

A6.0 EIA methodology

A6.1 Introduction

This section sets out the methodology adopted for the assessment of potential environmental impacts of the proposed scheme. In summary, this section describes:

- the screening and environmental scoping stages of the EIA process;
- a summary of the consultation undertaken in relation to the proposed scheme and how issues raised have been addressed through the EIA process;
- the approach adopted to define the baseline environment (specific details are provided for each environmental topic considered in the relevant chapter);
- the generic approach taken to assess potential impacts, including the evaluation of significance (where a different approach has been adopted for a specific topic, this is set out in the relevant chapter);
- the generic approach taken to the derivation of mitigation measures and the assessment of residual impacts; and,
- the approach taken to the assessment of cumulative impacts with other projects.

A6.2 Screening

Considering the scale and nature of the proposed scheme, a request for an EIA screening opinion was not considered necessary. A decision was made by the applicant to undertake an EIA and produce this EIS which forms part of the planning application.

A6.3 Environmental scoping

Regulation 10 of the 2015 Regulations states that an applicant who has been directed by the Planning Officer to submit an EIS (or, as in this case, when it has been assumed that an EIS is required) may request a scoping opinion of the Planning Officer as to the information and analysis that the EIS is to contain in order to be fit for submission. This is reinforced by Planning Guidance Note 1 (PGN1): Environmental Impact Assessment (F.I.G., 2015b), adopted in June 2015, which states that applicants are encouraged to ask the Planning Officer for an informal scoping opinion as to any key issues or useful sources of information.

A draft Environmental Scoping Report was submitted to F.I.G. Planning and Building Services in September 2020 for comment. Comments were provided by F.I.G. Planning and Buildings Services on the draft, and the final version of the Environmental Scoping Report (**Ref. 4**) was issued in October 2020 in support of a request for a scoping opinion. A scoping opinion was issued in November 2020, which confirmed that the proposed approach detailed in the Environmental Scoping Report was acceptable and relevant to the proposed scheme (**Appendix 3**). The assessment has, therefore, been undertaken in accordance with that set out in the Environmental Scoping Report.

In addition to the request for a scoping opinion, informal consultation has been undertaken throughout the EIA process with various personnel and departments within F.I.G. Such consultation was undertaken to ensure that Planning and Building Services were aware of developments with the scheme design since submission of the Environmental Scoping Report and to discuss and agree further detail of the approach to the EIA in some areas.

A6.4 Description of the baseline environment

A wide range of information has been gathered to define the baseline environment, comprising the following:

- Desk-based review of existing published data.

- Data provided by stakeholders.
- Field survey and site investigation information.

Within this EIS, the description of the baseline environment consists of the following aspects:

- The spatial location and extent of the environmental features or receptors.
- A description of the environmental features or receptors and their character.
- The context of the environmental features or receptors in terms of rarity, function, and population at the local, regional and national level.
- The sensitivity of the environmental features or receptors in relation to physical, chemical or biological changes.
- The value of the environmental features or receptors (e.g. designated status).

Receptors will exhibit a varying degree of sensitivity to the changes brought about by the proposed scheme. The sensitivity of a receptor is a function of its capacity to accommodate change and reflects its ability to recover if it is affected, and is defined by the following factors:

- Adaptability – the degree to which a receptor can avoid, adapt to or recover from an effect.
- Tolerance – the ability of a receptor to accommodate temporary or permanent change.
- Recoverability – the temporal scale over and extent to which a receptor will recover following an effect.

In order to define the sensitivity of a receptor, the guidelines presented in **Table 6.1** have been adopted in this EIS and the conclusions reached regarding the sensitivity of receptors have been presented in the baseline sections of each relevant environmental topic.

Table 6.1 Generic guidelines used in the determination of receptor sensitivity and value

| Sensitivity | Description |
|-------------|--|
| Very high | Receptor has very limited or no capacity to accommodate physical or chemical changes or influences. Receptor possesses fundamental characteristics which contribute significantly to the distinctiveness, rarity and character of the resource, is of very high importance and rarity that is international in scale and has very limited potential for substitution / replacement. |
| High | Receptor has a limited capacity to accommodate physical or chemical changes or influences. Receptor possesses key characteristics which contribute significantly to the distinctiveness, rarity and character of the resource, is of high importance and rarity in the context of the Falkland Islands and has limited potential for substitution / replacement. |
| Medium | Receptor has a limited capacity to accommodate physical or chemical changes or influences. Receptor possesses key characteristics which contribute to the distinctiveness and character of the resource, is of medium importance and rarity that is regional in scale, and has limited potential for substitution / replacement. |
| Low | Receptor has a moderate capacity to accommodate physical or chemical changes or influences. Receptor possess characteristics which are locally distinctive only, are of low to medium importance and rarity that is local in scale, and potentially can be substituted / replaced. |
| Very low | Receptor is generally tolerant of and can accommodate physical or chemical changes or influences. Receptor characteristics do not make a significant contribution to local character or distinctiveness, and are of very low importance and rarity, are not designated, and are easily substituted / replaced. |

A6.5 Impact identification and assessment

The EIA has been undertaken within a framework that allows for a transparent approach to the assessment and the resulting conclusions presented within this EIS. This section sets out the assigned definitions that are used in the assessment process. In addition, a description of the approach taken to the specific impact assessment for each environmental topic is provided (in each relevant chapter) so that it is clear how impacts have been defined.

The impact assessment process considers the following aspects when determining the significance of a potential impact due to the various effects (or changes) due to the construction and operation of the proposed scheme:

- Magnitude of the effect.
- Sensitivity of a receptor to the effect.
- Probability that an effect-receptor interaction will occur.
- Determination and (where possible) qualification of the level of impact on a receptor, considering the probability that the effect-receptor interaction will occur, the spatial and temporal extents of the interaction and the significance of the resulting impact.

The magnitude of an effect is typically defined by four factors:

- Extent – the area over which an effect occurs.
- Duration – the time for which the effect occurs.
- Frequency – how often the effect occurs.
- Severity – the degree of change relative to existing environmental conditions.

In order to help define effect magnitude (for effects which could be either adverse / negative or beneficial / positive), the criteria presented in **Table 6.2** have been adopted for the purposes of this EIA.

Table 6.2 Guidelines used in the determination of magnitude of effect

| Magnitude | Adverse / negative effects | Beneficial / positive effects |
|-----------|---|---|
| Very high | Loss of resource; severe damage to key characteristics, features or elements. Permanent / irreplaceable change, which is certain to occur. | Large scale improvement of resource or attribute quality; extensive restoration or enhancement. |
| High | Loss of resource; partial loss of or damage to key characteristics, features or elements. Permanent / irreplaceable change, which is likely to occur. | Improvement to, or addition of, key characteristics, features or elements of the resource; improvement of attribute quality. |
| Medium | Minor loss of, or alteration to, one (maybe more) key characteristics, features or elements; measurable change in attributes, quality or vulnerability. Long-term though reversible change, which is likely to occur. | Minor improvement to, or addition of, one (maybe more) key characteristics, features or elements of the resource; minor improvement to attribute quality. |
| Low | Very minor loss of, or alteration to, one (maybe more) key characteristics, features or elements; noticeable change in attributes, quality or vulnerability. Short- to medium-term though reversible change, which could possibly occur. | Very minor improvement to, or addition of, one (maybe more) key characteristic, feature or element; very minor improvement to attribute quality. |
| Very low | Temporary or intermittent very minor loss of, or alteration to, one (maybe more) characteristic, feature or element; possible change in attributes, quality or vulnerability. Short-term, intermittent and reversible change, which is unlikely to occur. | Possible very minor improvement to, or addition of, one (maybe more) characteristic, feature or element; possible improvement to attribute quality. |

The significance of an impact is determined by combining the predicted magnitude of the effect (**Table 6.2**) with the sensitivity of the receptor (**Table 6.1**), as defined in **Table 6.3**.

Table 6.3 Definition of the significance of potential impacts

| Receptor sensitivity (see Table 6.1) | Magnitude of effect (see Table 6.2) | | | | |
|--------------------------------------|-------------------------------------|------------|------------|------------|------------|
| | Very high | High | Medium | Low | Very low |
| Very high | Major | Major | Moderate | Moderate | Minor |
| High | Major | Moderate | Moderate | Minor | Negligible |
| Medium | Moderate | Moderate | Minor | Minor | Negligible |
| Low | Minor | Minor | Minor | Negligible | Negligible |
| Very low | Minor | Negligible | Negligible | Negligible | Negligible |

The probability of an effect occurring (i.e. an effect-receptor interaction) should also be considered in the assessment process, capturing the probability that the effect will occur and also the probability that the receptor will be present. For example, the magnitude of the effect and the sensitivity of the receptor may have been established, and it may be highly probable that the effect will occur; however, the probability that the receptor will be present at the same time should also be considered.

In the context of an EIA, 'significant impacts' are taken to be those of moderate or major significance (as defined in **Table 6.3**); albeit that appropriate mitigation, where available, should be sought for all impacts (see **Section A6.6**).

It should be noted that the proposed scheme is currently subject to a value engineering exercise which may amend the detail of the proposed scheme. The impact assessment presented in this report is based on a worst-case scenario (in terms of scheme footprint / dimensions and construction methodology).

The assessment presented in this EIS has been undertaken by a wide range of specialist environmental consultants, with **Section A9** and **A10** being largely written by SAERI.

A6.6 Mitigation and residual impact

Mitigation through design (embedded mitigation) is an important concept in ensuring that the environmental impacts of a proposed scheme are minimised. Through the development of the design of the proposed scheme, mitigation has been built into the design and this is referred to within **Section A4.3**.

Where significant impacts potentially remain, further mitigation measures are defined where available and feasible. Where further mitigation measures are identified, the significance of the residual environmental impact (i.e. the post-mitigation impact) is assessed.

A6.7 Assumptions and limitations

EIA legislation requires an EIS to provide an indication of any difficulties (technical deficiencies or lack of know-how) encountered during the assessment process. Any such assumptions or limitations are identified within the relevant topic chapter, where relevant.

A6.8 Cumulative impact assessment

This EIS has given due consideration to the potential for different residual impacts to have a combined impact on key sensitive receptors. The objective is to identify where the accumulation of impacts on a single receptor, and the

relationship between those impacts, potentially gives rise to a need for additional mitigation. Inter-relationships have been assessed within the relevant sections of the topic chapters of the EIS.

A6.8.1.1 Cumulative impacts

In line with the UK-based IEMA's Guidelines for EIA (2004), cumulative impacts are defined as: "*...the impacts on the environment which result from incremental impacts of the action when added to other past, present and reasonably foreseeable future actions ...*"

The 2015 Regulations do not define 'cumulative' but guidance on cumulative impact assessment (CIA) is provided in a number of good practice documents (e.g. the European Commission, 1999). Cumulative impacts can be defined as follows:

- Site-specific (or within-development) cumulative impacts - different effects associated with the proposed scheme have the potential to interact and, together, influence common receptors (e.g. noise and visual effects on ecology).
- Wider cumulative impacts which are the combined impacts (additive or interactive) that may occur between the proposed scheme and any other relevant development(s).

In order to determine the scope of CIA, a request was submitted to F.I.G. in December 2020 to confirm any projects which should be considered within a CIA. It is understood that further bedspaces are proposed at the Seafarer's Mission (consented in outline) and works are proposed at the SSL compound (to amend the pumping plant and associated controls). It is also understood that there are proposals for a wool store to the south of Airport Road; it has not been possible to consider the wool store with the CIA as we are not aware of any publicly available information regarding that scheme or any environmental assessment undertaken to support consent applications.

However, F.I.G. confirmed that the only project applicable to the CIA within 5km of the proposed scheme footprint is the proposed power station to be located within Stanley on an area of land south of Airport Road. However, F.I.G. also confirmed that the construction of the proposed power station would not commence before completion of the proposed scheme.

As a result, there is no mechanism for construction phase cumulative impacts to occur with the power station scheme (as the schemes would not be constructed at the same time). It is therefore concluded that there is no requirement to undertake a CIA and, therefore, cumulative impacts have not been considered further in this EIS.