

18 Summary

18.1 Introduction

- 1 **Chapters 8 to 17** of the ES report the findings of the assessments of the predicted effects of the Onshore Works on a topic-by-topic basis. They also consider the likelihood of significant effects of the Project as a whole (i.e. the On and Offshore Works in combination) and cumulatively with other proposed schemes of relevance. The significance of these effects has been assessed using criteria defined in the topic chapters. In the context of the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011 (the EIA Regulations), effects assessed as being of ‘moderate’ or ‘major’ significance are judged to be significant effects. In line with Planning Circular 3 2011, the Environmental Impact Assessment (Scotland) Regulations 2011, and other relevant EIA guidance, the ES has focused particularly on significant effects and the measures proposed to mitigate them.
- 2 **Table 18.1** summarises the predicted significant effects of the Onshore Works, prior to and following, the implementation of committed mitigation measures. Summaries of all predicted effects are found at the end of each assessment chapter.

18.2 Predicted Significant Effects

- 3 Prior to committed mitigation, significant effects are predicted in relation to some aspects under the following topics:
- Terrestrial Ecology;
 - Cultural Heritage;
 - Landscape and Visual Amenity;
 - Geology, Ground Conditions, Groundwater and Coastal Processes;
 - Hydrology, Flood Risk, Water Resources and Surface Water Quality;
 - Soils, Agriculture and Land Use;
 - Access, Traffic and Transport;
 - Air Quality;
 - Noise and Vibration; and
 - Socioeconomics.
- 4 No significant effects are predicted in relation to:
- Inter-tidal Ecology; and
 - Ornithology.
- 5 Only effects which are considered to be significant prior to mitigation are presented within **Table 18.1**. All other effects are considered to be non-significant prior to mitigation and are therefore not presented within **Table 18.1**.
- 6 As shown in **Table 18.1**, scope exists to mitigate most of the predicted significant effects and many are not significant following mitigation. Importantly, most of the significant residual effects are temporary and would occur during the construction and decommissioning phases only. The only permanent, significant effects are predicted in relation to the landscape resource (due the presence of the substation), cultural heritage (due to the permanent loss of a prehistoric cropmark enclosure although this would be identified and recorded through mitigation to be agreed with East Lothian Council Archaeology Service); through loss of habitats which cannot be replaced and through permanent loss of agricultural land at the substation site.
- 7 Temporary effects are indicated in italics in **Table 18.1**.

18.2.1 Terrestrial Ecology

- 8 The route and layout of the Onshore Works were designed to minimise effects on ecological receptors through the application of minimum buffer distances from project infrastructure to watercourses, and woodland edges and by avoiding direct effects on designated sites, e.g. Woodhall Dean Site of Special Scientific Interest (SSSI). Furthermore, direct effects on areas of Ancient Woodland will be avoided through the use of trenchless techniques to avoid damage to root systems. Permanent loss of habitat has been avoided as far as possible. The only potentially significant effects on habitats are in relation to marshy grassland, dry heath, and dry heath/acid grassland mosaic. Following construction, affected areas will be re-turfed or re-seeded to aid the restoration of

habitats to pre-construction condition. Best practice construction methods will be applied to protect water features and, to protect trees and their roots, protection zones will be marked out and vehicle movements will be restricted around these areas. Protective matting will be laid where required as a further effort to prevent tree root compaction. Implementation of these mitigation measures will help reduce the predicted effects to minor or negligible significance.

- 9 Potential indirect adverse effects of moderate significance are predicted on Woodhall Dean SSSI, Thornton Burn Local Wildlife Site (LWS), Dry Burn LWS and Ancient Woodland sites resulting from pollution and siltation during construction and operation. Following implementation of targeted pollution prevention control measures, including sustainable drainage systems, effects are predicted to be **negligible**.
- 10 No significant adverse effects on protected fauna species are predicted.

18.2.2 Cultural Heritage

- 11 Prior to implementation of proposed mitigation measures, effects of moderate to major significance are predicted for certain cultural heritage assets during construction of the Onshore Works. Direct effects of major/moderate significance (pre-mitigation) are predicted for seven features of cultural heritage interest (site numbers 10, 11, 33, 34.13, 49, 55 and 52 as detailed in **Table 18.1**).
- 12 It has not been possible to avoid direct effects on all cultural heritage features. For example, the scope for micro-siting around the cluster of prehistoric cropmark sites (at the eastern end of the Application Boundary, sites 10-12) has been restricted by the presence of technical constraints such as cables associated with the Torness Power Station.
- 13 Mitigation has been put forward in accordance with the Scottish Government’s Planning Advice Note (PAN) 2/011: Planning and Archaeology. The following sites will be avoided and marked off to ensure preservation *in situ*: 10, 34.13, 49, 52 and 55. These features will be visibly marked out to signal their presence and thereby avoid accidental damage from vehicle movement during the construction period. The markers will be placed at an appropriate distance from the outer edges of the features facing the Onshore Works.
- 14 An archaeological evaluation will be undertaken in areas of perceived high archaeological potential within the Application Boundary, prior to construction works commencing. This will include the examination of archaeological sites already known and identified in this study area (e.g. in and around site 10, where trial trenching evaluation will be undertaken) and other areas where there is high potential for other as yet undetected buried archaeological remains to be present. The strategy for the evaluation (i.e. investigation locations and investigation methods) will be developed in consultation with ELC and will be set out in an agreed Written Scheme of Investigation (WSI).
- 15 Taking the mitigation into account, one significant residual effect is anticipated, in relation to the disturbance of the cropmark of enclosure (11) to the southeast of Skateraw. Whilst a potential worst case significant residual effect is predicted for any sub-surface remains that may survive at Croft Angry farmstead (33), it is considered likely that no effect will arise. For the other five sites, where significant effects are predicted pre-mitigation, the residual effect is predicted to be **negligible**. During decommissioning, there is potential for further disturbance to the sites identified above. For those sites that remain *in situ* (i.e. are not removed during construction), further mitigation would be applied, i.e. the marking off of sites so that these can be avoided during decommissioning works.

18.2.3 Landscape and Visual Amenity

- 16 The landscape and visual impact assessment identified residual effects of moderate to major significance on landscape and visual amenity, both from the Onshore Works alone, and cumulatively with other schemes. It is important to note, however, that the design strategy for the Onshore Works has sought to avoid or minimise landscape and visual effects as far as possible. One of the key design decisions was to bury the cables underground to avoid permanent adverse effects on landscape and visual amenity. Consequently, the majority of the significant residual effects on landscape and visual amenity will be temporary, during the construction and decommissioning phases only. During operation, an effect of **moderate** significance is predicted for the landscape resource near Crystal Rig II substation. The magnitude of this effect will be reduced, in part, through the creation of berms around the substation which will also fulfil a screening function.

18.2.4 Geology, Ground Conditions, Groundwater and Coastal Processes

- 17 Effects of moderate significance are predicted in relation to coastal erosion during construction and operation. Mitigation measures include avoiding damage to dunes during construction (and providing protection through

shoring if necessary); and reinstating the dunes to their pre-construction condition once works are completed. This reduces the predicted significance of the effect during construction to **minor**. During operation, the cable landfall will undergo inspection following storm conditions. Site specific mitigation measures would be implemented if necessary to repair any damage. This is expected to reduce the significance of the effect to **negligible**.

- 18 There is also potential for disruption to the hydrogeological and groundwater system at Smithy Row, Ogle Lodge and Birky Bog. This could be managed through trench design such as backfilling the trenches to minimise the development of voids. **Chapter 11: Geology, Ground Conditions, Groundwater and Coastal Processes** also identifies the potential for shrinkage of superficial deposits once the cable trenches are in place and for disruption to the hydrogeological and groundwater system during maintenance. However, it is anticipated that these potentially significant effects can be reduced through detailed design of the trench, through the use of sand and gravel as an insulating material and backfilling the trench to minimise the development of voids.

18.2.5 Hydrology, Water Resources, Flood Risk and Water Quality

- 19 Whilst there is the potential for effects on the private water supply at Weatherly during construction, with the use of well-established good practice construction methods, the effects are likely to be negligible. Construction may result in increased sediment loading to streams, with a potentially significant adverse effect predicted for Weatherly Burn. Mitigation put forward to reduce this effect includes the implementation of a sediment control plan and bank stabilisation where banks are seen to be eroding. This will reduce the significance of effect to **minor** at Weatherly Burn, and **negligible** at all other locations. The assessment also notes the potential for development to increase flood flows and surface water runoff; with Weatherly Burn identified as a key receptor. Mitigation includes the use of drainage ditches and Sustainable Drainage Systems to minimise runoff and also reinstating the cable corridor to pre-construction condition as lengths of cable are laid.

- 20 No significant effects are predicted during operation.

18.2.6 Soils, Agriculture and Land Use

- 21 The assessment predicts the potential loss of 50.07 ha of agricultural land for a temporary period during construction, of which 22.45 ha is prime land.
- 22 This would result in significant adverse (**moderate** or above), temporary effects on eight land interests (nine land interests are affected in total). Mitigation will include consultation with landowners to agree the programming of works and reinstatement of land to pre-construction condition once works are completed.
- 23 There will be a temporary reduction in productivity arising from land disturbance during construction resulting in effects of **moderate** to **major** significance. Good practice reinstatement and aftercare of land post-construction should restore the land to pre-construction condition.
- 24 No significant effects are predicted during operation.
- 25 There will be a cumulative loss of land during construction and operation of the other wind farm schemes near the existing Crystal Rig wind farm. The overall predicted significance of effect is **minor**.

18.2.7 Access, Traffic and Transport

- 26 With respect to access, traffic and transport, a number of significant adverse effects are predicted during the construction phase. A temporary effect of **moderate** significance is predicted where local roads will be crossed via open cut trenching. The increase in the number of vehicles accessing the local road network, and the change in composition of vehicles, e.g. HGVs and abnormal loads, is also predicted to result in temporary significant effects on certain local roads through a temporary increase in severance, potential for driver and pedestrian delay, fear and intimidation and the potential for road accidents. A Traffic Management Plan (TMP) will be prepared which will include details such as the timing of site deliveries so that road users are informed in advance of any likely delays. The plan will also include measures to encourage multi-occupancy of vehicles used by construction workers and hence reduce the number of construction vehicles accessing the road network.
- 27 Operational traffic levels are predicted to be low and, as such, no significant effects on the A1(T) or local road network are predicted.

18.2.8 Air Quality

- 28 Construction of the Onshore Works will involve a range of activities classed as 'high risk' in terms of dust raising potential. This includes rock breaking, cable trench excavation (and backfilling the trench once the cable is laid) and

handling of aggregates. Adopting a precautionary approach, the assessment identifies the potential for dust to result in an effect of major significance pre-mitigation. Following targeted mitigation, including the provision of dust removal systems for all plant; the use of water as a dust suppressant and covering stockpiles of soil/other materials the risk is reduced to **moderate** for those properties located within 25 m of the Application Boundary and **minor** for all other receptors. No significant effects are predicted during operation.

18.2.9 Noise and Vibration

- 29 **Chapter 16: Noise and Vibration** assessed the potential effects of the two proposed construction scenarios at the landfall point and other construction activities with potential to generate noise and vibration, e.g. open cut trenching; trenchless construction techniques; the use of the construction haul route and construction traffic movements. A number of potentially significant effects are predicted prior to mitigation including:

- Significant noise effects associated with open cut trenching and haul route construction at Thorntonloch Holdings, Thorntonloch Bridge and Ogle Lodge;
- A significant noise effect at Skateraw Gate due to night-time working at the East Coast Main Line;
- A significant noise effect at Thorntonloch Holdings during night-time working at the A1;
- A significant noise effect at Thornly from rock breaking at the landfall (if open cut trenching is used);
- A significant adverse noise effect at Thornly from 24 hour working at the landfall (if horizontal directional drilling is used).

- 30 There is also potential for significant adverse noise effects at the landfall from construction of the Onshore Works in combination with construction of the offshore works at the jack up barge. This would occur if rock breaking is required at the landfall.

- 31 There are not predicted to be any cumulative noise and vibration effects from construction of the Onshore Works and other developments (e.g. Crystal Rig III; Aikengall II and the SPT NnG scheme).

- 32 A series of best practice mitigation measures will be introduced to mitigate the effects of noise including induction of site personnel addressing their responsibilities with regard to noise management; agreement of an out-of-hours works procedure to minimise the effect of any necessary works outside daytime working hours; provision of advance notification to potentially affected residents of construction activities likely to affect amenity due to noise and continued liaison throughout the works; avoiding unnecessary revving of engines and the switching off of equipment when not required. For night-time works at the East Coast Main Line rail crossing and at the landfall the following measures will be applied: all plant will be located as far away from Skateraw Gate as practicable and site hoarding will be used around static plant to provide shielding to Skateraw Gate. In respect of open cut trenching at the landfall area, screening of plant will also be used. Implementation of these measures will reduce all noise effects to not significant.

- 33 In the absence of established guidance or prediction methodologies in respect of vibration from trenchless techniques, it is proposed that monitoring of vibration levels from the drill rig be undertaken at the start of the works to confirm that any vibration exposure is acceptable at the nearest sensitive receptors. Whilst considered unlikely, if vibration levels were found to be noticeable, the appropriate controls would be put in place (e.g. adjustments to equipment to reduce vibration levels at source).

- 34 No significant effects from vibration are predicted in relation to open cut trenching (i.e. from earthworks compaction or vibratory piling).

18.2.10 Socioeconomics

- 35 Public access and recreation routes including the John Muir Way (for open cut trenching only) and Right of Way (RoW) LE211 will be affected during the construction and decommissioning phases; effects of moderate significance are predicted. With appropriate diversions in place during this phase, to be agreed with the East Lothian Council Access Officer, effects will be reduced to **minor**. In-combination and cumulative effects on public access and recreation may also be experienced during construction, but these will also be reduced to a **minor** level following implementation of the agreed diversions.

- 36 There is potential for the 'Project' (i.e. the Onshore and Offshore Works in combination) to result in significant effects during construction; moderate positive effects on employment generation and moderate negative effects on public access and recreation. The latter would be reduced through the use of diversions as discussed above.

37 The cumulative effects of the Onshore Works and other schemes on recreational amenity and tourism will be indirect and related to visual effects. Mitigation measures are those proposed for landscape and visual amenity, as discussed above and listed in **Table 18.1**.

| Predicted Effect | Significance | Mitigation | Significance of Residual Effect |
|--|---|--|--|
| Ecology | | | |
| <i>Construction</i> | | | |
| Designated Sites Root compaction of Ancient Woodland Inventory Sites (AWI) Damage to AWI trees Pollution and/or eutrophication of soils of AWI woodland Effects on water quality within Woodhall Dean SSSI, Thornton Burn LWS and Dry Burn LWS from pollution and siltation | <i>Moderate</i> | Use of trenchless construction techniques to minimise habitat loss Implementation of best practice water protection measures Tree root protection zones marked by arborist and fenced off Best practice construction methods Restricted vehicle movements in proximity to AWI sites Use of protective matting where required to prevent root compaction | Negligible (AWI sites) Minor (Woodhall Dean SSSI; Thornton Burn LWS/Dry Burn LWS) |
| Habitats Direct loss of M23 marshy grassland habitat Indirect effects through disruption of hydrological regime and pollution | Moderate for marshy grassland (M23), dry heath, and dry heath / acid grassland mosaic | Use of trenchless construction techniques to minimise habitat loss Re-turfing/re-seeding post-construction Implementation of best practice water protection measures Micro-siting within application boundary to minimise habitat loss | Minor for M23 marshy grassland, dry heath, and dry heath / acid grassland mosaic. |
| <i>Operation</i> | | | |
| Designated sites Effects on water quality within Woodhall Dean SSSI, Thornton Burn LWS and Dry Burn LWS resulting from pollution and siltation | <i>Moderate</i> | Implementation of best practice water protection measures | Negligible |
| <i>Decommissioning</i> | | | |
| Terrestrial Ecology and Ornithology | <i>Moderate</i> (maximum case) | Best practice water protection measures Pre-decommissioning checks undertaken by an ecologist to determine if there are any changes to the baseline in respect of protected species and ornithology. Re-turfing/re-seeding of habitats | Negligible |

| Predicted Effect | Significance | Mitigation | Significance of Residual Effect |
|---|--|--|--|
| | | disturbed/damaged during decommissioning. Implementation of best practice water protection measures Reinstatement of any hedgerows damaged during decommissioning Tree root protection zones marked by an arborist and fenced off Restricted vehicle movements in proximity to AWI sites Use of protective matting where required to prevent root compaction Site clearance and decommissioning activities will take place (and completed as far as possible) outside the bird breeding season | |
| Cultural Heritage | | | |
| <i>Construction</i> | | | |
| Direct effect on prehistoric cropmark of ring-ditch and pit (10) | <i>Major</i> | Site avoidance and marking off. Trial trenching and further recording strategy (if necessary) to be agreed with ELCAS | Negligible (no effect) |
| Direct effect on prehistoric cropmark enclosure (11) | <i>Moderate</i> | Trial trenching and further recording strategy to be agreed with ELCAS | Moderate |
| Direct effects (possible) on any surviving sub-surface remains of Croft Angry (33). | <i>Unknown</i> (Moderate under worst-case scenario) | Watching brief during construction where cable route passes through location of site (33) | <i>Unknown</i> (Moderate under worst-case scenario) |
| Direct effect on enclosures (34.13, 49) | <i>Major</i> | Site avoidance and marking off | Negligible (no effect) |
| Direct effects on enclosure (55) and a small area of rig and furrow associated with a field bank (52) | <i>Moderate</i> | Site avoidance and marking off | Negligible (no effect) |
| <i>Decommissioning of Cable, Transition Pit and Other Related Components</i> | | | |
| Direct effects on enclosures (34.13; 49) | <i>Major</i> | Site avoidance and marking off | Negligible (no effect) |
| Direct effects on enclosure (55) and a small area of rig and furrow associated | <i>Moderate</i> | Site avoidance and marking off | Negligible (no effect) |

| Predicted Effect | Significance | Mitigation | Significance of Residual Effect |
|---|---|--|--|
| with a field bank (52) | | | |
| Landscape and Visual Amenity (NB effects are only presented as residual effects) | | | |
| <i>Construction and decommissioning (short-term and temporary effects)</i> | | | |
| Effect on Landscape Resources | | | |
| Thorntonloch Beach | <i>Moderate</i> (assuming open cut trenching is used at the beach) | Best practice construction methods Reinstatement of landscape resource post construction | Moderate (assuming open cut trenching is used at the beach) |
| Thorntonloch Beach to the A1 road | <i>Moderate</i> | Use of trenchless construction techniques to minimise damage. Best practice construction methods. Reinstatement of landscape resource post-construction. Designed to avoid most sensitive landscape resources. Trees to be retained and protected in accordance with best practice guidelines. | Moderate |
| Crystal Rig II Substation | <i>Moderate</i> | Best practice construction methods. Reinstatement of landscape resource post-construction. Designed to avoid most sensitive landscape resources. | Moderate |
| Effect on Visual Amenity | | | |
| Viewpoint 1: Thorntonloch | <i>Major</i> | Best practice construction methods. Stockpile soil mounds used to screen works where practicable. | Major |
| Viewpoint 2: Thornton Mill | <i>Moderate</i> | As above | Moderate |
| Viewpoint 3: Innerwick | <i>Moderate-Major</i> | As above | Moderate-Major |
| Viewpoint 4: Thurston Manor | <i>Moderate</i> | As above | Moderate |
| Viewpoint 5: Ogle Lodge | <i>Major</i> | As above | Major |
| Viewpoint 7: Tripslaw Hill | <i>Minor-Moderate</i> | As above | Moderate (maximum case) |
| Viewpoint 8: Tay Burn | <i>Moderate</i> | As above | Moderate |
| Viewpoint 9: Bransly Hill | <i>Moderate</i> | As above | Moderate |

| Predicted Effect | Significance | Mitigation | Significance of Residual Effect |
|---|-----------------|---|---------------------------------|
| Viewpoint 10: Watch Law | <i>Moderate</i> | As above | Moderate |
| <i>Operation</i> | | | |
| Effect on Landscape Resources | | | |
| Crystal Rig II Substation | <i>Moderate</i> | Establishment of planting on surrounding berms. | Moderate |
| <i>Decommissioning of Substation</i> | | | |
| Effects will be similar to those predicted for construction | | | |
| Cumulative Effects with Other Schemes – Construction | | | |
| Effect on Landscape Resources | | | |
| Crystal Rig II Substation | <i>Moderate</i> | Best practice construction methods. Reinstatement of landscape resource post-construction. Designed to avoid most sensitive landscape resources. | Moderate |
| Effects on Visual Amenity | | | |
| Viewpoint 8 Tay Burn | <i>Moderate</i> | Agreement will be reached with other developers, where possible, on the timing of construction work, the detailed extent and appearance of berms, and the content of planting proposals, to ensure the various substations appear as a coherent element in the landscape. | Moderate |
| Viewpoint 9 Bransly Hill | <i>Moderate</i> | As above | Moderate |
| Viewpoint 10 Watch Law | <i>Moderate</i> | As above | Moderate |
| Cumulative Effects with Other Schemes – Operation | | | |
| Effect on Landscape Resources | | | |
| Crystal Rig II Substation | <i>Moderate</i> | Agreement will be reached with other developers, where possible, on the detailed extent and appearance of berms, and the content of planting proposals, to ensure the various substations appear as a coherent element in the landscape. | Moderate |
| Geology and Ground Conditions | | | |

| Predicted Effect | Significance | Mitigation | Significance of Residual Effect |
|---|--|---|---|
| <i>Construction (effects during decommissioning would be similar)</i> | | | |
| Disruption to hydrogeological and groundwater system | Moderate at Smithy Row, Ogle Lodge and Birky Bog | Micro management of cable route and trench design (e.g. protocols for backfilling the trenches to minimise the development of voids and micro management of fill materials) | Negligible |
| Coastal Erosion | Moderate | Damage to dunes system avoided with protection through shoring if required. Reinstatement post-construction to pre-development form. Assessment on completion of works by suitably qualified professional. Cable exposure risk assessment to be completed. | Minor |
| <i>Operation</i> | | | |
| Shrinkage of clay rich superficial deposits | Moderate (maximum case) to Minor | Design and insulation of trench with sand and gravel | Negligible |
| Disruption to hydrogeological and groundwater system during maintenance | Moderate (maximum case) | Micro management of cable route and trench design protocols for the back filling of trenches to minimise the development of voids; micro management of fill materials | Negligible |
| Coastal Erosion | Moderate | Inspection following storms, with site-specific mitigation measures proposed by suitably qualified professional if there is ongoing erosion at the cable landing point | Negligible |
| Hydrology, Flood Risk, Water Resources and Surface Water Quality | | | |
| <i>Construction</i> | | | |
| Effect of development on surface runoff and flood flows for key catchments: Weatherly Burn at Weatherly | Moderate (maximum case) to Minor | Use of drainage ditches, SUDs etc. Remediation of the construction corridor as works progress, limiting the time that bare ground is exposed or streams crossed. | Minor (maximum case) to Negligible |
| Increase in sediment loading to streams due to construction activities | Moderate at Weatherly Burn | Best practice construction methods, including sediment control plans. Bank stabilisation will be considered for eroding banks. | Minor |

| Predicted Effect | Significance | Mitigation | Significance of Residual Effect |
|--|---|--|--|
| Soils, Agriculture and Land Use | | | |
| <i>Construction</i> | | | |
| Temporary loss of 50.07 ha of agricultural land during construction period, of which 22.45 ha is prime land; Permanent loss of 8.76ha. | Nine land interests are affected. Eight are predicted to have temporary effects of Major or Moderate significance | Consultation, good practice construction methods, programming of works and best practice re-instatement | Seven land interests will have effects of temporary Moderate significance; one of Moderate-Major significance. |
| Temporary reduction in productivity arising from land disturbance | Moderate to Major (maximum case) | Good practice re-instatement and aftercare | Minor |
| <i>Cumulative and In-combination Effects</i> | | | |
| Temporary land loss of 50.97 ha and further permanent land loss of 19.76 ha. | Major (maximum case) | Design, consultation, programming, good practice construction, re-instatement and aftercare. | Minor |
| Access, Traffic and Transport | | | |
| <i>Construction</i> | | | |
| Crossing of the local road network via open cut trenching | Moderate | A TMP will be produced for the construction phase of the development. This plan will be prepared by the appointed contractor and will be agreed with the police, ELC, BEAR Scotland and Transport Scotland and is likely to include details such as the timing of site deliveries and measures to encourage multi-occupancy of vehicles used by construction workers | Moderate |
| Transportation of abnormal loads | Moderate | As above. | Moderate |
| Changes in traffic composition | Moderate on the worst-case local roads | Production of a TMP as above. The contractor will notify and liaise with police, ELC and BEAR Scotland when and if abnormal loads are being transported to the site and when road closures are planned; and Temporary Traffic Regulation Orders may be required for the | Moderate on worst-case local roads. |

| Predicted Effect | Significance | Mitigation | Significance of Residual Effect |
|--|--|--|---|
| | | transportation of abnormal loads | |
| Increase in traffic (HGVs + cars/LGVs) as a result of construction traffic on the local road network. Related effects on: Severance Pedestrian Delay Pedestrian and Cyclist Amenity Fear and Intimidation Accidents and Safety | <i>Moderate</i> (at junctions 4 and 6 of the local road network) | As above | Moderate (junctions 4 and 6) |
| Increased driver delay as a result of the works on the A1(T) and local road network | <i>Moderate</i> (junctions 1 and 2) | Temporary traffic signal control will be used to manage the traffic flows and ensure the continued safe operation of the road. | Moderate (junctions 1-2) |
| Air Quality | | | |
| <i>Construction</i> | | | |
| Risk of dust nuisance (construction activities classed as high risk for dust nuisance) | <i>Major</i> | Extensive: from PAN 50 and GLA guidance | Moderate for receptors within 25 m of construction activity. |
| Noise and Vibration | | | |
| <i>Construction</i> | | | |
| Noise: daytime (open cut trenching/ construction of haul route) | <i>Moderate</i> at Thorntonloch Holdings; Thorntonloch Bridge and Ogle Lodge | Application of best practicable means | Minor |
| Noise : night-time (HDD or other trenchless techniques at rail crossing) | <i>Moderate</i> at Skateraw Gate | Application of best practicable means Site hoarding around static plant Screening of receptor | Minor |
| Noise : night-time (HDD or other trenchless techniques at A1) | <i>Moderate</i> at Thorntonloch Holdings | Application of best practicable means Site hoarding around static plant Screening of receptor | Minor |
| Noise: daytime (rock breaking at | <i>Moderate</i> at Thornly | Application of best practicable means | Minor |

| Predicted Effect | Significance | Mitigation | Significance of Residual Effect |
|--|---|---|---------------------------------|
| landfall; if open cut trenching is used) | | Site hoarding around static plant Screening of receptor | |
| Noise: 24 hour working (HDD or other trenchless techniques at landfall area) | <i>Moderate</i> at Thornly | Application of best practicable means Site hoarding around static plant Screening of receptor | Minor |
| <i>In combination effects (Construction only)</i> | | | |
| Noise: daytime (open cut trenching at the landfall including rock breaking in combination with offshore activities at the jack up barge) | <i>Moderate</i> at nearest sensitive receptor | Application of best practicable means with respect to on and offshore activities | Minor |
| Socioeconomic Issues including Recreation | | | |
| <i>Construction</i> | | | |
| Effect on public access and recreation | <i>Moderate</i> | The agreement of appropriate temporary diversions with the East Lothian Council Access Officer. | Minor |
| <i>Decommissioning</i> | | | |
| Effect on public access and recreation | <i>Moderate</i> | The agreement of appropriate temporary diversions with the East Lothian Access Officer | Minor |
| <i>In combination effects (Construction only)</i> | | | |
| Employment generation | <i>Moderate (positive)</i> | - | Moderate (positive) |
| Public access and recreation | <i>Moderate</i> | Diversions: as for Onshore Works in isolation | Minor |
| <i>Cumulative (construction only)</i> | | | |
| Effects on public access and recreation | <i>Moderate</i> | Diversions: as for Onshore Works in isolation | Minor |

Table 18.1 Summary of Predicted Significant Effects

18.3 Interrelated Effects

38 The EIA Regulations (Schedule 4, Part 1, paragraph 3) require that Environmental Statements consider the interrelationships between aspects of the environment likely to be significantly affected by a development. It is considered that the effects discussed below are interrelated.

39 There is some correlation between likely effects on hydrology and ecology given that changes to hydrology could affect ecological receptors (for example, Woodhall Dean SSSI). These interrelated effects are assessed in **Chapter 8: Terrestrial and Inter-tidal Ecology and Ornithology** and **Chapter 12: Hydrology, Flood Risk, Water Resources and Surface Water Quality**.

- 40 There is some correlation between potential effects on local residential amenity resulting from temporary effects from construction noise and traffic and effects arising from dust generated during construction. This is discussed in **Chapters 14: Access, Traffic and Transport, 15: Air Quality and 16: Noise and Vibration** respectively.
- 41 There is a correlation between recreation and tourism effects relating to views during construction of the Onshore Works. Whilst the assessment of such interrelated effects is presented within **Chapter 17: Socioeconomic Effects**, the assessment necessarily relates to the assessment in **Chapter 10: Landscape and Visual Amenity**.

