1. APPENDIX 15.1 TRANSPORT STATEMENT

2. INTRODUCTION

Background

Viking Energy Partnership is making an application under Section 36 of the Electricity Act for a windfarm located on the central Shetland mainland. The principal traffic elements associated with the construction of the windfarm are delivery of turbine components and materials for mixing concrete used in turbine foundations. There would be a requirement for stone to construct site tracks, but the intention is to source this from borrow pits located at the site, to minimise road transport.

The purpose of this transport statement is to provide information about the proposed transport arrangements.

2.1.1 Limitations

The main limitation of this report arises because, in line with standard procurement practice, a contractor and supply-chain for materials will not be selected until later in the process.

In due course, the construction of the windfarm would be put out to tender. There are three key elements:

- supply and erection of wind turbines
- civil works
- electrical works

Contracts may be let on a multi-contract basis (i.e. separate contracts let for each element), or on a turn key basis, in which a single contract is let for the construction of the windfarm, and the main turn key contractor then lets sub-contracts for the other elements.

Several manufacturers supply turbines which may be suitable for the Viking Wind Farm. Whilst each manufacturer has a turbine of generally similar characteristics, turbines will vary in detail, and each supplier will favour a different transport solution, the detail of which would be finalised upon award of a contract. No decision has yet been made as to the final supplier.

Consequently, the information presented in the Transport Statement should be considered as indicative only in terms of turbine data (although the largest turbines have been assumed), and the proposed routes, vehicles and other arrangements are presented as examples.

In preparing this Transport Statement, consideration has been restricted to how construction related vehicles would reach the Viking Energy site from the nearest point on the Trunk or Strategic road network, and how turbine equipment would reach the site from the proposed port of entry.

2.1.2 SCOPE

The report is restricted to construction traffic, specifically construction plant, turbine equipment and materials. It does not consider operational traffic (which will be minimal), or the transport of construction workers.

2.1.3 REPORT STRUCTURE

Section 2 identifies:

- probable construction plant requirements
- probable concrete / aggregate requirements
- probable turbine components and their quantities, weights and dimensions
- probable balance of construction requirements
- for each of the above, probable vehicle requirements, quantities, weights and dimensions

Section 3 identifies the proposed routes to the site.

Section 4 identifies the proposed road improvements likely to be necessary to accommodate abnormal loads.

Section 5 identifies proposed traffic management measures, including Police supervision, and community liaison.

Section 6 identifies proposed arrangements to address potential abnormal wear and tear of public roads.

Section 7 provides a summary of this Transport Statement.

3. TRAFFIC MOVEMENTS

3.1.1 PLANT AND EQUIPMENT

Table 15.1.1 identifies an indicative construction plant inventory, and indicates the likely vehicle characteristics for transporting this to the site.

Table 15.1.1: Indicative Construction Plant Inventory

Item	No. Loads	Mode of transport	Load length (m)	Overall length (m)	Overall Width (m)	Overall Height (m)	Load weight (te)	Overall weight (te)	No. axles	Max Axle weight (te)	Vehicle track width (m)
Site offices	20	Artic (1)	8	17	2.4	3.4				< 12	2.5
360º excavators	14	LL (2)	4	17	2.4, 3	3.5	25, 40	50, 65	6	< 12	2.5
Dumpers	10	LL	8	17	2.8	3.5	18	43	6	< 12	2.5
Crusher	2	Mobile (3)	13	17	2.4	4	35	42	6	< 12	2.5
JCB	2	LL	4	17	2.4	3.5	7	32	6	< 12	2.5
Bowsers	2	LL	8	17	2.4	3.5	18	43	6	< 12	2.5
Concrete batcher	8	Mobile	13	17	2.4	4	4, 12, 18	11, 19, 25	6	< 12	2.5
Mobile shovels + rollers	4	LL	7	17	2.5	3.5	12	37	6	< 12	2.5
800 te crane	2	Mobile	-	17.85	3	4	-	96	8	12	3
Ballast truck	2	Articulated	17	20	2.9	4		96	8	12	2.5
250 te crane	2	Mobile	-	17.4	3	4	-	72	6	12	3
Ballast truck	2	Articulated	17	20	2.9	4		96	8	12	2.5
Total Loads	**70**										

1 - Standard articulated tractor/trailer

2 - Low loader

3 - The plant is wheeled and can be towed

3.1.2 CONCRETE

The concrete works on this site will be carried out by installing batching plants on-site and aggregate and cement will be delivered in tippers and tankers. Aggregates can be delivered over a longer period than ready mixed concrete, and in larger weight quantities per vehicle load.

The estimated concrete requirement is as Table 15.1.2

Table 15.1.2: Concrete Requirements

Activity/Purpose	**Quantity**	
Number of turbine foundations	150	
Foundation width (square)	22m	
Foundation depth	1.02m average	
Foundation volume	494m^3	
Total foundation volume	74,052m^3	
Other concrete (substation, anemometer foundations, buildings)	200m^3	
Total concrete	**74,252m^3**	
Aggregate Requirement	59,241 te	0.8te/m^3 concrete
Sand Requirement	59,241 te	0.8te/m^3 concrete
Cement Requirement	29,620 te	0.4te/m^3 concrete
Aggregate Lorry Capacity	17.5 te	Assumed half 15.0 te and half 20.0 te
Sand Lorry Capacity	17.5 te	Assumed half 15.0 te and half 20.0 te
Cement Tanker Capacity	29 .0 te	
Number of Aggregate Lorries	3,386	
Number of Sand Lorries	3,386	
Number of Cement Lorries	1,021	
Total Number of Lorries	**7,793 vehicles**	

Table 15.1.3 shows a breakdown of the numbers of vehicles required to transport this quantity of concrete aggregates onto site. These standard road-going vehicles will all be operated under Construction and Use Regulations.

Table 15.1.3: Indicative Concrete Transport Requirements

Item	Number	Mode of transport	Load weight (te)	Overall weight (te)	No. axles	Max Axle weight (te)	Vehicle track width (m)
Aggregate	3,386	Tipper	15, 20	25, 30	3, 4	<12	2.4
Cement	1,021	Artic tanker	29	40	6	<12	2.4
Sand	3,386	Tipper	15, 20	25, 30	3, 4	<12	2.4
Total	**7,793**						

3.1.3 CABLING SAND

Electrical cables will be laid in trenches and, according to local site conditions, bedded either in sand brought onto the site, or in locally derived materials. The bedding sand has two purposes: firstly, to protect the cables from damage by stones, boulders, and other backfilled material; secondly to ensure adequate heat transfer away from the cable. Sand is required at approximately 0.375 te per linear metre of cable trench. Assuming a worst case of all cables being laid in imported sand, approximately 44,250te of sand are required for the 118km of cable trench as shown in Table 15.1.4

Table 15.1.4: Cabling Sand Requirement

Inter-Turbine trench length (m)	Control room to public road trench length (m)	Weight of sand required per linear metre of trench (te))	Total weight of sand required (te)	Number of Tipper Loads @ 17.5te per load
118,000	0	0.375	44,250	**2,529**

3.1.4 BALANCE OF DELIVERIES

In addition to the transport requirements of the Construction Plant and Equipment, Concrete Aggregates and Cabling Sand, there are further items which will require transporting to the site during the construction phase. These are detailed in Table 15.1.5.

Table 15.1.5: Balance of Deliveries

Item	Number	Vehicle Type	Number of Loads
Cabling	490 cable drums	Regular artic/rigid truck	54
Control Room Equipment	-	Regular artic/rigid truck	5
Reinforcing Steel	-	Regular artic truck	36
Plant Fuel	1 tanker per 10 days	Regular rigid truck	26
Balance of Substation Plant	-	Regular artic/rigid truck	10
Other: culvert pipes, box culverts, geotextile membrane and transformers	-	Regular artic truck	24
Total Loads			**155**

3.1.5 CONSTRUCTION TRAFFIC MOVEMENTS SUMMARY

Table 15.1.6 sets out the estimated characteristics of the traffic movements of construction traffic.

Table 15.1.6: Estimated Traffic Deliveries

Movement	Total number	Delivery days	Average per day
Construction plant (in)	70	7	10
Construction plant (out)	70	7	10
Concrete - Aggregate	3,386	832	4
Concrete - Cement	1,021	832	2
Concrete - Sand	3,386	832	4
Cabling Sand	2,526	832	3
Balance of Deliveries	155	832	1
Total Vehicles	10,544	832	14 (1)

(1) Average per day does not include delivery of Construction Plant, the movements of which will be predominantly in the first and last weeks of the Construction Phase.

The tables presented above contain details of how the various plant and materials will arrive on-site during the Construction Phase. For the effort required to construct 150 turbines on Shetland the construction programme is five years. Work to proceed from late spring to early autumn for five years. Civils work is programmed to be in years 1 to 4; turbine installation in years 3 to 5. The average number of delivery days per annum is assumed at 208 or 34 weeks. This equates to 624 delivery days over the civils programme

Not all materials require to be delivered on-site at the same time, therefore a phased programme of delivery and removal will be planned. An example of a phased delivery programme, based on the actual quantities and loads required for the Viking development

is shown in Table 15.1.7. Note this programme is indicative of a typical year within the five year construction programme and takes a conservative approach assuming 37 turbines will be constructed per annum.

In addition to Construction Traffic, staff will arrive in non-HGV vehicles. The workforce on-site will depend on the activities being undertaken but an average of 200 workers will be present on an average day. It has been assumed that an average of 100 vehicles will arrive, and 100 will depart each day carrying construction staff.

Table 15.1.7: Construction Programme & Transport Phasing for a typical year (37 Turbines Assumed)

Month	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Total**
Tracks									
Foundations									
Cabling									
Control building									
Turbine erection									
Construction plant	24	9	4	4	6	5	12	18	82
Concrete Materials		196	195	196	195	196			978
Cabling sand			70	69	69	69	70		347
Other	11	13	13	16	16	16	14	14	112
Totals	**35**	**226**	**281**	**285**	**286**	**286**	**96**	**32**	**1535**
Working Days	26	26	26	26	26	26	26	26	208
Daily average	1	9	11	11	11	11	4	1	7

(1) The majority of Construction Plant will arrive in the first 10 days of Month 1, and be removed in the last 10 days of Month 6, skewing the Daily Average during these months.

3.1.6 TURBINE COMPONENTS

Information regarding the movement of turbine equipment and components has been provided by Scottish & Southern Energy plc based on previous windfarm developments.

The turbine and tower to be used for the Viking Wind Farm have not yet been selected. For the purposes of this report, nominal likely maximum values are used. The components are identified in Table 15.1.8.

Table 15.1.8: Turbine Components

Component	Number per turbine	Length (m)	Height (m)	Width (m)	Weight (te)	Notes
Foundation ring	1	5.0	5	5	5	
1st tower section	1	25	5	5	50	
2nd tower section	1	30	4.5	4.5	52	
3rd tower section	1	35	3.5	3.5	42	
Nacelle	1	10.5	3.7	3.4	97	Including transport frame
Blade	3	45	5	3	10 te each	
Hub	1	4	4	4	23	

Table 15.1.9 indicates the likely vehicle characteristics for transporting each component.

Table 15.1.9: Indicative Component Transport Requirement

Item	Number	Mode of transport	Rigid length (m)	Overall length (m)	Overall Width (m)	Overall Height (m)	Load weight (te)	Overall weight (te)	No. axles	Max Axle weight (te)	Vehicle track width (m)
Foundation ring	150 (2 per load)	Flat bed	13.6	16.5	5	5	10	44	6	10	2.5
1st tower section	150	Extendable stepframe	26.8	36.2	5	5	50	76	7	13	2.5
2nd tower section	150	Extendable stepframe	32.3	35	4.5	4.8	52	86	7	13	2.5
3rd tower section	150	Extendable stepframe	37.2	40	3.5	4.8	42	62	7	12	2.5
Nacelle	150	Hydraulic platform *or* hydraulic low loader	15 or 26	19.6 or 30.6	3.4	4.9 or 4.5	97	130	11 or 10	14.1	3
Blade	450 (2 per load)	Extendable flat bed	45	50	3	5	20	65	6	13	2.5
Hub	150	Flat bed	13.6	16.5	3.4	4.5	23	38	6	8	2.5
Grid Transformer	4	Hydraulic platform *or* hydraulic low loader	15 or 24	19.6 or 28.6	4	5.2 or 4.8	77	107	11 or 10	14.1	3

3.1.7 SUBSTATION TRANSFORMER

The 33/132kV transformer is a large plant item, of which two will be installed, with characteristics identified in Table 15.1.10. Table 15.1.9 above illustrates the likely transportation details.

The substation would also require other loads, allowed for within Section 2 above.

Table 15.1.10: Grid Transformer

Component	Number	Length (m)	Height (m)	Width (m)	Weight (te)	Notes
Transformer	4	9.4	4.9	3.5	240	Stripped for transport

4. ROUTING

4.1.1 INTRODUCTION

This section identifies the routing options considered, and explains how the likely preferred route has been identified. (Section 4 identifies the main modifications likely to be necessary to allow passage of the larger construction related loads which will use the same route agreed for the passage of the turbine and blade equipment.)

To put this in context, the likely points of origin of the components and materials, and the principles informing route selection are outlined.

4.2 POINTS OF ORIGIN

4.2.1 Construction Plant

A civil contractor has not been appointed, so the origin of civil plant and craneage is unknown at this stage. However, it can be assumed that there will be reasonable access to a trunk road from the point of origin (the equipment being moved around from contract to contract), and that access can be gained to the A970 or A968 which form the Spine Road on Shetland

4.2.2 Concrete / Aggregates and Cement

The design specification for this proposed windfarm site will be to use a concrete batching plant on site and haul aggregates and cement to the site. The contractor will be responsible for sourcing these materials. It is likely to be most economical to use local suppliers. Concrete materials will be stockpiled adjacent to the batching plants, which are likely to be located at the satellite site compounds.

Aggregate for track construction purposes will be provided by using on-site borrow pits. Should additional aggregates be required, they will be sourced from local, as yet unidentified quarries.

4.2.3 Turbine Components

A Heavy Haulage Access Report has been undertaken to identify a suitable port of arrival and routings to site access junctions; This is described below.

4.3 ROUTING CONSIDERATIONS

The following factors will influence the choice of route:

- travel time, effected by
    - distance
    - speed
    - congestion
- minimising loading / unloading points
- physical constraints including
    - road width
    - corners, bends, junctions
    - height restrictions
    - buildings and structures
    - street furniture
    - gradients
- structural strength of bridges and culverts
- advice of highways authority and police
-

The key issue, in particular for the long loads, is the feasibility of overcoming physical constraints.

4.4 ROUTE OPTIONS

4.4.1 Introduction

This section will describe the route which will require to be approved for the delivery of turbine equipment from the port of arrival at Sella Ness/Sullom Voe to the various Site Access Points.

Using the northern port option, it can be possible to use only five of the designated Site Access Points for turbine equipment (Site Access Points 1, 3, 4, 6 and 8). This concentrates traffic to the spine road and minimises unnecessary mileage.

Vehicles departing Sella Ness use the port access road, which is flat, but features a left hand bend where lighting columns will require to be relocated to accommodate the turning requirements of blade carrying trailers. A cattle grid is crossed on the port boundary, which can be covered by steel plate. The access road joins the B9076 at a wide priority junction with good visibility, although the geometry would require to be altered slightly to allow Abnormal Indivisible Loads to turn left or right onto the B9076

Vehicles departing Sullom Voe negotiate a sweeping right hand bend on an upward incline, and travel along an unclassified access road without undue horizontal or vertical alignment issues, which also serves Sullom Voe Oil Terminal. The road joins the B9076 approximately 1.75km to the east of the jetty at a wide priority junction.

4.4.2 To Access Point 1 - Delting Quadrant (B9076)

Construction traffic will exit Sella Ness port by a priority junction, turning left to the B9076. They travel approximately 1km south west to the new Site Access Point 1, a priority junction to the left.

Construction traffic from Sullom Voe Construction Jetty to the B9076 will make a right turn and travel approximately 2.5km south west to the new access junction.

4.4.3 To Access Point 3 - Collafirth Quadrant (A968)

Construction traffic will exit Sella Ness port turning left to the B9076 and move northwards. They are joined at the Sullom Voe access road by nacelle loads. The route continues east on the B9076 to the junction with the A968 at Mossbank, joining the A-class road at a right hand priority junction. The route climbs around the Hill of Swinster, turning south. The route remains on the A968 until the side arm junction leading to Collafirth. The junction on the main road is a simple priority junction with good geometry and visibility. Loads turn left here and progress along an unclassified road for approximately 400m before reaching the proposed Site Access Point 3 with a right hand turn. The unclassified road is approximately 5m in width, narrowing to 3m single track with passing places after approximately 250m. .

4.4.4 To Access Point 4 - Nesting Quadrant (Northern Section) or Kergord Quadrant (central section) (A970)

As above for Access Point 3, but continues past the Collafirth junction, south to the village of Voe. Here the loads make a left turn to the A970 and progress south to Hamarigrind Scord. Loads would turn left and right at Access Point 4, depending on the final location.

4.4.5 To Access Point 6 - Kergord Quadrant (B9075)

As above to Access Point 4, but route continues south past Petta Dale to the junction with the B9075. Here loads turn right, onto what is currently single track road with passing places. The proposal is to construct a new access track from the B9075, starting

immediately west of the junction with the Upper Kergord lane and continuing northwards parallel to the lane for the first few hundred metres and then deviating further west.

4.4.6 To Access Point 8 - Nesting Quadrant (Southern section) (A970)

As above to Access Point 6, but passing the side arm to the B9075 (westbound) and continuing south for a further 1km. Here loads will turn left at a new access junction.

4.4.7 Other Routes - Spine Road – Lerwick to Sullom Voe (A970 – A968 – B9076)

This route forms the spine from which any of the potential development quadrants will be reached. It runs from Lerwick to the oil terminal and port facility at Sullom Voe. Outwith Lerwick the road is generally two carriageway and 7.3m wide with side markings and hard edge strips. The road passes various junctions but there is no direct frontage activity on this section until the settlement of Voe. The A968 turns right from the A970 within Voe, a small community with residential and community frontages and a 30mph speed limit.

The A968 continues as 7.3m carriageway, with edge markings and hard edges and good alignment narrowing to 7m, with some tighter bends with chevron markings. The A968 joins the B9076 to Sullom Voe at a simple priority junction. The B9076 continuing westward as 7.3m carriageway with edge markings. At Quoys of Garth the B9076 turns southwest towards Scatsta Airport and the access road into Sullom Voe Oil Terminal continues westward for a further 1.5km to the main access gates.

4.4.8 Other Routes – Dales Voe/Greenhead Base to Spine Road

Vehicles departing Dales Voe Base use a 7.5m A-class specification road which climbs gently from the base. There is one short stretch of carriageway which features a tighter bend and a sharp summit. The road then continues south to join the access road to the Greenhead Base. At this junction traffic to and from the Greenhead Base have priority, although the geometry of the junction suggests that the Greenhead access is the 'side arm' of the junction. The road then passes through the Gremista industrial estate, progressing onwards to join the A970 at the northern outskirts of Lerwick.

5. ROUTE IMPROVEMENTS

5.1 INTRODUCTION

This section considers any areas or locations where improvements to the existing roads network or infrastructure will be required to allow the safe passage of the vehicles involved in the construction phase of Viking Windfarm. This is based upon the Baseline Review of the roads network, and consideration of the type and number of vehicles involved during the construction period.

5.2 SPECIFIC IMPROVEMENTS REQUIRED FOR ALL TRAFFIC

5.2.1 New Accesses

It is considered that the five new accesses will be necessary. These are likely to be in the form of widened priority junctions sufficiently wide enough to handle the abnormal loads as well as general construction traffic. The new accesses required are:

- Access Point 1 (Delting Quadrant);

A new site access junction is required approximately 1km south of the Sella Ness access road at Houb of Skatska on the B9076. The carriageway is approximately 7.3m wide, with good visibility. The new access junction will be to the east of the existing carriageway, and requires construction to permit the left turning into the site of turbine equipment.

- Access Point 3 (Collafirth Quadrant);

The A968 spine road is approximately 7.3m in width with an additional narrow hard edge on either side. Although there are warnings for a 'hidden dip' visibility is good. The speed limit here is 60mph. The side arm is approximately 4.0m in width, with soft edges. A new access junction will be required to allow vehicles to turn left to the side arm.

- Access Point 4 (Nesting North Quadrant);

This access will be located on the A970 at Hamarigrind Scord, approximately 3.25km south of the village of Voe, where the national speed limit of 60mph applies. SIC have indicated that this must be a staggered junction layout. The requirement therefore will be for a right turn provision to access the south west quadrant, followed by a left turn to access the south east quadrant (when considered travelling from the north). This arrangement prevents unnecessary queuing of traffic on the main arms.

SIC have also indicated that the existing carriageway is constructed on a peat bed, and therefore careful consideration will be required when determining an engineering solution at this junction.

- Access Point 6 (Kergord Quadrant);

A new access junction at the unclassified turn-off to Upper Kergord is required.

- Access Point 8 (Nesting South Quadrant);

Site Access Junction 8 will be located between the B9075 (Weisdale) and B9075 (South Nestings), and will be a left turn for turbine components.

5.2.2 Existing Junction Modifications

In order for turbine equipment to be transported from the port(s) of arrival at Sella Ness/Sullom Voe Construction Jetty, the following specific improvements to existing junctions will be required.

- Sella Ness Access Junction

This is an open T-junction to a 7.3m B-class spine road. There is good visibility to north and south. There is available width, particularly on the southern side of the existing junction, to realign the minor arm to a more central position, to allow long loads to exit.

- A968/B9076 Junction south of Mossbank

Approaching from the west on the B9076 this junction requires widening on the right hand side to allow loads to negotiate this junction. A watercourse requires to be contained in a culvert will require a structural assessment.

- A968/A970 Junction at Voe

The side arm of this junction lies within the 30mph speed limited area of Voe village. Attention will have to be given to existing street furniture within the village. The junction itself is the junction of two links of the spine road network, but will require realignment on the southern side of the minor arm (A968) to allow vehicles to successfully turn left. The area required is currently landscaped.

The main arms of this junction are within a 50mph speed limit, and consideration should be given to extending the existing 30mph limit on the side arm onto the main road approach arms.

5.2.3 Street Furniture

It may be necessary temporarily to remove or relocate street signs, street lights, and utility poles and services. The relevant areas would be identified by more detailed studies, and utilities consulted.

5.2.4 Localised Widening

Localised widening will be necessary on two sections of the route accesses.

On the side road to **Access Point 3** upgrading of the road will be required to allow the passage of heavy loads eastward to the final access point to site tracks, a length of approximately 300m

The length of the road from the A970 to the new site **Access Point 6** (approximately 1.9km) requires to be upgraded to allow the passage of turbine components. A number of minor watercourses pass beneath the existing carriageway, and these will require culverts in the new construction.

6. TRAFFIC MANAGEMENT

6.1 INTRODUCTION

This section proposes traffic management measures to ensure the efficient transport of components and materials to the site, whilst minimising disruption to other road users and ensuring the safety of contractor personnel and the public.

It considers legal requirements, practical measures, and methods to communicate the finally agreed plan in practice.

6.2 LEGAL CONTEXT

Out of gauge loads (on account of their abnormal length, width, height or weight) require notification to the Scottish Executive under *The Special Type General Order 1979* (STGO). Under this procedure, the Scottish Executive will define an approved route, and notify the Police. Although there are no current prohibitions when considering the Preferred Routes identified in Section 3. It is likely that the following loads will require notification:

- Tower sections;
- nacelles;
- hubs;
- blades;
- cranes;
- crane ballast and rigging trucks; and
- transformers.

6.3 PRACTICAL MEASURES

6.3.1 Management Co-ordination

It is proposed that, in addition to pre-application consultation, a management co-ordination group is established to facilitate communication and co-ordination by the relevant authorities regarding the abnormal loads. This group may include:

- Shetland Islands Council
- Northern Constabulary
- Haulage Contractor

6.3.2 Police Escort

It is likely that the Police would escort all abnormal loads from the docks to the site, with the possible exception of hubs. Generally, the preference would be to have a convoy of several vehicles, in order to minimise disruption to other road users. The escorting vehicles (possibly motorcycles) would warn oncoming vehicles of the approaching loads, pulling the vehicles in where necessary. The escort would also pull the convoy over to allow any build-up of following traffic to pass, at preidentified suitable locations.

6.3.3 Timing

It is likely that escorted loads would travel during daylight hours, for safety reasons.

Other traffic would, in general, coincide with site working hours, generally 7am to 6pm, although it may occasionally be necessary to extend beyond this.

6.3.4 Road Closures

It is considered that formal Road Closures will not be required for the movement of the turbine equipment. By careful signage and communication, local residents can be prewarned of these closures, and make alternative arrangements. It may be possible to close the road in sections, thus allowing continued access via alternative routes.

Additionally it may be possible to manage oncoming traffic by means of Police outriders without closing roads, by using a 'rolling closure' approach.

6.3.5 Driver Induction

The drivers' induction will include

- a safety briefing
- the need for appropriate care and speed control
- identification of specific sensitive areas
- identification of the specified route
- the requirement not to deviate from the specified route

Safety is of prime importance to Scottish and Southern Energy; drivers breaching safety rules will be removed from the job.

6.3.6 Signage

Where appropriate, additional warning and speed control signs can be installed, temporarily or otherwise, with the agreement of the highways authority.

6.4 COMMUNICATION

It is proposed that a construction liaison committee be established to ensure the smooth management of the project / public interface. Traffic management is likely to be an issue considered by the liaison committee. It is proposed that representatives of Scottish and Southern Energy, the construction contractors, the local community, and, if appropriate, the Police form the committee. This committee will form a means of communicating, updating on forthcoming activities and dealing with any issues arising.

In addition, road closures will require notices. There will be an opportunity for interested parties to identify themselves, and be updated of plans by means of email communication, post or telephone. In addition, the Police may be able to arrange notice of abnormal loads on local radio.

7. MAINTENANCE

The detail of any Maintenance Agreement would be agreed subsequent to planning permission, but the requirement to enter into such an agreement may form a suspensive planning condition.

8. SUMMARY

8.1 OVERVIEW

This Transport Statement provides a clear statement of how Construction Plant, Equipment and Materials and Turbine Components will be delivered to the proposed Viking Windfarm. It has considered the various route options to reach the site and examined the construction methodology to be adopted to derive generated traffic flows and used unit/load dimensions provided by S&SE from previous commissions for turbine equipment.

8.2 PREFERRED ROUTES

The preferred routes to all four development areas will be taken from local access roads adjoining the A970/A968 Spine Road. Sella Ness/Sullom Voe is the closest port in terms of the number of vehicle loads required to construct the 150 turbines across the four quadrants, using 5 Site Access locations.

8.3 NUMBER OF VEHICLES (CONSTRUCTION TRAFFIC)

The average number of construction vehicle trips per day to the site is likely to vary from 11 to 20 vehicles. There may be short term peaks during the early weeks during mobilisation and during the more intensive periods of construction.

8.4 NUMBER OF VEHICLES (TURBINE COMPONENTS)

The number of vehicle movements involved in transporting turbine equipment for 150 turbine installations is expected to be 2108 trips (1054 loads in, returning unladen – excluding escort vehicles or vehicles associated with the temporary removal of street furniture which might accompany the loads). These loads are expected to originate at Sella Ness/Sullom Voe quayside. The impact of these movements can be reduced by transporting several loads at the same time in convoy operation; however a delivery profile has not yet been established for these movements.

8.5 MITIGATION AND MAINTENANCE

Mitigation measures to help minimise the impact of Construction Traffic have been proposed, and it is considered likely that if Shetland Islands Council require roads condition surveys as part of a Section 96 Agreement, this will be negotiated as a planning condition.