Environmental Impact Assessment Report

Teindland Wind Farm

Volume 1

Chapter 11: Traffic and Transport

Document prepared by Envams Ltd for: Teindland Wind Farm Ltd

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Contents

11 TRAFFIC AND TRANSPORT

11.1 INTRODUCTION

This chapter assesses the potential effects of the proposed Teindland Wind Farm (the Development) on land owned by Forestry and Land Scotland approximately 3 km north of Rothes, Moray, (the Site) on the existing transport network and on sensitive receptors as a result of the construction, operation and decommissioning phases. The Development is described in Chapter 4.

The key objectives of this chapter are to:

- Describe the assessment methodology and significance criteria used in completing the assessment;
- Describe the current access, traffic and transport conditions;
- Identify and assess the likely environmental effects associated with increased traffic;
- Identify and describe the mitigation measures proposed to address potential significant effects; and
- Assess residual effects post mitigation implementation.

This chapter has been prepared by SYSTRA Ltd (SYSTRA), who have extensive experience in the preparation of Traffic and Transport EIAR chapters. SYSTRA's EIA team has produced Traffic and Transport EIAR chapters and Abnormal Loads Assessment reports for numerous renewable energy developments across Scotland and for several within the Moray Council administrative area.

This chapter has been reviewed by Alan DeVenny BEng, PhD, CEng, MICE, a Projects Director of SYSTRA. Alan has 25 years' experience working in traffic and transport consultancy and over 17 years' experience of working on wind farm projects. Alan has advised on over 200 energy developments delivering EIA chapters, access assessments, abnormal load assessments, infrastructure design and traffic management plans.

This chapter is supported by the following figures as contained within Volume 2a: Figures:

- Figure 11.1: Study Area;
- Figure 11.2: Traffic Counter Locations; and
- Figure 11.3: Abnormal Loads Route.

The chapter is supported by a Technical Appendix (TA) provided within Volume 3: Technical Appendices, comprising:

- TA A11.1: Abnormal Loads Assessment.

11.2 METHODOLOGY AND APPROACH

11.2.1 Legislation, Planning Policy and Guidance

This assessment is informed by the following additional policy documents, data sources and guidelines:

- National Planning Framework 4 (NPF4, Scottish Government 2023);
- Guidelines for Traffic Impact Assessment, (Chartered Institution of Highways & Transport CIHT 1998);
- Institute of Environmental Management and Assessment (IEMA) publication - "Environmental Assessment of Traffic and Movement", 2023 ("the IEMA Guidelines");
- Department for Transport (DfT) publication "Design Manual for Roads and Bridges" (DMRB, DfT 2013); and
- Moray Council Local Transport Strategy.

11.2.2 Consultation

The assessment process has been informed by a consultation exercise coordinated through the Scottish Government's Energy Consents Unit leading to the issue of a formal Scoping Opinion in October 2022. Following a pre-application process, Moray Council (MC) issued an updated response in August 2024. A summary of the key consultation responses is described in Table 11.1. It is also noted that a meeting was held in late 2024 between SYSTRA and Moray Council Roads to discuss the proposals.

Table 11.1 Consultation Responses

Consultee	Scoping Comment	Response to Consultee	Section within EIAR where comment has been addressed
ECU – September 2022	**Transport – abnormal loads** The Scottish Ministers recommend that the Company discuss and agree the scope of the Abnormal Loads Assessment with Transport Scotland prior to it being undertaken.	Noted.	TA A11.1
Transport Scotland – August 2022	We note that it is anticipated that turbine components will be delivered to Inverness and then transported to the site via the A96(T) through Forres and into Elgin. It should be noted that Transport Scotland will require to be satisfied that the size of turbines proposed can negotiate the selected route and that their transportation of the loads will not have any detrimental effect on structures within the trunk road route path. A full Abnormal Loads Assessment report should be provided with the Environmental Impact Assessment Report (EIAR) that identifies key pinch points on the trunk road network. Swept path analysis should be undertaken and details provided with regard to any required changes to street furniture or structures along the route.	An Abnormal Loads Assessment is included as a TA to this chapter. This details two potential routes, pinch points, and includes swept path plans.	TA A11.1
Moray Council – August 2024	EIA/TA to assume worst case i.e. all materials imported and no borrow pits on site.	EIA assumes worst case construction trip generation (all materials imported).	Section 11.5
	There are three over bridges with height restrictions on the routes to the proposed development: Garbity Bridge at GR 331126, 852539, Coxton Railway Bridge at GR 325972, 861208 and Lhanbryde Railway Bridge at GR 327123, 861021. All of these bridges belong to Network Rail and likely to be an obstacle to wind farm turbine deliveries.	Consultation will be undertaken with MC Structures team and Network Rail as required, prior to any Abnormal Loads deliveries being made which is in line with the Abnormal Loads permitting process.	
	Any access onto B9103 to serve the proposed development would require a visibility splay, 4.5m x 215m in both directions at the access onto the Public Road, with all boundaries set back to a position behind the visibility splays, maintained clear of any obstruction greater than 0.26m in height measured from the level of the carriageway.	Noted. Site access junction layouts and visibility splay drawings submitted with application.	
	An Access Route Assessment will be required including: • A scope for the assessment of the abnormal load deliveries including identification of the origin of the components, proposed route for deliveries, possible points of constraint along the network (i.e. at junctions, bends in the road, points of weight, width and height restriction etc.) (This should include all roads under the control of The Moray Council, Transport Scotland and neighbouring Local authorities).	Noted. An Abnormal Loads Assessment is included as a TA to this chapter. This details the preferred route and pinch	TA A11.1

Consultee	Scoping Comment	Response to Consultee	Section within EIAR where comment has been addressed
	• Preliminary assessment of the existing route condition (This will need to be updated prior to commencement of deliveries with a condition survey and video of the route). • Details of each abnormal load including vehicle and load dimensions, gross weight and axle weights. • Swept Path Analysis for all abnormal load vehicles through points of constraint along the network to be agreed; • Details of proposed access onto the public road - upgrading of the existing arrangement will be required along with the provision and maintenance of visibility splays. • Mitigation works proposed along the route at points of constraint. (Note some mitigation works will be permanent). • A scope for the assessment of the impact of construction vehicles and deliveries of materials to the site, including identification of the origin of the components, proposed route for deliveries, possible points of constraint along the network (i.e. at junctions, bends in the road, points of restricted road width etc.). All existing road culverts and ditches will need to be maintained in full working order without capacity restrictions at all stages of construction. Extensions to existing culverts will only be permitted where a watertight joint to existing pipe work can be provided. Any extension of existing stone culverts will not be permitted and full replacement with no capacity restrictions will be required. Specific measures will be required at the junction between the limit of the public road and the private access track to the Wind Farm to ensure that there is no discharge of water, mud etc. at any time onto the public road.	points, and includes swept path plans for abnormal loads vehicles. Mitigation works required at points of constraint are detailed in the Abnormal Loads Assessment. The assessment of the impact of construction vehicles is provided in this Chapter. Maintenance of culverts and ditches will be covered in the final Construction Traffic Management Plan (CTMP).	Section 11.5
	A Construction Traffic Management Plan will be required, including; • Duration of works; • Estimated number of vehicle movements (i.e. materials, plant, staff, components); • Schedule for delivery of abnormal loads; • Source for stone and concrete deliveries and route to the site; • Measures to be put in place to prevent material being deposited on the public road; • Traffic Management during works including any specific instructions to drivers; • Parking provision, turning, loading and unloading areas; and • Improvements to the public road network to accommodate construction traffic.	Details of construction/staff vehicle numbers/routing, and details of what may be included in a CTMP are provided in this chapter. A final CTMP will be prepared before any construction of the Development commences and agreed with MC. A condition will be attached to any consent granted for the provision of the CTMP. Scope and requirements of Wear and Tear Agreement will	Section 11.6

Consultee	Scoping Comment	Response to Consultee	Section within EIAR where comment has been addressed
	A wear and tear agreement will be required. Details of the extent of this will need to be discussed with MC and approved once further details of the proposals and requirements have been submitted and considered. Subject to confirmation of the proposed routing, access and junctions with the public, the need for Road Construction Consent will be considered for the upgrading/formation of the access onto the public road and for other mitigation works to the public road elsewhere. Adequate parking provision will be required for vehicles waiting to unload, staff working onsite etc. in order to ensure parking does not obstruct the public road. Mitigation work to existing roads will be required to accommodate the addition of construction traffic. Further comments will be made as the proposals are development and details provided to the Roads Authority.	be discussed with MC pre-construction. Noted.	
	New traffic surveys are supported. Permission must be sought from the Council before the installation of traffic counting equipment on the public road.	Noted. Traffic surveys were carried out on the B9015 and B9103 in June 2024.	
	Where historic traffic count data is used, low traffic growth rates are to be applied to Roads under the control of Moray Council.	Historic traffic data and base traffic flows have been factored to year of construction using NRTF low growth.	Section 11.5

11.2.3 Assessment Methodology

The following section sets out the methodology used to assess the significance of effects at locations along the proposed routes within the Study Area (defined in paragraph 11.3.7) where total traffic levels or the level of HGV traffic exceed the screening thresholds set out by the IEMA Guidelines.

11.2.3.1 Sensitivity

The sensitivity to change in traffic levels of any given road segment and the receptors located along that road segment are generally assessed by considering the residual capacity of the network under existing conditions.

Where there is a high degree of residual capacity, the network may readily accept and absorb an increase in traffic and therefore, the sensitivity will be considered to be low. Conversely, where the existing traffic levels are high compared to the road capacity, there is little spare capacity, and the sensitivity to change in traffic levels will be considered to be high.

Consideration is given to the composition of the traffic on the road network, under both existing and proposed conditions. For example, Light Good Vehicles (LGVs) have less effect on traffic and the road system than Heavy Goods Vehicles (HGVs). Similarly, HGVs can have less effect than abnormal load vehicles, depending on the frequency of the abnormal loads.

The criteria that have been used to make judgements on the sensitivity of the receptor(s) and the magnitude of change are presented in Table 11.2.

Table 11.2: Framework for Determining Sensitivity of Receptors

Sensitivity	Description
High	The receptor/resource has little ability to absorb change without fundamentally altering its present character is of international or national importance. Local residents whose daily activities depend upon unrestricted movement within their environment. Receptors such as schools, colleges, hospitals and accident hotspots.
Medium	The receptor/resource has moderate capacity to absorb change without significantly altering its present character, or is of high importance.
Low	The receptor/resource is tolerant of change without detriment to its character; is of low/local importance. Areas such as trunk road or A class roads constructed to accommodate significant HGV volumes.
Negligible	Users not sensitive to transport effects. Includes very small settlements and roads with no significant settlements including new strategic trunk roads or motorways.

11.2.3.2 Magnitude

The magnitude of traffic effects is a function of the existing traffic volumes, the percentage increase and change due to the Development, changes in the type of traffic and the temporal distribution of traffic (day of week, time of day).

The determination of magnitude has been undertaken by reviewing the Development, establishing the parameters of the receptors that may be affected and quantifying these effects utilising the IEMA Guidelines and professional judgement.

The criteria that have been used to make judgement on the magnitude of the effect on the receptor(s) is presented in Table 11.3.

Table 11.3: Framework for Determining Magnitude of Effects

Magnitude	Description
Major	Total loss of, or major/substantial alteration to, key elements/features of the baseline (pre-development) conditions such that the post development character/composition/attributes will be fundamentally changed. Generally a rule of >90% (or >70% at sensitive receptors) change in traffic is considered to be a major magnitude.
Moderate	Loss or alteration to one or more key elements/features of the baseline conditions such that post development character/composition/attributes of the baseline will be materially changed. Generally, a rule of 60% - 90% (or 40% - 70% at sensitive receptors) change in traffic is considered to be a moderate magnitude.
Minor	A minor shift away from baseline conditions. Change arising from the loss / alteration will be discernible/detectable but not material. The underlying character/composition/attributes of the baseline condition will be similar to the pre-development circumstances/situation. Generally, a rule of 30 – 60% (or 10% - 40% at sensitive receptors) change in traffic is considered to be a minor magnitude.
Negligible	Very little change from baseline conditions. Change barely distinguishable, approximating to a 'no change' situation. Generally, a rule of <30% (or <10% at sensitive receptors) change in traffic is considered to be a negligible magnitude.

11.2.3.3 Significance

As a guide to inform the assessment, but not as a substitute for professional judgement, criteria for determining the significance of traffic related effects are set out in Table 11.4. These are based on combining the magnitude of the effect with the receptor sensitivity.

Table 11.4: Significance Criteria Matrix

Sensitivity of Receptors	Magnitude of Change			
	Major	**Moderate**	**Minor**	**Negligible**
High	Major	Major/Moderate	Moderate	Moderate/Minor
Medium	Major/Moderate	Moderate	Moderate/Minor	Minor
Low	Moderate	Minor	Minor	Minor/Negligible
Negligible	Minor	Negligible	Negligible	Negligible

Effects judged to be of major or moderate significance are considered to be **Significant**. Effects judged to be of moderate/minor, minor or negligible significance are considered **Not Significant**.

11.3 SCOPE OF ASSESSMENT

11.3.1 Abnormal Loads

The most identifiable transport and access characteristic associated with wind farm developments is the need to transport the wind turbine components to the Site. Turbine components will be delivered to an appropriate Port of Entry (PoE) and then transported as abnormal loads, given their size and weight, from the selected PoE via the public road network.

The National Highways website[1] defines an abnormal load as a vehicle that is;

[1] National Highways. ABNORMAL LOADS AND THE ESDAL SYSTEM. Available at: https://nationalhighways.co.uk/road-safety/abnormal-loads-and-the-esdal-system/ (accessed on 22/01/2025)

"a weight of more than 44,000 kilograms; an axle load of more than 10,000 kg for a single non-driving axle and 11,500 kilograms for a single driving axle, a width of more than 2.9m; a rigid length of more than 18.75m".

The abnormal loads route assessment has identified two possible PoE for shipping of the blade components which are the worst case in terms of the length and width combination, Inverness and Ardersier, the latter of which will provide an energy transition facility and is set to open in the second half of 2025.

A full assessment of the preferred abnormal loads route is contained within TA A11.1.

The first proposed access route to Site is as follows:

- Loads would depart from Inverness Harbour then proceed eastbound on Longman Drive and Stadium Road;
- At the Longman Roundabout, loads would turn left onto the A9 southbound;
- Loads would depart the A9 at the Raigmore Interchange, taking the first exit onto the A96 eastbound;
- Loads would continue on the A96, proceeding towards Elgin;
- Within Elgin, loads would proceed on the A96 until its junction with Reiket Lane. At this roundabout, loads would turn right and would proceed southbound on Reiket Lane;
- Loads would exit Reiket Lane onto Linkwood Road heading south;
- They would follow Linkwood Road east until reaching the B9103 junction, then turn right and head southeast on the B9103; then
- Follow the B9103 until reaching the proposed Site access point where they would turn right into the Site access.

The second proposed access route to Site is as follows:

- Loads would depart from Ardersier Port and head southeast;
- Near Blackcastle, loads would turn left to join the A96 heading northeast towards Nairn; then
- Follow the same route as Option 1 until reaching the Site.

11.3.2 General HGVs

There is also a need to bring general construction materials (concrete, aggregates, pipes, cabling, etc.) to the Development Site in standard HGVs. During the construction stage there is a temporary intensification of HGV traffic on the road network. This intensification varies depending on the scale of the development, the construction stage and operational requirements.

11.3.3 Staff Vehicles

Traffic would be generated by construction workers commuting to/from the Site during the construction stage in private car or works minibus.

11.3.4 Potential Environmental Effects

The assessment is made with reference to the Development, as described in Chapter 4: "Development Description" of this EIAR.

This assessment is structured around the consideration of potential environmental effects relating to transport and access, as identified by the IEMA Guidelines and including the following:

- Severance of communities;
- Road vehicle driver and passenger delay;
- Non-motorised user delay and amenity;
- Fear and intimidation on and by road users;
- Road user and pedestrian safety; and
- Hazardous and large loads.

There are no hazardous loads associated with the Development.

Guidance for the assessment of the environmental effects of traffic is provided in the IEMA document, "Environmental Assessment of Traffic and Movement[2]". The document is the only guidance document currently available that sets out a methodology for assessing potentially significant environmental effects where a proposed development is likely to give rise to changes in traffic flows.

The guidance states that in order to determine the scale and extent of the assessment and the level of effect the Development will have on the surrounding road network, the following two 'rules' should be followed:

- Rule 1 – Include road links where flows are predicted to increase by more than 30% or where the number of HGVs is predicted to increase by more than 30%; and
- Rule 2 – Include any other specifically sensitive area where traffic flows are predicted to increase by 10% or more.

These rules are used to identify the road links within the Study Area where a full assessment of environmental effects associated with an intensification in road traffic may be required.

Paragraph 1.30 of the IEMA Guidelines identifies groups, locations and special interests which may be sensitive to changes in traffic conditions as follows:

- People at home;
- People at work;
- Sensitive and/or vulnerable groups (including young age; older age; income; health status; social disadvantage; and access and geographic factors);
- Locations with concentrations of vulnerable users (e.g. hospitals, places of worship, schools);
- Retail areas;
- Recreational areas;
- Tourist attractions;
- Collision clusters and routes with road safety concerns; and
- Junctions and highway links at (or over) capacity.

11.3.5 Potential Effects Scoped Out

On the basis of a detailed desktop study, the professional judgement of the Environmental Impact Assessment (EIA) team and experience from other relevant projects and policy guidance, the following characteristics have been scoped out of this Traffic and Transport Chapter:

11.3.5.1 Construction Stage – Peak Hour Congestion

The effect of construction related vehicles on the road network is considered unlikely to be significant in terms of peak hour congestion as deliveries will be spread out across the day. Therefore, detailed junction capacity assessments have not been undertaken.

11.3.5.2 Construction Stage – Access Tracks and Beyond the Study Area

The effect of increased traffic associated with the Development on existing access tracks within the Site is not anticipated to have a discernible environmental effect and is therefore not appraised in this chapter.

It is anticipated that the volume of traffic associated with the construction of the Development will not have a discernible effect on roads and sensitive receptors outwith the Study Area (see paragraph 11.3.7 for definition of the Study Area) as the effects of traffic are diluted with increasing distance from the point of origin.

11.3.5.3 Operational Stage

Once the Development is operational, the amount of traffic associated with a wind farm is minimal, relating to operation and maintenance activities only. Vehicles used for maintenance are likely to be utility vehicles (typically 4x4s or light goods vehicles (LGVs)).

[2] Institute of Environmental Management and Assessment (IEMA) 2023. ENVIRONMENTAL ASSESSMENT OF TRAFFIC AND MOVEMENT

There may, on rare occasions, be the need for HGVs or abnormal load vehicles to access the Site if larger components need replaced.

Therefore, the effect of vehicle movements during the operational phase will be negligible. In respect of transport, the operational phase of the Development is therefore not assessed further, as agreed in the scoping process.

11.3.6 Decommissioning Stage

Planning permission for the Development is sought for a 40-year period, after which time the Development will be decommissioned unless a further application is submitted for an operational extension. Traffic associated with the decommissioning stage is anticipated to be significantly less than that generated during construction and, as agreed in the scoping process is not considered in this assessment.

Given the timescales involved and the likelihood for changes to the baseline situation during this period, the transport and access effects of wind farm decommissioning are assumed, as a worst-case, to be the same as the effects during the construction phase. For the remainder of this chapter, conclusions relating to construction phase are also assumed to apply to the decommissioning phase.

11.3.7 Study Area

The Study Area for the assessment of traffic and transport as shown on Figure 11.1 is as follows:

- B9103 – A96(T) to A9015 at Boat o'Brig;
- B9015 – A96(T) to Rothes;
- A941 – Craigellachie to Rothes;
- A95(T) – Tormore to Craigellachie; and
- A96(T) – Forres to Cairnie.

The Study Area has been predicated on the site access point and the proposed road routes to the access point. To determine appropriate access routes, a comprehensive desk based assessment of the surrounding road network has been undertaken and the location of nearby sensitive receptors has been considered. The location of key material origins such as quarry locations has been considered and comments received from Moray Council on this taken on board.

The Site is proposed to be accessed via the existing access track to Teindland Forest which is located on the B9103 approximately 1.6 km north of the B9015 junction, approximately at National Grid Reference (NGR) 330203, 856423. The existing junction would be improved to include a bellmouth and an initial section of widened track to allow traffic to enter and egress from the B9103 safely and would be designed to maximise visibility for vehicular movements entering and leaving the Site. Final designs (as part of a technical approval process post consent) will be agreed with Moray Council to ensure suitable visibility splays are realised. A preliminary access junction drawing is provided in Figure 4.12.

General construction traffic will use three main potential access routes to the Site:

1. From Elgin and further west such as Inverness, travelling through Elgin on the A96(T) and turning southbound onto the B9103 and continuing for approximately 7 km before turning right into the Site access.

2. From the south east via the A96(T), exiting at Coul Brae Roundabout at Mosstodloch and travelling south west on the B9015 for approximately 5.8 km to the junction with the B9103, then north on the B9103 for approximately 1.6 km and turning left into the Site access.

3. From the south west via the A95(T), then A941 northbound, turning east onto the B9015 at Rothes and continuing north on the B9103 to the Site access.

It is expected that the three construction access routes will be used for the delivery of various materials and machinery to the Site during the construction phase. The specific routes will be determined following confirmation of the Principal Contractor for the Site and will be based on a number of factors including supply locations and depot locations.

11.3.7.1 Sensitive Receptors

With reference to the indicators outlined in the IEMA Guidelines, the villages of Rothes on the A941 and Charleston of Aberlour on the A95(T) will be considered as sensitive receptors and will be subject to IEMA Rule 2; whereby a 10% increase in total traffic will trigger the requirement for a full assessment of environmental effects associated with increased traffic.

Sections of the B9013 and B9015 are suggested as suitable 'on–road' cycle routes on the Moray Council Elgin Active Travel Map therefore these road links are also considered sensitive receptors and will be subject to IEMA Rule 2.

11.3.8 Desk Based Research and Data Sources

Traffic count information has been obtained to represent the baseline traffic flows for the road links within the Study Area.

Data for the A96(T) has been sourced from 24-hour Automatic Traffic Count (ATC) surveys obtained from the Transport Scotland National Traffic Data System (NTDS) database for 2024. Traffic count information for the B9013 and B9015 has been obtained from ATC surveys carried out in June 2024. No traffic count data was available for the A941, however as only a short section of the A941 is within the Study Area it has been considered and assessed using the A95(T) as a proxy.

The traffic flows have been factored up where necessary to represent the current baseline year (2025) and the anticipated year of construction (2028) using the National Road Traffic Forecast (NRTF) "low growth" factors.

Accident data has been obtained from Transport Scotland for the trunk roads within the Study Area (A96 and A95) for the five year period from November 2019 to November 2024. The Crashmap website[3] has been utilised to determine the number of accidents that have occurred along the remaining road links within the identified Study Area using the most recent available data (2019 to 2023).

11.4 BASELINE CONDITIONS

11.4.1 Study Area Road Network

The following paragraphs detail the baseline conditions of the road links identified as being within the Study Area.

11.4.1.1 B9103

The B9103 routes in a generally north to south direction from Lossiemouth to Mulben, where it joins the A95(T). In the vicinity of the Development, the B9103 routes south from the A96(T) just east of Elgin for approximately 8.7 km where it meets the B9015. The Site access is located on this section of the B9103. After the junction of the B9103 and B9015, the road continues south under the B9015 designation for a short (500 m) section before reverting back to the B9103 for a further 2.4 km. At Boat O'Brig, the B9103 routes east to Mulben and the A95, whilst the B9015 routes south west to Rothes and the A941.

The B9103 is generally a rural two way single carriageway road of approximately 6 m width with grass verges and is subject to the national speed limit. A few isolated dwellings and farms are located along the B9103 but no major settlements.

The B9103 is likely to be used by recreational road users such as cyclists therefore the impact of Development traffic on the B9103 will be considered against IEMA 'Rule 2' and the 10 % threshold of increase in total traffic or HGV levels.

11.4.1.2 B9015

The B9015 routes in a generally north to south direction from the coastal village of Kingston to Rothes on the A941, crossing the A96(T) at Mosstodloch where it forms a roundabout (Coul Brae Roundabout). A route to Site can be taken from this roundabout, following the B9015 south to the B9103, then routing north on the B9103 to the Site access.

[3] https://www.crashmap.co.uk/Search

Similar to the B9103, the B9015 is generally a rural two-way single carriageway road of approximately 6m width with grass verges and is subject to the national speed limit. A few isolated dwellings and farms are located along the B9103 but no major settlements.

As with the B9103, the B9015 is likely to be used by recreational road users such as cyclists therefore the impact of Development traffic on the B9103 will be considered against IEMA 'Rule 2' and the 10 % threshold of increase in total traffic or HGV levels.

11.4.1.1 A941

The A941 runs north to south from Lossiemouth on the Moray coast to Rhynie in Aberdeenshire, a distance of 66 km. Within the Study Area, the A941 extends approximately 5.4 km from its junction with Craigellachie on the A95(T) in the south to its junction with the B9015 in Rothes.

The road is a good standard single carriageway which is subject to the national speed limit except for sections through villages and settlements where the speed limit reduces to 30, 40 or 50 mph. The road is generally rural in nature with grass verges either side of the road and has a width of approximately 6.5 m to 7.0 m.

General construction traffic from the south may travel north on the A941, before turning north east at Rothes onto the B9015 and B9103 to access the Site.

The village of Rothes will be considered as a sensitive receptor and the impact of Development traffic on the A941 will be assessed against IEMA 'Rule 2' with a 10 % threshold of increase in total or HGV traffic.

For the purpose of assessment there is no separate traffic counter point on the A941 and the road link will be assessed in combination with the A95(T).

11.4.1.2 A95(T)

The A95(T) runs 100 km northeast from the A9 at Aviemore, to the A98, 8 km west of Banff. Larger settlements along the route include Grantown on Spey and Keith. Several smaller villages and hamlets also populate the route. In the context of the Study Area, the A95(T) extends from Marypark to Keith, where it forms a junction with the A96(T).

For the majority of its length, the road is a single carriageway which is subject to the national speed limit except for sections through villages and settlements where the speed limit reduces to 30 or 40 mph. The road is generally rural in nature with grass verges either side of the road and a width of approximately 7 m.

Construction traffic from the A9 may route east along the A95(T) before heading north on the A941, B9015 and B9103 to the Site access.

For the purposes of this assessment, the village of Charleston of Aberlour will be considered as a sensitive receptor and the impact of Development traffic on the A95(T) will be assessed against IEMA 'Rule 2' with a 10 % threshold of increase in total or HGV traffic.

11.4.1.3 A96(T)

The A96(T) is a trunk road of approximately 165 km linking Inverness and Aberdeen, from the Raigmore Interchange east of Inverness to the Craibstone junction on the AWPR (Aberdeen Western Peripheral Route). Settlements along the route include Nairn, Forres, Elgin, Fochabers, Keith, Huntly, Inverurie and Kintore.

Within the Study Area, the A96(T) extends from Forres to Keith and the Development is accessed from the B9103 which routes south from the A96(T) just east of Elgin.

The A96(T) is a single carriageway, with some dual sections, and is subject to the national speed limit except for sections through villages and settlements where the speed limit reduces to 30 mph or 40 mph. The road is generally rural in nature with grass verges either side of the road and a width of approximately 7.3 m.

Abnormal loads will use the A96(T) from Inverness or Ardersier heading east through Elgin. General construction traffic may route along the A96(T) eastbound from Inverness or westbound from Aberdeen, before accessing the Site via the B9013.

The A96(T) is a route well used by HGV traffic, providing a connection to the A9. Therefore, for the purposes of this assessment, the impact of proposed Development traffic on the

A96(T) will be considered against IEMA 'Rule 1' and the 30 % threshold of increase in total traffic or HGV levels (i.e. this road link is not considered specifically 'sensitive').

11.4.2 Baseline Traffic Flows

Table 11.5 indicates the two-way Average Daily Traffic (ADT) in the Study Area and the percentage of traffic which is classified as HGVs.

Table 11.5: Study Area Baseline Traffic Flows

Counter Location	2024 ADT	2024 HGV	2028 ADT	2028 HGV	Percentage HGVs
1. B9103 N	838	170	851	173	20%
2. B9103 S	1,886	461	1915	468	24%
3. B9015	1,445	399	1467	405	28%
4. A95(T)	2,454	422	2491	428	17%
5. A96(T) Fochabers	13,290	1,309	13492	1329	10%
6. A96(T) Elgin	16,231	2,447	16477	2485	15%

11.4.3 Road Safety

Accident data has been obtained from Transport Scotland for the trunk roads within the Study Area (A96 and A95) for the five year period from November 2019 to November 2024.

The Crashmap website has been utilised to determine the number of accidents that have occurred along the remaining road links within the identified Study Area using the most recent available data (2019 to 2023). The results of this investigation are indicated by Table 11.6 with additional commentary provided on serious and fatal accidents where applicable.

Table 11.6: Accident Statistics

Counter Location	Slight	Serious	Fatal	Comments
B9103	1	3	-	Serious accident near the B9015 junction at Boat o' Brig in 2022 involving one vehicle and one casualty.
B9015	2		-	
A941	-	3	-	
A95(T)	2	2	1	Fatal accident at the A941 / A95(T) junction at Craigellachie in 2024 involving a car and goods vehicle and four casualties.
A96(T)	16	15	5	Five fatal accidents on the A96 over the five year period, spread throughout the A96(T) within the Study Area.

Table 11.6 indicates that on the B9103 there were a total of four accidents of slight or serious nature in the five year period 2019 to 2023. On the B9015 only two slight accidents were recorded. On the A941, a total of three serious accidents were recorded in the 2019 to 2023 period on the section of the road within the Study Area (between Craigellachie and Rothes).

While there are a number of recorded accidents along the A96(T) and A95(T) within the Study Area, the levels of accidents are typical of trunk roads of this rural nature carrying high volumes of traffic. There are no identified locations where it would be considered that special consideration would be required in relation to this application.

11.5 ASSESSMENT OF EFFECTS

The construction traffic associated with the Development will comprise construction workers, HGVs / LGVs carrying construction materials and plant and abnormal loads carrying the main wind turbine components.

The construction phase of the Development is estimated to take up to 12 months, with enabling works (principally forestry activities) taking place in the six months prior to the construction phase. General working hours are expected to be between 07:00 and 19:00 on weekdays and 07:00 and 13:00 on Saturdays which means that staff will predominantly arrive and depart outside the peak hours associated with the surrounding road network.

Turbine delivery, erection and commissioning activities may also take place outwith these hours depending on weather conditions.

11.5.1 Construction HGV Traffic

The potential number of HGV traffic movements that will result from the Development are set out in Table 11.7 whilst Table 11.8 indicates the distribution of traffic movements across the construction programme. The estimated movements in Tables 11.7 and 11.8 include HGV and abnormal loads. The movements are noted in line with an approximate 12-month construction programme and general assumptions around the composition and dimensions of associated infrastructure. At the request of Moray Council, a worst case assessment has been carried out assuming 100% of stone will be imported to Site, as no on-site borrow pits are proposed. It has been assumed that concrete will be imported rather than any form of on-site batching (this is a worst-case approach, as concrete batching within the construction compound is proposed in chapter 4).

Forestry removal is assumed to take place in the six months prior to commencement of the construction period. Forestry felling vehicle movements are expected to comprise:

- 650 timber lorries;
- 150 bulk lorries;
- 10 low loaders; and
- 70 fuel deliveries.

The resultant total of 880 one-way vehicle movements associated with forestry felling equates to 294 two way movements per month over the six month period prior to the construction phase. Per week this would result in approximately 37 inbound and 37 outbound vehicle movements, or seven inbound and seven outbound per day. This level of traffic generation is not considered to have a significant impact on the local road network and therefore the forestry felling phase is not considered further in this assessment.

Table 11.7: Construction HGV Movements

Construction Task	Vehicle Type	Approximate no. of Loads
Site Access, Site Tracks, Hard Standings etc*	Stone Wagon	11,585
Material and General Deliveries	Various	630
Foundations	Concrete Wagon	3,260
Foundation Reinforcement	Low Loader	80
Cable deliveries and sand	Various	712
Cranes/related lifting equipment plus Plant	Cranes and Plant	60
Erection of turbines	Abnormal Loads	169
Site Establishment and Reinstatement	Various	240
Total (one-way trips)		**16,736**
Total (two-way trips)		**33,472**

*Assuming that at a worst case, 100% of stone will be imported to site

Table 11.8: Construction HGV Movements per Month

Task	1	2	3	4	5	6	7	8	9	10	11	12	Total
Site establishment / removal	40	40	40										120
General Site deliveries including Geotextile separators and HV electrical equipment	32	32	18	76	104	136	136	12	19	19	23	23	630
Imported stone	2,385	2,300	2,300	2,300	2,300								11,585
Reinforcement				20	20	20	20						80
Foundations				815	815	815	815						3,260
Cable deliveries and sand							178	178	178	178			712
Cranes and plant		15			15	15					15		60
Erection of turbines (abnormal loads)							43	42	42	42			169
Site reinstatement and restoration											60	60	120
Total (one-way trips)	2,457	2,387	2,358	3,211	3,254	986	1,192	232	239	239	98	83	16,736
Total (two-way trips)	4,914	4,774	4,716	6,422	6,508	1,972	2,384	4,64	4,78	4,78	196	166	33,472

*Assuming 100% of stone imported

11.5.2 Worst Case Assessment

As Table 11.8 indicates, the number of HGV trips is greatest during the first 5 months of the construction phase, in line with the delivery of stone and concrete, after which time HGV trips reduce sharply over the remaining duration of the construction period. Month 5 has the highest number of trips associated with the importation of stone and concrete, with an estimated 6,508 two-way HGV trips. Month 5 is therefore used as the worst-case month to assess the impact and effect of the Development on the transport network.

Assuming four weeks per month, this equates to approximately 1,627 two-way HGVs per week. The daily vehicle trip generation for Month 5 is estimated to be approximately 296 two-way trips (assuming 5.5 days per week). This equates to approximately 25 two-way HGV trips per hour, assuming a 12-hour working day.

11.5.3 Abnormal Load Movements

With regard to the movement of abnormal load vehicles (delivery of turbine components), Table 11.8 indicates that abnormal loads will be transported over four months (months 7 to 10) of the 12-month construction period. Assuming 43 one-way abnormal load vehicle trips per month as a worst-case (as 42 trips are estimated in months 8 to 10), this equates to approximately 11 movements per week. Abnormal load movements are generally one-way only as the vehicles retract to the size of an HGV for their return journey once the loads had been delivered to the destination.

The movement of abnormal loads may be spread out evenly across the associated months or concentrated over two to three days of the week (the latter meaning that there will be no movements on the remaining days of the week). Nevertheless, abnormal load vehicles are restricted in the hours that they can operate, and the schedule of abnormal load movements will be dependent on the availability and approval of police escorts.

Given this low number of vehicles and the short duration for which abnormal load vehicles will be on the local road network, this number of abnormal load vehicles will not give rise to any significant environmental effects within the Study Area. As a result, no further assessment of the effect of abnormal load vehicles has been undertaken. Further assessment of the suitability of the route identified between the PoE and the Site and the potential mitigation works required has been undertaken as part of the Abnormal Load Assessment contained within TA A11.1.

11.5.4 Staff Movements

In addition to the construction vehicles identified in Table 11.7, it is anticipated that there will be up to 60 two-way daily private car/LGV trips to the Site associated with construction staff/welfare (30 arrivals and 30 departures daily), assuming that no car sharing will occur between staff. This is a robust estimate as it is very likely that car sharing amongst staff will occur and/or a works minibus will be provided for staff.

11.5.5 Construction Traffic Distribution

At this stage, the source of the construction materials is unknown, although it is anticipated that the majority of construction vehicles will come via the A96(T) (east from Aberdeen or west from Inverness), with slightly less construction traffic travelling to Site from the southwest via the A95(T) and A941.

Based on these assumptions, and in order to assess a robust scenario the following traffic distribution has been applied, as detailed in Table 11.8.

Table 11.8: Construction Traffic Distribution

Road Link	Percentage of Development Traffic Applied
1. B9103 N	100%
2. B9103 S	70%
3. B9015	100%
4. A95(T)	70%
5. A96(T) Fochabers	100%
6. A96(T) Elgin	100%

It is important to note that this represents a worst-case scenario for each road link in isolation and this impact would not occur in reality, as the total traffic distribution between all links could not exceed 100%.

11.5.6 Construction Traffic Effects

Table 11.9 details the daily percentage increases in traffic flows associated with the construction of the Development at the traffic counters within the Study Area during the worst-case month (month 6) based on the distribution outlined in Table 11.8. The location of the traffic counters is illustrated by Figure 11.2.

Table 11.9: Construction Traffic Effect on Routes within the Study Area

	1. B9103 North	2. B9103 South	3. B9015	4. A95(T)	5. A96(T) Fochabers	6. A96(T) Elgin
2028 ADT	851	1915	1467	2491	13492	16477
2028 HGV	173	468	405	428	1329	2485
2028 total plus dev	1207	2164	1822	2740	13848	16833
2028 HGV + dev HGV	468	676	701	635	1625	2780
% Increase in Total Traffic	42%	13%	24%	10%	3%	2%
% Increase in HGV Traffic	171%	44%	73%	48%	22%	12%

As stated previously, IEMA Guidelines Rules 1 and 2 are used as thresholds to determine the requirement for a full assessment of effects in relation to an increase in traffic flows associated with the construction of the Development.

As discussed in section 11.3.6.1, the main sensitive receptors are likely to be the settlements of Rothes on the A941, Charleston of Aberlour on the A95(T) and recreational users of the B9103 and B9015, therefore Count Locations 1 to 4 will be assessed under 'Rule 2' and the 10% traffic increase threshold will apply.

Table 11.9 indicates that the temporary in HGV traffic levels at all 4 Count Locations classed as sensitive receptors exceeds the 10% threshold and a therefore a full assessment of effects must be carried out. Assessment of the A941 will be carried out alongside assessment of the A95(T).

Table 11.9 indicates that for Count Locations 5 and 6 on the A96(T), the increase in total and HGV traffic is considered negligible (>30%) and a full assessment of effects is not required for these road links in accordance with the IEMA Guidelines.

11.5.7 Detailed Assessment of B9103, B9015, A95(T) and A941

11.5.7.1 Severance of Communities

The IEMA Guidelines advise that "*Severance is the perceived division that can occur within a community when it becomes separated by major transport infrastructure*".

The potential for traffic associated with the Development to cause severance is assessed on a case by case basis using professional judgement where non-negligible traffic increases are predicted on roads through residential settlements.

Increased severance can result in the isolation of areas of a settlement or individual properties. Severance may result from the difficulty of crossing a heavily trafficked road or a physical barrier created by infrastructure. Severance effects could equally be applied to residents, motorists or pedestrians. Table 11.10 provides an assessment of the effect of construction traffic on severance of communities for each road link.

Table 11.10: Assessment of Severance of Communities

Road Link	Magnitude of Change	Sensitivity	Justification	Significance
B9103	Major	Negligible	Although some isolated dwellings are located along the B9103 in the Study Area there are no settlements or facilities which would generate pedestrian movements.	Minor – **Not Significant**
B9015	Major	Negligible	Although some isolated dwellings are located along the B9015 in the Study Area there are no settlements or facilities which would generate pedestrian movements.	Minor – **Not Significant**
A95(T)	Moderate	Medium	The effect of severance is likely to be medium on the A95(T), in particular through the village of Charleston of Aberlour as the A95(T) is the main route through the town and offers facilities such as shops, cafes and bus stops which would generate pedestrian movements.	Moderate – **Significant**
A941	Moderate	Medium	The effect of severance is likely to be medium on the A941, in particular through the town of Rothes as the A941 is the main 'High Street' through the town and offers facilities such as shops and bus stops which would generate pedestrian movements.	Moderate– **Significant**

11.5.7.2 Road Vehicle Driver and Passenger Delay

Some driver delay may be experienced when construction traffic is accessing the Site. The IEMA Guidelines advise that, *"delays are only likely to be significant when the traffic on the network surrounding the Site is already at, or close to, the capacity of the system"*.

Traffic delay to non-Development traffic may occur at several points on the network surrounding the Site including:

- At the Site entrance where there will be additional turning movements;
- At intersections along the local road network which might be affected by increased traffic; and
- At side roads where the ability to find gaps in traffic may be reduced, thereby lengthening delays.

It is noted that there are no significant areas of congestion within the Study Area at this point in time. Table 11.11 provides an assessment of the effect of construction traffic on road vehicle driver and passenger delay for each road link.

Table 11.11: Assessment of Road Vehicle Driver and Passenger Delay

Road Link	Magnitude of Change	Sensitivity	Justification	Significance
B9103	Major	Medium	The Site access point is located on the B9013 therefore all construction traffic will use this road. The resultant increase in traffic is likely to increase the effect of vehicle driver and passenger delay, particularly around the Site access.	Major/Moderate – **Significant**
B9015	Major	Low	There are few junctions or side roads along the B9015 in the Study Area where vehicles would face delay due to additional traffic however the volume of additional daily traffic may result in increased general delay to existing road users.	Moderate – **Significant**
A95(T)	Moderate	Low	The A95(T) is part of the trunk road network which is constructed to a high standard and has a high carrying capacity. The route also has a relatively low baseline traffic flow therefore has residual capacity to accommodate additional traffic with minimal effect to road vehicle and passenger delay.	Minor – **Not Significant**
A941	Moderate	Medium	The resultant increase in traffic is likely to increase the effect of vehicle driver and passenger delay on the A941 through the town of Rothes as the carriageway width is reduced in places due to on-street parking. Outwith the town there is unlikely to be an increased effect of delay.	Moderate – **Significant**

11.5.7.3 Non-Motorised User Delay and Amenity

The IEMA Guidelines advise that, "*The assessment of pedestrian delay serves as a proxy for the delay that other modes of non-motorised users may experience when crossing roads*".

Traffic volumes, traffic composition, traffic speed, the existence of pedestrian footways and the existence of pedestrian crossings all contribute to the level of general pleasantness experienced by pedestrians and other vulnerable road users. Table 11.12 provides an assessment of the effect of construction traffic on non-motorised user delay and amenity for each road link.

Table 11.12: Assessment of Non-Motorised User Delay and Amenity

Road Link	Magnitude of Change	Sensitivity	Justification	Significance
B9103	Major	High	The Site access point is located on the B9013 therefore all construction traffic will use this road. The main receptor likely to be sensitive to increased non-motorised user delay and amenity effects would be cyclists and recreational road users due to increased traffic volumes and a higher proportion of HGVs using the route.	Major/Moderate – **Significant**
B9015	Major	High	The main receptor likely to be sensitive to increased non-motorised user delay and amenity effects would be cyclists and recreational road users due to increased traffic volumes and a higher proportion of HGVs using the route.	Major – **Significant**
A95(T)	Moderate	Medium	Increased traffic volumes during the construction phase are likely to have a medium impact on non-motorised users on the A95(T) within the village of Charleston of Aberlour due to the presence of facilities such as shops, cafes and bus stops which would generate pedestrian movements. Outwith the village there is unlikely to be an increased impact.	Moderate – **Significant**
A941	Moderate	Medium	Increased traffic volumes during the construction phase are likely to have a medium impact on non-motorised users on the A941 within town of Rothes due to the presence of facilities such as shops, cafes and bus stops which would generate pedestrian movements. Outwith the town there is unlikely to be an increased impact.	Moderate– **Significant**

11.5.7.4 Fear and Intimidation on and by Road Users

IEMA guidelines state that “a further environmental impact that affects people is the fear and intimidation created by all moving objects”, with the extent of fear and intimidation dependent upon:

- The total volume of traffic;
- The heavy vehicle composition;
- The speed these vehicles are passing; and
- The proximity of traffic to people.

The 2023 IEMA guidelines provide a weighting system to help quantify the likelihood and level of pedestrian fear and intimidation. Following this process, which is based on average traffic flows and vehicle speeds. Table 11.13 provides a summary of the assessment of the effect of fear and intimidation on and by road users for each road link.

Table 11.13: Assessment of Fear and Intimidation on and by Road Users

Road Link	Magnitude of Change	Sensitivity	Justification	Significance
B9103	Major	High	The Site access point is located on the B9013 therefore all construction traffic will use this road. The main receptor likely to be sensitive to increased fear and intimidation effects would be cyclists and recreational road users. Fear and intimidation levels are likely to increase due to a higher proportion of HGVs using the route.	Major – **Significant**
B9015	Major	High	The main receptor likely to be sensitive to increased fear and intimidation effects would be cyclists and recreational road users. Fear and intimidation levels are likely to increase due to a higher proportion of HGVs using the route.	Major – **Significant**
A95(T)	Moderate	Medium	Increased traffic volumes during the construction phase are likely to have a medium fear and intimidation effect on the A95(T) within the village of Charleston of Aberlour due to the presence of facilities such as shops, cafes and bus stops which would generate pedestrian movements. Outwith the village there is unlikely to be an increased impact.	Moderate – **Significant**
A941	Moderate	Medium	Increased traffic volumes during the construction phase are likely to have a medium fear and intimidation effect on the A941 within town of Rothes due to the presence of facilities such as shops, cafes and bus stops which would generate pedestrian movements. Outwith the town there is unlikely to be an increased impact.	Moderate – **Significant**

11.5.7.5 Road User and Pedestrian Safety

Accident data for the road links within the Study Area has been summarised in Table 11.6. The data indicates that a total of five slight, eight serious and one fatal accident have been recorded on the B9103, B9015, A941 and A95(T) in the Study Area within the most recent five year period of available data for each road link.

An approximate calculation has been undertaken to quantify the level of accident risk that could be expected due to an increase in traffic associated with the Development. The likelihood of an accident occurring is commonly expressed in accidents per million vehicle-km. Accidents that are appraised in relation to transport are predominantly those in which personal injury is sustained by those involved (personal injury accidents (PIAs).

For the purpose of this calculation, it has been assumed that the length of road is 11.6 km for the B9103, 10.4 km for the B9015, 4.9 km for the A941 and 19.4 km for the A95(T) making a total of approximately 46.3 km, which can be generally classified as ‘rural typical single carriageway’ in accordance with the criteria set out within DMRB.

Accident rates from the DMRB for this standard of road are:

- Rural typical single carriageway: 0.381 Personal Injury Accidents (PIA) per million vehicle-km.

Assuming a two-way trip on the 46.3 km route for each of the 16,736 vehicles during the construction period (as set out in Table 11.8), a total distance of 1,549,754 km is obtained. Based on the rate above; this suggests 0.5905 accidents during the construction period associated with the additional traffic.

It is considered that the magnitude of this effect is negligible but receptor sensitivity to this effect is always considered as high. When combined, the effect can be classified as moderate/minor and **Not Significant**.

11.5.7.6 Hazardous and Large Loads

There are no hazardous loads associated with the Development.

IEMA guidelines state that, "*The movement of large (abnormal) loads is regulated by National Highways and will be subject to separate agreement with the relevant highway authorities and police*". The number and schedule of abnormal load trips associated with the Development is detailed in Table 11.8 and equates to approximately nine abnormal loads per week over months 12 to 16 of the construction programme. This impact is considered to be negligible and **Not Significant**.

11.6 CUMULATIVE EFFECTS

11.6.1 Cumulative Effects

Cumulative effects have been considered for other developments in the vicinity of the Development, excluding operational wind farms as the traffic impacts relate primarily to the construction phase. These developments either have planning consent but are yet to be constructed or are currently in planning and could utilise a common access route for general construction traffic.

The potential for cumulative effects has been assessed by reviewing data available from the Traffic and Transport Chapters within the respective EIARs for the relevant developments.

Whilst the wind farm developments identified may share a similar route for abnormal load vehicles, these deliveries will not be permitted to occur at the same time and as such there is no scope for a cumulative effect of abnormal load movements.

11.6.1.1 Rothes III Wind Farm

The consented Rothes III Wind Farm development is an extension of the existing Rothes I and II Wind Farms and is located approximately 4 km to the west of Rothes village and just over 2.5 km north of the village of Archiestown in Moray.

Consent for 28 turbines at Rothes III was gained in October 2022 following a joint public inquiry with Clash Gour Wind Farm (detailed below). An application was submitted in July 2024 for a Section 36C variation comprising an increase in the height of 3 no. turbines from 149.9 m to up to 200 m, with no proposed change to the consented layout.

The Traffic and Transport EIA Chapter outlines that the wind farm will take access from the A941 and the C13E (the latter being the access point for the existing Rothes I and II Wind Farms). Therefore, the Rothes III Site could share several access routes with the Development, such as the A95(T) and the A941.

The chapter concluded that during the peak month of construction, Rothes III would contribute a worst-case maximum of 121 additional total trips to the A941 and A95(T), 67 of which are HGV trips. If combined with the Development this would result in an increase of 15% in total traffic and 64% in HGV traffic.

However, it is unlikely that the local capacity for concrete and stone production could supply several developments at once, therefore traffic from these activities would naturally be staggered and scheduling through the use of CTMPs for both developments would aim to mitigate the effects as far as practicable.

As a result, it is concluded that cumulative effects with Rothes III Wind Farm will be Negligible and **Not Significant**.

11.6.1.2 Clash Gour Wind farm

Clash Gour is a 48 turbine Site, located 12 km south of Forres and 17 km southwest of Elgin, which gained planning consent in October 2022 following a joint public inquiry with Rothes III.

The Traffic and Transport EIA Chapter states that the Site will be accessed via the existing Berry Burn Wind Farm from the A940. Abnormal loads will be brought in from the port at Inverness and it is assumed that the majority of construction traffic and staff would also follow this route via the A96(T) and A940 (from Forres) to Site, therefore sharing the A96(T) section of access route from Inverness with the Development.

The Chapter concluded that during the peak month of construction, Clash Gour would contribute a worst case maximum of 430 additional total daily trips to the A96(T) west of Forres, 74 of which are HGV trips.

When combined with the Development, the increase in traffic on the A96(T) would result in an increase in total traffic of 5% and an increase in HGV traffic of 15%. Both of which are below the threshold for any further assessment in accordance with IEMA Guidelines.

Notwithstanding the above, programming through the CTMPs for both developments will ensure that the peak traffic generating months do not coincide. As a result, it is concluded that cumulative effects with Rothes III Wind Farm will be Negligible and **Not Significant.**

11.6.1.3 Hill of Towie II Wind Farm

The consented Hill of Towie II Wind Farm comprises a 16 turbine extension to the existing Hill of Towie Wind Farm near Drummuir in Moray. The application was consented in June 2017 following a public inquiry in 2015. After consultation with the Ministry of Defence, an application for a variation was submitted in August 2019 reducing the number of turbines from 16 to 10.

Located 2 km west of Drummuir and 4.5 km northeast of Dufftown, directly southwest of and adjacent to the operational Hill of Towie Windfarm, the Site would be accessed via the existing access to the northeast on the A95(T) between Mulben and Keith near Rosarie, approximately 14 km east of the A941 junction at Craigellachie.

The Transport Assessment submitted with the application considers the routes to Site as the A96 to the north and south of Keith and the A95 to the east and west of Keith. Any potential overlap with the Development would only be likely to occur on the A96 north of Keith.

The Transport Assessment indicates that during the peak month of construction, Hill of Towie II would contribute a worst case maximum of 70 additional total trips to the A95(T) (west of Keith) and A95(T) (north of Keith), 56 of which are HGV trips.

The A96(T) is a good standard trunk road with capacity to accommodate the temporary increase in HGV traffic associated with the development and therefore it is concluded that cumulative effects with Hill of Towie II Wind Farm will be Negligible and **Not Significant**.

11.6.1.4 Pauls Hill II Wind Farm

Pauls Hill II is located approximately 5 km west of Upper Knockando and 10 km southwest of Archiestown and is an extension to Paul's Hill Wind Farm, which comprises 28 turbines and became operational in 2006. Consent was granted in December 2020 for 6 out of the proposed 7 turbines following public inquiry.

A review of the available information for Pauls Hill II Wind Farm has identified that the proposed route for abnormal loads and construction traffic from the north would be from Inverness via the A9(T), A96(T) and A941 at Elgin, then the A95(T), B9138 at Marypark and B9102 to the Site entrance.

Construction traffic from the south would route to Site via the A9 and A95 and from the east would travel via the A95(T). There is therefore the possibility for overlap of construction traffic routes on the A96(T), A941 and A95(T).

The chapter concludes that during the peak month of construction, Pauls Hill II would contribute a worst case maximum of 31 additional daily total trips to the A95(T) and A941, 22 of which are HGV trips.

Even if construction of Pauls Hill II and the Development was to overlap, the peak months of construction would be scheduled not to coincide through the use of CTMPs, and the relatively small number of trips generated by Pauls Hill II would give rise to cumulative effects which would are considered to be Negligible and **Not Significant**.

11.6.1.5 Kellas Drum Wind Farm

An application has been submitted for Kellas Drum Wind Farm which proposes to comprise up to 8 turbines up to 185 m tip height on the Kellas Estate, approximately 10 km south west of Elgin.

A review of the available information for Kellas Drum Wind Farm has identified that the proposed route for abnormal loads vehicles is from Inverness Harbour to the Site via the A96(T), B9013, Inverlochty Road and B9010. General construction traffic is expected to route to the Site via the A96(T) from the east or west, or via the A95(T) and A941 from the south, therefore potentially sharing several construction traffic routes. The chapter indicates that during the peak month of construction (month 6) the development would contribute a worst case maximum of 113 extra daily HGV trips to the A96(T) east and west of Elgin and add 79 daily HGV trips to the A95(T) and A941. If combined with construction traffic for the Development, the impact on the A96(T) would still be negligible and the increase in HGV traffic on the A95(T) and A941 would increase from 33% to 67%.

Kellas Drum Wind Farm has a proposed year of construction of 2027 so it is likely that if consented, the development would begin construction before the Development, however if the two developments were to overlap, the peak months of construction would be scheduled not to coincide through the use of CTMPs and would naturally be staggered due to supply constraints of local quarries and other supplies.

11.6.1.6 Cairds Hill Wind Farm

A planning application has been submitted for Cairds Hill Wind Farm which comprises four turbines, three of which are up to 180 m to blade tip height and one up to 149.9 m blade tip height. The development is located north of the operational Edintore Wind Farm on land between the A96(T) and B9014 south of Keith.

Due to the location of the development the only potential overlap of access route with the Development is the A96(T), and the small size of the Cairds Hill development means there would be a negligible impact if the peak construction phase was to overlap with the Development.

11.6.1.7 Blackhills Wind Farm

Blackhills Wind Farm is currently at scoping stage and lies adjacent to and west of the Development and comprises up to 8 turbines, 200 m in height, associated infrastructure and BESS with 20 MW capacity. Information from the scoping report indicates that abnormal loads deliveries will travel from the Port of Inverness to the Site via the A9 trunk road and A95 before travelling a northbound along the B9015 and B9013.

As the Blackhills development is still at scoping stage it is unlikely that the peak traffic generating months would coincide with the Development.

11.6.1.8 Aultmore Redesign

An application was submitted in February 2024 for a proposed wind farm development comprising up to 16 wind turbines of approximately 6.6 MW each and associated ancillary infrastructure, with a maximum blade tip height of up to 200 m, and Battery Energy Storage System (BESS) with a capacity up to approximately 50 MW. The development is located within Aultmore Forest, approximately 6 km north of Keith and 7 km south of Buckie and is accessed via the B9016.

The application would replace the consented Aultmore Wind Farm which was consented by Moray Council in 2014 as a 13-turbine 29 MW scheme. The redesign proposes a 16-turbine 105.6 MW scheme.

Due to the location of the development the only potential overlap of access route with the Development is the A96(T) which has sufficient capacity to accommodate temporary increases in HGV traffic associated with both the Aultmore Redesign and the Development, if the peak construction months were to overlap.

11.6.2 Cumulative Effects Summary

In summary, it is unlikely that the peak construction period associated with another wind farm development in the area will overlap with the peak construction period of the

Development as the applications are at different stages in the planning process and each development has varying lengths of construction period.

The high traffic generating activities, such as the importation of stone and concrete, only occur over a few months of the whole construction period for each development. It is unlikely that the local capacity for concrete and stone production could supply several developments at once, therefore, high traffic generating activities will naturally be staggered.

Furthermore, implementation of a CTMP (further details contained within 11.7 Mitigation Measures) for each development will ensure that there are open lines of communication with Moray Council, Police Scotland, Transport Scotland, other stakeholders and wind farm developers to monitor the progress of the construction stages.

This process will flag whether construction HGV traffic is reaching unacceptable levels and will ensure that action is taken accordingly to minimise effects.

11.6.3 Interaction of Effects

In addition to the effects assessed in full within this chapter (i.e. severance, driver delay etc.), other potential effects (e.g., noise) on environmental receptors are considered, where appropriate (i.e., where there are likely significant effects) in other technical chapters in this EIAR.

11.7 MITIGATION MEASURES

The assessment predicts that, prior to mitigation measures, the effects of road vehicle driver and passenger delay, non-motorised user delay and amenity, road user and pedestrian safety, and fear and intimidation as a result of increased levels of HGVs associated with the Development would be **Significant** along road links within the Study Area. Therefore, in accordance with the EIA Regulations mitigation is required to address these potential effects. It is therefore proposed to prepare and implement a comprehensive CTMP which is intended to mitigate the identified effects by ensuring that they are minimised within the Study Area to a level which is considered to be not significant.

The CTMP will identify measures to reduce the number of construction vehicles as well as identifying measures to mitigate the impact of vehicles. The CTMP will identify the programme of works, the agreed routes to Site and details of a Site Liaison who would have responsibilities for managing traffic and transport impacts and effects. The CTMP will also identify measures to reduce and manage construction staff travel by private car, particularly single occupancy trips. The CTMP would include the following measures as a minimum:

- The CTMP and compliance monitoring therein will be included within all trade contractor tender enquiries to ensure early understanding and acceptance/compliance with the rules that would be enforced on this project;
- Immediately upon commencement, all deliveries, operatives, and visitors to the Site will report to the security gate. This will be communicated to all early works contractors at their pre-start meeting;
- The main contractor will develop a logistics plan highlighting the access point for the project, loading bay, pedestrian / vehicular segregation, welfare, storage, security, and material handling that would be enforced following full Site establishment;
- Approved haul routes will be identified to the Site and protocols put in place to ensure that HGVs adhere to these routes and do not pass through areas to be avoided. It is noted that Moray Council have highlighted some routes to Site that may be attractive as access from certain quarry locations but they do not want these routes to be used. The CTMP would be used as the mechanism to identify the routes that are designated construction access routes and also the routes that are not to be used;
- All contractors will be provided with a Site induction pack containing information on delivery routes and any restrictions on routes;
- Temporary construction Site signage would be erected along the identified construction traffic routes to warn people of construction activities and associated construction vehicles;
- A construction traffic speed limit (for example, 20 mph) may be implemented where considered appropriate;

- The construction material 'lay down' areas will allow for a staggered delivery schedule throughout the day, avoiding peak and unsociable hours (i.e. before 06:00 and after 22:00);
- An integral part of the progress meetings held with all trade contractors is the delivery schedule pro-forma. All contractors will be required to give details of proposed timing of material deliveries to the Site. At this stage they would be given a specific area for delivery;
- Under no circumstances will HGVs be allowed to lay-up in surrounding roads. All personnel in the team will be in contact with each other and with Site management, who in turn will have mobile and telephone contact with the subcontractors;
- Roads will be maintained in a clean and safe condition; and
- A wheel washing facility would be installed on-site during the construction period in order to reduce mud and debris being deposited onto the local road network.

The CTMP will ensure that there is signage along the construction routes to make residents aware of the additional HGV traffic and to provide the opportunity to plan ahead with regard to abnormal load movements. The CTMP will ensure that construction HGVs do not travel during peak periods or at the start/end of the school day and that they adhere to a lowered speed limit. Each of these measures will contribute to minimising the level of effect experienced by residents and road users within the Study Area.

11.8 RESIDUAL EFFECTS

The assessment has been carried out considering the peak in construction traffic and any high percentage increase in HGV traffic is reflective of the low baseline HGV volumes on the roads within the Study Area. Furthermore, it is important to recognise that all effects associated with increased construction traffic will be temporary and local in nature, and that this assessment has considered the worst-case possible impact at each location.

The residual effects after implementation of the CTMP are therefore considered to be minor and **Not Significant**.

11.9 SUMMARY

This assessment has considered the effects on the local road network of HGV traffic associated with the construction phase of the Development.

The construction programme associated with the Development is anticipated to cover a 12 month period, during which 16,736 HGVs would access the Site equating to 296 daily total HGV trips (148 inbound plus 148 outbound) during the busiest construction month (month 5). The movement of abnormal loads is not anticipated to exceed 11 trips per week over the course of four months (months 7 to 10 therefore no overlap during the busiest construction month).

A robust assessment was undertaken based on a conservative approach for the total construction traffic movements and the worst-case scenario for each link. The impact of construction traffic could increase total traffic flows along the road links within the Study Area by the following:

- 42% on the B9103;
- 24% on the B9015;
- 10% on the A95(T); and
- 3% on the A96(T).

The percentage increase in HGVs associated with the worst-case month of the construction programme for the Development could increase HGV traffic levels by the following:

- 171% on the B9103;
- 73% on the B9015;
- 48% on the A95(T); and
- 22% on the A96(T).

As indicated above, it is considered that the identified impacts and effects of the Development represent a conservative approach assuming that concrete is brought to Site ready-mixed, although it is proposed to use an on-site concrete batching plant in the construction compound. Furthermore, these increased traffic levels are temporary in nature

and are likely to be lower during the other 11 months of construction, with a significant decrease in construction traffic from month 6 to completion.

With the implementation of the CTMP, all potential construction-phase effects are assessed as being not significant.

Operational phase effects were scoped out of the assessment, as operational phase traffic generation from a wind farm is very low and does not have the potential to lead to significant effects.

Decommissioning phase traffic effects are likely to be less than those in the construction phase, as a result of tracks being left in situ, however as a worst-case approach, effects during decommissioning have been assumed to be the same as those during construction and are assumed to be managed in a similar way and hence would not be significant.

11.10 STATEMENT OF SIGNIFICANCE

This Chapter has assessed the likely significance of effects of the Development on traffic and transport. The Development has been assessed as having the potential to result in effects that are assessed as bring not significant.