



GW 2.5MW, Guanting Olympic Wind Farm

## EXCELSIOR WIND ENERGY FACILITY

### TRAFFIC MANAGEMENT PLAN

	Reviewed By	Approved By	Approved By
Name			
Designation			
Signature			
Date			

## Contents

<b>1</b>	<b>Purpose</b> .....	<b>1</b>
<b>2</b>	<b>Scope</b> .....	<b>1</b>
<b>3</b>	<b>Application</b> .....	<b>1</b>
<b>4</b>	<b>Definitions, Acronyms and Abbreviations</b> .....	<b>1</b>
4.1	Company Vehicles and Mobile Construction Equipment .....	1
4.2	Vehicle Coordinator .....	1
4.3	Operator.....	1
4.4	Remote Site .....	2
4.5	Pre-Start Checklist.....	2
4.6	Maintenance Schedule.....	2
<b>5</b>	<b>General</b> .....	<b>2</b>
<b>6</b>	<b>Identified Hazards</b> .....	<b>2</b>
<b>7</b>	<b>General Public Interface</b> .....	<b>2</b>
<b>8</b>	<b>Maintenance Crews on Roads</b> .....	<b>3</b>
<b>9</b>	<b>Flagging</b> .....	<b>3</b>
9.1	Flagging Traffic.....	3
9.2	Hand Signalling Devices.....	3
9.3	Flagman.....	3
9.4	Training.....	3
9.5	Flagging Traffic.....	4
9.6	Flagging Procedures.....	4
<b>10</b>	<b>Restricted Areas and Escort Vehicles</b> .....	<b>4</b>
10.1	Restricted Areas.....	4
10.2	Escort Vehicles.....	4
<b>11</b>	<b>Vehicle Speed</b> .....	<b>5</b>
<b>12</b>	<b>Excavations</b> .....	<b>5</b>
<b>13</b>	<b>Light Vehicle Driver Training</b> .....	<b>5</b>
13.1	Vehicle Safety Standards .....	5
<b>14</b>	<b>Defective Light Vehicles and Mobile Equipment</b> .....	<b>5</b>
14.1	No Go Conditions.....	6
<b>15</b>	<b>Signage</b> .....	<b>6</b>
<b>16</b>	<b>Records</b> .....	<b>6</b>
<b>17</b>	<b>Work Instruction Maintenance</b> .....	<b>6</b>
<b>18</b>	<b>Attachments</b> .....	<b>6</b>
<b>19</b>	<b>Document Revisions</b> .....	<b>7</b>

## **1 Purpose**

This plan describes the management and safe operation of public vehicles and mobile construction equipment during road construction.

## **2 Scope**

This plan addresses:

- General public and traffic interface
- Maintenance crews on roads;
- Vehicle interaction and speed;
- Company vehicle operator training;
- Road conditions;
- Communications;
- Traffic control;
- Road demarcation and signage;
- Restricted areas and escort vehicles;
- Operational machinery;
- Blind crests and corners;
- Excavations;
- Vehicle safety standards;
- Journey management;
- Road rules;
- Blasting near road ways
- Equipment and vehicle inspections;
- Defective light vehicles and mobile plant; and
- Search and rescue and emergency access.

## **3 Application**

It applies to the control of public as well as company vehicles (cars, utilities, sedans, etc.) and mobile plant and personnel who use them on the project land, road, infrastructure or facility.

## **4 Definitions, Acronyms and Abbreviations**

### **4.1 Company Vehicles and Mobile Construction Equipment**

A vehicle and/or mobile equipment leased or rented by the Construction Cluster.

### **4.2 Vehicle Coordinator**

An employee trained in this procedure who the operation shall contact prior to travelling and report to upon arrival or report back to upon return from a remote site.

### **4.3 Operator**

The employee trained in this procedure authorized to operate a vehicle or mobile equipment.

The employee shall have completed an approved operator course and be assessed as being

competent by a suitably authorized person on Site.

#### **4.4 Remote Site**

Any unmanned Site (e.g. exploration or survey area) to which a person intends travelling.

#### **4.5 Pre-Start Checklist**

A form that requires all vehicle operators to inspect a vehicle prior to operation.

#### **4.6 Maintenance Schedule**

A pre-determined regular maintenance programme done by a competent qualified person to mobile construction equipment on Site.

### **5 General**

Any changes to the Traffic Management Plan will be communicated to all affected parties as soon as possible.

### **6 Identified Hazards**

Identified hazards to people working or travelling in, through or around the road construction areas or infrastructure road system include:

- General public and traffic interface;
- Maintenance crews on roads;
- Vehicle interaction and speed;
- Company vehicle operator training;
- Road conditions;
- Communications;
- Traffic Control;
- Road demarcation and signage;
- Restricted areas and escort vehicles;
- Operational machinery;
- Blind crests and corners;
- Excavations;
- Vehicle safety standards;
- Journey management;
- Road rules;
- Blasting near roadways;
- Equipment and vehicle inspections;
- Defective light vehicles and mobile plant; and
- Search and rescue and emergency access.

### **7 General Public Interface**

Due to interface with the general public, extra precautions are required to restrict access or control traffic in to or through the project area.

This will be achieved by the use of signage and/or demarcations and the issuing of public

information bulletins to notify the public that beyond a designated location is a project area and access is restricted to project personnel and contractors only.

Where appropriate, additional warning signs, revolving lights and/or personnel will be used to control traffic flow.

## **8 Maintenance Crews on Roads**

The speed limit for the project is to be limited to a maximum of 40Kph. Roads which have conditions where potentially hazardous work is being undertaken (e.g. culverts, where personnel are close to the access road), shall have a speed restriction of 20Kph, and signs will be placed at both ends of the specific work area.

Where maintenance crews are working close to traffic, additional precautions will be taken to keep visibility and early warning at a maximum. These may include local watering of dust generating areas, wearing of high visibility vests and posting of additional traffic controllers at the extremities of the work environment.

All personnel on site are required to wear high visibility reflective vests or clothing and utilise the correct signage at all times.

## **9 Flagging**

The primary function of a flagman/woman is to guide the flow of traffic (loaders, dozers, dump trucks, excavators, automobiles, etc.) safely and expeditiously through or around work areas or where traffic lanes are intermittently blocked.

### **9.1 Flagging Traffic**

Flagging personnel are used to control traffic flow through work areas at decreased speeds to reduce the hazards to personnel working in the area. The flagman must be clearly visible from a distance to permit appropriate response to the flagman's instructions by a vehicle operator. If at any point the flagman is not visible, all equipment moving through that area must shut down.

### **9.2 Hand Signalling Devices**

Hand signalling devices (orange flags) shall be used in controlling traffic through work areas. Flags used for signalling purposes shall be at least 450mm square, made of a good grade of fluorescent orange material, and securely fastened to a staff approximately one meter in length. Yellow flashing lights must be used during periods of darkness or poor visibility.

### **9.3 Flagman**

Due to the priority the Construction Cluster places on human safety, the selection of capable personnel is essential. Flagman shall wear an orange reflective safety vest as an outer garment. Reflective apparel must be worn at all times.

### **9.4 Training**

Flagmen should be given instruction and training by their Supervisor to develop a clear understanding of their duties and responsibilities.

As a minimum, instruction and training should include:

- Communications;
- Attitude;
- Safety equipment;
- Tools;
- Hand signals;
- Location or positioning;
- Action(s) for directing traffic; and
- Emergency procedures.

Project/Site Management must approve and verify that appropriate training has been conducted for each flagman prior to them being utilised on public highways.

### **9.5 Flagging Traffic**

It is important for the flagman to remain in full view of all vehicles and to avoid standing in congested areas. Under no circumstances should flagman stand in the lane being used for moving traffic. Flagman should stand adjacent to lanes where vehicles and equipment are travelling.

### **9.6 Flagging Procedures**

The following methods of flagging shall be used:

- To stop traffic, the flagman shall face approaching traffic and extend the flag horizontally across the traffic lane in a stationary position so that the full area of the flag hanging below the staff is visible. The free arm maybe raised with the palm turned toward approaching traffic.
- When it is safe for the vehicle operator to proceed, the flagman shall turn parallel to the traffic movement.
- When the flag is used, drop the arm with the flag to lower it from the view of the vehicle operator and motion traffic ahead with the free arm. The orange flag shall never be used to signal traffic to proceed.
- To slow traffic with the flag, the flagman shall give the stop signal and then change to the signal to proceed before the vehicle comes to a stop.

## **10 Restricted Areas and Escort Vehicles**

### **10.1 Restricted Areas**

Site personnel will be informed as to the restricted areas of the project. These areas are not to be accessed without authority from the Project Manager.

The speed limit for the project is to be limited to a maximum of 60Kph on site. National road rules apply to all roads.

### **10.2 Escort Vehicles**

For large or non-routine loads, an escort vehicle provided by the Contractors should be used in front of and when necessary, behind the vehicle or mobile equipment. Other vehicles must

be escorted at the Project Manager's discretion. Drivers entering site must wear the correct PPE.

In order to delineate the paths of the earth moving machinery, a "*Scraper and Mobile Equipment Circuit*" or similar signs shall be erected 100m (325ft) prior to the circuits.

To minimize the potential of light vehicles entering the blind spots of heavy vehicles, all other equipment and light vehicles and mobile equipment are to give way to heavy vehicles operating on any infrastructure road or facility.

## **11 Vehicle Speed**

Unless otherwise stated (i.e. by means of memo or signage), the following speed restrictions shall apply at all times:

- General speed limit – 40 km/h; and
- Areas of increased hazard (i.e. road works and work groups) – 20 km/h
- Personnel operating a vehicle on any road within the boundaries of facilities, including access roads, **MUST ALWAYS DRIVE TO THE CONDITIONS**, regardless of the posted speed limit signage, e.g. slower in wet weather or poor visibility, lights on.

## **12 Excavations**

For excavations on roads, barriers will be put in place to prevent vehicle access to the trench.

The barriers must be a suitable height and constructed of high visibility material to make them easily seen by the largest vehicles driving through.

## **13 Light Vehicle Driver Training**

All personnel operating light vehicles shall have the required authorized license.

### **13.1 Vehicle Safety Standards**

Where required, approved Roll Over Protection Structures (ROPS) are to be installed in light vehicles and mobile equipment.

Seatbelts must be installed for each seat in a vehicle and worn at all times by all personnel travelling in the vehicle. Vehicle capacity, stability and terrain capabilities will be considered when selecting suitable light vehicles and mobile equipment for the project facilities.

The responsible vehicle operator shall, at the commencement of each day and when taking over a vehicle, complete a pre-use inspection checklist.

## **14 Defective Light Vehicles and Mobile Equipment**

Any safety related fault or defect in a vehicle or mobile equipment must be reported immediately to the responsible Mechanic and/or Supervisor/Immediate Line Manager.

An unsafe vehicle or unsafe mobile equipment must have a completed "Out of Service" tag attached to the ignitions witch, steering wheel or controls in the Operator's cabin.

Light vehicles and mobile equipment with an “Out of Service” tag shall not be driven by any persons other than Maintenance Personnel required and authorised to move them for repairs.

#### **14.1 No Go Conditions**

Under no circumstances may a vehicle be driven if any of the following no-go conditions exist:

- a) Defective brakes
- b) Defective steering
- c) Radiator water leaks
- d) Oil leaks
- e) Defective or no head lights
- f) Defective or no brake lights
- g) Defective or no reverse lights
- h) Smooth or incorrectly inflated tyres
- i) Indicators not working
- j) Mirrors damaged or missing

The driver must report all no-go conditions immediately to the responsible Mechanic.

#### **15 Signage**

All signage must, as a minimum:

- a) Give clear direction;
- b) Be visible and not obscured;
- c) Be maintained;
- d) Be reviewed regularly for relevance;
- e) Pictograms may be required where tourists’ numbers are high;
- f) Flashing lights will be placed to warn drivers of any hazards present at night or in poor visibility;
- g) All side roads to be signed (STOP and NO ENTRY); and
- h) No red signage to be erected within 5 meters of any railway.

#### **16 Records**

None

#### **17 Work Instruction Maintenance**

Any deviation from this work instruction should be discussed with the Construction Manager. Such discussion should be documented, using the Safe Work Method Statement and Risk Assessment, detailing the reason for the deviation as well as clear instructions of the alternative process to follow. The Construction Manager or designated person is to approve the alternative process.

Any change required to this work instruction should be done in accordance with the Project Document Control Procedure.

#### **18 Attachments**

None



**19 Document Revisions**

<b>Date</b>	<b>Revision</b>	<b>Description of change</b>

## Common conditions regarding traffic control

### Flagman, Stop and goes

Labour used: Foreman, Supervisors, Operators, Drivers and working employees.

### CONTROL OF ENVIRONMENTAL IMPACTS:

LIKELY IMPACT	MITIGATION/PRECAUTIONARY ACTIVITY – (relevant Environmental Specifications)	FREQUENCY
<b>Reducing risk accidents (flagman)</b>		
<b>Vehicle accident</b>	<ul style="list-style-type: none"> <li>• Properly trained personnel/flagman operating stop and go's</li> <li>• Visible flagman present to and from the construction site</li> <li>• Correct visible signage on site at every possible access and exit</li> <li>• Visible lighting after dark</li> </ul>	<b>At all times</b>
<b>Pedestrian and vehicle accident</b>	<ul style="list-style-type: none"> <li>• Properly trained personnel operating stop and go's</li> <li>• Visible flagman present to and from the construction site</li> <li>• Correct visible signage on site at every possible access and exit</li> <li>• Visible lighting after dark</li> </ul>	<b>At all times</b>

LIKELY IMPACT	MITIGATION/PRECAUTIONARY ACTIVITY – (relevant Environmental Specifications)	FREQUENCY
<b>In the event of an accident</b>		
<b>Vehicle accident</b>	<ul style="list-style-type: none"> <li>• Immediately offer first aid where necessary</li> <li>• Immediately inform the Traffic Department and the S.A.P.S</li> <li>• Immediately inform the supervisor on duty</li> <li>• Do not attempt to move the vehicles until a member of the Traffic Department or S.A.P.S. is present and authorizes you to do so.</li> <li>• Call for an ambulance if some person is injured</li> </ul>	<b>When required</b>

LIKELY IMPACT	MITIGATION/PRECAUTIONARY ACTIVITY – (relevant Environmental Specifications)	FREQUENCY
Pedestrian and vehicle accident	<ul style="list-style-type: none"> <li>• Immediately offer first aid where necessary</li> <li>• Immediately inform the Traffic Department and the S.A.P.S</li> <li>• Immediately inform the supervisor on duty</li> <li>• Do not attempt to move the vehicles until a member of the Traffic Department or S.A.P.S. is present and authorizes you to do so.</li> <li>• Call for an ambulance if some person is injured</li> </ul>	When required

**Road work after dark or in poor visibility**

Labour used: Foreman, Supervisors, Operators, Drivers and working employees.

**CONTROL OF ENVIRONMENTAL IMPACTS:**

LIKELY IMPACT	MITIGATION/PRECAUTIONARY ACTIVITY – (relevant Environmental Specifications)	FREQUENCY
<b>Reducing risk accidents</b>		
<b>Vehicle accident</b>	<ul style="list-style-type: none"> <li>• Properly trained personnel/flagman operating stop and go's</li> <li>• Correct reflective safety vests to be worn at all times</li> <li>• Visible flagman present to and from the construction site</li> <li>• Visible reflective signage to be placed before the work place to warn oncoming traffic</li> <li>• Visible reflective signage to alert traffic of the end of the danger/work zone</li> <li>• The use of bright white strobe lights is not recommended as they can temporary blind oncoming traffic at night</li> <li>• Visible lighting after dark</li> </ul>	<b>At all times</b>
<b>Pedestrian and vehicle accident</b>	<ul style="list-style-type: none"> <li>• Properly trained personnel operating stop and go's</li> <li>• Visible flagman present to and from the construction site</li> <li>• Correct visible signage on site at every possible access and exit</li> <li>• Visible lighting after dark</li> <li>• Visible signage displaying emergency numbers in case of an accident</li> </ul>	<b>At all times</b>
<b>In the event of an accident</b>		

<p><b>Vehicle accident</b></p>	<ul style="list-style-type: none"> <li>• <b>Immediately offer first aid where necessary</b></li> <li>• <b>Immediately inform the Traffic Department and the S.A.P.S</b></li> <li>• <b>Immediately inform the supervisor on duty</b></li> <li>• <b>Do not attempt to move the vehicles until a member of the Traffic Department or S.A.P.S. is present and authorizes you to do so.</b></li> <li>• <b>Call for an ambulance if some person is injured</b></li> </ul>	<p><b>When required</b></p>
<p><b>Pedestrian and vehicle accident</b></p>	<ul style="list-style-type: none"> <li>• <b>Immediately offer first aid where necessary</b></li> <li>• <b>Immediately inform the Traffic Department and the S.A.P.S</b></li> <li>• <b>Immediately inform the supervisor on duty</b></li> <li>• <b>Do not attempt to move the vehicles until a member of the Traffic Department or S.A.P.S. is present and authorizes you to do so.</b></li> <li>• <b>Call for an ambulance if some person is injured</b></li> </ul>	<p><b>When required</b></p>

**Administrative matters**

Labour used: Foreman, Supervisors, Operators, Drivers and working employees.

**CONTROL OF ENVIRONMENTAL IMPACTS:**

LIKELY IMPACT	MITIGATION/PRECAUTIONARY ACTIVITY – (relevant Environmental Specifications)	FREQUENCY
<b>Reducing risk accidents</b>		
<b>Traffic law legislation</b>	<ul style="list-style-type: none"> <li>• Every person driving any vehicle must be in possession of a valid driver's license for the vehicle he/she is driving</li> <li>• No talking on a mobile telephonic device whilst driving, you must pull off the road when safe to do so.</li> <li>• Vehicle and personnel inspections for signs of alcohol abuse</li> <li>• Correct signage indicating no alcohol usage on site</li> </ul>	<b>At all times</b>
<b>In event of discrepancies</b>	<ul style="list-style-type: none"> <li>• Correct disciplinary procedure followed</li> </ul>	<b>At all times</b>

**Vehicle roadworthiness**

Labour used: Foreman, Supervisors, Operators, Drivers and working employees.

**CONTROL OF ENVIRONMENTAL IMPACTS:**

LIKELY IMPACT	MITIGATION/PRECAUTIONARY ACTIVITY – (relevant Environmental Specifications)	FREQUENCY
<b>Reducing risk accidents</b>		
<b>Vehicle accident</b>	<ul style="list-style-type: none"> <li>• Vehicle checklist to be drawn up</li> <li>• All vehicles to have a road worthy certificate</li> <li>• Regular vehicle inspections conducted: brake fluid, oil tyre pressure, handbrake etc.</li> <li>• Visual aspects checked: indicators, brake lights etc.</li> <li>• Driving environment: road too dangerous to travel on, hidden excavations, oil on road surface etc.</li> <li>• Check that vehicle has a spare usable tyre</li> </ul>	<b>At all times</b>
<b>If vehicle accident occurs</b>	<ul style="list-style-type: none"> <li>• Immediately offer first aid where necessary</li> <li>• Immediately inform the Traffic Department and the S.A.P.S</li> <li>• Immediately inform the supervisor on duty</li> <li>• Do not attempt to move the vehicles until a member of the Traffic Department or S.A.P.S. is present and authorizes you to do so.</li> <li>• Call for an ambulance if some person is injured</li> </ul>	<b>At all times</b>