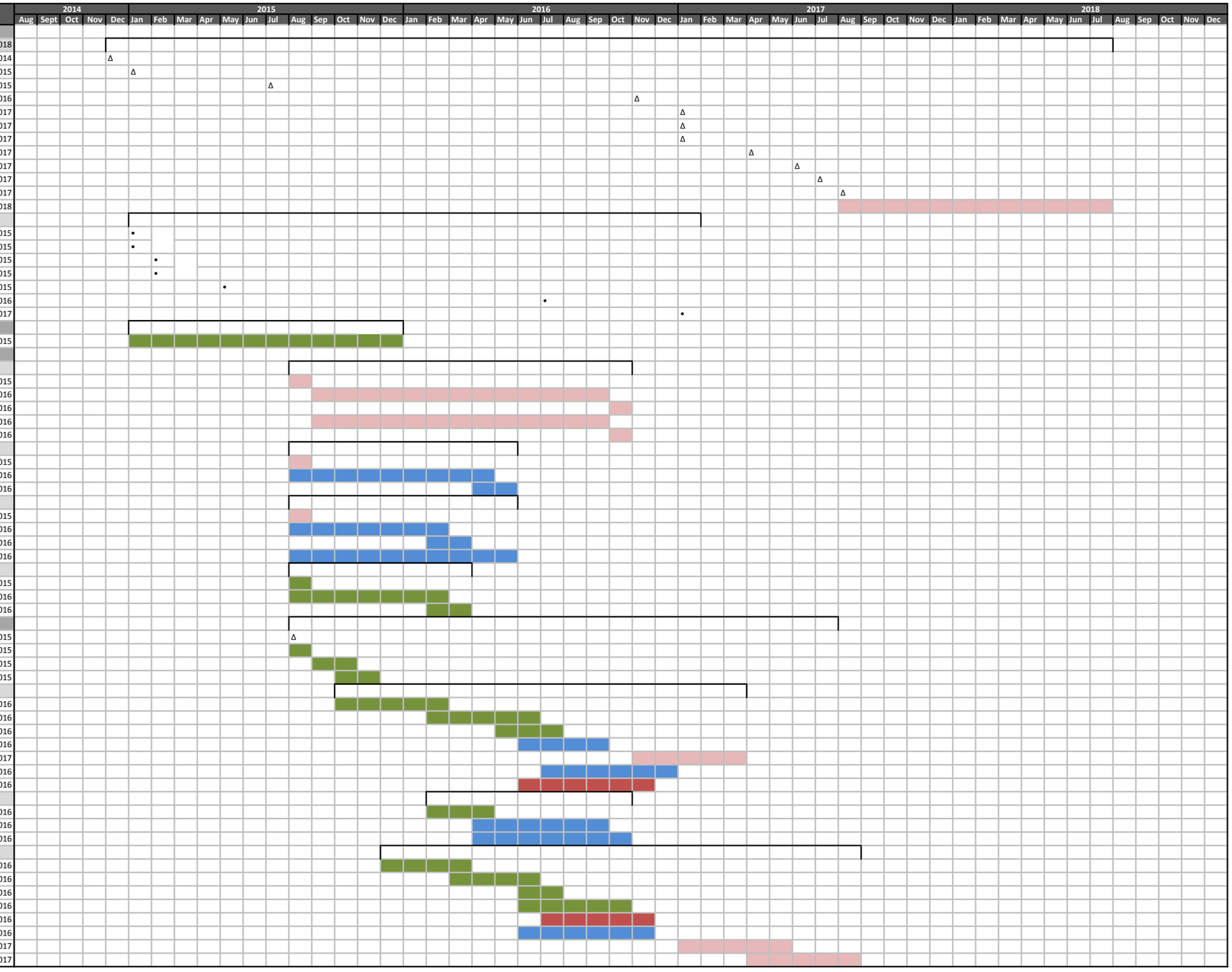
<signed>

Simon Argyle

APPENDIX 4 CONSTUCTION SCHEDULE

New Power Station, North Mole, Gibraltar
Indicative Construction Schedule

Task Name	Duration	Start	Finish
KEY DATES	905 d		
Bouygyes E & S Milestones	905 d	11/12/2014	12/07/2018
Contract signature		11/12/2014	11/12/2014
Commencement date		02/01/2015	02/01/2015
Plant manufacture and delivery CIF		01/07/2015	01/07/2015
All equiptment on site		04/11/2016	04/11/2016
Site fuel supply and daily storage system complete and tested		18/01/2017	18/01/2017
All distribution centre work within the power station complete and tested		18/01/2017	18/01/2017
All interconnecting cabling complete and tested		18/01/2017	18/01/2017
First batch of units ready for comissioning		11/04/2017	11/04/2017
Second batch of units ready for comissioning		13/06/2017	13/06/2017
Power station ready for reliability run		28/07/2017	28/07/2017
Taking over date		10/08/2017	10/08/2017
O & M contract	12 m	11/08/2017	12/07/2018
Client Milestones	490 d		
All technical details for existing grid network		29/01/2015	29/01/2015
New SCADA data details		29/01/2015	29/01/2015
Permit consent		26/02/2015	26/02/2015
Electrical utilities available for construction		26/02/2015	26/02/2015
Utilities available for testing and comissioning		21/05/2015	21/05/2015
SCADA available		26/07/2016	26/07/2016
Grid connection		18/01/2017	18/01/2017
ENGINEERING	240 d		
Detailed studies	12 m	02/01/2015	16/12/2015
PROCUREMENT	311 d		
Engines and Alterations	311 d		
Engines & alterations Dualfuel & Gas fired engine - Purchase order	21d	10/08/2015	08/09/2015
Engines & alterations Dualfuel - Manufacturing	260 d	09/09/2015	23/09/2016
Engines & alterations Dualfuel - Delivery on site	30 d	26/09/2016	04/11/2016
Engines & alterations Gas fired engine - Manufacturing	260 d	09/09/2015	23/09/2016
Engines & alterations Gas fired engine - Delivery on site	30 d	26/09/2016	04/11/2016
Auxiliaries (Stacks, silences, air coolers, etc)	200 d		
Auxiliaries - Purchase order	10 d	10/08/2015	21/08/2015
Auxiliaries - Manufacturing	160 d	25/08/2015	13/04/2016
Auxiliaries - Delivery on site	30 d	14/04/2016	30/05/2016
Utilities (Daily storages and pumps, etc.)	200 d		
Utilities - Purchase order	10 d	10/08/2015	21/08/2015
Utilities - Manufacturing	120 d	25/08/2015	12/02/2016
Utilities - Delivery on site	30 d	15/02/2016	29/03/2016
ORC procurement	10 m	10/08/2015	30/05/2016
Steel Structure	156 d		
Steel Structure - Purchase order	8 d	10/08/2015	19/08/2015
Steel Structure - Manufacturing	120 d	20/08/2015	10/02/2016
Steel Structure - Delivery on site	30 d	11/02/2016	24/03/2016
CONSTRUCTION	401 d		
Start of works on site		10/08/2015	10/08/2015
Mobilization period	15 d	10/08/2015	31/08/2015
Preparatory works and earthworks	40 d	01/09/2015	27/10/2015
Piling works	40 d	30/09/2015	24/11/2015
Motor building	346 d		
Motor building foundation eorks, slab and elevation	80 d	28/10/2015	19/02/2016
Motor building steel structure erection and cladding	90 d	01/02/2016	13/06/2016
Motor building finishes works and travelling crane erection	40 d	16/05/2016	12/07/2016
Silencer installation and mechanical works (1st part)	70 d	31/05/2016	07/09/2016
Engines and alternators installation and mechanical works (last part)	90 d	07/11/2016	15/03/2017
Common auxiliaries erection	105 d	19/07/2016	14/12/2016
Electrical works	119 d	14/06/2016	30/11/2016
Utilities and Stacks area	180 d		
Foundation works and slab for auxiliaries	60 d	25/01/2016	20/04/2016
Utilities - Daily storages, pump erection, piping connection	100 d	21/04/2016	15/09/2016
ORC erection	6 m	21/04/2016	13/10/2016
Office Spaces Building	235 d		
Office spaces building foundation works and slab	60 d	23/12/2015	21/03/2016
Office spaces building concrete structure	80 d	29/02/2016	28/06/2016
Office spaces building HV/LV plant room - finishes	20 d	29/06/2016	26/07/2016
Office spaces building finishes works	106 d	29/06/2016	25/11/2016
HV/LV Electrical works	90 d	27/07/2016	01/12/2016
Stack erection and associated structures/piping	110 d	29/06/2016	01/12/2016
Pre-commissioning engines and common systems	70 d	18/01/2017	02/05/2017
Commissioning and performance tests	85 d	11/04/2017	10/08/2017



Key	
Task	
Milestones	Δ
Client milestones	•
Civil and finishes works	
Electrical works	
Mechanical works	
Critique	

Project no: WP7 900 A86 GIB2 ENG STY 002 C
On Behalf Of: HM Government of Gibraltar

July 2015

APPENDIX 5 OUTLINE ENVIRONMENTAL MANAGEMENT PLANS

Outline Construction Environmental Management Plan

A CEMP will provide environmental recommendations and commitments relevant to the construction phase of the new power station. A detailed CEMP will be provided by the Contractor to the relevant statutory authorities, and will be based on the mitigation measures provided in Table 19.1 of this ES.

The management of environmental risk will be part of the day to day management of the construction programme. Table A4.1 summarises the key CEMP planning actions and responsibilities. The Contractor, on behalf of HM Government of Gibraltar, will identify the organisations and personnel that have specific responsibilities for the mitigation measures identified. An outline CEMP is provided in Table A4.2 below. The Contractor, HM Government of Gibraltar and GEA will also consider environmental risk management for the operation of the power station, and this is outlined in the outline OEMP below.

Roles and Responsibilities of Staff

The line of responsibility for environmental management during the construction phase is shown below in Figure A4.1 Descriptions of individual environmental management responsibilities are described in the following paragraphs.

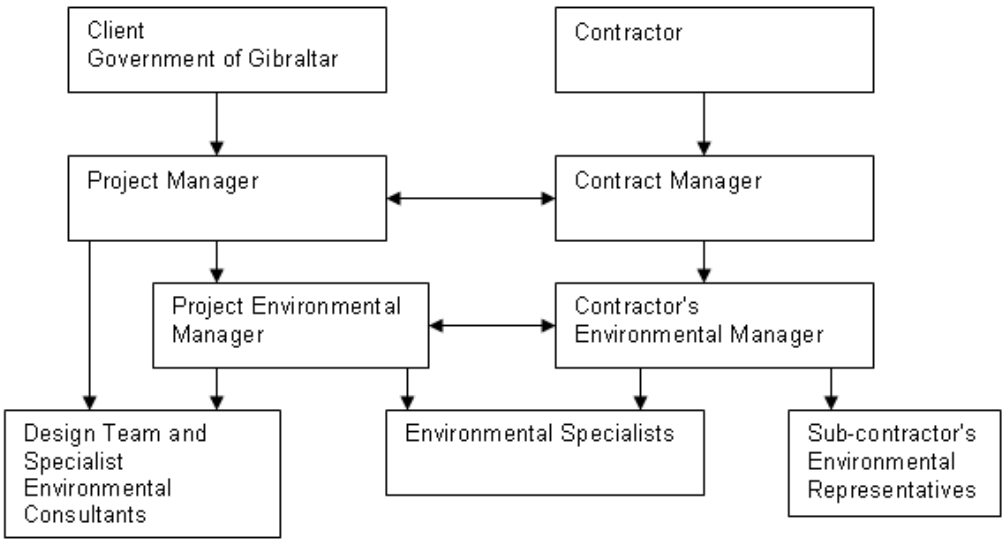


Figure A4.1 Environmental Organisation Chart for CEMP Implementation

It is recommended that the following key team members will be responsible for managing construction environmental impacts:

The **Project Manager** will act on behalf of the Client, with responsibility for managing the project within the agreed environmental constraints in conjunction with all of the necessary management processes.

The **Project Environmental Manager** will report to the Project Manger and will be responsible for monitoring the environmental performance of the Contractor against statutory requirements, agreed environmental standards and mitigation measures outlined in the CEMP.

The Project Environmental Manager will have appropriate resources and authority allocated and duties will include:

- Review of the Contractor's CEMP and specialist procedures and identify any areas for improvement;
- Work with the Contractor's Environmental Manager to identify the environmental competence of all contractors working on the Project and advise the Contractor's Project Manager as to their suitability;
- Review the Contractor's method statements for environmental aspects and advise of any suggested improvements prior to work starting;
- Monitor construction activities to ensure that identified and appropriate control measures are effective and in compliance with the CEMP;
- Act as a main point of contact between the Contractor and the Client's project team on environmental issues.

The **Contract Manager** as a named individual from the Contractor's organisation will have overall day-to-day responsibility for Environmental Management and Quality performance throughout the construction of the power station. The Contract Manager will ensure that appropriate resources are made available, and any necessary environmental controls or mitigation measures are implemented. The Contract Manager will report to the Contractor's Board of Directors.

The **Contractor's Environmental Manager** will report to the Contract Manager and will be responsible for coordinating and managing all the environmental activities during the construction phase. The Contractor's Environmental Manager will carry out the following duties:

- Develop and review the CEMP and specialist procedures;
- Liaise with the Project Environmental Manager;
- Identify environmental competence requirements for all staff working on the project and ensure delivery of environmental training to personnel within the project team;
- Review and approve method statements for environmental aspects prior to work commencing;
- Manage the environmental monitoring programme, including air quality and noise, and review of the routine reports;
- Monitor construction activities and performance to ensure that identified and appropriate control measures are being effective and ensure compliance with the CEMP;
- Act as a main point of contact between the regulatory authorities and the project on environmental issues;
- Provide advice and liaise with the construction team to ensure that environmental risks are identified appropriate controls are developed and included within method statements and risk assessments;
- Assist in the development and delivery of environmental training for site personnel and sub-contractors;
- In conjunction with the environmental specialists, overall monitoring of the programme for environmental works, and provision of status reports as necessary; and
- Environmental audit of subcontractors and suppliers.

Each Sub-contractor appointed by the Main Contractor will be required to appoint an **Environmental Representative** who will be responsible for:

- Acting as a main point of contact between the Sub-contractor and Contractor's Environmental Manager on environmental issues;
- Ensuring that environmental considerations are included in risk assessments, method statements and work instructions;

- Carrying out environmental inspections of the site, initiating actions and completing a fortnightly environmental inspection report to be submitted to the Contractor's Environmental Manager.

The Main Contractor and any Sub-contractors will be required to employ E**nvironmental Specialists** if they do not have in-house capacity, in order to adhere to the mitigation measures described in the CEMP or in response to particular construction activities that may otherwise present an environmental risk. Detailed mitigation will be undertaken within each specialist field, and implementation and monitoring will be overseen throughout the construction period.

Details of the various specialists to be employed will be reviewed by the Client's Project Team at the tender stage and will for a significant part of the tender evaluation process.

Environmental Planning of Construction Works

Commitments and Resources

HM Government of Gibraltar has senior management commitment to achieving the level of environmental performance identified in the ES, and the CEMP will play a central role in achieving this. The resources required will be assessed and should be allocated commensurate with the degree of risk posed by the issue being managed. The CEMP requirements, roles and responsibilities will be included in the Contract Documents for the works which will be signed by the Contractor and Client.

Environmental Risk Assessment

Environmental impacts will be considered throughout the construction and operation of the power station. Assessments of environmental risk of key stages in the procurement, design, construction and operation process will be made. The risk assessments will build on the ES and consider routine and non-routine (accidental) events. The output of the risk assessment will be to identify and prioritise risk management actions.

Performance Indicators and Target Setting

Performance targets will be set to achieve the environmental objectives outlined in the mitigation in the ES and summarised in Table A4.1 below. This details the environmental management actions that are required by the key individuals responsible for managing environmental risk.

Performance Monitoring

Performance will be monitored to assess compliance and action taken if compliance is not achieved. Variables such as air quality and noise will be sampled when necessary. Over time the monitoring will be reviewed and relaxed if performance is consistently acceptable. Regular site audits will be undertaken to ensure conformity with contract requirements and compliance with legislation by the project Environmental Manager. Where necessary, corrective action will be taken.

Record Keeping and Data Management

All records of monitoring and incidents which occur during construction will be documented by the Contractor's Environmental Manager and made accessible to the Client Team. The records will be stored securely and made available for review as necessary. These will be maintained to provide a resource for the HM Government of Gibraltar and if necessary regulators and statutory bodies to inspect and assure conformity and compliance.

Corrective Action

When an incident which does not conform to the required action plan occurs, approved corrective action will be implemented immediately. Statutory organisations will be consulted.

Training

To ensure consistent and acceptable environmental performance during construction, the Contractor will ensure that the Contract Manager and Environmental Manager and Contractor's staff are aware of the commitments made in the ES. In turn, relevant information on environmental management will be passed to the work force in briefings or other suitable means. Structured training and environmental awareness will be integrated into routine operational briefings and procedures.

Communications

In addition to internal communications the HM Government of Gibraltar and Contract Environmental Manager will engage in regular communication with external stakeholders and statutory authorities to ensure co-operation and maintain understanding of the site environment and review of the environmental management procedures and monitoring.

Table A4.1 CEMP Planning Actions

Issue	Performance Objective	Management Action/Tools	Parties Responsible	Best Practice/Guidance
Commitment and Resources	Adequate resources at each stage of the development process	Contract documentation to specify environmental management requirements	Project Manager Contract Manager	See CIRIA Environmental Good Practice on Site (3rd Ed) 2010. The resources required must be identified at the planning stage and appropriate provision made.
		Appropriate funds available for environmental management actions in budget	Project Manager Contract Manager Contractor bid team	The Contractor is aware of environmental constraints and requirements and will assign appropriate resources. The Contractor will prepare the CEMP and associated method statements. The CEMP will be informed by the ES mitigation and EIA Certificate requirements.
Environmental Risk Assessment	To identify main environmental risk of contract approach	All activities undertaken on site will be subject to an environmental risk assessment, undertaken as suitable by contractor as part of the planning of major tasks	Contractor's Environmental Manager	DEFRA guidance is available (https://www.gov.uk/government/publications/guidelines-for-environmental-risk-assessment-and-management-green-leaves-iii). Site specific environmental risk assessment should be undertaken and maintained in the same way as health and safety risk assessment.
Performance Indicators and Target Setting	Translate requirements of ES mitigation and EIA Certificate requirements into levels of performance	Key performance indicators will be developed which will allow monitoring and maintenance of acceptable environmental performance targets will be set out to meet the	Contractor's Environmental Manager Project Environmental Manager	Key performance indicators will relate to the main environmental issues. This is important to manage so that compliance with contractual terms can be assessed.

Issue	Performance Objective	Management Action/Tools	Parties Responsible	Best Practice/Guidance
		acceptable limits set out within the ES and the EIA Certificate.		
Performance Monitoring	Provide appropriate levels of monitoring and recording of key performance indicators e.g. air quality, noise levels.	Recording of monitoring and audit results.	Contractor's Environmental Manager	The records will be adequate to demonstrate compliance and will be part of the site document control system.
Corrective Action	Rectify non-conformity and non-compliance within an acceptable timescale.	Corrective action procedure for identifying incidents or weaknesses in environmental management which require management action to rectify.	Contractor's Environmental Manager and Project Environmental Manager	This will require high level reporting of environmental performance at appropriate intervals (fortnightly) by the Contractor's Environmental Manager to the Project Environmental Manager and identification of any unacceptable performance which requires corrective action. There must be a systematic approach to obtaining resources to implement critical corrective action. Non-conforming products or processes will initiate a Non-Conformance Report, which will identify the nature of the problem, the proposed corrective action, action taken to prevent recurrence of the problem and verification that the agreed actions have been carried out. Corrective action will be approved by statutory organisations.
Training and	Ensure that all stakeholders are	Internal communications with contractors and	All	Training and awareness of the workforce will be delivered as part of on-the-job training through tool box

Issue	Performance Objective	Management Action/Tools	Parties Responsible	Best Practice/Guidance
Communications	adequately informed	workforce will be undertaken to ensure that critical relevant information on environmental management issues is passed on to workforce and appropriate training is given. External communications will be undertaken to ensure that stakeholders (statutory organisations and affected parties) are informed about the construction and any implications for them e.g. noise or loss of access		talks, site orientation and environmental awareness sessions. Communications with external stakeholders will be delivered by identifying a contact within the Contractor's organisations, the local community and key statutory organisations.

Table A4.2 Outline Construction Environmental Management Plan

Subject (ES chapter)	Issue	Mitigation or Management Action	Project Phase				Parties Responsible	Best Practice / Guidance
			Enabling Works	Site Clearance	Ground Works	Building Works		
Chapter 9 Air Quality	Construction traffic and works leading to dust soiling	Imposition and enforcement of a suitable low speed limit on unpaved ground					Contractor's Environmental Manager and Site Manager	CIRIA EGPS, 2010
		Sheeting of lorries carrying dusty materials on and off site						
		Early sealing of open ground						
		Location of stockpiles of potentially dusty material as far from sensitive locations as possible						
		Regular use of water-assisted dust sweeper on local roads if necessary, to remove any material tracked out of the site						
		Regular cleaning of paved areas on site						

Subject (ES chapter)	Issue	Mitigation or Management Action	Project Phase				Parties Responsible	Best Practice / Guidance
			Enabling Works	Site Clearance	Ground Works	Building Works		
		Use of wheel washing for all vehicles leaving site						
		Use of water suppression during any cutting of stone or concrete						
Chapter 10 Coastal Processes and Water Quality	Accidental chemical releases	Detailed on site practices to reduce likelihood of contamination to surrounding waters, and clean up measures after leaks or spillages. Refer to the Marine Action Plan already in place for Gibraltar.					Contractor's Environmental Manager and Site Manager	
Chapter 11 Contaminated Land	Contamination -risk to human health	A Phase 2 site investigation will include further ground contamination investigation. Any hotspots of contaminants will be identified and method statements for containment or removal will be agreed with the relevant statutory organisations. If contaminated ground is encountered during construction works, this will be addressed so that the risks to site workers and the environment is minimised and any contamination is remediated.					Contractor's Environmental Manager	

Subject (ES chapter)	Issue	Mitigation or Management Action	Project Phase				Parties Responsible	Best Practice / Guidance
			Enabling Works	Site Clearance	Ground Works	Building Works		
		During construction work, all personnel will use appropriate personal protective equipment						
		The contractor will consult with the relevant authorities to agree methods to safely manage and/or dispose of the contaminated material. These measures (if required) will mitigate the risks and result in no significant effects. All contaminated material removed off site will be through an appropriately licensed waste contractor and disposed of to a suitably licensed facility with correct consents.						
	Accidental chemical spillage							
Chapter 12 Ecology and Nature Conservation	Marine protected waters	Strict on site measures to manage handling, storage and use of oils and chemicals. Adoption of an approved accident or spill contingency response plan in consultation with statutory authorities and emergency services.					Contractor's Environmental Manager and Site Manager	

Subject (ES chapter)	Issue	Mitigation or Management Action	Project Phase				Parties Responsible	Best Practice / Guidance
			Enabling Works	Site Clearance	Ground Works	Building Works		
Chapter 13 Landscape and Visual Amenity	Visual effects from construction site	Implementation of façade barrier and fencing to decrease impacts to cruise liner terminal passengers, local residents and users of North Mole Road. The hoarding will be robust, attractive, and well maintained					Contractor's Environmental Manager and Site Manager	
Chapter 14 Land Use and Community	Operational airport	Continued detailed consultation with MOD/RAF in respect to the detailed construction schedule and any construction activities identified that may affect the airport. Agree appropriate construction methods to safeguard the operation of the airport					Contractor's Project Manager and Environmental Manager	
	Cruise liner passengers and Port Authority	Continued consultation with locally affected parties on construction traffic management, shipments of materials, noisy activities, key construction activities and responsible management. The contractor will identify personnel specifically responsible for liaison with key affected parties.					Contractor's Project Manager and Environmental Manager	
	Local residents and businesses	Public consultation meetings and site notices will be provided to inform local residents and businesses of key construction activities, the Construction Traffic Management Plan, and protection measures.					Contractor's Project Manager and Environmental Manager	

Subject (ES chapter)	Issue	Mitigation or Management Action	Project Phase				Parties Responsible	Best Practice / Guidance
			Enabling Works	Site Clearance	Ground Works	Building Works		
Chapter 15 Noise and Vibration	Construction noise and construction vibration	Implementation of CEMP containing details of noise and vibration requirements to minimise impacts from noise and vibration during the construction phase as agreed with the relevant authorities. This will include hoarding as an acoustic screen and noise monitoring and reporting to the statutory organisations.					Contractor's Environmental Manager and Site Manager	
Chapter 16 Traffic and Transportation	Construction vehicles, junction capqacity, traffic flows, severance, driver delays, pedestrians, public transport.	Implementation of a Construction Traffic Management Plan establishing appropriate start and end times for construction traffic using the local road network from the Frontier to the site to avoid busiest traffic periods. Goods vehicles will be inspected by the Site Manager to ensure adherence to agreed protocols, such as ensuring loads are covered, tailgates are closed and engines do not run idle, to limit disturbance.					Contractor's Environmental Manager and Site Manager	
		Designing suitable approach routes for vehicles within Gibraltar to avoid constrained local roads						
		Preparing an employee Travel Plan to limit the volume of construction staff car traffic						

Subject (ES chapter)	Issue	Mitigation or Management Action	Project Phase				Parties Responsible	Best Practice / Guidance
			Enabling Works	Site Clearance	Ground Works	Building Works		
Chapter 17 Waste and Material Resources	Construction waste arisings and material use	Re-use of inert spoil (sand) for other development schemes in Gibraltar.					Contractor's Environmental Manager and Site Manager	
		Development and implementation of a comprehensive site Waste Management Plan, including principles of the waste hierarchy, in agreement with relevant authorities.					Contractor's Environmental Manager and Site Manager	

Outline Operational Environmental Management Plan

In addition to the CEMP, it will also be important to develop an OEMP for environmental management and monitoring to be undertaken during the operation of the new power station. The Contractor has anticipated operational environmental management procedures. Once operational, the management of environmental risk will be part of the day to day management of the power station. Gibraltar Electricity Authority will be ultimately responsible to manage environmental risks once the power station is operational. An outline OEMP is provided in Table A4.3 below.

Roles and Responsibilities of Staff

The line of responsibility for environmental management once the power station is operational is shown below in Figure A4.2. Descriptions of individual environmental management responsibilities are described in the following paragraphs.

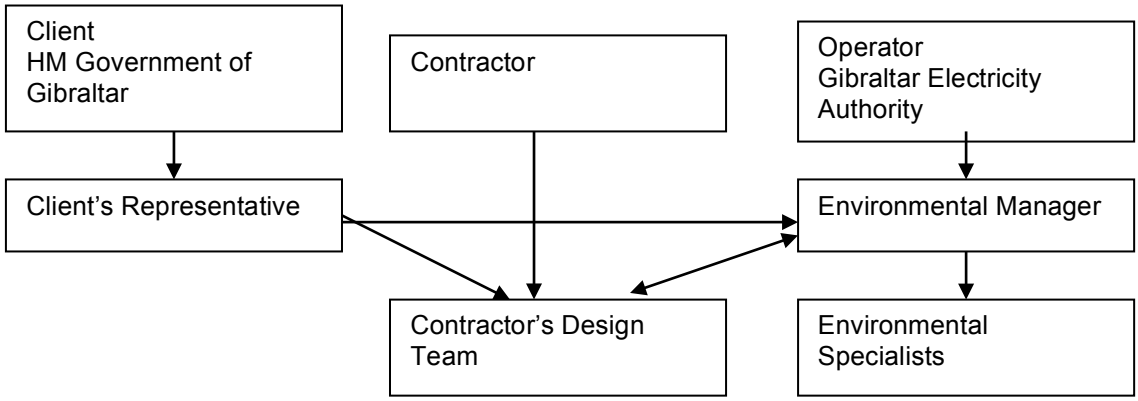


Figure A4.2 Environmental Organisational Chart for OEMP Implementation

Gibraltar Electricity Authority will have overall responsibility for ensuring that environmental objectives are adhered to during the operation of the power station. It is recommended that the following key team members will be responsible for managing operation environmental impacts:

The **Client's Representative** will be part of the HM Government of Gibraltar team, and will assure that the Contractor has incorporated operational mitigation as part of the detailed design of the power station, and that Gibraltar Electricity Authority are performing to the OEMP correctly. This may include audits.

The **Contractor's Design Team** will ensure that they have incorporated operational mitigation into the detailed design of the power station, so that Gibraltar Electricity Authority will be able to manage environmental risk once the power station is operational.

The **Environmental Manager** will provide assurance to the Gibraltar Electricity Authority's Board and Client's Representative that environmental issues are being appropriately addressed and managed. This will be achieved by:

- Developing and implementing strategies on various issues such as an Environmental Management System (EMS), waste management etc.;
- Managing and reporting on the power station's environmental performance;
- Conducting internal environmental audits and co-ordinating external environmental audits;
- Liaising with statutory bodies (e.g. Environmental Agency, GONHS) on environmental performance and other issues;
- Conducting environmental training and awareness of power station employees;
- Compiling environmental policies and procedures;
- Co-ordinating environmental monitoring (noise, ecology, air quality).

Gibraltar Electricity Authority will be required to employ Environmental Specialists if they do not have in-house capacity, in order to adhere to the mitigation measures described in the OEMP or in response to particular construction activities that may otherwise present an environmental risk. Detailed mitigation will be undertaken within each specialist field, and implementation and monitoring will be overseen by the Environmental Manager.

Table A4.3 Outline Operational Environmental Management Plan

Volume I	Issue	Mitigation or Management Action	Responsibility
Chapter 9 Air Quality	NO_2, SO_2, PM_{10} emissions	The proposed power station is designed to modern standards and will operate in compliance with local regulations regarding Integrated Pollution Prevention and Control. The engines will use BAT and will be equipped with fuel injection and valve timing to minimise NOx emissions. Further abatement of NOx levels in the exhaust gases will be achieved by the use of SCR. Mitigation measures have thus already been built into the design of the facility.	Design Team
Chapter 10 Coastal Processes and Water Quality	Accidental chemical releases	The proposed development includes suitable bunding for all oil and chemical containers, and automatic leak detection equipment. Actions in the event of spillages will be detailed in the OEMP.	Contractor's Design Team and Gibraltar Electricity Authority Environmental Manager
Chapter 11 Contaminated Land	Operational contamination – risks to humans	By incorporating mitigation measures in the development design the potential contamination risks will be rendered insignificant. In particular, hard surfacing for around and under the power station will mitigate the pollutant linkages via dermal contact and soil/dust inhalation. Future maintenance or excavations on the operational site will be undertaken through an OEMP which will serve to minimise potential risks to site workers and the environment.	Contractor's Design Team and Gibraltar Electricity Authority Environmental Manager

	Accidental chemical or oil release	Secondary containment and leak detection will be provided for any fuel and chemical storage, to minimise the potential for a spill to impact the environment. Suitably managed onsite activities including bunding of chemical storage areas, spill response plans, providing appropriate workforce training and covering of spoil, will minimise the potential for a spill to occur and also enable any spills to be controlled and remediated effectively. The control of storm water run-off will be through the use of appropriate sediment controls such as oil interceptors and covering of any contaminated areas. This will prevent storm water washing sediment (with or without contamination) off the area into the local drains.	Contractor's Design Team and Gibraltar Electricity Authority Environmental Manager
Chapter 12 Ecology and Nature Conservation	Deposition of airborne pollutants on the Rock SAC	A programme of monitoring for NOx will be established for the SAC, and include vegetation monitoring.	Gibraltar Electricity Authority Environmental Manager in consultation with ecological specialists and GOHNS.
	Accidental spills	The design of the power station includes leak detection and automatic cut-off valves. Implementation of spill contingency response measures as detailed in the OEMP will reduce risks.	Contractor's Design Team and Gibraltar Electricity Authority Environmental Manager
	Bird strike	Design of the power station incorporates bird deterring measures.	Contractor's Design Team and Gibraltar Electricity Authority Environmental Manager
Chapter 13 Landscape and Visual Amenity	Visual effects	Mitigation on the façade with landscaping and building design to reduce impacts to cruise liner terminal and users of the North Mole Road.	Contractor's Design Team

Chapter 15 Noise and Vibration	Residential receptors	The new power station represents a significant improvement on the current noise conditions that Waterport Power Station and the temporary generators contribute to. Noise monitoring will be conducted to ensure the new power station operates as it has been designed to do, at 70 dB(A) 1 metre from the façade and 45 dB(A) 200 metres from the façade at night. It is recognised that The Flying Angel will still experience above 5 dB(S) increases to the future predicted ambient noise. Waterport Terraces may experience a slight increase above 5 dB(A) on the predicted future ambient noise scenario (ie. without contribution from Waterport Power Station or the temporary generators. Local monitoring and reporting will be required and other consultation measures may be necessary.	
Chapter 17 Waste and Material Resources	Operational waste	Implementation of a Waste Management Plan to manage waste, along with OEMP measures.	Gibraltar Electricity Authority Environmental Manager

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ENERGIES & SERVICES

This Environmental Statement has been produced by Engain on behalf of the HM Government of Gibraltar.

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