Scottish & Southern Electricity Networks

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Alignment Deviations Appraisal

Project: Beauly to Blackhillock to New Deer to Peterhead 400 kV Connection

November 2024

REF: LT37 and LT359

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Contents

1. Introduction

This Alignment Deviations Appraisal report is an addendum to the Beauly to Blackhillock to New Deer to Peterhead 400 kV Project (the Proposed Development) Alignment Consultation Document and should be read in conjunction with it. The Alignment Consultation Document can be found here.

Following completion of the alignment stage consultation, a number of potential alignment deviations were identified in response to comments made during the consultation and following further engineering studies. Where these deviations to the Potential Alignment are greater than 100 m from the alignment centreline (distance to deviation centreline) they are detailed in this report as they are deemed to be more substantial deviations. Those within the 100 m Limit of Deviation (LoD) are considered part of micrositing and are not considered within this report.

This report documents the appraisal of these alignment deviations from an environmental, engineering and cost perspective in comparison to the Potential Alignment as identified in the Alignment Consultation Document. Also included is commentary on the acceptability of the deviations, which informs the decision-making process for whether they should be taken forward as the Proposed Alignment to be assessed as part of the Environmental Impact Assessment (EIA).

Images are used throughout the report to illustrate the deviations in comparison to the Potential Alignment that was presented as part of the Alignment Stage Consultation. The colours used in the graphics below correspond to those used in the Alignment Consultation Document figures to provide continuity.

2. Comparative Appraisal of Alignment Deviations

A comparative appraisal has been carried out for deviations in the following alignment sections:

- Section 1
- Section 8
- Section 14
- Section 17
- Section 18
- Section 19
- Section 20
- Section 23
- Section 25
- Section 26
- Section 27
- Section 28

The 'acceptability' referred to in the following tables is in terms of direct comparison with the Potential Alignment, for which impacts may already be noted in previous studies. It does not mean that there are no impacts associated with either the Potential or the Proposed Alignment and as such this document needs to be

read alongside the Beauly to Blackhillock to New Deer to Peterhead 400 kV Project Alignment Consultation Document for full context see link.

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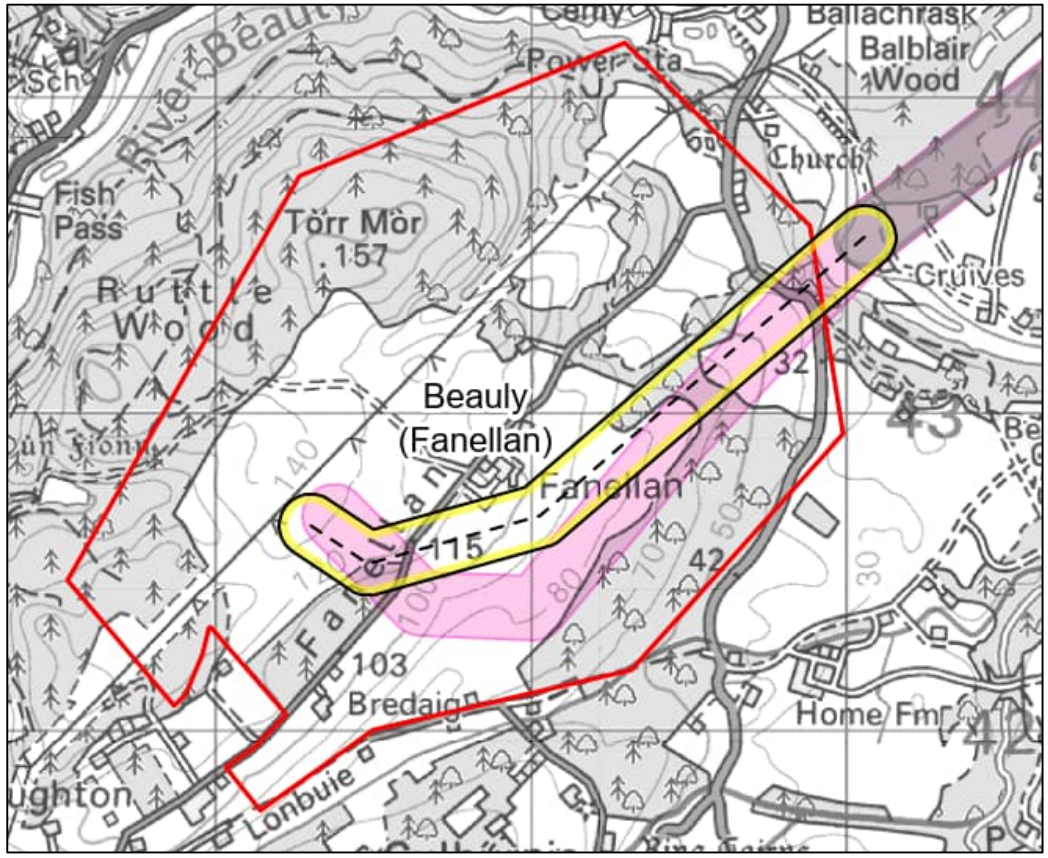
Section 1 – Alignment 1D

Deviation Description

The Proposed Alignment 1D takes a more southerly alignment than the Potential Alignment 1C to sit at a lower elevation in the landscape thus reducing landscape and visual effects. This alignment also accommodates a request from the landowner to move the alignment closer to field boundaries to avoid sterilising arable land. Although close to the forest edge, tree removal will be limited.



Legend

PANs

Proposed Substation Site (Proposal of Application Notice (PAN) Boundary)

Potential Alignment

Alignment Centreline

1C

Previous/Next Alignments

Proposed Alignment

Proposed Alignment LoD 1D

Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
Environment			
Natural Heritage	Designations	No major changes.	Yes
	Protected Species	Alignment 1C and 1D largely pass through the same habitats. However, Alignment 1D comes closer to wooded habitat that has greater general suitability for protected species.	Yes
	Habitats	Alignment 1D cuts the edge of a wooded area, leading to potentially greater loss of habitat that would need to be compensated for in relation to Biodiversity Net Gain (BNG). The differences between alignment options are small, but avoidance of habitat loss is preferred. Alignment 1D is considered acceptable however possibly more challenging to achieve a net gain if the forest edge is compromised.	Yes
	Ornithology	No major changes.	Yes
	Hydrology, Geology and Hydrogeology	No major changes.	Yes
Cultural Heritage	Designations	Alignment 1D is approximately 200m nearer to Culburnie ring cairn and stone circle (SM2425) although still over 450m from it though visibility is reduced from other designations due to its lower position in the landscape.	Yes
	Assets	No major changes.	Yes
Landscape and Visual	Landscape Designations	No change.	Yes
	Landscape Character	Alignment 1D would provide a marginal benefit as it sits slightly lower on the hillside. It potentially removes woodland from the edge of Fanellan Wood, but there is opportunity to limit loss and retain as much woodland as possible.	Yes

Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
	Visual	Alignment 1D would provide a marginal benefit as it sits slightly lower on the hillside. It potentially removes woodland from the edge of Fanellan Wood, but there is opportunity to limit loss and retain as much woodland as possible.	Yes
Land Use	Agriculture	No major changes.	Yes
	Forestry	The estimated area of commercial woodland that would be impacted by Alignment 1D is 3.40 ha, comprising 1.34 ha coniferous woodland and 2.05 ha broadleaved woodland. This is a slight increase in commercial forestry removal of 0.4 ha when compared to Potential Alignment 1C. Due to the low increase in area this is an acceptable change.	Yes
	Recreation	No major changes.	Yes
Planning	-	No major changes.	Yes
Engineering			
Infrastructure Crossings	Major Crossings	No major changes.	Yes
	Road Crossings	No major changes.	Yes
Environmental Design	Elevation	No major changes.	Yes
	Atmospheric Pollution	No major changes.	Yes
	Contaminated Land	No major changes.	Yes
	Flooding	No major changes.	Yes

Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
Ground Conditions	Terrain	Alignment 1D crosses a slightly steeper slope on the west bank of the River Beauly than Potential Alignment 1C, however this would be mid span between the two towers and is not a significant engineering constraint.	Yes
	Peat	No major changes.	Yes
Construction / Maintenance	Access	A slightly higher proportion of Alignment 1D is further from the existing access due to being further into an arable field, but there is still an existing network of tracks and roads within 1 km.	Yes
	Angle Towers	Alignment 1D requires the same number of angle towers as Potential Alignment 1C. Alignment 1D does require a larger angle change, but this is not considered a significant constraint.	Yes
Proximity	Clearance Distance	No major changes.	Yes
	Windfarms	No major changes.	Yes
	Communication	No major changes.	Yes
	Urban Environment	No major changes.	Yes
	Metallic Pipelines	No major changes.	Yes
Cost			
Capital Cost	-	There is a slight increase in capital cost in comparison to the Potential Alignment 1C due to an additional 0.2 km conductor length and additional felling requirements (although tree loss at forest edge will be avoided wherever possible). This increase is considered acceptable from a capital cost perspective.	Yes

Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
Operational Cost	-	Operational costs for Alignment 1D are slightly higher in comparison to the Potential Alignment 1C. The difference is minimal and considered acceptable.	Yes

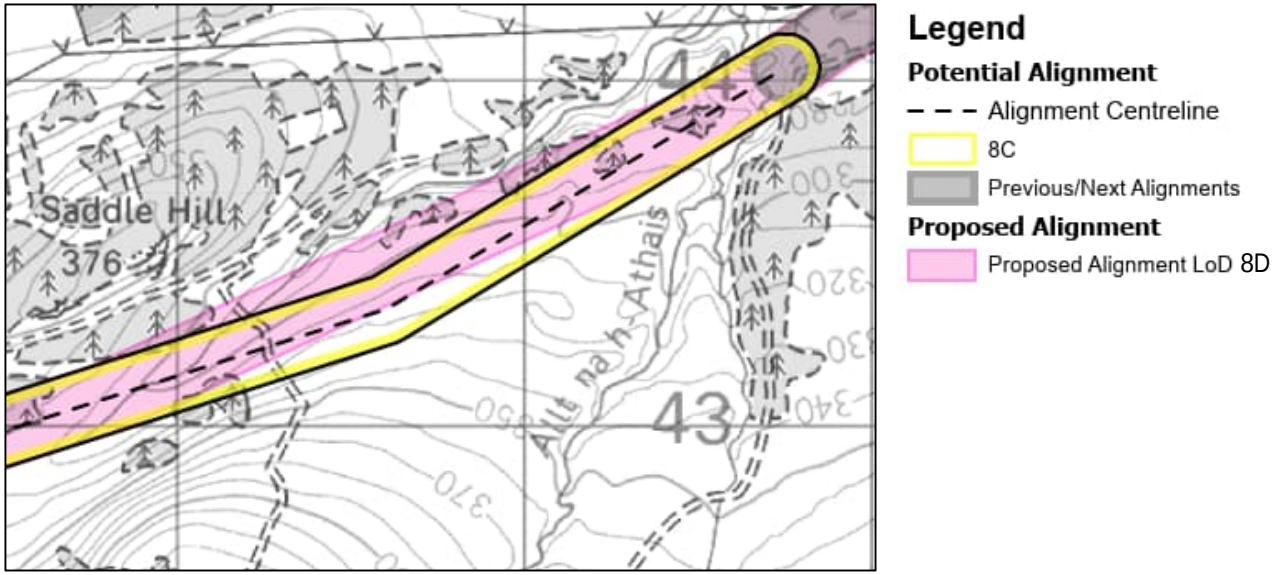
Conclusion

Overall, Alignment 1D is acceptable. Tree loss on the forest edge is to be avoided wherever possible.

Section 8 – Alignment 8D

Deviation Description

Proposed Alignment 8D is slightly further north than Potential Alignment 8C which takes it onto slightly lower ground, thus further reducing the potential for visual effects slightly. The alignment also avoids some areas of deeper peat identified through preliminary peat probing in this area and would also reduce impacts to existing grouse drives.



Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
Environment			
Natural Heritage	Designations	No major changes.	Yes
	Protected Species	Alignments 8C and 8D largely cut through the same habitats for protected species. Alignment 8D is slightly closer to pockets of woodland and a watercourse which are within the LoD and should be avoided. This change is considered acceptable, however there is the potential for more mitigation to be required for loss of suitable habitat which should be minimised where possible through design.	Yes
	Habitats	Alignment 8C and 8D largely cut through the same habitats. Alignment 8D is slightly closer to a watercourse which is within the LoD and should be avoided. Conversely, Alignment 8C clips a small area of native woodland (NWSS) and as such Alignment 8D may be a slight improvement.	Yes
	Ornithology	No major changes.	Yes
	Hydrology, Geology and Hydrogeology	No major changes.	Yes
Cultural Heritage	Designations	No major changes.	Yes
	Assets	No major changes.	Yes
Landscape and Visual	Landscape Designations	No major changes.	Yes
	Landscape Character	Alignment 8D provides a marginal benefit by following the topography more closely, albeit adding in a small angle tower which are generally not favourable from a landscape character perspective.	Yes

Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
	Visual	Alignment 8D provides a marginal benefit by being located on slightly lower ground behind Saddle Hill, albeit adding a small angle tower, which are generally not favourable from a visual perspective.	Yes
Land Use	Agriculture	No major changes.	Yes
	Forestry	The estimated area of commercial forestry that would be impacted by Alignment 8D is 44.19 ha, comprising of 29.43 ha commercial forestry and 14.76 ha broadleaved woodland. This is a slight increase in commercial forestry removal when compared to the Potential Alignment 8C. Due to the marginal increase in area, this is an acceptable change.	Yes
	Recreation	No major changes.	Yes
Planning	-	No major changes.	Yes
Engineering			
Infrastructure Crossings	Major Crossings	No major changes.	Yes
	Road Crossings	No major changes.	Yes
Environmental Design	Elevation	No major changes.	Yes
	Atmospheric Pollution	No major changes.	Yes
	Contaminated Land	No major changes.	Yes
	Flooding	No major changes.	Yes

Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
Ground Conditions	Terrain	No major changes.	Yes
	Peat	Alignment 8D passes through less Class 1 peatland but slightly more Class 2 peatland than Potential Alignment 8C. Overall the peatland data suggests Alignment 8D passes through less peatland and initial peat probing of the area confirms this.	Yes
Construction / Maintenance	Access	No major changes.	Yes
	Angle Towers	Alignment 8D requires one additional angle tower compared with Potential Alignment 8C, however this is not considered significant given the length of the section.	Yes
Proximity	Clearance Distance	No major changes.	Yes
	Windfarms	No major changes.	Yes
	Communication	No major changes.	Yes
	Urban Environment	No major changes.	Yes
	Metallic Pipelines	No major changes.	Yes
Cost			
Capital Cost	-	No major changes.	Yes
Operational Cost	-	No major changes.	Yes

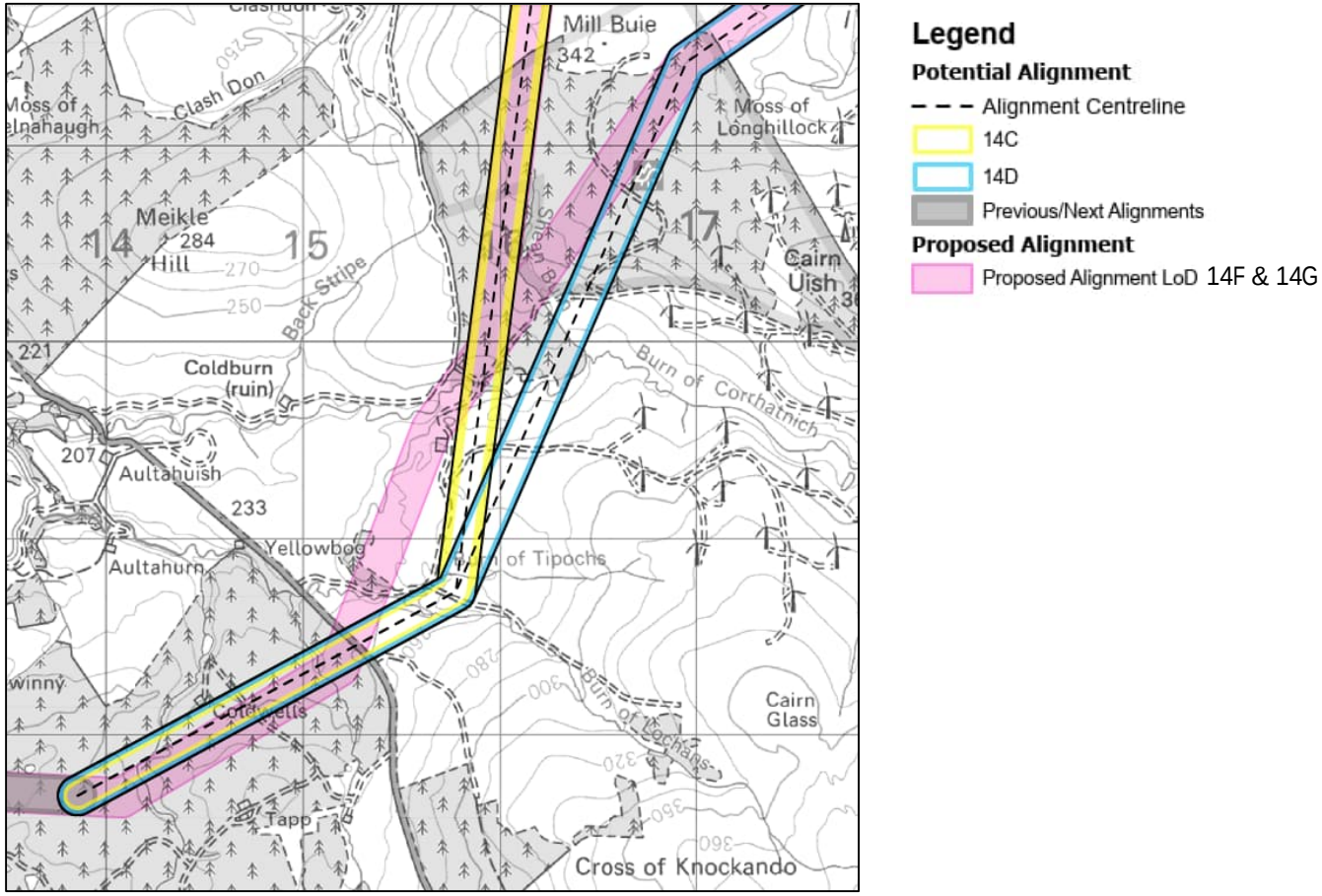
Conclusion

Overall, Alignment 8D is acceptable.

Section 14 – Alignment 14F and 14G

Deviation Description

Proposed Alignments 14F and 14G are deviations to Potential Alignments 14C and 14D respectively. Adjustments have been made to move further from a residential property and emergency telecommunications mast and to reduce the number of crossings of a main windfarm access due to landowner concerns.



Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
Environment			
Natural Heritage	Designations	No major changes.	Yes
	Protected Species	No major changes.	Yes
	Habitats	No major changes.	Yes
	Ornithology	No major changes.	Yes
	Hydrology, Geology and Hydrogeology	No major changes. Both Alignments 14G and 14D are adjacent to a Scottish Water abstraction at Glenlatterach. Alignments 14F and 14C are adjacent to PWS.	Yes, with micrositing to avoid impact on water supplies.
Cultural Heritage	Designations	No major changes.	Yes
	Assets	No major changes.	Yes
Landscape and Visual	Landscape Designations	No major changes.	Yes
	Landscape Character	No major changes.	Yes
	Visual	Alignments 14F and 14G are closer than Alignments 14C and 14D to properties at Tapp, Aultahurn and Aultahuish, but further from Coldwells. Alignments 14F and 14G would require an additional angle tower.	Yes

Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
Land Use	Agriculture	No major changes.	Yes
	Forestry	The estimated area of commercial woodland that would be impacted by Alignment 14F is 48.09 ha, comprising 3.11 ha broadleaved woodland and 44.98 ha coniferous woodland. Alignment 14F has a slight decrease of commercial forestry removal of 0.32 ha when compared to the Potential Alignment 14C and is therefore considered acceptable from a forestry perspective. The estimated area of commercial woodland that would be impacted by Alignment 14G is 44.76 ha coniferous woodland. This is a slight decrease of commercial forestry removal of 1.04 ha when compared to the Potential Alignment 14D and is therefore considered acceptable from a forestry perspective.	Yes
	Recreation	No major changes.	Yes
Planning	-	No major changes.	Yes
Engineering			
Infrastructure Crossings	Major Crossings	No major changes.	Yes
	Road Crossings	Both Alignments 14F and 14G have a fewer number of road crossings when compared to the Potential Alignment options 14C and 14D. Alignments 14F and 14G also avoid crossings of the main wind farm access road, which has the potential for having abnormal load deliveries which could require additional clearances to ground. Fewer road crossings also means fewer protection measures will be required.	Yes
Environmental Design	Elevation	No major changes.	Yes
	Atmospheric Pollution	No major changes.	Yes

Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
	Contaminated Land	No major changes.	Yes
	Flooding	Both alternative alignments 14F and 14G have between 2-5% of their alignments within a flood risk area. This is comparable with Potential Alignments 14C and 14D. Alignment 14G when compared to Potential Alignment 14D has a decreased length through surface flood risk areas.	Yes
Ground Conditions	Terrain	No major changes. Alignment 14G has a slightly higher maximum slope when compared to Alignment 14D of 20 degrees compared to 17 degrees, however this is only for a short distance so is not considered to be an issue.	Yes
	Peat	Alignment 14F passes through areas of Class 1 and Class 2 peatland with estimated peat depths of up to 1 m. It is unlikely that it will be possible to microsite towers to avoid this area completely. This is comparable to the Potential Alignment 14C with a very slight increase in length through peatland. Alignment 14G passes through areas of Class 1 and Class 2 peatland with estimated peat depths in some areas exceeding 1.5 m. It is unlikely that it will be possible to microsite towers to avoid this area completely. This is comparable to Potential Alignment 14D with a slight increase in length through peatland. Overall, Alignments 14F and 14G are comparable to the current Potential Alignment options in this area from a peatland perspective. Further peat depth surveys will be undertaken at the next stage of the design process to inform micrositing of tower locations and access tracks to avoid the areas of deepest peat where possible.	Yes
Construction / Maintenance	Access	No major changes.	Yes
	Angle Towers	Both options have an increased number of angles compared to the Potential Alignments within this section. Alignments 14C and 14D both have three angle changes, whereas Alignment 14F has six and Alignment 14G has five. One of these angles is not an additional angle and is just a result of an angle from the previous section being pushed into this section, however this still means an increase of two angles for Alignment 14F and one additional angle for Alignment 14G. This is not considered to be ideal, however given the purpose of the alignment deviation is to avoid a wind farm access route crossing, it is considered to be acceptable.	Yes

Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
Proximity	Clearance Distance	Both Alignments 14F and 14G allow for an increased distance from residential properties compared with Alignments 14C and 14D, resulting in no properties being within 170 m within this section. Both alignments do however come closer to a commercial building which is an office associated with the wind farm. This remains outwith the operational corridor and is therefore not considered a clearance concern. In comparison to Potential Alignments 14C and 14D,alternative Alignments 14F and 14G are preferred due to maximising separation from residential properties in the area.	Yes
	Windfarms	No major changes.	Yes
	Communication	Alignments 14F and 14G are considered to be preferable when compared to the Potential Alignments, due to increased separation distance from a radio communications mast.	Yes
	Urban Environment	No major changes.	Yes
	Metallic Pipelines	No major changes.	Yes
Cost			
Capital Cost	-	In comparison to Alignment 14C, Alignment 14F is acceptable from a cost perspective with a slight reduction in estimated capital cost. The cost saving in reducing felling requirements and a slightly shorter length is balanced by the increased number of angle towers in this option. In comparison to Alignment 14D, Alignment 14F is significantly higher cost and not favourable from a capital cost perspective. It would only be accepted if Alignment 14D becomes no longer feasible due to approval of the pending Kellas Drum wind farm application for consent (ECU Ref: ECU00003441).	Yes Yes

Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
		In comparison to Alignment 14D, Alignment 14G is acceptable from a capital cost perspective. The comparative increase in cost is less than 10%, there is a cost saving in reduced felling requirements but a slight increase in material costs for additional angle towers and an increased conductor length.	
Operational Cost	-	There is a comparative increase of approximately 12% in felling required for Alignment 14F in comparison to Potential Alignment 14C, which will impact ongoing operational costs but within an acceptable range. In comparison to Alignment 14D, Alignment 14G reduces the length through forestry and costs associated with requirement to manage felling within the operational corridor.	Yes Yes

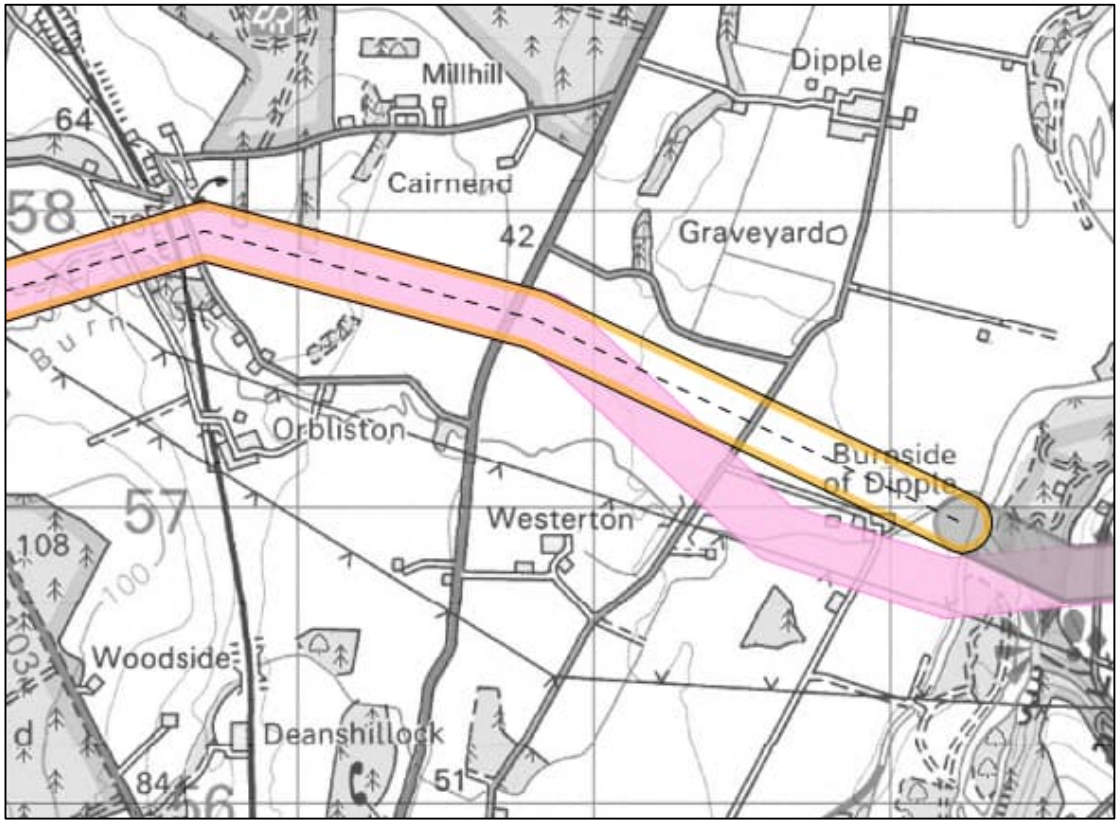
Conclusion

Overall, Alignments 14F and 14G are acceptable as deviations to Alignments 14C and 14D respectively. It should be noted that only one of the alignments would be constructed and this is dependent on the outcome of the pending Kellas Drum Wind Farm application for consent (ECU Ref: ECU00003441). Micrositing to avoid impacts on water supplies would be considered at the design stage.

Section 17 – Alignment 17D

Deviation Description

Proposed Alignment 17D is the same as Potential Alignment 17B but deviates to the south in the vicinity of the Scottish Water Dipple public water supply abstractions to maintain a greater distance from the abstraction points.



Legend

Potential Alignment

Alignment Centreline

17B

Previous/Next Alignments

Proposed Alignment

Proposed Alignment LoD 17D

Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
Environment			
Natural Heritage	Designations	No major changes.	Yes
	Protected Species	No major changes.	Yes
	Habitats	No major changes.	Yes
	Ornithology	No major changes.	Yes
	Hydrology, Geology and Hydrogeology	Alignment 17D is further from Scottish Water abstractions than Alignment 17B. Based on information supplied by Scottish Water, the centrelines for Alignments 17D and 17B are situated approximately 380 m and 115 m south of the nearest abstraction point respectively. The increased distance would reduce the level of risk of adverse impact to the public water supply based on hydrogeological setting.	Yes
Cultural Heritage	Designations	The angle tower of Alignment 17D would be inside a rectangular enclosure (NJ35NW0171) known from the local HERs, whereas Alignment 17B avoids this enclosure. Alignment 17D would result in a potential significant effect however it is a non-designated asset and, with mitigation being taken to record the archaeological remains, the impact is not significant.	Yes – with mitigation
	Assets	No major changes.	Yes
Landscape and Visual	Landscape Designations	Alignment 17D would have an increased number of angle towers and 'snaking' of the line across the valley, therefore has the potential to have more impact than Alignment 17B on the Spey Valley SLA designation. Rationalisation (undergrounding) of one of the existing lower voltage transmission OHLs in this section would need to be considered as mitigation if Alignment 17D was taken forward.	No – mitigation required
	Landscape Character	Alignment 17D would have an increased number of angle towers and 'snaking' of the line across the valley, therefore has the potential to have more impact than Alignment 17B on the local landscape character of the Spey Valley.	No – mitigation required

Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
		Rationalisation (undergrounding) of one one of the existing lower voltage transmission OHLs in this section would need to be considered as mitigation if Alignment 17D was taken forward.	
	Visual	Alignment 17D would be worse visually than Alignment 17B as it would require an additional angle tower. Alignment 17D also crosses to the front of Burnside of Dipple, and increases wirescaping further by snaking through the Spey Valley SLA, losing the marginal benefit gained with Alignment 17B from separation of the lines. A double set of OHL directly in front of the designated viewing point would be the outcome of Alignment 17D. Rationalisation (undergrounding) of one of the existing lower voltage transmission OHLs in this section would need to be considered as mitigation if Alignment 17D was taken forward.	No – mitigation required
Land Use	Agriculture	No major changes.	Yes
	Forestry	The estimated area of commercial forestry that would be impacted by Alignment 17D is 14.84 ha, comprising of 14.68 ha commercial forestry and 0.16 ha broadleaved woodland. When compared to Potential Alignment 17B, there is only a marginal increase in area of forestry removal therefore this is an acceptable change.	
	Recreation	No major changes.	Yes
Planning	-	No major changes.	Yes
Engineering			
Infrastructure Crossings	Major Crossings	No major changes.	Yes
	Road Crossings	No major changes.	Yes
	Elevation	No major changes.	Yes

Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
Environmental Design	Atmospheric Pollution	No major changes.	Yes
	Contaminated Land	No major changes.	Yes
	Flooding	No major changes.	Yes
Ground Conditions	Terrain	No major changes.	Yes
	Peat	No major changes.	Yes
Construction / Maintenance	Access	No major changes.	Yes
	Angle Towers	Compared to Potential Alignment 17B there is one additional angle required, this is not overly significant given the length of the section and the potential benefits provided by it.	Yes
Proximity	Clearance Distance	This alignment option passes within 170 m of six residential properties, however, maintains a minimum distance of 100 m. This option when compared to Potential Alignment 17B does come slightly closer to the residential property nearest the River Spey, however overall a similar number of properties are in proximity. The property at the River Spey has some agricultural buildings that would need removed if this alignment option was taken forward as it would fall within the operational corridor.	Yes
	Windfarms	No major changes.	Yes
	Communication	No major changes.	Yes
	Urban Environment	No major changes.	Yes

Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
	Metallic Pipelines	Alignment 17D crosses a high-pressure gas pipeline however the angle of crossing is preferable from an engineering perspective.	Yes
Cost			
Capital Cost	-	The introduction of additional angle towers slightly increases capital cost but within acceptable levels.	Yes
Operational Cost	-	No major changes.	Yes

Conclusion

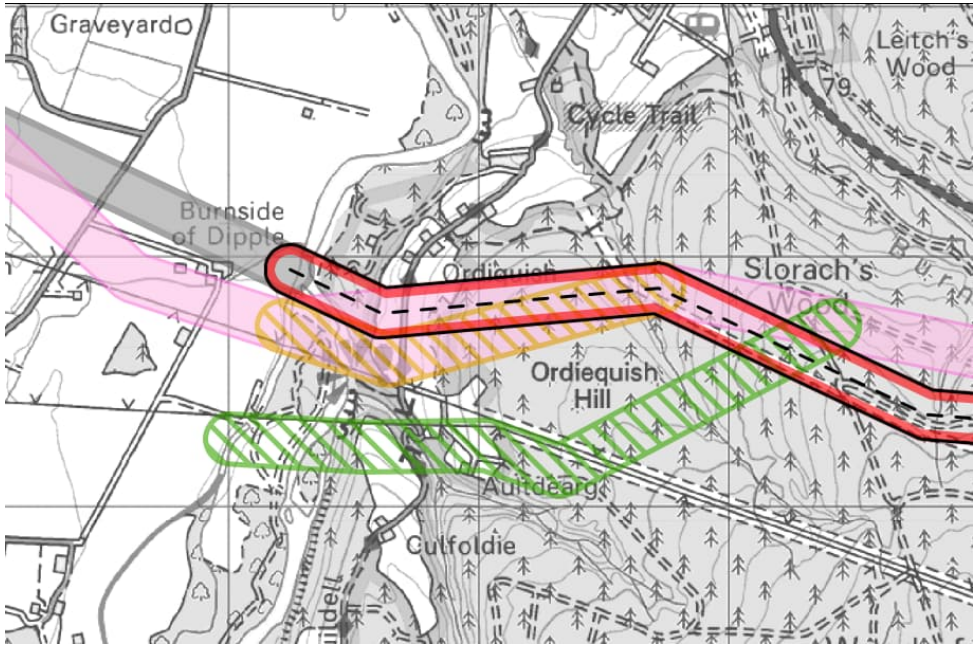
Overall, on balance, Alignment 17D is to be taken forward. Alignment 17B has unacceptable potential impacts to the Scottish Water drinking water supplies at Dipple. However, it is recognised that Alignment 17D may have unacceptable landscape and visual impact therefore we are exploring opportunities for undergrounding of one of the existing transmission OHLs in this section.

Section 18 – Alignment 18J1, 18J2 and 18I

Deviation Description

The deviation options in this section were a direct consequence of the deviation and alignment options in Section 17, to provide connection from the Section 17 alignment options to the Potential Alignment 18A. A number of alignment options were considered which provided options to connect from both Alignments 17D (Proposed Alignment) and 17C (which was being reconsidered at the time) in the preceding section. Three alignments were therefore considered in Section 18:

- Proposed Alignment 18J1 – connects from Alignment 17D and cuts straight up northeast across the River Spey to re-join the Potential Alignment 18A southwest of Ordiquish
- Alignment 18J2 – connects from Alignment 17D and stays close parallel across the River Spey before cutting up north to re-join the Potential Alignment 18A east of Ordiquish
- Alignment 18I – connects from Alignment 17C to eventually cut up north near Aultdearg, crossing the existing 132 kV and 275 kV OHLs to re-join the Potential Alignment 18A in Slorach's Wood



Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
Environment			
Natural Heritage	Designations	No major changes.	Yes
	Protected Species	No major changes.	Yes
	Habitats	No major changes.	Yes
	Ornithology	There is no meaningful difference between Alignments 18J1 and 18J2 and Alignment 18A. Alignment 18I is located in closer proximity to goshawk and osprey nest sites (within the maximum zone of disturbance) and closer to a centre of potential capercaillie activity, including a lek site. Alignment 18I has the potential to result in higher magnitude impacts on these species and would therefore be least preferred. There is potential for construction related constraints to be applied (e.g. seasonality of work).	Yes
	Hydrology, Geology and Hydrogeology	When compared to Alignment 18A all options are either the same distance or further from Scottish Water abstractions which are located to the east of the River Spey and north of the alignment options. However, for all options the alignments are unlikely to be hydrologically connected to the abstraction. The towers on the west of the River Spey are part of Section 17 and not considered here.	Yes
Cultural Heritage	Designations	Alignment 18I has an additional SMR entry, but this is a farmstead that is still upstanding so there would be no significant impacts.	Yes
	Assets	No major changes.	Yes
Landscape and Visual	Landscape Designations	Alignment 18J1 – no major changes. Alignment 18J2 – no major changes.	Yes in comparison to 18A however still has a major significant impact.

Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
		Alignment 18I – least preferred because it requires crossing of two existing OHLs. Diamond crossings would be required which would increase the number of wires even further, as well as tower heights within this part of the River Spey Special Landscape Area.	
	Landscape Character	Alignment 18J1 – no major changes. Alignment 18J2 – would contain impacts within an existing corridor in the landscape for a short section. However, it could impact the Earth Pillars viewpoint more than Potential Alignment 18A. Alignment 18I – would contain impacts within an existing corridor in the landscape, however diamond crossings would likely offset any benefit of found of 'containment'.	Yes in comparison to 18A however still has a major significant impact.
	Visual	Alignment 18J1 – has the potential for towers to be set back from the road / cyclepath / long distance trail at the top of Ordequish Hill and further from Ordequish visitor car park but brings it closer to properties further north. This is a slightly worse option than Alignment 18A. Alignment 18J2 – increases the already highly visible corridor through Ordequish woodland and oversails the designated viewpoints. Alignment 18J2 would add an angle tower adjacent to the road / cyclepath / long distance trail at the top of Ordequish Hill but locates it further from properties further north. This option is less preferred than both Alignments 18J1 and 18A. Alignment 18I – this option is least preferred. Alignment 18I impacts most heavily on celebrated views of the River Spey from the Earth Pillars viewpoint and walk. It would require crossing of two existing OHLs and diamond crossings would increase number of wires even further, as well as tower heights within this part of the River Spey SLA.	Yes in comparison to 18A however still has a major significant impact.
Land Use	Agriculture	No major changes.	Yes
	Forestry	The estimated area of commercial forestry that would be impacted by Alignment 18I is 42.55 ha, comprising of 41.34 ha commercial forestry and 1.21 ha broadleaved woodland. This is a slight increase in commercial forestry removal of 1.38 ha when compared to the Potential Alignment 18A.	Yes

Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
		The estimated area of commercial forestry that would be impacted by Alignment 18J1 & 18J2 is 42.47 ha, comprising of 41.45 ha commercial forestry and 1.02 ha broadleaved woodland. This is a slight increase in commercial forestry removal of 2.12 ha when compared to the Potential Alignment 18A. Due to the low increase of commercial forestry removal, both options are considered acceptable.	
	Recreation	No major changes.	Yes
Planning	-	No major changes.	Yes
Engineering			
Infrastructure Crossings	Major Crossings	In comparison to the Potential Alignment 18A, Alignments 18J1 and 18J2 are very similar with the same major crossings. Alignment 18I is not preferable as it results in a crossing of the existing 132 kV and 275 kV OHLs. These will require crossing along the route regardless of the alignment option chosen, however Alignment 18I connects to Alignment 17C in the preceding section, which requires either the realignment or undergrounding of a section of the existing 275 kV OHL due to the surrounding constraints. This combined with a further crossing would add additional complexities and cost. Due to the 132 kV and 275 kV running closely in parallel, it would be particularly challenging to install any diamond crossing type designs that would allow them to be managed from an operational perspective.	Yes but Alignment 18J1 and 18J2 are preferable over Alignment 18I.
	Road Crossings	All options here are broadly similar, with Alignments 18J1 and 18J2 requiring one less crossing than Alignment 18I. The Potential Alignment 18A requires one fewer road crossings than Alignments 18J1 and 18J2 and two fewer than Alignment 18I, but all are considered equally acceptable.	Yes
Environmental Design	Elevation	No major changes.	Yes
	Atmospheric Pollution	No major changes.	Yes

Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
	Contaminated Land	No major changes.	Yes
	Flooding	No major changes.	Yes
Ground Conditions	Terrain	For all options the crossing of the River Spey is particularly steep, getting steeper for the options further south. Alignment 18J2 crosses at a particularly steep point where gradients reach 45 degrees however no tower would need to be situated on this slope as it would be spanned out, so is therefore not a significant constraint. If the tower were to be situated close to the edge of the slope then it would need considered from a stability perspective. All options are considered acceptable with respect to terrain, however there is a slight preference to either remain on the Potential Alignment 18A or on Alignment 18J1 as the slopes ae not as severe, allowing for more flexibility of tower positions.	Yes
	Peat	No major changes.	Yes
Construction / Maintenance	Access	No major changes.	Yes
	Angle Towers	Alignments 18J1 and 18J2 have the same number of angle towers as the Potential Alignment 18A, however Alignment 18I introduces two additional angle towers with more significant angle changes which is not preferable.	Alignment 18J1 and 18J2 are considered acceptable. Alignment 18I is not acceptable.
Proximity	Clearance Distance	Alignments 18J1 and 18J2 increase the distance from residential buildings by approximately 40 m compared to the Potential Alignment 18A so are considered preferable. Alignment 18I infringes within the 100 m buffer to a residential property and therefore is not recommended.	Alignment 18J1 and 18J2 are acceptable. Alignment 18I is not acceptable.

Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
	Windfarms	No major changes.	Yes
	Communication	No major changes.	Yes
	Urban Environment	No major changes.	Yes
	Metallic Pipelines	No major changes.	Yes
Cost			
Capital Cost	-	The introduction of additional angle towers slightly increases the capital cost of Alignments 18J1 and 18J2 in comparison to the Potential Alignment 18A. This increase is minor and considered acceptable. As detailed in the Engineering assessment, Alignment 18I introduces the requirement for crossings of the existing 132 kV and 275 kV OHLs, in combination with the realignment or underground of a section of the existing 275 kV OHL in the preceding section. This option would therefore result in increased capital costs and is therefore not preferred.	Alignment 18J1 and 18J2 are acceptable, Alignment 18I is not.
Operational Cost	-	There is negligible change in the operational cost of Alignments 18J1, 18J2 and 18I in comparison to the Potential Alignment 18A.	Yes

Conclusion

Alignment 18J1 is being taken forward as the Proposed Alignment.

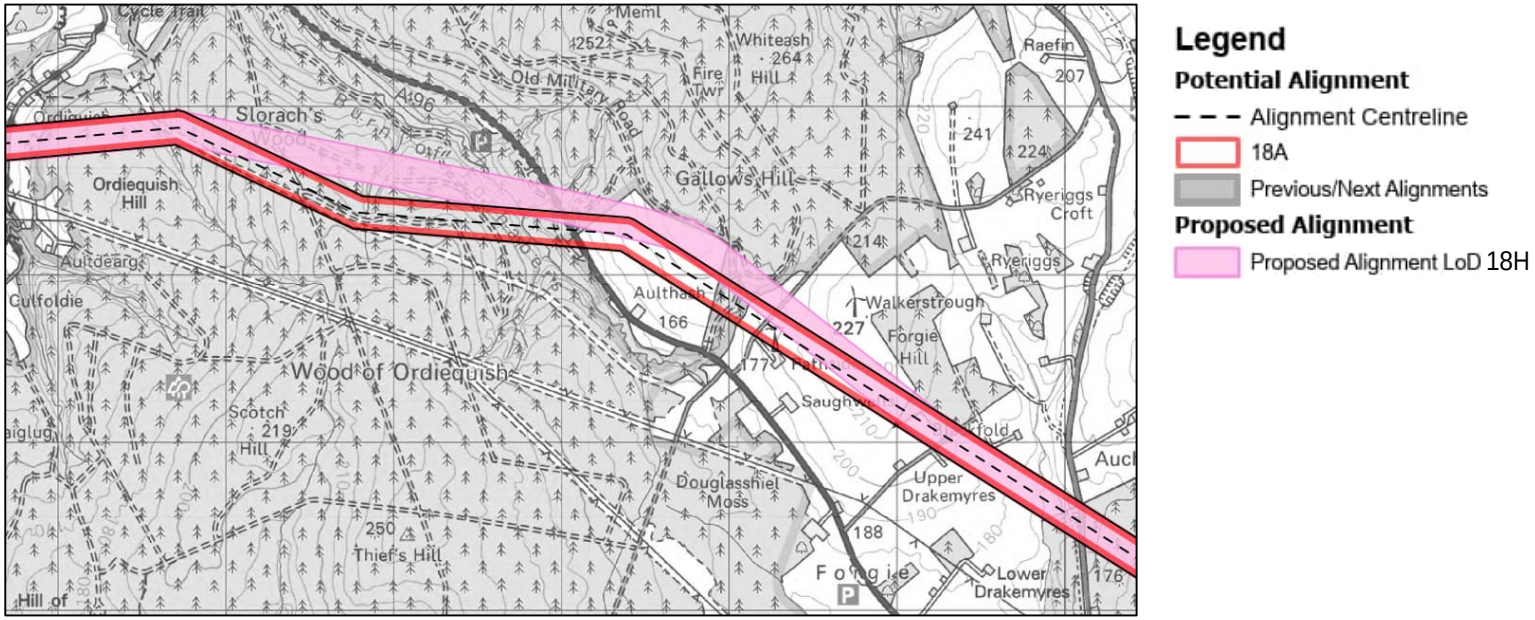
Alignment 18I is not acceptable for a number of technical reasons such as landscape character and visual impacts construction access and maintenance, clearance distance from residential properties, and capital cost.

Alignment 18J1 and 18J2 are both acceptable alignments, however Alignment 18J1 is marginally preferred as it is slightly better for landscape character and visual impacts, which is a key driver in this sensitive landscape. It is also preferred for terrain as Alignment 18J1 crosses the River Spey at a less steep point than Alignment 18J2. However, the final decision is subject to further engineering studies for the crossing of the River Spey.

Section 18 – Alignment 18H

Deviation Description

Proposed Alignment 18H takes a more northerly alignment to Potential Alignment 18A to accommodate a request from the forestry landowner to reduce impacts to forestry operations, and accommodates a separate request from another landowner requesting that private water supplies be avoided.



Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
Environment			
Natural Heritage	Designations	No major changes.	Yes
	Protected Species	No major changes.	Yes
	Habitats	No major changes.	Yes
	Ornithology	No major changes, although Alignment 18H is slightly further away from an osprey nest site.	Yes
	Hydrology, Geology and Hydrogeology	No major changes where it deviates from 18A in the illustration above.	Yes
Cultural Heritage	Designations	No major changes.	Yes
	Assets	Alignment 18H oversails Burn of Redpath Bridge (LB1633). It is assumed that Alignment 18H would not physically impact the bridge, but wear and tear on the bridge should be considered if it will be used for access.	Yes
Landscape and Visual	Landscape Designations	No major changes.	Yes
	Landscape Character	Alignment 18H would be marginally preferred for Landscape Character as it follows the contours of the land more closely.	Yes
	Visual	No major changes. Removes an angle tower which is beneficial.	Yes
Land Use	Agriculture	No major changes.	Yes

Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
	Forestry	The estimated area of commercial woodland that would be impacted by Alignment 18H is 42.39 ha, comprising 0.44 ha broadleaved woodland and 41.95 ha coniferous woodland. This is a slight increase in forestry removal of 2.18 ha when compared to the Potential Alignment 18A. Due to the relatively low increase in area of woodland removal, this is an acceptable change.	Yes
	Recreation	No major changes.	Yes
Planning	-	No major changes.	Yes
Engineering			
Infrastructure Crossings	Major Crossings	No major changes.	Yes
	Road Crossings	There is a slight increase in the number of restricted local access road crossings when compared to Alignment 18A, but these appear to be forestry access tracks which may be able to be utilised during construction and will not typically have continual traffic. This is therefore considered acceptable.	Yes
Environmental Design	Elevation	No major changes.	Yes
	Atmospheric Pollution	No major changes.	Yes
	Contaminated Land	Alignment 18H passes further from an aircraft crash site than Alignment 18A so is considered marginally preferable, however as risk is designated low for unexploded ordnance hazard it is not overly significant.	Yes
	Flooding	No major changes.	Yes
	Terrain	No major changes.	Yes

Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
Ground Conditions	Peat	No major changes.	Yes
Construction / Maintenance	Access	No major changes.	Yes
	Angle Towers	Alignment 18H has the same number of angle towers required as Potential Alignment 18A. One of the larger angle changes has however been reduced to a smaller angle, which is considered preferable.	Yes
Proximity	Clearance Distance	Alignment 18H increases the distance from residential buildings by approximately 40 m compared with Potential Alignment 18A so is considered preferable.	Yes
	Windfarms	Alignment 18H comes closer to an existing 20 kW wind turbine than Potential Alignment 18A, however still remains greater than 3 times rotor diameter from the turbine and also remains out with the operational corridor so is considered acceptable.	Yes
	Communication	There are no communication masts within close proximity Alignment 18H, compared with one communications mast within 220 m of Alignment 18A. Alignment 18H is therefore considered preferable from this perspective.	Yes
	Urban Environment	No major changes.	Yes
	Metallic Pipelines	No major changes.	Yes
Cost			
Capital Cost	-	There is a slight reduction in capital cost in comparison to Alignment 18A. The slight increase in felling requirements is balanced by the reduction in material costs for total length.	Yes

Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
Operational Cost	-	No major changes.	Yes

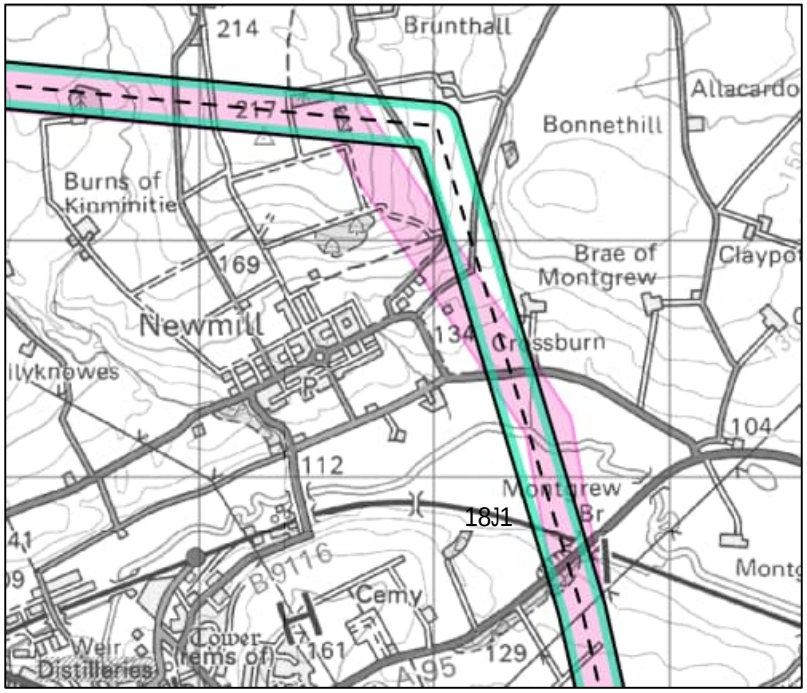
Conclusion

Overall, Alignment 18H is acceptable.

Section 19 – Alignment 19E

Deviation Description

Proposed Alignment 19E crosses the River Isla at a slightly more easterly point than Potential Alignment 19C, to prevent interference with dredging requirements of the River Isla. Consequently it takes a gentler angle as it comes around the north of Newmill to maintain distances from residential properties.



Legend

PANs

Proposed Substation Site (Proposal of Application Notice (PAN) Boundary)

Potential Alignment

Alignment Centreline

19C

Previous/Next Alignments

Proposed Alignment

Proposed Alignment LoD 19E

Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
Environment			
Natural Heritage	Designations	No major changes.	Yes
	Protected Species	No major changes.	Yes
	Habitats	No major changes.	Yes
	Ornithology	No major changes.	Yes
	Hydrology, Geology and Hydrogeology	No major changes. Based on Moray PWS records, Alignment 19E centreline crosses a spring PWS. However, there are many PWS within both Alignments (19E and 19C). The centreline of Alignment 19E is closer to the indicative location of the PWS, but this will be subject to the findings of the Private Water Supply Risk Assessment and its surveys which are ongoing.	Yes, with micrositing
Cultural Heritage	Designations	No major changes.	Yes
	Assets	No major changes.	Yes
Landscape and Visual	Landscape Designations	No major changes.	Yes
	Landscape Character	Alignment 19E runs against the grain of the landscape more than Alignment 19C, adding an angle tower almost on the hill top then running more steeply down the hillside to Crossburn, and an additional angle tower on the banks of the River Isla. Alignment 19E is a less preferred option compared to Alignment 19C.	Yes
	Visual	Alignment 19E brings the angle tower into a more prominent location near the hill crest, bringing the alignment closer to properties at New Mill, and adds in an angle tower adjacent to the River Isla. The visual prominence of this alignment option is increased compared to Alignment 19C.	Yes

Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
Land Use	Agriculture	No major changes.	Yes
	Forestry	The estimated area of commercial forestry that would be impacted by Alignment 19E is 4.7 ha, comprising of 2.99 ha commercial forestry and 1.71 ha broadleaved woodland. This is a marginal decrease in commercial forestry removal of 0.12 ha when compared to the potential Alignment 19C. Due to the marginal decrease in area, this is an acceptable change.	Yes
	Recreation	No major changes.	Yes
Planning	-	No major changes.	Yes
Engineering			
Infrastructure Crossings	Major Crossings	No major changes.	Yes
	Road Crossings	No major changes.	Yes
Environmental Design	Elevation	No major changes.	Yes
	Atmospheric Pollution	No major changes.	Yes
	Contaminated Land	No major changes.	Yes
	Flooding	No major changes.	Yes
Ground Conditions	Terrain	No major changes.	Yes
	Peat	No major changes.	Yes

Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
Construction / Maintenance	Access	No major changes.	Yes
	Angle Towers	Alignment 19E has one additional angle tower required compared with the Potential Alignment 19C. Due to the additional angle tower Potential Alignment 19C is slightly preferred, but the alternative is still considered acceptable.	Yes
Proximity	Clearance Distance	Alignment 19E is considered preferred when compared to Potential Alignment 19C, as it maintains greater separation from more properties. Potential Alignment 19C has two properties within 170 m whereas Alignment 19E reduces this to one and increases the separation.	Yes
	Windfarms	No major changes.	Yes
	Communication	No major changes.	Yes
	Urban Environment	Both Potential Alignment 19C and Alignment 19E come in close proximity to Newmill. Alignment 19E comes slightly closer to the village however remains further from individual properties.	Yes
	Metallic Pipelines	No major changes.	Yes
Cost			
Capital Cost	-	The additional angle tower slightly increases the material cost for construction but within acceptable limits.	Yes
Operational Cost	-	No major changes.	Yes

Conclusion

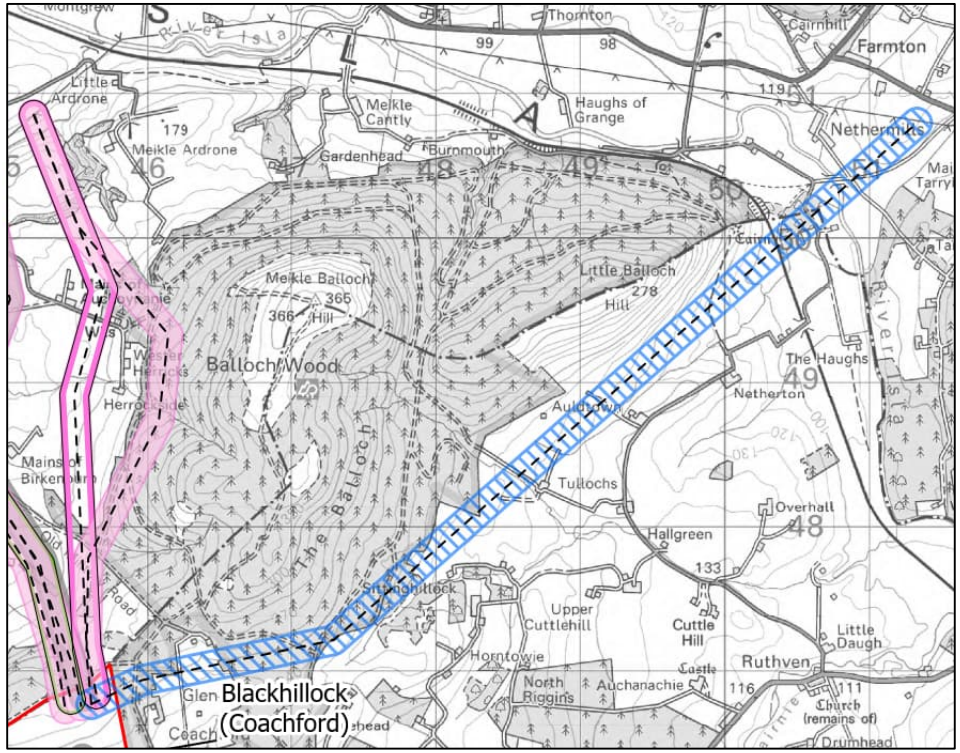
Overall, Alignment 19E is to be taken forward. From a landscape character and visual amenity perspective it is less preferable, however the requirement to be able to maintain river dredging operations and maintain separation from individual residences outweighed this wider perspective. Micrositing of tower locations and access tracks to avoid impacts on private water supplies will be considered further at the design stage.

Section 19 – Alignment B6 (Diversion of Existing Blackhillock to Rothienorman OHL)

Deviation Description

Proposed Alignment B5 deviates to the east, passing through woodland on the lower slopes of Balloch Wood and behind a row of properties when compared to Potential Alignment B1. Alignment B5 was included in the original alignment consultation options due to feedback previously received from local residents on the cumulative visual impact of OHLs at this location and it was requested that this alternative be considered. Alignment B5 is more constrained due to proximity to public and private water supplies and forestry impacts, however it does reduce the cumulative landscape and visual impact in this area and for local residents. Further engineering assessment has been undertaken in terms of constructability and following further consideration, it has been decided to take Alignment B5 forward as the Proposed Alignment. The appraisal for Alignment B5 is in the Alignment Consultation Document that was previously issued as part of the alignment consultation and is available on the website here.

During the alignment consultation stage, local residents south of Keith proposed another alternative alignment for the OHL diversion which passes to the south of Balloch Wood (Alignment B6). Alignment B6 takes a more easterly direction than Proposed Alignment B5. It leaves Coachford substation in an easterly direction, passing to the south of Balloch wood and then heading in a northeasterly direction crossing a railway and the River Isla to connect into the Blackhillock to Rothienorman OHL southeast of Farmton. The existing OHL heading west from this point would be removed as far as the point where it intersects with Proposed Alignment A1.



Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
Environment			
Natural Heritage	Designations	Alignment B6 natural heritage designation appraisal is similar to the other deviation alignment options in relation to most designated sites within 10 km. However, Alignment B6 is a greater distance from Mill Wood SSSI than the other deviation alignment options.	Yes
	Protected Species	No major changes.	Yes
	Habitats	No major changes. Alignment B5 passes through ancient woodland whereas B6 does not, however the ancient woodland in Alignment B5 would be oversailed and therefore not impacted. There are Annex 1 habitats in both alignments which should be avoided/oversailed where possible. Areas of Class 1 or Class 2 peat listed on the carbon and peatland map of Scotland are present within Alignment B6 but absent in Alignment B5.	Yes
	Ornithology	No major changes.	Yes
	Hydrology, Geology and Hydrogeology	Alignment B6 avoids more of the Herricks and Birken Burn Scottish Water DWPAs for public water supplies, in comparison to Alignment B5. The Herricks and Birken Burn catchments are known to be sensitive in nature. Therefore, on that basis Alignment B6 appears to be preferrable from a water environment perspective.	Yes
Cultural Heritage	Designations	Alignment B6 has less potential to impact SMR entries as there are a number of hollow ways alongside Alignment B5 that could result in a higher number of impacts during access and construction activities.	Yes
	Assets	The Category A Listed Auchanachie Castle (LB3016) is located 2 km to the south east of Alignment B6 and would probably have visibility of it. The proposed Beauly to Peterhead 400kV OHL route lies 700 m to the south of the castle as well so cumulatively this could cause a higher impact than the OHL diversion route alone.	Potentially - depends on visibility

Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
Landscape and Visual	Landscape Designations	No major changes.	Yes
	Landscape Character	Alignment B6 runs at a higher topography than the existing river alignment (and therefore on higher ground for longer than Alignment B5). However, it more closely follows the grain of the landscape for much of the route, more so than Alignment B5 which cuts across the contours and crosses more varied topography around Wester Herricks. Alignment B6 cuts through more woodland than Alignment B5.	Yes
	Visual	Alignment B6 reduces 'wirescaping' to the west of Balloch Wood, although increases it around Glen of Coachford and Braehead. Alignment B6 will be more widely visible to the east and south of Balloch Wood but remains backdropped by Meikle Balloch. Alignment B6 has fewer angle towers than Alignment B5 but potentially passes in closer proximity to more properties.	Yes
Land Use	Agriculture	No major changes.	Yes
	Forestry	The estimated area of commercial forestry that would be impacted by Alignment B6 is 20.4 ha, comprising of 18.2 ha commercial forestry and 2.2 ha broadleaved woodland. This is a marginal decrease in commercial forestry removal of 2.78 ha when compared to Alignment B5. Due to the slight decrease in area of commercial forestry removal, this is an acceptable change.	Yes
	Recreation	Alignment B6 would be marginally preferred over Alignment B5 as it passes through less of Balloch Wood, which is frequented by walkers.	Yes
Planning	-	No major changes.	Yes
Engineering			
	Major Crossings	Alignment B6 would require a crossing of the River Isla, which is considered to be acceptable.	Yes

Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
Infrastructure Crossings	Road Crossings	Alignment B6 crosses one additional minor road in comparison to the Proposed Alignment B5, but this is not considered to be a significant constraint.	Yes
Environmental Design	Elevation	No major changes.	Yes
	Atmospheric Pollution	No major changes.	Yes
	Contaminated Land	No major changes.	Yes
	Flooding	No major changes. Areas within the flood zone could likely be crossed with no impact depending on tower positions.	Yes
Ground Conditions	Terrain	No major changes.	Yes
	Peat	No major changes.	Yes
Construction / Maintenance	Access	There is an approximately 2 km long section with no existing access within 300 m which would likely need permanent access to allow for operations to be maintained due to the area appearing to be quite boggy.	Yes
	Angle Towers	Alignment B6 requires two angle towers, in comparison to five angle towers on Alignment B5.	Yes
Proximity	Clearance Distance	No major changes.	Yes
	Windfarms	No major changes.	Yes
	Communication	No major changes.	Yes
	Urban Environment	Alignment B6 passes in close proximity to Braehead and Horntowie for approximately 2 km.	Yes
	Metallic Pipelines	There are no pipelines in close proximity.	Yes

Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
Cost			
Capital Cost	-	There is a significant increase in the capital cost of Alignment B6, with the length of new line increasing by more than 60% in comparison to Proposed Alignment (B5) and cost of associated materials and construction increasingly proportionally. There are also additional capital costs associated with removal of an additional 6.5 km length of the existing OHL. The increase in comparison to the lowest cost option for this section is significant and not considered acceptable.	No
Operational Cost	-	The increase in line length proportionally increases the operational cost of this option to allow for ongoing inspections and maintenance, however this is balanced by the increased length of existing OHL to be removed.	Yes

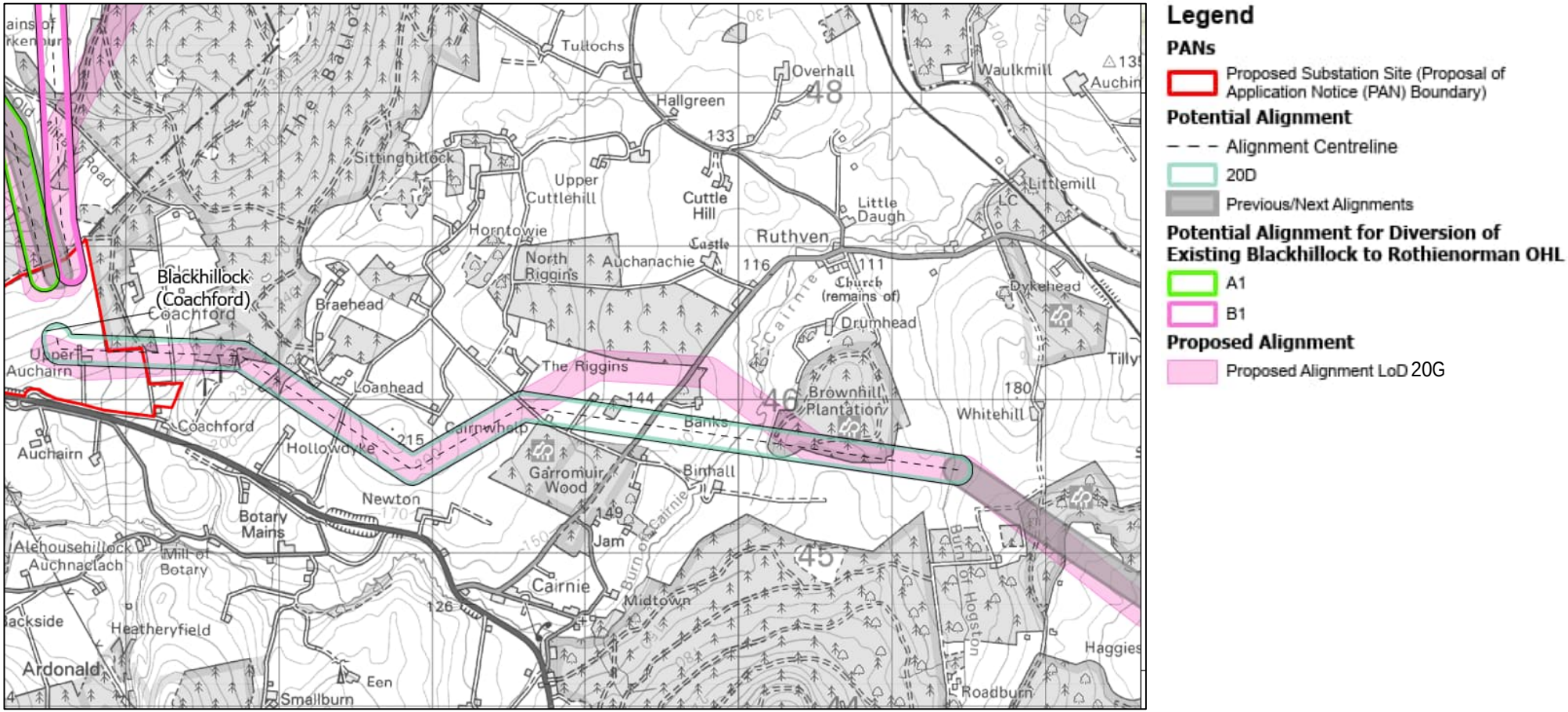
Conclusion

Overall, Alignment B6 is not acceptable when compared to Alignment B5. It moves the effects from one set of properties to another and, although visually reducing 'wirescaping' to the west of Balloch Wood, it increases 'wirescaping' around Glen of Coachford and Braehead. Alignment B6 also potentially passes in closer proximity to more properties, has the potential for cumulative effects on Category A Listed Auchanachie Castle and has a significant increase in cost which is not considered to be acceptable. The benefits in terms of proximity to Mill Wood SSSI and avoidance of public water supplies and landscape fit do not justify the significant increase in cost in this instance.

Section 20 – Alignment 20G

Deviation Description

Proposed Alignment 20G takes a more northerly alignment to Potential Alignment 20D over a short distance north of Garromuir Wood, to move further from properties and avoid a pond crossing, based on consultation and landowner feedback.



Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
Environment			
Natural Heritage	Designations	No major changes.	Yes
	Protected Species	Alignment 20G avoids slightly more woodland than Alignment 20D so this is potentially better for species such as bats and red squirrel.	Yes
	Habitats	Alignment 20G avoids a little more woodland than Alignment 20D and avoids an area of potential Annex I grassland habitat, so is potentially better for habitats (the area includes some Annex I grassland and woodland habitat that can be avoided through careful design).	Yes
	Ornithology	No major changes.	Yes
	Hydrology, Geology and Hydrogeology	No major changes.	Yes
Cultural Heritage	Designations	Alignment 20G runs through potential site of a medieval motte, but the location has never been verified. Tower placement would need to avoid direct impacts.	Yes, with micrositing.
	Assets	Alignment 20G would run 800 m south of Category A Listed Building Auchanachie Castle and Category B Listed Building Auchanachie Castle Doocot (LB47). Retention of the woodland directly north of Alignment 20G would aid in screening and is preferred.	Yes
Landscape and Visual	Landscape Designations	No major changes.	Yes
	Landscape Character	No major changes.	Yes

Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
	Visual	Alignment 20G provides no major change to visual impacts. It adds two angle towers but makes the alignment slightly more distant from Banks, Banks of Cairnie Croft and properties to the north and east of Garromuir Wood.	Yes
Land Use	Agriculture	No major changes.	Yes
	Forestry	The estimated area of commercial woodland that would be impacted by Alignment 20G is 12.62 ha, comprising 2.16 ha broadleaved woodland and 10.46 ha coniferous woodland. Alignment 20G has a slight increase in commercial forestry removal of 0.89 ha when compared to Potential Alignment 20D. Due to the small increase in area of commercial forestry removal, this is an acceptable change.	Yes
	Recreation	No major changes.	Yes
Planning	-	No major changes.	Yes
Engineering			
Infrastructure Crossings	Major Crossings	No major changes.	Yes
	Road Crossings	Alignment 20G has one fewer restricted local access crossings than Potential Alignment 20D. This is considered equally acceptable to Potential Alignment 20D.	Yes
Environmental Design	Elevation	No major changes.	Yes
	Atmospheric Pollution	No major changes.	Yes
	Contaminated Land	No major changes.	Yes

Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
	Flooding	No major changes.	Yes
Ground Conditions	Terrain	No major changes.	Yes
	Peat	No major changes.	Yes
Construction / Maintenance	Access	No major changes.	Yes
	Angle Towers	Alignment 20G has one additional angle tower required compared with Potential Alignment 20D, however the angle change is reduced. Due to the additional angle position required, Potential Alignment 20D is slightly preferred, but the alternative is still considered acceptable.	Yes
Proximity	Clearance Distance	Alignment 20G is considered preferred when compared to Potential Alignment 20D as it maintains greater separation from more properties. Potential Alignment 20D has four properties within 170 m whereas Alignment 20G remains greater than 170 m from all residential properties.	Yes
	Windfarms	No major changes.	Yes
	Communication	No major changes.	Yes
	Urban Environment	No major changes.	Yes
	Metallic Pipelines	No major changes.	Yes
Cost			

Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
Capital Cost	-	The increase in capital cost in comparison to the potential alignment is minor, caused by the addition of an angle tower and slight length increase.	Yes
Operational Cost	-	No major changes.	Yes

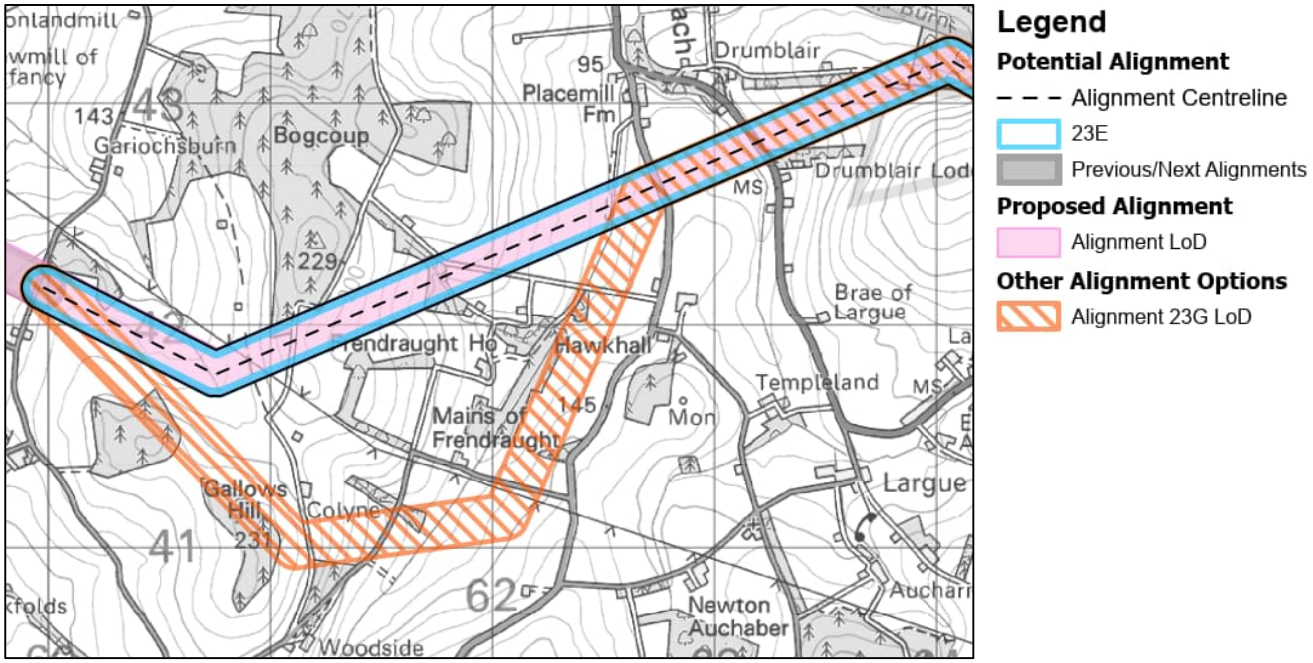
Conclusion

Overall, Alignment 20G is acceptable. Micrositing to avoid a medieval motte and retention of trees for screening of Listed Building Auchanachie Castle are to be considered at the design stage.

Section 23 – Alignment 23G

Deviation Description

Alignment 23G takes a more southerly route through the same landholding than the Proposed Alignment 23E. The landowner has requested this alignment be considered to minimise impacts on their shooting business. The landowner has also requested that Alignment 22A be reconsidered.



Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
Environment			
Natural Heritage	Designations	No major changes.	Yes
	Protected Species	Alignment 23G runs adjacent to areas suitable for wildcat dens. Alignment 23G would potentially be slightly worse than Alignment 23E for protected species, however no direct evidence of wildcat has been recorded to date.	Yes
	Habitats	Alignment 23G is approximately 40 m from ancient woodland (category 2a of semi-natural origin), considered an irreplaceable habitat and also potentially Annex I woodland (Tilio-Acerion forests). Overall this alignment avoids more woodland than the original, however both options would avoid irreplaceable woodland habitats through careful alignment design.	Yes
	Ornithology	No major changes.	Yes
	Hydrology, Geology and Hydrogeology	No major changes. However, the centreline of Alignment 23G appears to be closer to two private water supplies (PWS) based upon indicative council records. This will be subject to the findings of the Private Water Supply Risk Assessment and its surveys which are ongoing.	Yes, with micrositing
Cultural Heritage	Designations	Alignment 23G would run through a site of a medieval parish church. Tower placement would need to avoid direct impacts on any remains.	Yes, with micrositing
	Assets	Alignment 23G has similar impacts to Alignment 23E on Category A Listing Building Frendraught House (LB9449), Templeland Farm House (LB9446), and Colonel Shand's Monument (LB9447) due to the introduction of the OHL to the south. There is also an increased potential for impacts due to the proximity of the OHL to the east. The house and woodland in this area are at a lower elevation and there would be potential visibility on two sides of the house. This alignment option would be least preferred when compared with the other options appraised.	No
Landscape and Visual	Landscape Designations	No major changes.	Yes

Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
	Landscape Character	Alignment 23G runs over higher ground for longer, along the edge of wooded summits, including Gallows Hill, resulting in more tree loss. This alignment crosses quite steep terrain against the landscape grain, and across a more intimate valley associated with the Burn of Frendraught. It adds in three angle towers before running with the contours towards Drumblair. It creates an awkward separation from the existing 400 kV OHL, with the alignment coming almost parallel then diverging again across higher ground.	No
	Visual	Alignment 23G adds in three angle towers (including one very close to Nether Comisty Cottages) and boxes in the properties at Colyne on three sides. It retains the single crossing of the existing 400 kV OHL, but 'boxes in' Mains of Frendraught on two sides more strongly. Alignment 23G also brings the alignment much closer to more properties between Frendraught House and Hawkhall, and its location on higher, more southern ground brings it closer to properties at Comisty and Woodside. This alignment does not follow the Holford rules as it adds additional angle towers, removes more woodland, and is located on higher ground.	No
Land Use	Agriculture	No major changes.	Yes
	Forestry	The estimated area of commercial forestry that would be impacted by Alignment 23G is 23.37 ha, comprising of 21.75 ha commercial forestry and 1.62 ha broadleaved woodland. This is an increase in commercial forestry removal of 2.34 ha when compared to the Potential Alignment 23E. Due to the low increase in area, this is an acceptable change.	Yes
	Recreation	Alignment 23G would potentially reduce impacts to existing game shooting operations in comparison with Alignment 23E.	Yes
Planning	-	No major changes.	Yes
Engineering			
Infrastructure Crossings	Major Crossings	Alignment 23G crosses the same major crossings as the Potential Alignment 23E. The crossing location of the existing 400 kV line on Alignment 23G is however not preferred due to significant space constraints to be able to construct a diamond formation crossing. Further work would be required to determine the feasibility of such an arrangement at this location and this option is therefore not preferred.	No

Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
	Road Crossings	Alignment 23G has two additional minor road crossings in comparison to the Potential Alignment 23E. This would be acceptable but not a preference as additional scaffolding would likely be needed.	Yes
Environmental Design	Elevation	No major changes.	Yes
	Atmospheric Pollution	No major changes.	Yes
	Contaminated Land	No major changes.	Yes
	Flooding	No major changes.	Yes
Ground Conditions	Terrain	No major changes.	Yes
	Peat	No major changes.	Yes
Construction / Maintenance	Access	No major changes.	Yes
	Angle Towers	Alignment 23G requires two additional angle towers compared with Potential Alignment 23E and is therefore not preferred.	No
Proximity	Clearance Distance	Alignment 23G has an additional property within 170 m proximity when compared to Potential Alignment 23G. This property is at 170 m so the alignment could likely be microsited if required to increase separate distance. In general however Alignment 23G comes closer to more residential properties and is therefore not preferred.	No
	Windfarms	No major changes.	Yes
	Communication	No major changes.	Yes

Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
	Urban Environment	No major changes.	Yes
	Metallic Pipelines	No major changes.	Yes
Cost			
Capital Cost	-	There is close to a 20% increase in line length and requirement for additional angle towers, in comparison to the Potential Alignment 23E, increasing capital costs for construction and materials proportionally. In comparison to the lowest cost option originally considered the capital cost increase is significant.	No
Operational Cost	-	The increase in operational cost associated with inspecting the additional line length is balanced by the reduction in length through forestry and ongoing forestry management costs.	Yes

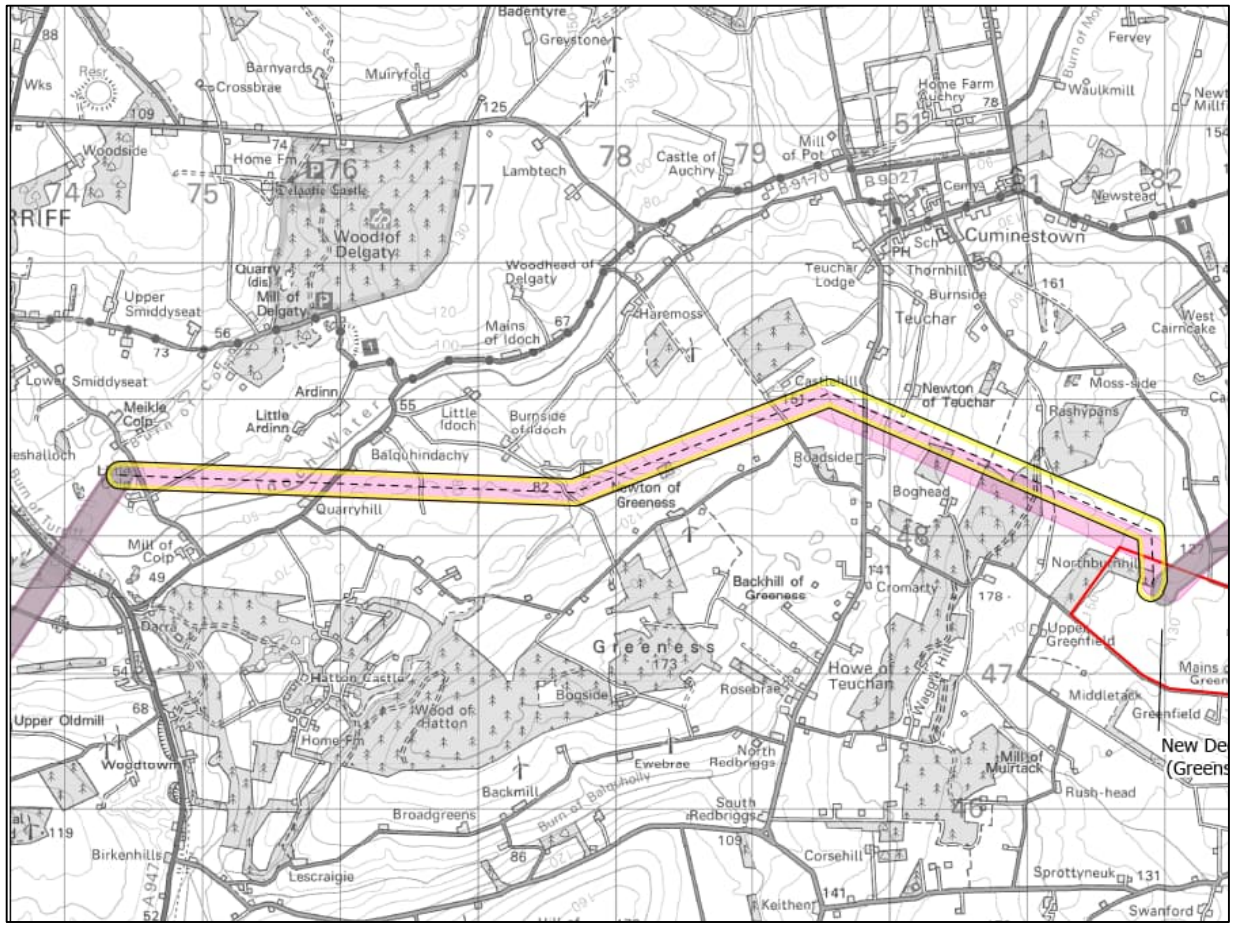
Conclusion

Alignment 23G is not an acceptable change from Alignment 23E for multiple reasons including Cultural Heritage assets, Landscape Character, Visual, Major Crossings, Angle Towers, Clearance Distance from individual properties and Capital Cost. Alignment 23G does not appear to provide substantial benefits over Alignment 23E, therefore overall it is not an acceptable change.

Section 25 – Alignment 25D

Deviation Description

Proposed Alignment 25D takes a more southerly route than Potential Alignment 25C to have an angle tower on a field margin as requested by the landowner and to reduce limitations to future land use.



Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
Environment			
Natural Heritage	Designations	No major changes.	Yes
	Protected Species	No major changes.	Yes
	Habitats	No major changes.	Yes
	Ornithology	No major changes.	Yes
	Hydrology, Geology and Hydrogeology	No major changes.	Yes
Cultural Heritage	Designations	No major changes.	Yes
	Assets	No major changes.	Yes
Landscape and Visual	Landscape Designations	No major changes.	Yes
	Landscape Character	Alignment 25D potentially has the potential for an increased loss of woodland as the alignment takes it slightly further into woodland blocks around Boghead. With this in mind, it is slightly worse than the potential impacts of Alignment 25C, but considered acceptable.	Yes
	Visual	Alignment 25D is equidistant between Newton of Teuchar and Boghead. It would be marginally closer to Castlehill (with an angle tower), Roadside, Boghead, and Northburnhill, but marginally further from Newton of Teuchar, South Teuchar, Hillhead of Teuchar, Rashypans, and Meikle Northburn. With the exception of moving the angle tower closer and more directly in front of	Yes, subject to tower micrositing

Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
		Castlehill, and potential increase in tree loss, there is not much visual difference between Alignments 25C and 25D. Alignment 25D is therefore slightly worse than Alignment 25C, but otherwise acceptable.	near Castlehill property
Land Use	Agriculture	No major changes.	Yes
	Forestry	The estimated area of commercial woodland that would be impacted by Alignment 25D is 5.88 ha of coniferous woodland. This is an increase in commercial forestry removal of 3.92 ha when compared to Potential Alignment 25C. Due to the relatively small increase of commercial forestry removal, this is an acceptable change.	Yes
	Recreation	No major changes.	Yes
Planning	-	No major changes.	Yes
Engineering			
Infrastructure Crossings	Major Crossings	No major changes.	Yes
	Road Crossings	No major changes.	Yes
Environmental Design	Elevation	No major changes.	Yes
	Atmospheric Pollution	No major changes.	Yes
	Contaminated Land	No major changes.	Yes
	Flooding	No major changes.	Yes

Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
Ground Conditions	Terrain	No major changes.	Yes
	Peat	No major changes.	Yes
Construction / Maintenance	Access	No major changes.	Yes
	Angle Towers	No major changes.	Yes
Proximity	Clearance Distance	No major changes.	Yes
	Windfarms	No major changes.	Yes
	Communication	No major changes.	Yes
	Urban Environment	No major changes.	Yes
	Metallic Pipelines	No major changes.	Yes
Cost			
Capital Cost	-	No major changes.	
Operational Cost	-	No major changes.	

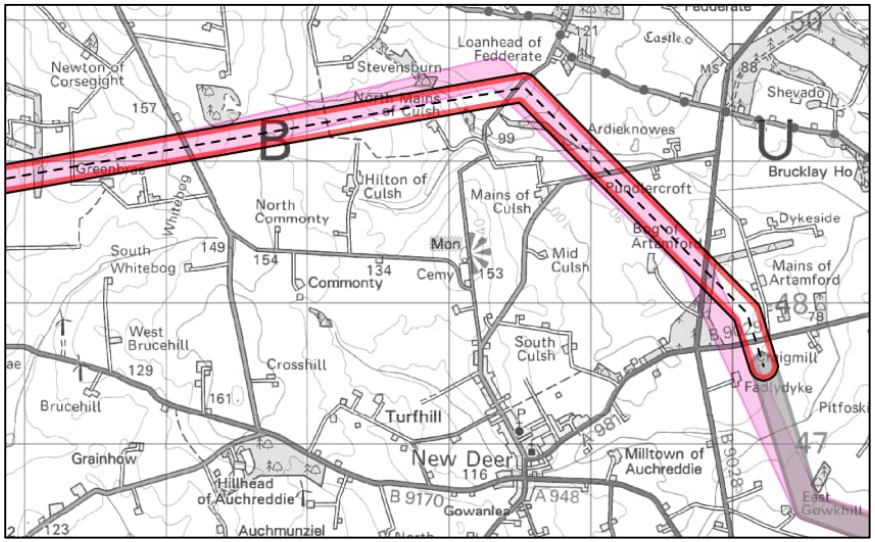
Conclusion

Overall, Alignment 25D is acceptable. Micrositing of the tower near the property Castlehill is to be considered at the design stage.

Section 26 – Alignment 26E

Deviation Description

Proposed Alignment 26E accommodates a landowner request to move the alignment slightly further from their main property. It takes it closer to a second property in the ownership of the same landowner and is not currently occupied. This deviation extends into the western end of Section 17.



Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
Environment			
Natural Heritage	Designations	No major changes.	Yes
	Protected Species	The deviation of Alignment 26E is so small it is as acceptable as the original alignment, however there is slightly more woodland clearance likely, meaning additional mitigation for protected species such as bats or red squirrel may be required.	Yes
	Habitats	The deviation of Alignment 26E is so small it is as acceptable as the original alignment, however there is slightly more woodland clearance likely, meaning that additional mitigation for woodland loss may be required.	Yes
	Ornithology	No major changes.	Yes
	Hydrology, Geology and Hydrogeology	No major changes.	Yes
Cultural Heritage	Designations	No major changes.	Yes
	Assets	No major changes.	Yes
Landscape and Visual	Landscape Designations	No major changes.	Yes
	Landscape Character	No major changes.	Yes
	Visual	Alignment 26E moves the alignment closer to three other properties along the B9028. It assumes an angle tower at East Gowkhill remains in about the same location. Alignment 27E overall is potentially has a greater visual impact, but not significantly so.	Yes

Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
Land Use	Agriculture	No major changes.	Yes
	Forestry	The estimated area of commercial woodland that would be impacted by Alignment 26E is 2.25 ha, comprising 0.42 ha broadleaved woodland and 1.84 ha coniferous woodland. This would be an increase in commercial forestry removal of 1.48 ha when compared to Potential Alignment 26A. Due to the relatively small increase of commercial forestry removal, this is an acceptable change.	Yes
	Recreation	No major changes.	Yes
Planning	-	No major changes.	Yes
Engineering			
Infrastructure Crossings	Major Crossings	No major changes.	Yes
	Road Crossings	Alignment 26E crosses one fewer restricted local access roads when compared to Potential Alignment 26A, due to a marginal change in alignment resulting in the Proposed Development passing just over the junction. Both options are considered acceptable.	Yes
Environmental Design	Elevation	No major changes.	Yes
	Atmospheric Pollution	No major changes.	Yes
	Contaminated Land	No major changes.	Yes

Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
	Flooding	No major changes.	Yes
Ground Conditions	Terrain	No major changes.	Yes
	Peat	No major changes.	Yes
Construction / Maintenance	Access	No major changes.	Yes
	Angle Towers	Both Alignment 26A and Alignment 26E require four angle towers. Alignment 26E reduces the required angle change for one of the towers which is beneficial.	Yes
Proximity	Clearance Distance	Alignment 26E comes closer to a residential property than Alignment 26A, resulting in two residential properties being within 170 m. The request for this change has come from the owner of this property, as they wished for the alignment to be pushed further from their main residence and closer to this other property they own. Alignment 26E remains greater than 100 m from this property and is therefore acceptable.	Yes
	Windfarms	No major changes.	Yes
	Communication	No major changes.	Yes
	Urban Environment	No major changes.	Yes
	Metallic Pipelines	No major changes.	Yes

Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
Capital Cost	-	There is an increase in the capital cost associated with felling in comparison to the Potential Alignment 26A but minimal other change. This increase is within acceptable limits.	Yes
Operational Cost	-	There is an increase in the operational cost to maintain felling within the operational corridor as length through forestry has increased.	Yes

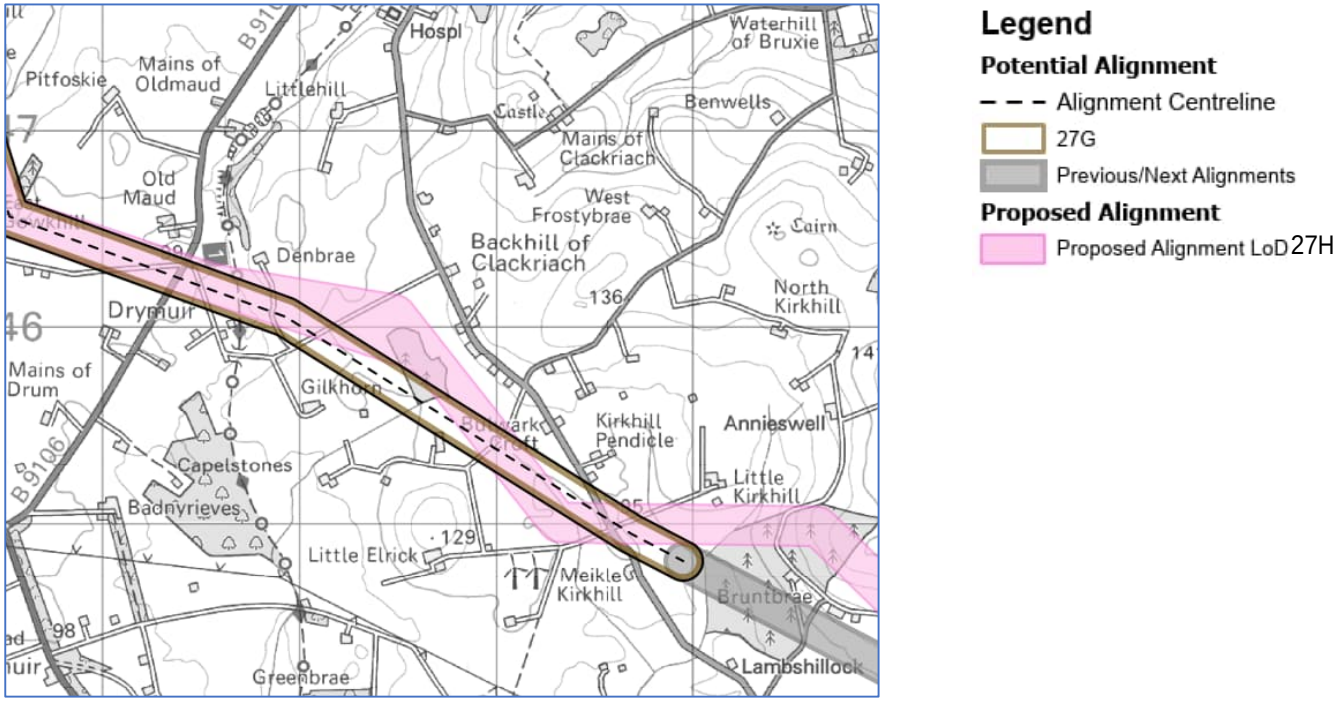
Conclusion

Overall, Alignment 26E is acceptable.

Section 27 – Alignment 27H

Deviation Description

Proposed Alignment 27H deviates from Potential Alignment 27G in order to avoid the location of two new residential property planning applications and to accommodate landowner feedback. It has been slightly widened in this area to provide more flexibility to avoid private water supplies and fixed telecomunications links. The eastern end of the deviation is similar to Alignment 27F which had similar outcomes to the Potential Alignment in the alignment studies.



Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
Environment			
Natural Heritage	Designations	No major changes.	Yes
	Protected Species	No major changes.	Yes
	Habitats	Class 1 peat spans with width of alignment 27H, as opposed to 27G, and may not be avoidable. Micrositing of towers to minimise impacts on peat would need to be considered.	Yes
	Ornithology	No major changes.	Yes
	Hydrology, Geology and Hydrogeology	No major changes.	Yes
Cultural Heritage	Designations	No major changes.	Yes
	Assets	No major changes.	Yes
Landscape and Visual	Landscape Designations	No major changes.	Yes
	Landscape Character	Alignment 27G is has the potential to have a greater impact on landscape character as it pushes the alignment onto higher ground around Little Kirkhill and Jock's Hill against the grain of the landscape, however this is not significantly worse.	Yes
	Visual	Alignment 27G adds an angle tower and sharpens the other angle towers in this section. Alignment 27G moves it closer to more properties around Backhill of Clackriach; Kirkhill Pendicle and most notably Little Kirkhill. It would require a bigger angle tower near Meikle Kirkhill and pushes it onto higher ground around Little Kirkhill and Jock's Hill. The additional angle towers (and size	Yes

Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
		of them) will make it visually more 'busy' in the area. However, it is preferable for properties at Bruntbrae as it pushes the alignment behind them. Worse for Little Kirkhill in particular, but better for others.	
Land Use	Agriculture	No major changes.	Yes
	Forestry	From a forestry perspective Alignment 27H has an increase in commercial forestry removal of 6.64 ha when compared to Potential Alignment 27G. However this increase would be offset by a subsequent reduction in forestry removal in Section 28 due the positioning of the section break, and is therefore considered to be an acceptable change.	Yes
	Recreation	No major changes.	Yes
Planning	-	Alignment 27H maintains necessary distance from the proposed residential developments currently in planning. This was not achieved by Alignment 27G.	Yes
Engineering			
Infrastructure Crossings	Major Crossings	No major changes.	Yes
	Road Crossings	No major changes.	Yes
Environmental Design	Elevation	No major changes.	Yes
	Atmospheric Pollution	No major changes.	Yes
	Contaminated Land	No major changes.	Yes
	Flooding	No major changes.	Yes

Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
Ground Conditions	Terrain	No major changes.	Yes
	Peat	Alignment 27H passes through a larger area of Class 1 peatland when compared to Potential Alignment 27G which could likely have spanned across the peatland. With Alignment 27H an angle tower is required in the area of Class 1 peatland, however the tower has been located close to the edge to minimise impact. Peat probing would be undertaken to confirm the presence of any peat and inform tower micrositing in this area.	Yes
Construction / Maintenance	Access	No major changes.	Yes
	Angle Towers	Alignment 27H requires one additional angle tower when compared to Alignment 27G. In addition to this the angle changes are much more significant which is not preferred. The reason for the angle changes is to avoid both current and proposed residential properties so is considered acceptable.	Yes
Proximity	Clearance Distance	Alignment 27H is considered acceptable with respect to clearance from residential properties. It maximises separation from both existing and proposed developments.	Yes
	Windfarms	No major changes.	Yes
	Communication	No major changes.	Yes
	Urban Environment	No major changes.	Yes
	Metallic Pipelines	No major changes.	Yes

Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
Cost			
Capital Cost	-	There is minimal increase in length and associated capital costs for this option. There is an increase in felling requirements when looking at comparison of options in just this section due to position of the section break but considering the impact on options which can be carried into Section 28 there is minimal change. The combined impact of the capital cost of felling in Sections 27 and 28 are acceptable.	Yes
Operational Cost	-	No major changes.	Yes

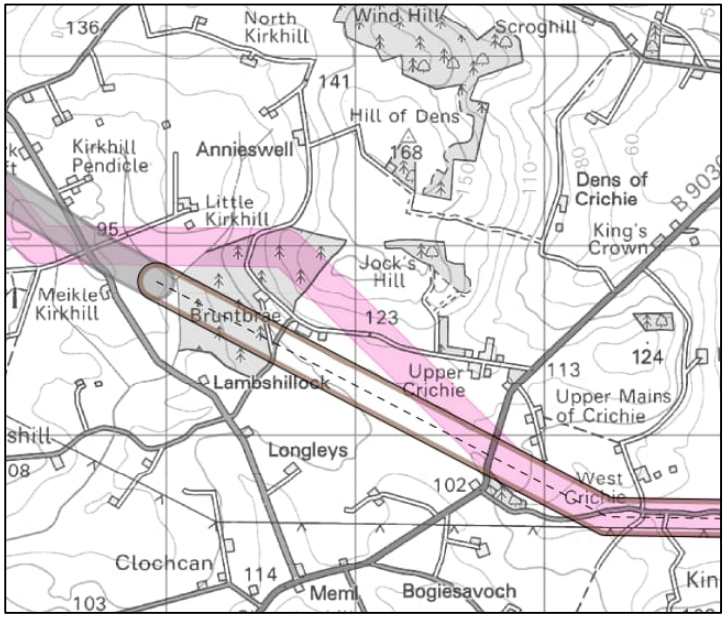
Conclusion

Overall, Alignment 27H is acceptable. Micrositing of towers to minimise impacts on peat would need to be considered.

Section 28 – Alignment 28H

Deviation Description

Proposed Alignment 28H is required to accommodate the deviation in Section 27, as the approach to Section 28 from the west is different. It is similar to Alignment 28E which had similar outcomes to the Potential Alignment in the alignment studies, however it crosses Jock's Hill at a lower elevation than Alignment 28E.



Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
Environment			
Natural Heritage	Designations	No major changes.	Yes
	Protected Species	There is no meaningful difference between Alignment 28H and Alignment 28G for protected species, barring that the deviation now cuts through a plantation woodland to the north where it adjoins the deviation of Section 27 noted above. There is the potential for the habitat to support badgers or foraging / commuting bats (it is less suitable for roosting) – in which case, additional mitigation and / or survey may be required to inform any assessment of option 28H if it is carried forward.	Yes – but may require additional work to assess and mitigate
	Habitats	Alignment 28H cuts through a block of plantation woodland to the north. This is where the approach from Section 27 has changed. This is not an irreplaceable or Annex I habitat.	Yes
	Ornithology	No major changes.	Yes
	Hydrology, Geology and Hydrogeology	No major changes.	Yes
Cultural Heritage	Designations	No major changes.	Yes
	Assets	No major changes.	Yes
Landscape and Visual	Landscape Designations	No major changes.	Yes
	Landscape Character	No major changes.	Yes

Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
	Visual	Alignment 28H adds an angle tower at Crichie, moving it slightly closer to properties at Upper Crichie and Upper Mains of Crichie. Alignment 28H is slightly further from Upper Smithy Croft. Overall, Alignment 28H is slightly worse for Visual, however not significantly so.	Yes
Land Use	Agriculture	No major changes.	Yes
	Forestry	The estimated are of commercial woodland that would be impacted by Alignment 28H is 2.82 ha, comprising 0.29 ha broadleaved woodland and 2.52 ha coniferous woodland. From a forestry perspective Alignment 28H has a decrease in commercial forestry removal of 6.34 ha when compared to Alignment 28G. However, this decrease in forestry removal is offset by an increase in Section 27 due to the location of the section break, therefore the overall change in forestry removal is minimal and is considered acceptable.	Yes
	Recreation	No major changes.	Yes
Planning	-	No major changes.	Yes
Engineering			
Infrastructure Crossings	Major Crossings	No major changes.	Yes
	Road Crossings	Alignment 28H has fewer road crossings when compared to Alignment 28G, however Alignment 28G is longer and does not start in the same location. Considering this, both options are considered acceptable.	Yes
Environmental Design	Elevation	No major changes.	Yes
	Atmospheric Pollution	No major changes.	Yes

Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
	Contaminated Land	No major changes.	Yes
	Flooding	No major changes.	
Ground Conditions	Terrain	Alignment 28H passes over slightly steeper ground with a maximum slope of 15 degrees. This is still considered acceptable and any localised slopes can likely be spanned out.	Yes
	Peat	No major changes.	Yes
Construction / Maintenance	Access	No major changes.	Yes
	Angle Towers	No major changes.	Yes
Proximity	Clearance Distance	Alignment 28H reduces the number of properties within 170 m from eight to zero which is preferred. This is partly due to being a shorter alignment however directly comparing the same section there is still a benefit to the alternative.	Yes
	Windfarms	No major changes.	Yes
	Communication	No major changes.	Yes
	Urban Environment	No major changes.	Yes
	Metallic Pipelines	No pipeline crossings occur along Alignment 28H, whereas Alignment 28G requires one pipeline crossing. This pipeline will still require crossing, it will just fall into a different section. The alternative is therefore considered equal.	Yes
Cost			
Capital Cost	-	No major changes.	Yes

Topic	Sub-Topic	Comparison to Potential Alignment	Acceptable Yes/No
Operational Cost	-	No major changes.	Yes

Conclusion

Overall, Alignment 28H is considered acceptable.