

APPENDIX 1 – COMPARATIVE ALIGNMENT TABLES

Category	Sub-Topic	Summary of Constraints for Baseline Alignment	Opportunities and Constraints for Variants	Alignment Preference
Natural Heritage	Designations	<p>The Baseline Alignment does not pass through any designated sites. The closest natural heritage designation is the Caithness and Sutherland Peatlands SAC, SPA, Ramsar and SSSI site, which is within approximately 220 m at its closest point near to the Achany Wind Farm Extension on-site substation. The River Oykel SAC and the Kyle of Sutherland Marshes SSSI also lie between approximately 400 m and 700 m from the Baseline Alignment at their closest points. In each of these cases, it is considered that good practice construction, pollution prevention and water quality control measures would avoid compromising the qualifying interests or notified features of these designated sites.</p> <p>The Baseline Alignment avoids traversing any areas of woodland included on the AWI.</p>	<p>Alignment Variant 6 and Alignment Variant 8 traverse approximately 690 m and 1.05 km respectively of woodland classed as Category 3 within the AWI (see Figure 2d). Category 3 is other woodlands on 'Roy' woodland sites, which are sites which have at most had only a short break in continuity of woodland cover and may still retain features of ancient woodland. Both Alignment Variant 6 and Alignment Variant 8 have sought to utilise existing wayleaves and rides where possible but would require some felling within Category 3 AWI woodland. All other alignment variants avoid areas of AWI woodland.</p>	<p>The Baseline Alignment and all alignment variants are considered to be broadly similar in the level of constraint posed by designated natural heritage sites. This is with the exception of alignment variants 6 and 8 which have potential to have an increased impact to woodland recorded on the AWI so are the least preferred when compared to the Baseline Alignment and all other alignment variants.</p>
	Protected Species	<p>The distribution and abundance of watercourses suggest that that otter and water vole are present throughout the northern and western end of the Baseline Alignment. Otter is a qualifying species of the Caithness and Sutherland Peatlands SAC and is also likely to be present along the River Oykel SAC and other watercourses throughout the Baseline Alignment.</p> <p>Abundant woodland, and woodland edge habitat present within the central, southern and eastern sections of the route provides suitable habitat for pine marten, badger, red squirrel and bat species.</p> <p>Atlantic salmon and Freshwater pearl mussel, qualifying species of the River Oykel SAC, are recognised as particularly sensitive to changes in water quality.</p>	<p>Constraints considered to be broadly equivalent for all options, subject to careful micro-siting of poles and appropriate mitigation.</p>	<p>Constraints considered to be broadly equivalent for all options.</p>

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	Habitats	<p>GWDTE within the vicinity of the Baseline Alignment includes extensive wet heath, which is considered moderately dependent on groundwater and is widespread within the wider area. Areas of higher sensitivity GWDTE such as flushes and wet woodland are largely avoided by the Baseline Alignment.</p> <p>Upland moorland and mire communities dominate the high ground at the northwest extent of the Baseline Alignment. Wet dwarf shrub heath is the dominant Annex I habitat along the route and is extensive in several sections, often found in a fine mosaic with blanket bog and wet / dry modified bog habitats. Blanket bog is another common Annex 1 habitat within the Baseline Alignment, found in the northwest section of the route and in the open ground south of Braemore Wood. Dry dwarf shrub heath is found on drier knolls but is limited in its extent along the Baseline Alignment.</p> <p>Conifer plantation woodland and felled woodland are extensive along the route between Rosehall Wind Farm and Shin substation. The Baseline Alignment avoids areas of woodland identified as ancient woodland on the AWI.</p> <p>The Baseline Alignment passes through habitats of varying distinctiveness, with areas of blanket bog habitat designated as Very High Distinctiveness, while areas of heathland, modified bog and native woodland are of High Distinctiveness.</p>	<p>All alignment variants are considered to be broadly equivalent to the Baseline Alignment in terms of GWDTE and Annex 1 habitat constraints. Equally, all alignment variants are broadly similar to the Baseline Alignment in terms of biodiversity value. Alignment variants 6 and 8 are considered to have higher biodiversity units per hectare than the Baseline Alignment largely due to the presence of AWI woodland within them on the final approach to Shin substation (see Figure 2d).</p>	<p>Constraints considered to be broadly equivalent for all options, apart from for alignment variants 6 and 8 due to the presence of AWI woodland. Alignment variants 6 and 8 are therefore the least preferred and the Baseline Alignment and all other alignment variants are comparable.</p>

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	Ornithology	<p>The Baseline Alignment passes within approximately 220 m of the Caithness and Sutherland Peatlands SPA designated for supporting breeding populations of Black-throated diver, Wigeon, Common scoter, Red-throated diver, Hen harrier, Golden eagle, Golden plover, Dunlin, Greenshank, Wood sandpiper, Short-eared owl and Merlin.</p> <p>The Baseline Alignment could potentially result in the loss of small areas of woodland and scrub habitat which support breeding bird species, including woodland raptors, passerines, waders and wildfowl; however, these habitats are abundant in the local and wider area. All options also pass through open moorland potentially of value to upland species including waders and black grouse.</p>	<p>Constraints considered to be broadly equivalent for all options, subject to appropriate mitigation.</p>	<p>Constraints considered to be broadly equivalent for all options.</p>
	Hydrology Hydrogeology and Geology	<p>The Baseline Alignment would cross approximately 700 m of Class 1 priority peatland and approximately 6 km in total of Class 2 priority peatland, the majority of which is located within the northern extent which would be unavoidable given its coverage. The Baseline Alignment is located within the surface water catchments of the Kyle of Sutherland including the River Cassley and Allt Mor sub catchments. A number of watercourse crossings will be required, including crossing over the floodplain of the Allt an Rasail. Several private water supplies and CAR authorisations are noted downstream of the Baseline Alignment. The Shin Hydropower Station is located in proximity to the operational Shin substation, however, the Baseline Alignment does not cross into the River Shin surface water catchment.</p>	<p>Parts of alignment variants 6, 8, 9 and 11 are located within the River Shin surface water catchment which is considered an important fishery (see Figure 3).</p> <p>The Baseline Alignment offers advantages over alignment variants 4, 5, 8, 9 and 11 given it crosses a lesser extent of peatland habitats compared to these variants (see Figure 4).</p> <p>Alignment variants 1, 3 and 10 would require additional watercourse crossings compared to the Baseline Alignment and based on superficial mapping could potentially cross a larger area of peat. Alignment Variant 7 would avoid slightly approximately 100 m of Class 2 priority peatland in comparison to the Baseline Alignment but would require 3 additional watercourse crossings.</p>	<p>Given opportunities for micro-siting of poles to minimise effects on peatland, water catchment areas and water crossings the Baseline Alignment is preferred, but is comparable to alignment variant 2 and 12.</p>
Cultural Heritage	Designations	<p>Potential impacts associated with the Baseline Alignment would be limited to indirect visual impacts. The Baseline Alignment would only be visible from cultural heritage designations as it would descend to Inveran through Shin Forest. Here it would occupy a very narrow arc of visibility, set against a background of mature coniferous planting which is itself a modern alteration to the original setting of the designated assets, and should break the horizon minimally. The Baseline Alignment would not impede views up the</p>	<p>Alignment variants 6, 8, 9 and to a lesser degree Alignment Variant 11, would all have the potential for a slightly larger visual impact on designated sites to the east, particularly the Cnoc Breac settlement, which is part of the Invershin Primary School Settlement SM5498, occupying open ground to the east of the A836. However, the relevant sections of these alignment variants would not break the horizon and would be set against a background of modern coniferous</p>	<p>Constraints considered to be broadly equivalent for all options.</p> <p>Alignment variants 6, 8, 9 and to a lesser degree Alignment Variant 11, would all have the potential for a slightly increased visual impact on some cultural heritage designated sites so these are less preferred when compare</p>

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		Shin or the Oykel from the Invershin Standing Stone or break the visual relationship between designated assets and each other or significant natural landscape features.	forestry, so would not be a prominent landscape feature. In addition, the settlement, being domestic and economic in nature, is of low sensitivity to alterations to its setting.	
	Cultural Heritage Assets	The non-designated assets most vulnerable to direct impacts from the Baseline Alignment are three sites consisting of multiple hut circles with associated field systems. These are MHG12803 Doir a'Chatha, MHG 12800 Allt a'Ghluheran, and MHG12891 Linsidmore Wood. The Baseline Alignment would have the potential for impacts on minor features associated with these assets, though would not cut directly through them.	<p>Alignment Variant 2 and Alignment Variant 3 would avoid the boundary of MHG12803 Doir a'Chatha near Durcha, although Alignment Variant 2 would have the potential to impact upon other minor features of cultivation associated with the site. Alignment Variant 10 would cut directly through MHG12803 Doir a'Chatha (see Figure 2b).</p> <p>In relation to MHG 12800 Allt a'Ghluheran hut circle settlement, Alignment Variants 4, 5, 8, 9 and 11 would avoid any direct impacts. Alignment Variant 4 however would have the same impacts as per the Baseline Alignment on MHG12891 Linsidmore Wood. Alignment Variant 4 is therefore preferable to the Baseline Alignment in relation to impacts on MHG 12800 Allt a'Ghluheran, but comparable to it in relation to MHG12891 Linsidmore Wood. Alignment variants 5, 8, 9 and 11 would also avoid direct impacts on MHG12891 Linsidmore Wood hut circle settlement (see Figure 2c). Therefore, these alignment variants would be preferable to the Baseline Alignment in terms of both of these assets.</p> <p>In relation to the less significant MHG62741 hut circles within Linsidcroy Wood alignment variants 5 and 7 have the potential for damage to as yet unknown minor features associated with the hut circles. Whereas the Baseline Alignment and alignment variants 8, 9 and 11 would avoid any direct impacts.</p>	<p>Around Durcha, Alignment Variant 2 and Alignment Variant 3 would both be preferable to the Baseline Alignment as they avoid the boundary of MHG12803 Doir a'Chatha near Durcha, although Alignment Variant 2 would have the potential to impact upon other minor features of cultivation associated with the site so it is less preferred than Alignment Variant 3. Alignment Variant 10 is the least preferable in relation to MHG12803 Doir a'Chatha near Durcha.</p> <p>Around Middle Hill and Linsidmore Alignment variants 5, 8, 9 and 11 would avoid direct impacts on MHG 12800 Allt a'Ghluheran hut circle settlement and MHG12891 Linsidmore Wood hut circle settlement. Therefore, these four alignment variants would be preferable to the Baseline Alignment in terms of both of these assets.</p> <p>Alignment Variant 4 would avoid direct impacts on MHG 12800 Allt a'Ghluheran hut circle so be preferable to the Baseline Alignment, however would have the same impacts as per the Baseline Alignment on MHG12891 Linsidmore Wood so is not as preferred as Alignment variants 5, 8, 9 and 11.</p>
People	Proximity to Dwellings	The Baseline Alignment is not generally located within the vicinity of residential properties. Exceptions include to the northeast of Durcha (approximately 400 m distant), to the north of Tullich (approximately 200 m distant) and upon final approach to Shin substation, the Baseline Alignment would pass to within around 150 m of residential dwellings and agricultural	<p>No variants are proposed that afford the opportunity to increase the distances noted above to the Baseline Alignment.</p> <p>However, Alignment Variant 10 would bring the OHL closer to properties at Durcha (see Figure 2a). Similarly Alignment Variant 12 is proposed to reduce felling and would bring the OHL closer to</p>	Given generally comparable constraints across all options, there would be a slight preference for alignment variants 5, 8, 9 or 11 but the Baseline Alignment would generally be the preference. Alignment variant 10 and 12 would be the least preferred.

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		buildings along the A837 that are present near Shin substation in Inveran.	the residential property at Tullich (see Figure 2c). No alignment variants offer a particular advantage in terms of proximity to properties near Shin substation. Alignment variants 5, 8, 9 and 11 would also maintain more distance from the properties at Lindsidmore and along the A837.	
Landscape and Visual	Designations	The Baseline Alignment would commence just inside the Reay – Cassley Wild Land Area (WLA 34) at the proposed Achany Wind Farm Substation, and skirt within and around its edge for around 2.5 km. Although not a designation, the special qualities of WLAs are recognised within NPF4. However, the Baseline Alignment is close to the edge of WLA 34 and within the setting of the proposed wind turbines, would be unlikely to lead to any notable effect on these special qualities.	No OHL Variant offers a particular advantage over the Baseline Alignment in terms of minimising effects on the WLA.	Constraints considered to be broadly equivalent for all options.
	Landscape Character	The Baseline Alignment is almost entirely within Landscape Character Type (LCT) 135: Rounded Hill – Caithness and Sutherland. This is a vast and variable landscape type which covers extensive areas of central and east Sutherland, heavily influenced by coniferous forestry and wind farm development, and therefore considered to have a Low – Medium Sensitivity to development of the type proposed. Towards Shin substation, the Baseline Alignment would pass into LCT 142: Strath – Caithness and Sutherland. This LCT includes Kyle of Sutherland and tributary glens: Glen Cassley and Achany Glen, therefore considered to have a Medium Sensitivity to development of the type proposed. The Baseline Alignment largely follows the fringes and edges of forest plantation areas through these LCTs where it is likely to form a fairly unremarkable feature. A new wayleave would require some felling for forest and / or small areas of native woodland in localised areas, for example, when crossing the A839, when passing through small areas of forest around Durcha and Tullich, and on approach to the Shin substation. This would have limited effect within the context of cyclical forest management.	No alignment variant offers a particular advantage over the Baseline Alignment in terms of minimising effects on landscape character.	Constraints considered to be broadly equivalent for all options.

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	Visual	<p>Potential visual effects for the Baseline Alignment and all of alignment variants would be likely to be minimal as there are only a limited numbers of visual receptors nearby.</p> <p>The Baseline Alignment would potentially be visible in rear and oblique views from properties at Durcha and Tullich. There would also potentially be views of the wayleave or poles on the skyline from settlement areas across the Kyle of Sutherland such as Rhelonie and Inverhouse and of the approach into Shin Substation from properties around Inveran.</p> <p>The Baseline Alignment would cross the A839 but would be likely to be only briefly seen in passing views due to surrounding forest in this area. There would be some views where the Baseline Alignment would cross and pass alongside an approximate 500 m section of Core Path above Durcha (SU21.02: Sika Trail Cycle Route) and there is also some potential for views from near the crossing of the A839 where the Baseline Alignment follows the main access route of the Rosehall Wind Farm.</p>	<p>Alignment Variant 1 would be further from the Core Path (SU21.02: Sika Trail Cycle Route) and would therefore lead to slightly reduced visual effects when compared to the Baseline Alignment. However, Alignment Variant 3 would follow a greater length of the Core Path and may therefore have greater potential impacts (see Figure 2a).</p> <p>Alignment Variant 10 would bring the OHL closer to properties at Durcha (approximately 160 m away at its closest point) and would therefore lead to a greater potential for visual effects than the Baseline Alignment (see Figure 2a). Alignment Variant 12 would bring the OHL closer to a property at Middle Hill (approximately 110 m) and would therefore also lead to a greater potential for visual effects than the Baseline Alignment (see Figure 2a).</p> <p>There is some limited potential for the Baseline Alignment to feature in views from properties at Achany and this would be reduced slightly by following Alignment Variants 6, 8 or 9.</p>	<p>Alignment Variant 1 would be further from the Core Path (SU21.02: Sika Trail Cycle Route) and would therefore lead to slightly reduced visual effects when compared to the Baseline Alignment. Alignment Variant 1 is therefore the preference in relation to visual constraints.</p> <p>Alignment variants 3, 10 and 12 would be the least preferred visually.</p>
Land Use	Agriculture	<p>The Baseline Alignment crosses agricultural land classed as follows: Class 6.3 (Land capable of use as rough grazing), Class 5.3 (Land capable of use as improved grassland) and Class 4.1 (Land capable of producing a narrow range of crops). As these are not particularly sensitive or fertile categories, any impacts on agriculture as a result of the Baseline Alignment would be considered to be low.</p>	<p>Generally, all alignment variants are considered to be broadly similar to the Baseline Alignment in the level of constraint associated with agriculture. Alignment Variant 3 would pass more to the north of Durcha, moving into Class 6.3 land where the Baseline Alignment would remain in Class 5.3 land. This would not be anticipated to lead to any significant differences in terms of impacts on agriculture. Alignment variants 5, 8, 9 and 11 would pass more to the north of Linsidmore, remaining in Class 5.3 land where the Baseline Alignment would pass into Class 4.1 land.</p>	<p>Constraints considered to be broadly equivalent for all options, with a very slight preference for alignment variants 5, 8, 9 and 11 in terms of agriculture land.</p>

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	Forestry	<p>The Baseline Alignment would pass through areas of commercial plantation, as well as areas of native pinewood.</p> <p>Where the Baseline Alignment would cross felled ground awaiting replanting or recently replanted areas a wayleave may be achieved without concern for consequential windthrow. Where the Baseline Alignment would require felling of mature trees, consideration must be given to felling up to a wind firm boundary, typically a forest track. Where woodland is cleared and maintained as an open corridor, compensation by new woodland creation at least matching the area will be essential, as described in the Scottish Government's Policy on Control of Woodland Removal and the implementation guidance.</p>	<p>Alignment Variant 10 offers the opportunity to reduce the length of the OHL through woodland to the east of Durcha, whilst Alignment Variant 12 to the north of Tullich would avoid approximately 0.34 km of woodland.</p> <p>In contrast, Alignment Variant 6 and Alignment Variant 8 would pass through areas shown in the AWI (Category 3).</p>	<p>The Baseline Alignment is generally either preferred in terms of potential impacts to forestry and woodland, or is comparable to other alignment variants, although Alignment Variants 10 and 12 offer opportunities to minimise woodland loss.</p>
	Recreation	<p>The Baseline Alignment would originate and pass through the highland sporting estates of Glenrossal and Glencassley at the northern extent of the connection.</p> <p>It would also cross and pass alongside an approximate 500 m section of Core Path (SU21.02: Sika Trail Cycle Route) to the north of Durcha.</p> <p>Other recreational assets in the area include the Highland Shooting, Core Path SU21.11 Shin Falls Forest Walk, the Falls of Shin Visitor Centre and National Cycle Network's Route 1.</p>	<p>Alignment variant 6 and 8 would run parallel to the National Cycle Network's Route 1 for approximately 0.25 km. This could lead to additional impacts when compared to the Baseline Alignment. Alignment variants 8, 9 and 11 would pass approximately 0.5 km closer to the south of Core Path (SU21.11 Shin Falls Forest Walk) and the Falls of Shin Visitor Centre than the Baseline Alignment would.</p> <p>Alignment variants 2, 4, 6, 7, 10 and 12 are comparable to the Baseline Alignment in potential recreational impacts.</p>	<p>Overall, the Baseline Alignment is generally the preferred option, with the exception of Alignment Variant 1, which would be preferable in relation to Core Path (SU21.02: Sika Trail Cycle Route).</p>
Planning	Policy	<p>Adherence to National, Regional and Local planning policy will in large part depend on avoiding or minimising potential constraints noted, particularly in relation to potential impacts on the natural environment given presence of designated sites and areas of landscape importance.</p>	<p>Alignment variants 6 and 8 would have the potential to have an increased impact on AWI and are therefore the least preferred in terms of policy.</p>	<p>It is considered that opportunities exist to minimise potential impacts for the Baseline Alignment and all other alignment variants, through design, micro-siting of pole locations, or mitigation measures, and allow adherence with planning policy.</p>
	Proposals	<p>At the current stage there do not appear to be any notable planning proposals that would present potential for constraint of the Baseline Alignment or any of the alignment variants.</p>	<p>None.</p>	<p>Constraints considered to be broadly equivalent for all options.</p>