

15.

Appendices

Appendix 15.1 SHE Transmission Assessment

1.1 SHE Transmission assessment.

Table 1 provides a summary of those environmental aspects scoped in/out of respective EIAs by both SP Transmission and SHE Transmission (note some aspects have been aligned where they do not exactly match).

Table 1 Summary of EIA Scoping

Aspect	SPT Transmission	SHE Transmission	Comments
Ecology / biodiversity	Scoped in	Scoped in	Both TOs have considered impacts on ecological receptors in their respective EIAs. In the case of SHE Transmission this has been limited to construction effects only as the East Coast Upgrade does not require changes to existing infrastructure which could result in significant permanent effects. SP Transmission has also considered permanent effects as a result of new infrastructure proposed in its licence area (KINN and permanent diversions of XCL, ZCN and ZCS routes).
Landscape and visual	Scoped in	Scoped out	SHE Transmission scoped out landscape and visual impacts in their entirety. Those effects occurring during construction would be minor, temporary and localised while the nature of the upgrade works (no new permanent elements) means those effects occurring during operation would not be significant. SP Transmission scoped in landscape and visual effects as a result of new infrastructure proposed in its licence area (KINN and permanent diversions of XCL, ZCN and ZCS routes) but similar to SHE Transmission effects as a result of upgrades to existing overhead lines have been scoped out as they not considered likely to be significant.
Cultural Heritage	Scoped in	Scoped in	SHE Transmission scoped out assessment of the effects on the setting of cultural heritage assets as the nature of the upgrade works (no new permanent elements) means those effects occurring during operation would not be significant. However, SHE Transmission did scope in direct impacts on cultural heritage assets as a result of construction works. SP Transmission scoped in cultural heritage effects as a result of new infrastructure proposed in its licence area (KINN and permanent diversions of XCL, ZCN and ZCS routes) but scoped out setting effects as a result of upgrades to existing overhead as they not considered likely to be significant as well as direct impacts associated with reconductoring XL route as no significant ground disturbing works are proposed.

Aspect	SPT Transmission	SHE Transmission	Comments
Water Environment	Scoped in	Scoped in	SHE Transmission scoped in assessment of effects on hydrology, hydrogeology and soils. Operational effects were scoped out as there would be no predicted change as a result of operation of the upgrade, however, construction effects on surface and groundwater receptors were scoped in. SP Transmission scoped in assessment of effects on the water environment from the substation and overhead line works. In addition, a Flood Risk Assessment has been undertaken in relation to the new infrastructure.
Ground conditions	Scoped in	Scoped in	SHE Transmission scoped in assessment of effects on hydrology, hydrogeology and soils. Operational effects were scoped out as there would be no predicted change as a result of operation of the upgrade, however, construction effects on peat and soil receptors were scoped in. SP Transmission scoped in assessment of effects on ground conditions from the substation and overhead line works including consideration of risks from contamination and historic mining activity. SP Transmission scoped out consideration of the reconducted section of XL route at limited ground disturbance is proposed.
Traffic and transport	Scoped in	Scoped out	SHE Transmission scoped out assessment of traffic effects as construction and operation of the upgrade works would not result in an increase of traffic which would have a significant effect. SP Transmission scoped in assessment of construction traffic effects as construction of the substation would generate a high volume construction traffic, as part of this consideration was given to additional traffic movements generated by the overhead line works.
Noise	Scoped in	Scoped out	SHE Transmission scoped out assessment of construction noise effects as it was considered noise could be controlled through a Noise Management Plan as part of a Construction Environmental Management Plan, however, assessment of operational noise occurring as a result of the increase in operating voltage were scoped into the assessment. SP Transmission scoped in assessment of construction and operational noise including construction noise associated with all new infrastructure and operational noise from the substation and overhead line works including the section of XL route to be reconducted.
Trees and Woodland	Scoped out	Scoped out	SHE Transmission produced a Forestry Report which was appended to the EIA Report. It identified impacts on forestry as a result of forestry management requirements along the upgrade works. SP Transmission scoped out consideration of trees and woodland as neither the substation nor overhead line works require significant tree management or removal.

Aspect	SPT Transmission	SHE Transmission	Comments
Land Use, Tourism and Recreation	Scoped out	Scoped out	Both TOs scoped out assessment of the effects on land use, tourism and recreational receptors. For the East Coast 400kV Upgrade it was considered all effects would be temporary only and could be mitigated through management plans and reinstatement. For the Central Scotland Upgrade while there would be permanent effects as a result of new infrastructure (substation and new towers) these were not considered likely to result in significant effects.
Major accidents and disasters	Scoped out	Scoped out	Both TOs scoped out major accidents and disasters as no likely significant effects are predicted as a result of the vulnerability of the East Coast 400kV Upgrade and Central Scotland 400kV Upgrade to major accidents and disasters.
Air quality	Scoped out	Scoped out	Both TOs scoped out assessment of effects on air quality. Due to the predominantly rural nature of the areas in which the East Coast 400kV Upgrade and Central Scotland 400kV Upgrade are located air quality pollutant levels are low. While construction works could generate dust and emissions from construction plant and traffic, effects would be temporary, localised and mitigated through good construction practices.
Climate change	Scoped out	Scoped out	Both TOs scoped out assessment of effects on and from climate change. The East Coast 400kV Upgrade and Central Scotland 400kV Upgrade are intended to help mitigate effects of climate change by increasing the capacity of the electricity network and the increased connection of renewable energy.
Human health	Scoped out	Scoped out	Both TOs scoped out assessment of effects on human health as the East Coast 400kV Upgrade and Central Scotland 400kV Upgrade are generally distant to settlements and properties. The upgrades would be designed, operated and maintained in accordance with all relevant health and safety legislation and guidelines.

Table 2 provides a summary of the residual effects for each aspect scoped into and assessed in the EIA Report prepared by SHE Transmission and considers the potential for combined effects as a result of both Upgrades.

Table 2 Combined Effects of the East Coast and Central Scotland Upgrades

Aspect	Residual Effects reported in East Coast Upgrade EIAR	Conclusion within East Coast Upgrade EIAR	Potential Combined effect with Central Scotland Upgrade?	Rationale
Hydrology, hydrogeology and soils	Pollution of surface watercourses, groundwater and water supplies	Minor Adverse (not significant)	No	Both Upgrades have the potential to result in pollution-related impacts on surface and groundwater bodies, however, independently neither are likely to result in significant effects. Proposed mitigation measures will prevent and/or reduce impacts such that no significant effects are likely to occur. Combined effects are unlikely as the linear nature of the Upgrades means they have limited potential to affect a common receptor. The linear nature of the Upgrades means that there is no pathway for pollution-related impacts from the East Coast Upgrade to combine with those from the Central Scotland Upgrade to affect common surface or groundwater bodies. Where the East Coast Upgrade and Central Scotland Upgrade connect at Blairingone, the works proposed by SP Transmission do not involve any activities which are considered to present a pollution-risk. This section of XL route is capable of operating at 400kV and does not require any physical works to enable uprating. The reconducted section is located approximately 2km south of where the Upgrades meet. As a result, there will be no likely significant combined effects as a result of pollution-related impacts from the East Coast Upgrade and Central Scotland Upgrades.
	Impact on water resource availability	Minor Adverse (not significant)	No	
	Impact of pollution on fisheries	Minor Adverse (not significant)	No	
	Short term increase in flood risk	Minor Adverse (not significant)	No	The East Coast Upgrade has the potential to result in short term increases in flood risk as a result of temporary working areas only, because it does not involve any new permanent infrastructure it does not result in a long term increase in flood risk. The Central Scotland Upgrade has the potential to increase flood risk in both the short and long term because it includes the development of new infrastructure (Kincardine North Substation and new overhead line towers). The Flood Risk Assessment concludes that it will not significantly increase flood risk. Notwithstanding this the linear nature of the

Aspect	Residual Effects reported in East Coast Upgrade EIAR	Conclusion within East Coast Upgrade EIAR	Potential Combined effect with Central Scotland Upgrade?	Rationale
				upgrades and works proposed means that any increase in flood risk would be limited in extent and not overlap to affect common areas. As a result, there is will be no likely significant combined effects as a result of flood risk from the East Coast Upgrade and Central Scotland Upgrades.
	Soil erosion, compaction and excavation losses	Negligible (not significant)	No	Both Upgrades have the potential to result in impacts on soil resources as a result of ground disturbance and movement of construction traffic and plant. Ground disturbance associated with the East Coast Upgrade is highly localised and limited to existing tower locations and temporary accesses to these. Ground disturbance associated with the Central Scotland Upgrade relates to temporary accesses to the section of XL route to be reconductored and within the proposed Kincardine North Substation site including turn-in towers. Areas of disturbance from the Upgrades will not overlap and therefore there will be no likely significant combined effects.
	Loss of peat soils	Minor Adverse (not significant)	No	The Central Scotland Upgrade does not impact peat or peaty soils nor does it increase the risk of peat stability. As a result, there is will be no likely significant combined effects on peat from the East Coast Upgrade and Central Scotland Upgrades.
	Peat Instability	Minor Adverse (not significant)	No	
	Impacts upon Groundwater Dependent Terrestrial Ecosystems (GWDTE)	Minor Adverse (not significant)	No	The Central Scotland Upgrade does not impact GWDTEs. As a result, there is will be no likely significant combined effects on GWDTEs from the East Coast Upgrade and Central Scotland Upgrades.
Biodiversity	Habitat Loss – Designated Sites	Minor Adverse (not significant)	No	Both Upgrades have the potential to impact designated sites independently of each other. The linear nature of the Upgrades and the location, and basis for designation of sites is such that there is no pathway for a likely significant combined effect to occur. For example, at its nearest point, the East Coast Upgrade is more than 10km from the nearest ecological designation which may be impacted by the Central Scotland Upgrade (the Firth of Forth Special Protection Area (SPA) and Site of Special Scientific Interest)). With the exception of new infrastructure proposed as part of the Central Scotland Upgrade which could potentially impact functionally linked land, the

Aspect	Residual Effects reported in East Coast Upgrade EIAR	Conclusion within East Coast Upgrade EIAR	Potential Combined effect with Central Scotland Upgrade?	Rationale
				works do not result in changes to existing overhead lines which are likely to increase impacts on designated sites or their qualifying features.
	Habitat Loss – habitats	Minor Adverse (not significant)	No	Both Upgrades result in habitat loss, degradation or fragmentation with the potential to impact protected species and birds; the East Coast Upgrade results in predominantly temporary habitat impacts with some permanent habitat impacts as a result of woodland removal while the Central Scotland Upgrade results in permanent habitat impacts associated with new permanent infrastructure as well as temporary habitat impacts as a result of works to upgrade the existing overhead lines. While neither Upgrade impacts the same area(s) of habitat they do impact similar habitat types (mainly woodland). No likely significant combined effects are predicted as habitat impacts are either temporary and then reinstated, or where permanent habitat impacts would occur are mitigated through habitat creation.
	Habitat loss – Protected Species (exc. birds)	Minor Adverse (not significant)	No	
	Habitat loss – Birds	Minor Adverse (not significant)	No	
	Habitat Degradation and Fragmentation – Habitats	No effect	No	
	Habitat Degradation and Fragmentation – Protected Species (exc. birds)	No effect	No	
	Habitat Degradation and Fragmentation – Birds	Minor Adverse (not significant)	No	
	Killing/injury of protected species – Protected Species (exc. birds)	Minor Adverse (not significant)	No	There is the potential for the Upgrades to impact protected species, however, neither upgrade is predicted to result in likely significant effects as a result of injury or mortality. The distribution, and mobility of protected species is such that it is unlikely that combined effects would occur as a result of the Upgrades. Notwithstanding, both SP Transmission and SHE Transmission have proposed mitigation measures including species protection plans and pre-construction surveys or checks which would prevent injury or mortality.
	Killing/injury of protected species – Birds	Minor Adverse (not significant)	No	
	Loss of, Obstruction of, or Disturbance to	Minor Adverse (not significant)	No	There is the potential for the Upgrades to impact resting or nesting sites, however, neither upgrade is predicted to result in likely significant effects. Similar to above, the

Aspect	Residual Effects reported in East Coast Upgrade EIAR	Conclusion within East Coast Upgrade EIAR	Potential Combined effect with Central Scotland Upgrade?	Rationale
	Species' Resting/Nesting Sites – Designated Sites			distribution, and mobility of protected species and therefore resting/nesting sites is such that it is unlikely that combined effects would occur as a result of the Upgrades. Notwithstanding, both SP Transmission and SHE Transmission have proposed mitigation measures including species protection plans and pre-construction surveys or checks which would prevent such impacts.
	Loss of, Obstruction of, or Disturbance to Species' Resting/Nesting Sites – Protected Species (exc. birds)	Minor Adverse (not significant)	No	
	Loss of, Obstruction of, or Disturbance to Species' Resting/Nesting Sites – Birds	Negligible	No	
Heritage	Direct physical impact to assets	Neutral to slight adverse	No	Neither Upgrade is predicted to have direct impacts which result in likely significant effects on heritage assets. No assets would be directly impacted by both the East Coast and Central Upgrade.
	Impact on setting of assets	Negligible to Minor Adverse	No	The East Coast Upgrade does not comprise new infrastructure and any changes are not considered likely to affect the setting of heritage assets. While the Central Scotland Upgrade comprises new infrastructure which could impact setting, this is located a considerable distance from the East Coast Upgrade and therefore there is no combined effects.