2 EIA Legislation and General Methodology

2.1 Objectives and Purpose of EIA

2.1.1 The purpose of EIA is fourfold:

- To define the existing baseline environmental conditions and also the future baseline (in the absence of the development);
- To predict the positive and negative environmental effects of the development and their likely significance;
- To identify means of avoiding or reducing the environmental effects (i.e. improving the design and / or the inclusion of mitigation measures); and
- To describe the residual environmental effects after mitigation.

2.1.2 The EfW CHP facility project is subject to an EIA. The EIA procedure requires the developer to undertake certain environmental studies and compile an ES describing the likely significant effects of the proposed development on the environment and proposed measures to mitigate these effects. This ES has been prepared by Scott Wilson environmental and planning consultants on behalf of MVV. The EIA process will continue during the period of the planning application's consideration, taking into account this ES, and the views of Plymouth City Council officers as the Waste Planning Authority, statutory and non-statutory consultees, and the public.

2.2 Legislative Background

2.2.1 The legislative framework for EIA is set by European Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment, as amended by Directive 97/11/EC and Directive 2003/35/EC. Collectively, this is known as 'the EIA Directive'. The EIA Directive is concerned with ensuring that the likely environmental effects of proposed major development projects are considered thoroughly in order to inform the decision makers in the 'development consent' process.

2.2.2 Since the UK has a number of different 'development consent' regimes for different types of projects, the EIA Directive has been implemented into UK law through a number of Statutory Instruments. In the case of the proposed EfW CHP facility, development consent is being sought through a planning application to Plymouth City Council (PCC) as Waste Planning Authority. The Statutory Instrument implementing the EIA Directive for the purposes of planning applications, and under which this ES is submitted, is the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 (SI No. 293) (as amended). For brevity these Regulations are referred to in this report as the 'EIA Regulations'.

2.3 Screening

2.3.1 The process of determining whether or not an EIA is required for a given development project is known as 'screening'. A formal judgement (a 'screening opinion') on the need (or otherwise) for an EIA can be obtained from the Local Planning Authority, or in this case the Waste Planning Authority since this is a waste management project, under Regulation 5 of the EIA Regulations.

2.3.2 The EIA Regulations include two lists of different types of development projects. The first list is Schedule 1, which identifies all types of projects for which an EIA is mandatory. The second list is Schedule 2, which identifies the types of projects for which an EIA may be required if the project in question is considered likely to give rise to significant environmental effects.

2.3.3 The proposed development falls under Schedule 1 of the EIA Regulations, as it will incinerate or chemically treat (to use the terminology in the EIA Regulations) more than 100 tonnes of waste per day, and an EIA is therefore mandatory. On this basis, no formal screening opinion was sought from the Waste Planning Authority.

2.4 Scoping

2.4.1 Scoping is the process of identifying the issues to be addressed in the EIA. It aims to focus the EIA on the likely environmental impacts that require further attention, whilst determining the impacts that are unlikely to require additional study. Government *Circular 2/99*[1] acknowledges that the role of an EIA is to examine *"the main or significant effects to which a development is likely to give rise"*. The scoping of an EIA by which these main or significant effects are identified is, therefore, an important preliminary procedure that sets the context for the study. Indeed guidance produced by the Environment Agency[2] states:

> *"Scoping is a critical stage early in the EIA process. It provides an opportunity for developers and their consultants to identify and assess the key environmental impacts and issues of concern, facilitated by thorough consultation with, amongst others, planners, statutory and non-statutory consultees, non-governmental organisations (NGOs) and the public."*

2.4.2 Although there is no formal requirement in the EIA Regulations to produce a Scoping Report prior to preparation and submission of an ES, draft Government guidance[3] acknowledges that:

> *"It is good practice for the developer to submit a Scoping Report with the scoping request."*

2.4.3 In addition, research[4] suggests that most planning authorities welcome the way in which Scoping Reports provide a detailed and structured presentation of information and find them useful in preparing their Scoping Opinions.

2.4.4 A Scoping Report was prepared by a team of environmental consultants from Scott Wilson, based on desk and field-based knowledge of the site, prior experience of other waste management EIAs, initial consultation with statutory consultees and work undertaken by Scott Wilson to support MVV's bid for the SWDWP residual waste treatment and disposal contract. The proposed EIA scope was also informed and agreed by MVV. The purpose of the EIA Scoping Report was to:

- Describe the site and surroundings;
- Identify sensitive receptors in the vicinity of the site;
- Describe the proposed development;
- Identify the potential environmental issues associated with the proposed development;
- Define what methods were proposed to be used to assess the environmental effects of the proposed development;

- Provide a basis for consultation, where appropriate, with statutory and non-statutory consultees and the public on the relevant environmental issues; and
- Seek a Scoping Opinion of the Waste Planning Authority, PCC, in order to formalise the EIA scope.

2.4.5 A Scoping Opinion request and accompanying Scoping Report was submitted to PCC's Department of Development on 21st June 2010 under Regulation 10 of the EIA Regulations. A copy of this Scoping Report is included at Appendix 2.1 to this ES.

2.4.6 In addition a supplementary letter providing clarifications was provided by Scott Wilson to PCC on 8th July 2010. This clarified points relating to air quality monitoring and flood risk. A copy is provided at Appendix 2.2.

2.4.7 Prior to PCC's Scoping Opinion being issued, discussions took place between PCC and Scott Wilson's ecological, noise and air quality specialists on the detail of the proposed survey and assessment methodologies. The discussions led to PCC suggesting an additional noise monitoring location which Scott Wilson subsequently surveyed. It was also agreed that the emissions from road traffic would need to be assessed using a detailed dispersion model as opposed to the DMRB Screening model. As a result, verbal agreements were reached with PCC's officers and the Scoping Opinion reflects this.

2.4.8 PCC provided its Scoping Opinion on 28th July 2010. A copy of which, including the supporting correspondence from other organisations consulted, is included at Appendix 2.3. Both MVV and Scott Wilson reviewed the Scoping Opinion and subsequent clarifications in detail. The items raised by PCC in the Scoping Opinion, and the way in which they have been dealt with in the ES, are presented below in Table 2.1.

2.4.9 Within its Scoping Opinion, PCC also included communications received from the following consultees: PCC Public Protection Service; Nuclear Directorate; English Heritage; Highways Agency; Environment Agency; Ministry of Defence (MoD) Defence Estates Safeguarding; and Natural England. The key comments from these parties and the way in which they have been addressed in the ES are presented in turn in Tables 2.2 to 2.8 below.

2.4.10 The Scoping Opinion agreed in broad terms with the suggested traffic monitoring and transport assessment proposals. Subsequent to the determination of the Scoping Opinion, Scott Wilson traffic consultants opened dialogue with PCC highways department and the Highways Agency in respect of the location, type and duration of traffic surveys. PCC highways department and the Highways Agency agreed to the proposed methodology although the Highways Agency suggested that queue lengths should also be measured at two locations.

2.4.11 Early dialogue also opened between Scott Wilson's landscape architect and PCC's urban planning co-ordinator, in particular to discuss and agree the viewpoints to be assessed in the landscape and visual impact assessment.

2.4.12 In a meeting with PCC's Department of Development on 24th August 2010 the Scoping Opinion was discussed and clarifications were sought and received on a number of technical points. Further to this meeting Scott Wilson wrote to PCC's Department of Development to further clarify certain points concerning the dust assessment and the human health risk assessment (see Appendix 2.4).

Table 2.1: Key Points Raised by Plymouth City Council (PCC) in its Scoping Opinion

Point Raised	How the Point is Taken Account of in the ES
Unallocated Sites. The EIA should demonstrate more fully the extent to which the proposed development adheres to the criteria set out in Policy W7 of the Plymouth Waste Development Plan Document 2006-2021 adopted 2008.	This point is addressed in ES Chapter 5: Alternatives to the proposed development. It is also addressed in the separate Planning Application Supporting Statement.
The ES should include a full analysis of the rationale for the choice of an EfW plant to dispose of residual waste.	The need for the proposed development is described in ES Chapter 3: The need for the proposed development. In addition, ES Chapter 5: Alternatives to the proposed development considers the different technology options and explains why EfW technology was selected. These matters are also to differing degrees discussed in the separate Planning Application Supporting Statement and in the Environmental Permit application BAT ('Best Available Techniques') assessment.
The ES should include an analysis of the strategic and local implications for the operation of the dockyard and MoD facility and for local employment.	The social and economic implications for the operation of the dockyard and MoD facility, and more widely, are covered in ES Chapter 17: Socio-economics. Local employment is also covered in ES Chapter 6: Description of the proposed development.
An assessment of the need for renewable energy for use at premises close to the site is required.	The EfW CHP facility will generate electricity and heat from a renewable energy source. Some of this electricity and heat will be re-used within the process and by the facility itself. Some electricity and heat will be exported to Devonport Dockyard and HMNB. The remaining electricity will be exported to the grid. This is also addressed in the separate Energy, Economy, Employment and Education Benefits Statement.
The need for secondary aggregates and metal recovery needs to be assessed (PCC have clarified they would require details regarding the outputs from the plant, where they would be recovered etc)	Full details are provided in ES Chapter 6: Description of the proposed development.
The rationale for the choice of site over others (taking into account environmental effects) should be provided.	The consideration of alternative sites is explored in ES Chapter 5: Alternatives to the proposed development. This demonstrates the rationale for the choice of the dockyard above other sites.
Full details of the scale, scope and operation of the community area should be provided.	ES Chapter 6: Description of the proposed development provides details of this.
The ES should include full details of the proposed storage, treatment and likely transportation arrangements for the bottom ash.	ES Chapter 6: Description of the proposed development provides details of this.
Full details of the environmental impacts arising from the demolition and construction of new bridges and a new access road and the implications for neighbouring land uses arising from the loss or relocation of existing car parking areas and access routes and details of the impact upon the Weston Mill Viaduct should be provided	The environmental impacts arising from the demolition and construction of new bridges and a new access road are assessed within each relevant ES assessment chapter. A Method Statement for the new bridge construction can also be found in Appendix 6.5. The implications for neighbouring land use arising from the loss / relocation of existing car parking areas and access routes is explored in greater detail in ES Chapter 12: Traffic and Transport assessment. There will not be

Point Raised	How the Point is Taken Account of in the ES
	any impacts on the viaduct.
The ES should include full details of the proposed plant, buildings and structures associated with site generated energy including the environmental impacts arising from plant required for connecting into the electricity grid including the impacts of the routing of any overhead power lines and the details of any impacts upon the Weston Mill Viaduct and measures envisaged to reduce adverse effects.	Full details of the proposed development are provided in ES Chapter 6: Description of the proposed development. The environmental impacts arising from the construction and operation of the proposed development are assessed in each of the relevant ES assessment chapters, with mitigation proposed where necessary. There will be not be any overhead power lines.
Full details of the environmental impacts arising from on-site storage areas, bunkers and containers and the security fencing, gates and site controls needed to prevent fly-tipping outside delivery hours should be provided.	Full details of the proposed development are provided in ES Chapter 6: Description of the proposed development. The environmental impacts arising from the construction and operation of the proposed development are assessed in each of the relevant ES assessment chapters, with mitigation proposed where necessary.
A Zone of Visual Influence (ZVI) needs to be defined with a full appraisal of likely visual impacts of the development upon the locality during night-time and daylight hours (including from public vantage points across the Hamoaze within the Tamer Valley AONB, Antony House and Wilcove Lane and hamlet).	A full landscape and visual impact assessment forms ES Chapter 8 and this includes the definition of a ZVI. The viewpoints mentioned, as well as others, are assessed as part of the landscape and visual impact assessment. This followed further discussion with PCC.
The ES should include an assessment of the implications for the local population of any change in air quality resulting from the proposed development and local meteorological conditions.	ES Chapter 13: Air quality assesses the implications of the proposed development on air quality. The assessment involves computer modelling of the chimney and traffic emissions, taking into account baseline air quality and the local meteorological conditions.
A BS: 5837 tree survey will be required to be submitted for the ES indicating which trees it is proposed to remove/replace and which to retain. The impact upon some semi-mature trees along the northern edge of the current car park in the area proposed for a new access road access needs to be assessed as does the extent of the impact on 'Blackies' woodland (which is a landscape feature for a wide area of St Budeaux and Barne Barton and particularly visible to train passengers).	A tree survey has been undertaken and is provided at Appendix 8.2. The access road will not affect any trees. Impacts on Blackies Wood are assessed in both Chapter 7: Ecology assessment and Chapter 8: Landscape and visual assessment.
The proposed Historic Environment element of the EIA appears adequate.	This point was noted and the impact on the historic environment is assessed in ES Chapter 9: Cultural heritage assessment.
Clarification is needed regarding the extent of site that is previously developed land. The extent of the main building and its car park needs determining together with the extent of any clearance to the edge of Blackies wood.	The extent of previously developed land is clarified within ES Chapter 4: Land use: the site and surrounding area. The extent of the main building and car parking is defined in ES Chapter 6: Description of the proposed development, along with the figures accompanying this chapter. The impacts on trees are discussed above.

Point Raised	How the Point is Taken Account of in the ES
The extent of mitigation measures needs to be assessed for the demolition of the two bridge crossings and the construction of a new bridge. The impact needs to be evaluated in the EIA in a comprehensive manner - impacts likely upon Biodiversity, Land and Water Quality and for inclusion within the Appropriate Assessment for the Marine SAC.	The environmental impacts arising from the demolition and construction of bridge crossings are assessed within each relevant ES assessment chapter, with mitigation proposed if necessary. A Method Statement for the new bridge construction can also be found in Appendix 6.5. The information provided is sufficiently detailed to enable the competent authority to carry out an Appropriate Assessment if one is deemed necessary; a separate Habitats Regulations Assessment, collating the relevant information, is provided as Appendix 6 to the Planning Application Supporting Statement.
The landscaping plan should incorporate ecological enhancement features (in particular it is a policy requirement for identifying net biodiversity gain as per Core Strategy 19).	Ecological enhancement measures are incorporated into the landscape masterplan. These measures are described in further detail in ES Chapter 7: Ecology assessment and ES Chapter 8: Landscape and visual assessment as appropriate.
The Phase 1 Survey will need to be updated to cover the entire area of the proposed development/mitigation areas.	The Phase 1 Habitat Survey was extended to cover all land within the site boundary and this forms part of ES Chapter 7: Ecology assessment.
The requirement for net gain could be partially met by improving the habitat of the adjacent creek (a UK BAP habitat). A marine biotope survey would be necessary to establish a baseline level of information on which to base enhancement recommendations. (Natural England and the EA also suggest that the adjacent creek can be enhanced).	The demolition of two existing bridge crossings and construction of a new bridge crossing will allow the channel of the creek to be opened up and allow some re-profiling of the banks to take place. Fly-tipped rubbish will also be removed at this stage. A brown roof will be provided on the workshop building to provide habitat for black redstart which have been recorded on the site. There was not time after receipt of the EIA Scoping Opinion in July 2010 and the subsequent discussions in the months that followed to do the marine biotope survey in the appropriate season in 2010. ES Chapter 7: Ecology makes an assessment based on known desk study data / likely impacts and commits to doing the survey in the appropriate season in 2011, which can be completed and an addendum submitted before the planning application is determined by PCC.
The visual impacts and changes to the landscape are not confined to the proposed building but extend to include the entire proposal (including any external bottom ash store). The EIA should indicate how the analysis of impacts and required mitigation measures has informed the design of the EfW facility.	The landscape and visual impacts of the entire development are assessed in Chapter 8: Landscape and visual assessment. ES Chapter 5: Alternatives to the proposed development, details the alternative site layouts considered and explains how the design has evolved to take account of the EIA findings.
Transient impacts should include impacts upon users of the Cornwall-Devon SW rail link both north and southbound and those approaching the City using the A38 from Tamar Bridge.	Impacts on users of the railway and Tamar bridge are assessed as part of ES Chapter 8: Landscape and visual impact assessment.

Point Raised	How the Point is Taken Account of in the ES
The suggested coverage of visual receptors to establish a visual baseline and extent of change is inadequate for a development of this magnitude. The EA needs to cover local receptors within the surrounding neighborhoods, from vantage points in the City and from the wider sensitive landscapes, such as from points on the fringes of Dartmoor, in Cornwall AONB and at sensitive locations such as from Mount Edgecombe. (A map which identifies some of these viewpoints is available).	The visual receptors covered within the EIA Scoping Report were selected to provide an initial assessment of visual impact and were not intended to be a full list. The full list of visual receptors assessed as part of the landscape and visual impact assessment was decided following further discussion and agreement with PCC. Following a meeting with PCC, PCC sent a map of suggested receptors to Scott Wilson, and this was discussed in further detail with PCC.
Given the proximity to the SAC, it is vital that the EIA demonstrates mitigation measures/how contaminants will be prevented from entering the Tamar including during construction given the contaminated nature of the development site as well as from operations.	Mitigation measures to ensure that contaminants are prevented from entering the Tamar are detailed in Chapter 11: Hydrology, hydrogeology and flood risk assessment.
It may also be helpful to refer to the Shoreline Management Plan 3 in order to demonstrate that the development is compatible.	This document has been reviewed and it is considered that the development is compatible.
Paragraph 5.8.48 of the EIA Scoping Report states that a qualitative assessment would be undertaken to identify activities with the potential to generate dust and then to identify appropriate mitigation measures - more information is required on the method to be used.	ES Chapter 13: Air Quality provides full details of the methodology to assess any impacts relating to dust. Scott Wilson's air quality specialist provided further details of the proposed dust assessment methodology to PCC for agreement (see Appendix 2.4).
The EIA states that more monitoring and modelling of acid and nitrogen deposition on the Plymouth Sound and Tamar Estuaries European Marine Site will need to be undertaken. This will also be required as part of the Appropriate Assessment of the potential impacts on the European Marine Site.	Modelling of acid and nitrogen deposition on the Plymouth Sound and Tamar Estuaries European Marine Site was undertaken as part of ES Chapter 13: Air quality, with the impacts assessed in ES Chapter 7: Ecology. The information provided is sufficiently detailed to enable the competent authority to carry out an Appropriate Assessment of the potential impacts on the European Marine Site if an AA is required. A separate Habitats Regulations Assessment, collating the relevant information, is provided as Appendix 6 to the Planning Application Supporting Statement.
Given the proximity to the SAC and one of its features being salmonids, it is important to demonstrate that any noise and vibration from either the construction or the operation of the plant will not have an impact on migratory fish in order to ensure that vibrations are not transmitted through the water. How this will be assessed needs to be set out in the EIA / AA.	Salmonids are not listed as being a feature for which the SAC was designated. However, it is acknowledged that they do use the estuary. Further clarification was sought from PCC on this matter and it was agreed that because there would be no piling within the river or creek, and that piling on land would be of the rotary bored variety, a detailed assessment on the effects of piling vibration on salmonids would not be required.
Transport. A Transport Assessment will need to be produced in accordance with DfT document 'Guidance on Transport Assessment' March 2007. All impacts of the new facility on the highway network will need to be assessed including clearly demonstrating:	A Transport Assessment is provided in ES Chapter 12: Traffic and transport assessment.

Point Raised	How the Point is Taken Account of in the ES
Detailed consideration of the amount of construction and operational traffic accessing the site during the peak hours and on a daily basis.	Full details of construction and operational traffic are provided in ES Chapter 12.
Modes of transport to be used.	Modes of transport are detailed in ES Chapter 12.
Consideration of existing waste volumes, origins and destinations of existing waste, vehicle types and loadings, traffic generation.	ES Chapters 6 and 12 provide details of the existing waste origins and destinations. ES Chapter 12 gives consideration to different vehicle types, differentiating between local collection vehicles and bulkers coming from waste transfer stations.
Such an assessment should include a detailed comparison of how and where waste is currently disposed of compared to how this site will operate in the future. Also consideration should be given to the impact resulting from the disposal of ash from the facility.	These issues are covered in ES Chapter 12.
Demonstrate what is the environmental impact of the proposed facility on the wider network in terms of changes in vehicle mileage resulting from this facility – and whether the location is the most sustainable in terms of minimising the environmental impact of HGV movements. This is particularly relevant in relation to waste which is currently generated and disposed of elsewhere and which would now be brought to this facility and the additional mileage which this generates.	The environmental impact of the proposed facility on the wider road network is considered in ES Chapter 5.
Highway capacity assessments are needed of all the junctions where significant impact on capacity occurs in particular A38/St Budeaux Bypass and Weston Mill Drive/Wolseley Road junction.	Assessments of the A38 / St Budeaux Bypass and Weston Mill Road / Wolseley Road junctions were undertaken and the results included in ES Chapter 12.
Demonstrate a use of up to date background traffic data, in identifying traffic generated by committed development within the Transport Assessment.	Committed developments are taken into account in the assessment; these were agreed with PCC Highways and the Highways Agency. Traffic surveys were undertaken in Autumn 2010.
Provide scaled detailed drawings showing any revised highway layouts.	Scaled drawings of any revised highways layouts are provided as part of Chapter 6: Description of the proposed development and are referenced in Chapter 12 as necessary.
Provide details of HGV swept paths showing suitability of both internal and external access arrangements.	HGV swept path analysis was carried out to inform the design of the proposed development, therefore demonstrating the suitability of the access arrangements. These drawings are provided as part of ES Chapter 12.
Provide details of parking arrangements.	Parking arrangements are provided in ES Chapter 12.
Demonstrate how safe and convenient pedestrian and cycle access will be provided.	Information on the provision of safe pedestrian and cycle access is provided in ES Chapter 12.
Provide a management plan that demonstrates suitable mitigation of highway impacts (including	Mitigation measures regarding highways impacts are detailed in Chapter 12. A Construction Environmental

Point Raised	How the Point is Taken Account of in the ES
identifying suitable HGV routes, wheel washing, hours of operation etc). Provide details of a staff travel plan to mitigate transport impacts.	Management Plan (CEMP) will be formulated prior to construction of the proposed development (an outline CEMP is provided in Appendix 6.3). A Framework Travel Plan, promoting suitable modes of transport, forms an appendix to ES Chapter 12.
Comments from PCC Public Protection Service.	See Table 2.2 below.

Table 2.2: Key Points Raised by PCC Public Protection Service

Point Raised	How the Point is Taken Account of in the ES
The EIA Scoping Report states that bottom ash from the incineration process will be stored in the open air prior to processing. Although it is stated that the ash will be moist, there is concern that dust and particulates will impact adversely on surrounding sensitive receptors during periods of strong winds or adverse weather conditions. Therefore mitigation measures to control the breakout of any dust or effluvia must be detailed in the full EIA.	It should be noted that the comment was made at a time when it was thought that bottom ash would be treated on site. Bottom ash will be transported off site and recycled at a separate facility subject to its own planning submission. The way in which bottom ash is managed is described in detail in ES Chapter 6: Description of the proposed development. ES Chapter 13: Air quality assessment provides an assessment of impacts relating to dust and provides details of proposed mitigation measures.
Concern is expressed about the stated height of the stack (85 metres). Nearby land at Barne Barton rises to 55 metres and land at Kings Tamerton rises to 96 metres. This will make the stack the dominant visual feature in the locality and at a level with many residential properties.	It is acknowledged that the chimney will be visually prominent. The chimney height has been optimised during the modelling undertaken for ES Chapter 13: Air quality assessment. It has been kept as low as possible whilst also ensuring adequate dispersion of chimney emissions. The visual impact of the proposed development is assessed in ES Chapter 8: Landscape and visual assessment.
The Dispersion Modelling Assessment must consider the effects of stack emissions and plume on properties at the same level and higher ground, for example at Tamarside School 90 metres, and not purely on properties in the immediate vicinity of the site.	Dispersion modelling has been undertaken at a range of receptors, including Tamarside School.
Initial data from an NO_2 diffusion located at the junction of the A3064 at Camels Head and the dockyard indicate that the area is already experiencing poor air quality from road traffic which is not reflected in the report, for example (36, 41, and 35 $\mu g/m^3$). Although only an indication at this stage, the EIA scoping report suggests undertaking the DMRB Screening Assessment for the air quality and a Dispersal Model for the stack emissions. It is this Department's view that dispersal modeling should also be carried out for the road traffic emissions/total emissions in the area.	Scott Wilson carried out baseline air quality monitoring both in the dockyard and within Plymouth city, Torpoint, Saltash and Dartmoor. The monitoring locations were agreed with a PCC Public Protection Officer. The results of this baseline monitoring are taken account of in the modelling undertaken as part of Chapter 13: Air quality assessment. Scott Wilson also requested in a meeting that PCC provided the data from their diffusion tubes at the Camel's Head junction. Dispersal modelling has been carried out for the road traffic emissions / total emissions in the area.
Contact has already been made by the applicant's consultants and a further two locations have been added to the diffusion tube monitoring programme.	As stated above, the baseline air quality monitoring locations were agreed with a PCC Public Protection Officer, including these two additional points.

Point Raised	How the Point is Taken Account of in the ES
Section 3.12 of the EIA Scoping Report discusses the permit required under the Environmental Permitting (England and Wales) Regulations 2010. As an A1 process the Environment Agency will be responsible for the application and regulation of the site. This Department welcomes and encourages submission of the permit application at the same time as the planning application and EIA, and as prescribed in section 5 of DEFRA's General Guidance Manual on Policy and Procedures for A2 and B Installations.	This point was noted so that the Environmental Permit application would be made shortly after the planning application.
Considering the site setting, development and operational phases and taking into account the following: • That WID objectives are to achieve minimum impact from emissions to air, soil, surface/groundwaters and on environmental health resulting from waste incineration. • Dust (and odours) can be minimised by, amongst other things, operations being performed under controlled conditions indoors. Both of the above taken from DEFRA guidance - Incineration of Municipal Solid Waste (2007). And: • That background levels of key chemicals identified in the WID may already be elevated in soils on site and surrounding the site. • Likely presence of an on site combustible ground gas source, potential pathway creation as a result of development and the presence of vulnerable receptors on site and nearby. • Inclusion for bottom ash storage in a walled compound prior to processing. • Potential long term monitoring requirements. Plymouth City Council proposes a need for detailed human health impact assessment and additional allowance for full analysis of the above factors.	An assessment of the impacts of the development on health and wellbeing has been undertaken - see ES Chapter 18 and accompanying appendices.

Point Raised	How the Point is Taken Account of in the ES
Section 5.9 of the EIA Scoping Report refers to noise and vibration. The Public Protection Service is satisfied, in the main, with the proposed methodology for the noise assessments. We would ask that the Noise Consultants who will carry out the Assessments liaise with this Department to agree fine detail. For example section 5.9.10 discusses baseline noise monitoring locations. The Assessment only considers residential properties in the immediate area, due to local knowledge of the area and noise from the dockyard experienced at locations further away, particularly on higher ground and during temperature inversions, this Department would expect baseline measurements to be carried out at other locations on higher ground.	This point was noted. Scott Wilson contacted the relevant PCC officer in order to agree the baseline noise monitoring locations. Following the discussion between Scott Wilson and the relevant PCC Officer, an additional location further north, on higher ground, was surveyed.
There is a school located at the junction of the A3064 at Camels Head and the Dockyard and this Department is aware of development proposals, not yet submitted, for the redevelopment of the land currently occupied by the Fire Station for combined commercial, retail and residential units.	Road traffic emissions at the school have been assessed as part of the modelling carried out for ES Chapter 13: Air quality assessment. In pre-application discussions held in February 2011, the PCC Development Management Department made MVV aware of a number of other development proposals in the vicinity. These are listed and the potential cumulative effects considered in ES Chapter 19.
Noise levels during the construction phase should be calculated using the methodology contained within British Standard 5228-1:2009 the predicted noise levels should be assessed against the guideline noise limits suggested in the significance based on fixed noise limits detailed in paragraph E.2 of BS5228-1:2009 and the draft Guidelines for Noise Impact Assessment produced by the Institute of Acoustics and the Institute of Environmental Management and Assessment. Vibration during the construction phase must also be considered.	The noise and vibration impacts of the proposed development are considered in ES Chapter 14: Noise and vibration assessment. Noise levels were calculated and assessed in accordance with the guidance suggested. Vibration during construction was assessed as part of ES Chapter 14.
Operational noise should be investigated, showing the extent to which it will increase background noise levels locally, and appropriate mitigation outlined.	Noise modelling has been undertaken and is reported in ES Chapter 14: Noise and vibration assessment. The assessment shows the extent to which background noise levels are likely to increase. ES Chapter 14 also provides details of mitigation measures where necessary.
Concern is expressed that vibration from the stack and vehicle and plant movements during the operational phase (section 5.9.13) has not been considered. This will need to be discussed in the full EIA with full justification to why it is not considered significant.	ES Chapter 14: Noise and vibration assessment provides a justification as to why vibration during the operational phase is not considered significant.

Point Raised	How the Point is Taken Account of in the ES
The assessment of noise from the EfW facility and any fixed plant associated with waste movement or transfer operations should be undertaken in accordance with the guidance contained in BS4142:1997 and that a tonal penalty should be applied to the noise sources where appropriate.	The assessment of noise and fixed plant is undertaken in accordance with BS4142:1997. A discussion concerning the application of a tonal penalty can be found in ES Chapter 14.
The cumulative noise levels must be assessed against the existing ambient noise levels.	The noise levels of the proposed development are compared to existing background noise levels.
Noise levels generated by HGV movements to the site and by the mobile plant associated with site operations should be predicted using the guidance contained in BS5228-1:2009 for mobile plant and ISO9613 for fixed plant, and be assessed against the guidance contained in MPS2.	Noise levels are calculated and assessed in accordance with the guidance suggested.
The Transport Assessment should identify how many and in what hour during the day the additional trips will be generated. Mitigation measures to reduce the impact at any junctions should also be detailed. This Department would also like to be provided with details on any predicted trip generation data for each hour throughout the day rather than just an hourly average e.g. will all these additional trips happen during the peak or off-peak. The route from the A38 to Camels Head gate has been identified on the national noise maps and as such the impact of traffic noise should be considered on existing residential properties and school.	ES Chapter 12: Traffic and transport assessment provides a breakdown of the number of trips expected on an hourly basis. This information is useful for local residents as well as the planning authority. The impact of traffic noise at sensitive receptors (including nearby residential properties and schools) is considered. The noise sensitive receptors considered have been discussed and agreed with PCC.
The proposed site is located next to a tidal creek, railway and embankment and woodland all providing natural harbourage for vermin. The Scoping Report makes no mention to the control of vermin displaced during the construction phase. All Councils have a statutory duty under the Prevention of Damage by Pest Act 1949 to control vermin within the Authority's area and to make sure owners of developments are aware of their responsibilities. Pest problems are commonplace where site disturbance takes place. Because of the impact on neighbouring properties/land the Council will require the following information to be discussed in the EIA or submitted with the construction management plan as a pest control plan and detailed control measures provided for the control of vermin during the operational phase.	The facility has been designed, and will be maintained, such that vermin, seagulls, flies, etc will not find the facility an attractive environment. The waste within the bunker will be continuously mixed and agitated meaning that the conditions would not be attractive to vermin. Litter and detritus will be cleared up on a daily basis with particular emphasis on public areas. Any litter escaping the site or deposited by site users will be cleared up to a 10m distance from the site boundaries.

Table 2.3: Key Points Raised by the Nuclear Directorate

Point Raised	How the Point is Taken Account of in the ES
As the site is close to the area covered by the Site Emergency Plan it is necessary to assess whether the development can be incorporated into the Emergency Plan.	See Appendix 6.1 for appropriate risk assessments.
HSE will respond further when the planning application is submitted.	This point was noted.

Table 2.4: Key Points Raised by English Heritage

Point Raised	How the Point is Taken Account of in the ES
No further comments to those made in December 2009. In December 2009, English Heritage commented: *"Although there is a significant (and coherent) cluster of listed buildings at HMS Drake, there are no significant designated assets in the immediate vicinity of the proposed site to the north-east of North Yard. Clearly the massing and design of any proposed development on this site would require careful consideration."*	It was appreciated that massing and design are important issues and the Landscape Architects and Architects therefore undertook design work accordingly. It should be noted that the cluster of Listed Buildings is located in excess of 200m from the closest point of the proposed main building of the EfW CHP facility. The planning application and EIA has assessed the effects of the proposed EfW CHP facility appropriately. The impact of the proposed development on listed buildings is considered in ES Chapter 9: Cultural heritage assessment. The design evolution of the proposed development (including details regarding massing and design) is described in ES Chapter 5: Alternatives to the proposed development.

Table 2.5: Key Points Raised by the Highways Agency

Point Raised	How the Point is Taken Account of in the ES
The comments made relate specifically to matters arising from the Agency's responsibilities to manage and maintain the Strategic Road Network (SRN) in England. In particular reference should be made to the impact on A38(T)	ES Chapter 12: Traffic and transport assessment assesses the impact of the proposed development on the A38(T).
Comments relating to the local road network should be sought from the appropriate local highways authority.	This point was noted and comments were received from PCC transportation team (see Table 2.1 above).
General aspects to be addressed in all cases: • An assessment of transport related impacts of the proposal should be carried out and reported as described in the current Department for Transport 'Guidance on Transport Assessment'. • The assessment shall take account of guidance given in DfT Circular 02/20078 'Planning and the Strategic Road Network'. • Environmental impact arising from any disruption during construction, traffic volume, composition or routing change and transport infrastructure modification should be fully assessed and reported. • Adverse change to noise and air quality should be particularly considered, including in relation to compliance with the European air quality limit values and/or in local authority designated Air Quality Management Areas (AQMAs). • No new connections are permitted to the Highways Agency drainage network. In the case of an existing 'permitted' connection, this can only be retained if there is no land use change. • Development must not lead to any surface water flooding on the Strategic Road Network carriageway.	ES Chapter 12: Traffic and transport assessment assesses the transport related impacts of the proposed development and is carried out in accordance with this guidance. The assessment also takes account of DfT Circular 02/20078. These issues are covered in ES Chapter 12. Road traffic emissions are assessed in ES Chapter 13: Air quality assessment and road traffic noise is assessed in ES Chapter 14: Noise and vibration assessment. It is anticipated that no new connections to the Highways Agency drainage network are required. Flood risk both to and from the proposed development is assessed and reported in ES Chapter 11: Hydrology, hydrogeology and flood risk assessment. Due to the distance from the SRN and the fact that the SRN is on higher ground than the development site, the development will not lead to any surface water flooding on the SRN.
Location specific considerations: • Any adverse impact to the SRN is to be mitigated to result in a nil detriment effect to the network unless it is demonstrated that the SRN can operate within its existing state with the addition of associated trips from the development.	Modelling was undertaken as part of ES Chapter 12: Traffic and transport assessment to assess whether the SRN could operate within its existing state with the additional trip generation from the proposed development.

Table 2.6: Key Points Raised by the Environment Agency

Point Raised	How the Point is Taken Account of in the ES
We acknowledge that flood risk will be quantified and mitigation measures set out in a Flood Risk Assessment (FRA). In general we accept the scope of the FRA however the joint probability of fluvial and tidal flooding should be taken into account. We advise that combined impacts may increase flood levels around the bridge and access road, the assessment should state the resulting, hazard and frequency of flooding over the lifetime of the development. The flood extents for different return periods should be clearly identified on a survey plan.	The FRA was prepared in accordance with the method described in the EIA Scoping Report. Once completed, a meeting took place with the Environment Agency to discuss their requirement for the FRA to model the joint probability of fluvial and tidal flooding, and how this would be achieved. The FRA was revised as required.
The scoping document appears to have adequately considered Groundwater and Contaminated Land aspects that will need to be addressed within the EIA. We suggest however that the applicant does not rely on the accuracy of the Environmental database search particularly in relation to licensed abstractions for the purposes of the risk assessment. A search should also be carried out to confirm the absence of any unlicensed abstractions in the vicinity.	This point was noted. At the same time as discussing the FRA with the Environment Agency (see above) Scott Wilson also discussed further the requirement for a search of unlicensed abstractions. Whilst it would be common to find unlicensed abstractions in a rural area, it was considered unlikely for there to be any unlicensed abstractions in the vicinity of the site given its location within HMNB Devonport. The site is surrounded by a very built-up area with mains water connections. It was agreed that a search of local authority and MoD records should be undertaken and the details are provided in ES Chapter 11.
With reference to the use of SUDS, it will be necessary to consider whether this is appropriate in relation to any contamination on site.	The rationale for the drainage design is clearly described in the FRA and in ES Chapter 6: Description of the proposed development. Soakaways and infiltration systems are unlikely to be suitable for the site due to the ground conditions. The most suitable method for dealing with surface water runoff is considered to be constructing a positive discharge into the River Tamar. However, the use of soakaways will be reviewed during the early construction phase, once the initial groundworks have been undertaken.
Clarification of the site boundary is required. The boundary of the phase 1 habitat survey does not cover the extent that is shown in figures 1 and 2. We advise that a phase 1 survey is required for the entire application area. In particular, the biodiversity value of the 'Biodiversity Network Feature' and the 'Local Greenspace Area' need to be ascertained. The report states that there will be some landtake from the edge of Blackies Wood. The value of this habitat needs to be understood so that appropriate mitigation and compensation can be incorporated.	The Phase 1 Habitat Survey was extended to cover all land within the site boundary and this forms part of ES Chapter 7: Ecology assessment. ES Chapter 7 makes an assessment of the value of habitats and species on site and proposes mitigation and enhancement measures where required.

Point Raised	How the Point is Taken Account of in the ES
The Weston Mill Creek is a Site of Importance for Nature Conservation (Plymouth Local Plan) which should be safeguarded throughout the construction and operational phases of the proposed development. Opportunities should be explored to improve the environment of this creek.	The Plymouth Local Plan designation no longer applies, however this area is designated as Biodiversity Network Feature and will be safeguarded throughout the construction and operational phases. The demolition of two existing bridge crossings and construction of a new bridge crossing will allow the channel of the creek to be opened up and allow some re-profiling of the banks to take place. Fly-tipped rubbish will also be removed at this stage.
The inter-tidal habitat of the Weston Mill Creek incorporates mudflat habitat which is listed as a priority habitat under the UK Biodiversity Action Plan, 1994. The UK BAP recommends that there should be 'no net loss' of this habitat and the quality of the existing resource must be protected. We therefore would not support any development that encroaches onto the inter-tidal habitat.	No permanent development will encroach onto the inert-tidal habitat.
The designated habitats, including the Tamar Estuary and the Weston Mill Creek, are all wet habitats which could potentially be at risk from contamination through surface water or groundwater pathways. We advise that there is baseline and routine water quality monitoring of surface and ground water to ensure that the designated sites of nature conservation importance are not negatively affected by contaminants during construction and during the operation of the facility.	The potential for contamination of the Tamar Estuary and Weston Mill Creek is assessed in ES Chapter 10: Contamination – land and water quality assessment and appropriate mitigation measures are provided as necessary. A programme of groundwater monitoring was carried out as part of the site investigation work. At the same time as discussing the FRA and possible unlicensed abstractions with the Environment Agency (see above) Scott Wilson also discussed further the requirement for surface water monitoring. The Environment Agency will review the full suite of site investigation data submitted with this ES and advise in due course about the need for monitoring prior to and during construction.
We have fisheries data from 2002 for the Weston Mill stream at SX 457580. This was a qualitative survey and found trout fry and parr, eel, 3-spined stickleback and flounder. We advise that ecological monitoring of the Weston Mill stream and creek are incorporated in to the EIA. Ecological monitoring should include fish, invertebrates, diatoms and macrophytes and should be carried out before works start, during construction and during the operational phase of the facility. This survey work will ensure any potential negative impacts can be mitigated.	At the same time as discussing the FRA, possible unlicensed abstractions and surface water monitoring with the Environment Agency (see above) Scott Wilson also discussed further the requirement for such ecological monitoring. There was not time after receipt of the EIA Scoping Opinion in July 2010 and the subsequent discussions in the months that followed to do the survey in 2010. ES Chapter 7: Ecology makes an assessment based on known desk study data / likely impacts and commits to doing the survey in 2011, which can be completed and an addendum submitted before the planning application is determined by Plymouth CC.
We will not be able to comment on the content in detail until our National Air Quality Modeling and Assessment Unit have audited the applicants Environmental Permit application air quality submission for human health and ecological habitats.	This point was noted.

Point Raised	How the Point is Taken Account of in the ES
We do consider the impact of the combined emissions from the stack, traffic and the dockyard should be assessed as part of any planning application.	The combined impact of the emissions from the chimney and those from road traffic from the proposed development are taken into account in ES Chapter 13: Air quality assessment.
We recommend the following should be considered. Use the CLAIRE code of practice to manage potentially contaminated excavation construction waste on site before considering removing it to a landfill for disposal. How is it intended to pre-treat commercial and industrial waste as required by the landfill directive? The carbon footprint of the proposal. The applicant's attention is brought to the Pollution Prevention Guidance which can be viewed via the Agency's website.	 Kier (MVV's civil works contractor) have confirmed that they will use the CLAIRE code of practice to manage potentially contaminated excavation construction waste. The EfW CHP facility will act as a thermal treatment facility diverting MSW and C&I waste from landfill, so pre-treatment in this context is not considered applicable. The carbon footprint of the development was assessed through the use of a WRATE model. WRATE (Waste and Resources Assessment Tool for the Environment) is a Life Cycle Assessment (LCA) model developed by the Environment Agency in 2007. This point was noted. This guidance has been reviewed and referenced in ES Chapter 10: Contamination - land and water quality assessment and ES Chapter 11: Hydrology, hydrogeology and flood risk assessment.

Table 2.7: Key Points Raised by the MoD Defence Estates Safeguarding

Point Raised	How the Point is Taken Account of in the ES
Due to the proximity to HMS Drake, any overhead power lines exceeding 100kV will require assessment by our technical experts.	There will not be any overhead power lines.

Table 2.8: Key Points Raised by Natural England

Point Raised	How the Point is Taken Account of in the ES
Designated Sites. Firstly the report acknowledges, as expected the relevant statutory designated sites that are within 2km proximity of the proposed location. The report then addresses designated sites within 10km radius but only highlights European designated sites failing to acknowledge nationally important SSSI sites. Both Lynher Estuary SSSI and St Johns Lake SSSI are approximately 3km from the site and recognised for their mudflat and salt marsh system that support wintering and migratory waterfowl. Additionally it would be useful to have awareness of number sites of Local Nature Reserves and County Wildlife Sites that are in the vicinity, the majority located to the North and East of the proposed site. These are valued nature conservation sites for Plymouth and should be recognised as also having the potential to be indirectly effected by the proposal due to changes in air quality.	The ES acknowledges the presence of these other sites and includes impact assessments accordingly.
Ecology. Clarification of the exact site boundary is required. The phase 1 habitat survey illustrated in Figure 3 does not cover the same area as in Figure 1 and 2 illustrating the site boundary; we would expect to see a phase 1 habitat survey of the entire site. The report indicates that there will be some land take from the edge of the Biodiversity Network Feature and Local Greenspace, known as Blackies Wood so we require an extended phase 1 habitat survey for the woods to establish the ecological value of the habitat and indicate the presence of any protected species, lichen or bryophytes. These surveys would be essential to allow appropriate mitigation and compensation to be incorporated. We are not able to comment on the impact to breeding birds, bats and reptiles until the pending survey is completed and hope the results are included at further consultation stages.	This point was acknowledged. An additional area of land was surveyed. The additional land surveyed (see above) covers this edge of Blackies Wood. The necessary protected species surveys have been completed or are scheduled. The desk study reveals there are not any important lichen or bryophytes recorded on site. These survey reports were made available to Natural England in advance of the planning application as part of pre-application discussions.

Point Raised	How the Point is Taken Account of in the ES
Landscape. We would be happy to comment on landscape issues related to this application on the submission of a Landscape and Visual Impact Assessment (LVIA). Any landscape assessment should follow the Landscape Character Assessment guidance for England and Scotland (CA&SNH April 2002) and Guidelines for Landscape and Visual Impact Assessment (LVIA) (Landscape Institute and Institute of Environmental Assessment and Management 2nd edition 2002) which are considered best practice to help inform what impact the proposed development could have on the surrounding landscape.	The LVIA was carried out according to these guidelines.
Air Quality. In general the proposed monitoring regime appears adequate however there is no mention of monitoring for ammonia in the assessment process. If ammonia is going to be released from this facility we would require that it should be included in the scope of this assessment. It is appreciated that the monitoring or modelling planned will show the cumulative effects for the site and Langage power station however it would be useful that for effects of the proposed Energy from Waste (EfW) plant at New England Quarry to be included. Obtaining this information would be important to determine the impact on designated sites in scope of both facilities, particularly South Dartmoor Woods SAC.	There is baseline information available for ammonia levels in the UK, as well as deposition rates for designated sites. Following common practice, these data sources were used, and Scott Wilson did not need to monitor baseline ammonia levels. Scott Wilson entered into dialogue with Natural England (and the Environment Agency) to discuss and agree the methodology. The cumulative impact with the EfW facility proposed at New England Quarry has been assessed qualitatively to undertake a cumulative effects assessment. Again, Scott Wilson entered into dialogue with Natural England (and the Environment Agency) to discuss and agree the methodology.
Water Quality. Natural England would require that appropriate methods are used to limit particulate discharge into the Tamar especially during the construction phase which could have detrimental effects on water quality and deposition onto mudflats and salt marsh habitats. This is of particular importance as the particulates could contain contaminates as a consequence of previous industrial activities. Guidance from the Environment Agency should be sought relating to this issue. It is not mentioned in the report but we assume that if the facility would require water for cooling of equipment that the company would consult the Environment Agency and Natural England in reference to abstraction from the River Tamar.	These concerns are understood and the intention is to ensure that mitigation measures to limit particulate discharge are applied, using EA guidance. No such abstraction would be required. The process requires some fresh water and this would be taken from a mains connection.

2.5 General Methodology and Assessment Criteria

Baseline and Future Baseline Scenarios

2.5.1 The environmental effects of the proposed development have been evaluated for the key stages in the planned construction and operation of the project. Where appropriate, these have been compared to the environmental situation prevailing before the project is commenced (i.e. the current baseline), and to the environmental situation that would almost certainly prevail in the future without the scheme (i.e. the projected future baseline).

2.5.2 The current baseline year has been taken as 2010 since this is the year in which the majority of the baseline work for the EIA was undertaken. In some cases other current baseline years have been used and this has been explained (e.g. where a particular baseline survey occurred in 2009 and remains valid for assessment purposes).

2.5.3 The future baseline is the theoretical environmental situation that would exist in the absence of the development. It is typically based upon extrapolating the current baseline forward using technical knowledge of changes to predict this, for example habitat change over time, traffic and waste growth over time, etc. In this case the future baseline considers the first year of opening of the EfW CHP facility in 2014.

2.5.4 It is important to note that the 'future baseline' in this sense does not relate to other proposed developments in the area that may or may not come forward in future. Although it is quite correct to consider in an ES such possible future developments, having regard to their location and characteristics as well as to their likelihood, these are assessed as potential 'cumulative effects' (see 2.5.25 below).

Identification of Environmental Impacts and Effects

2.5.5 EIA identifies environmental effects on resources and receptors, which are defined as follows:

- Resources are defined as bio-physical features or items of 'environmental capital'; examples include species and their habitats, aquifers, access routes, and community facilities; and

- Receptors comprise human beings, either individually or collectively, and the socio-economic systems on which they depend; for example, residents, employees, communities and economies.

2.5.6 An environmental 'effect' results from an 'impact' (or change) influencing a resource or receptor. The precise nature of the effect and its 'significance' depends on the *interaction* between the *magnitude of impact* (for example its extent, duration or permanence) and the *sensitivity, value or number of the resources or receptors* in each case. This is discussed in more detail below.

2.5.7 Effects can be positive or negative.

2.5.8 Effects can also be direct or indirect, as follows:

- A direct effect results from activities that are an integral part of the proposed development at the site (e.g. habitat loss to make way for a new building); and

- An indirect effect may result from changes induced by the proposed development (e.g. changes in traffic noise levels).

2.5.9 Effects can also be temporary or permanent.

2.5.10 The duration of an effect is one of the considerations in determining its significance. The EIA distinguishes between temporary and permanent effects on the following basis:

- Temporary effects are those which persist for a limited period only (e.g. during the course of a particular construction activity) or which may disappear due to natural recovery of the environment or their assimilation into it over a reasonably short time, i.e. months to years.
- Permanent effects are those that are likely to be irreversible or which will persist for a substantial period of time i.e. decades or longer.

2.5.11 Within the EIA, effects have been considered for the construction and operational phases of the development and can be defined as follows:

- Temporary construction effects;
- Permanent construction effects; and
- Permanent operational effects.

2.5.12 Effects during the future decommissioning phase have also been considered where appropriate, for example in relation to potential ground and water contamination.

2.5.13 Effects from the proposed development can also combine to act collectively on a resource or receptor, or can combine with effects from other developments in the vicinity. Such effects are known as cumulative effects (discussed further below).

Determining the Significance of Effects

2.5.14 A significant effect may be very broadly defined as one that should be brought to the attention of those involved in the decision-making process. This definition is prescribed to varying degree by statute, planning policy, and published guidelines and standards, and is also influenced by the precedents established in previous EIAs. It is broadly accepted, however, that significance reflects the relationship between two factors:

- The magnitude (for example its extent, duration or permanence); and
- The sensitivity, value or number of the resources or receptors.

2.5.15 The magnitude of an impact is often quantifiable in terms of, for example, extent of land take, or predicted change in noise levels. The sensitivity or value of the resource or receptor is normally derived from:

- Its designated status within the land use planning system;
- The number of individual receptors such as residents;
- An empirical assessment on the basis of characteristics such as rarity or condition; and
- Its ability to absorb change without impact.

2.5.16 Significant effects occur where valuable or sensitive resources, or numerous receptors, are subject to impacts of considerable magnitude. Effects are unlikely to be significant where low

value or non-sensitive resources, or a small number of receptors, are subject to minor impacts. Allocation of significant effects in intermediate situations will be a matter for the assessment methodology in question and also professional judgement in each topic area. Where an effect is considered to be significant, this significance will generally be classified as High, Moderate, Low or Negligible (with these descriptions again being based on precedent or current guidance).

2.5.17 Within the ES, the principles in the following generic matrix (Table 2.9) are used to define the level of significance of effects. In some cases analogous matrices for the various specialist topics are used, e.g. where they are prescribed by published guidance for those topics. This system is an aide to the assessment process, it is not definitive. Judgement is used in cases where there are two possible categories within one cell.

Table 2.9 Significance Matrix

Sensitivity of Resource or Receptor	Magnitude of Impact		
	High	Medium	Low
High (e.g. of National importance)	High	High / Moderate	Moderate
Medium (e.g. of Regional or County importance)	High / Moderate	Moderate	Moderate / Low
Low (e.g. of District importance)	Moderate	Moderate / Low	Low / Negligible

2.5.18 The four levels of significance defined by the generic matrix are therefore:

- High – an effect which in isolation could have an influence on the decision making process;
- Moderate – an effect that on its own could have some influence on decision making, particularly when combined with other similar effects;
- Low – an effect which on its own is likely to have a negligible influence on decision making but when combined with other effects could have more influence; and
- Negligible.

Assessment Years

2.5.19 Construction of the development is expected to occur between early 2012 and late 2014. Construction effects have been assessed during this period.

2.5.20 In order to assess the operational effects of the proposed development it has been necessary to look at a period in the future. The proposed development is programmed to be operational in 2014 and so this has represented the 'with development' scenario.

2.5.21 For the purpose of the landscape and visual impact assessment, it is usual practice to look at a further assessment period some point in the future when any required planting has fully taken effect, usually fifteen years from date of opening. The landscape and visual assessment has therefore also considered effects in 2029.

Iterative Design and Mitigation

2.5.22 The EIA process provides the opportunity for likely significant environmental effects to be determined at an early stage in the formulation of development proposals, for the design to be developed to reduce or eliminate undesirable environmental effects, and where elimination is not possible for mitigation measures to be incorporated to reduce undesirable environmental effects. Mitigation measures can be applied through the consideration of alternatives, physical design, provision of specific control equipment, project management or operation and other means.

2.5.23 This iterative design and mitigation process began as part of the SWDWP bidding process and has continued as the EIA has progressed. The way in which the design has progressed iteratively, in particular drawing on work by the landscape architect, is described in ES Chapter 5: Alternatives to the Proposed Development.

Residual Effects

2.5.24 The fundamental aim of mitigation is to reduce the significance of the environmental effects. Where mitigation fails to eliminate entirely any (negative) environmental effect, the remaining component of the effect is known as the residual effect. Details of any residual effects are provided within each of the environmental assessment chapters.

Cumulative Effects

2.5.25 The EIA Regulations require that, if relevant, cumulative effects of development be considered within an ES. Draft good practice guidance on EIA[1] states that:

> *" 'Cumulative' is not defined in the EIA Directive or Regulations – the dictionary definition is 'increasing by one addition after another'…In the context of EIA, cumulative effects could refer to the combined effects of different development activities within the vicinity or those of different aspects of a single development on a particular receptor."* (paragraphs 121 and 122)

2.5.26 For the proposed development, cumulative effects have been addressed as follows:

- Combined effects of individual impacts, for example noise, dust and visual impacts, on a particular receptor; and
- Effects from other permitted developments in close proximity, which individually might be insignificant, but when considered together could result in a significant cumulative effect.

2.5.27 It is generally accepted that if there are several significant effects in one topic area then the overall evaluation of severity should be at least that of the highest scoring effect. However, there is no clear guidance on how these effects should be aggregated. Within the EIA, professional judgement has been used to determine the severity of cumulative effects, with rationale presented as required. Due to their close proximity to the site, particular attention has been paid

[1] Department for Communities and Local Government (DCLG) 'Environmental Impact Assessment: A guide to good practice and procedures: A consultation paper' (June 2006).

to the residential properties on Talbot Gardens and Savage Road as it was considered that possible cumulative effects could occur here.

2.5.28 Other developments likely to be built during the same period and within a reasonable proximity of the proposed development were identified through the scoping process and through pre-application discussions. These include developments planned within the Devonport Dockyard and HMNB and in the St. Budeaux and Keyham areas. A full list is provided, along with the cumulative effects assessment, in ES Chapter 19. It was identified that the Langage power station became operational early in 2010. The emissions from the Langage power station were therefore (theoretically) part of the measured baseline air quality, so it was not necessary to undertake a cumulative effects assessment. Despite MVV being awarded the SWDWP contract, Viridor has stated that there is sufficient commercial and industrial waste in the market to justify building its plant at New England Quarry. Because of this, an assessment of the cumulative air quality effects of both the EfW facilities being developed has been undertaken.

Guidance

2.5.29 The Devonport EfW CHP Facility EIA has been undertaken having regard to the following Government publications on EIA:

- The EIA Regulations;
- Department of Environment, Transport and the Regions (DETR) (1999) *Circular 2/99: Environmental Impact Assessment*; and
- DETR and the National Assembly for Wales (2000) *Environmental Impact Assessment: A Guide To Procedures*;

2.5.30 Between June and September 2006 the UK Government consulted on draft updated versions of the above documents. These are being updated to reflect, *inter alia*, the lessons derived from the large amount of EIA case law that has arisen in the preceding decade, and also the ongoing development of EIA as a professional discipline. Although it is acknowledged that they are still in draft form, the following documents have nevertheless been reviewed and lessons drawn where appropriate:

- Department for Communities and Local Government (2006) Amended Circular on Environmental Impact Assessment. A Consultation Paper; and
- Department for Communities and Local Government (2006) Environmental Impact Assessment: A guide to good practice and procedures. A Consultation Paper.

2.5.31 The EIA has also taken account of other guidance such as that contained within the Institute of Environmental Management and Assessment's (IEMA) 'Guidelines for Environmental Impact Assessment' (2004). In addition, each ES chapter examining the key environmental issues has drawn on a number of topic specific guidance documents and / or standards, and these are referenced accordingly.

2.6 References

[1] Department for Environment, Transport and the Regions (1999). *Circular 2/99: Environmental Impact Assessment.* Paragraph 82.

[2] Environment Agency (2002). *Scoping Guidelines for the Environmental Impact Assessment of Projects.*

[3] Department for Communities and Local Government (2006) *Amended Circular on Environmental Impact Assessment. A Consultation Paper.* Paragraph 98.

[4] EIA Centre, University of Manchester, and Land Use Consultants (2006) *Evidence Review of Scoping in Environmental Impact Assessment*. London: Department of Communities and Local Government.