

CONDITIONS AND RESTRICTIONS

FOR WORK IN CLOSE PROXIMITY TO INEOS PIPELINES

May 2011

Please notify INEOS for all work within 100metre corridor



CONDITIONS AND RESTRCITIONS

FOR WORK ACTIVITIES IN CLOSE PROXIMITY TO INEOS PIPELINES

Guidelines for work in proximity to:

INE(C)S

HIGH PRESSURE OIL PIPELINE

100 METRE CORPUDOR

WITHOUT PRIOR APPROVAL

---- 50 @ 50 ----

DIAL BEFORE YOU DIG

CALL FREE ON 0800 374 185

FGOP Km 6.44

Pipe.

WARNING Pipe

Grangemouth - Finnart - Bowling Pipelines Wilton - Grangemouth Ethylene Pipelines Mossmorran - Grangemouth Pipelines Natural Gas Pipeline to Grangemouth Teesside - Saltend Ethylene Pipeline

CONTENTS

- 1 Scope
- 2 Application

3 Essential Preliminaries

- 3.1 Formal Consent
- 3.2 Commencement of Works
- 3.3 Locating the Pipeline
- 3.4 Supervision of Works
- 3.5 Other Considerations

4 New Services

- 4.1 Orientation & Location
- 4.2 Cathodic Protection
- 4.3 Pressure Testing

5 New Roads and Highways

- 5.1 Road Crossings
- 5.2 Major Roads
- 5.3 Marker Posts

6 Notifiable Works Activities

- 6.1 Notification
- 6.2 Use of Naked Flame
- 6.3 Use of Explosives
- 6.4 Piling / boring
- 6.5 Tree Planting

7 Construction Traffic

- 7.1 Crossing the Pipeline
- 7.2 Temporary Fencing
- 7.3 Temporary Protection
- 7.4 Warning Notices

8 Excavation

- 8.1 Mechanical Excavation
- 8.2 Support of Pipeline
- 8.3 Protection of Exposed Pipeline
- 8.4 Security
- 8.5 Demarcation of Wayleave

9 Backfilling

- 9.1 Backfilling Operations
- 9.2 Coating Damage

10 Safety Procedure in the Event of Damage to the Pipeline

11 Appendix

- 11.1 INEOS Pipeline route Mossmorran to Grangemouth Ethylene & Ethane Pipelines (MGEP)
- 11.2 INEOS Pipeline route Natural Gas Pipeline from Blackness to Grangemouth (NGPG)
- 11.3 INEOS Pipeline route Finnart to Grangemouth -Bowling Crude Oil & Multi product Pipelines (FGOP)
- 11.4 INEOS Pipeline route Wilton to Grangemouth Ethylene Pipeline (WGEP)
- 11.5 TSEP Map
- 11.6 Guidelines for Crossings Above the Pipeline
- 11.7 Guidelines for crossing Below the Pipeline
- 11.8 Pipeline Protection Minor Road Crossing
- 11.9 Pipeline Protection Major Road Crossing
- 11.10 Temporary Protection for Haul Roads Along Existing Metalled Tracks
- 11.11 Temporary Protection for Haul Roads through Open Country
- 11.12 Tree Planting Guidance
- 11.13 Summary Document for Conditions & Restrictions
- 11.14 HSE Planning Matrix
- 11.15 Specimen Safety Procedures Form
- 11.16 Specimen Acceptance of Conditions Form
- 11.17 Excavation at Live INEOS Pipeline



Background

The INEOS Pipelines referred to herein were constructed and are operated under the terms of the Pipelines Act and Pipeline Safety Regulations (1996). They are maintained and operated by INEOS and are essential links in the transportation of crude oil, gas and their products to and from the Grangemouth Petrochemicals Complex and as such there is potentially very great consequential loss in the event of any interruption to their operation.

These conditions and restrictions have been produced as a guide to acceptable working practices for activities in close proximity to the above cross-country pipelines, whilst ensuring the pipelines continued safe operation. The guidelines may be modified at the discretion of the INEOS Wayleaves representative to accommodate particular circumstances.

INEOS Pipeline Team INEOS Chemicals Grangemouth Ltd PO BOX 21 Bo'ness Road Grangemouth FK3 9XH

FREEPHONE: 0800 374185 Email: ggrapipelinesteam@ineos.com

1 SCOPE

This documentation sets out the safety precautions and other conditions affecting the design, construction, demolition and maintenance of services, roads, structures and all other works excluding mineral extraction, across or in the vicinity of existing INEOS pipelines and associated equipment. Specifically these pipelines are:

INEOS

- FINNART CRUDE OIL PIPELINE 57 mile long (91 km) 20" diameter crude oil Pipeline from INEOS Grangemouth Refinery to Finnart Ocean Terminal. (Appendix 11.2). FGOP
- FINNART MULTI-PRODUCT PIPELINE
 57 mile long (91 km) 12" diameter multi-product Pipeline from
 INEOS Grangemouth Refinery to Finnart Ocean Terminal.
 (Appendix 11.2). FGOP
- BOWLING SPUR PIPELINE 8 mile long (12.5km) 8" diameter multi-product spur Pipeline from Westerton, Loch Lomond to Bowling on the River Clyde. (Appendix 11.2).
- WILTON TO GRANGEMOUTH ETHYLENE PIPELINE
 150 mile long (240 km) 10" diameter Ethylene pipeline from
 INEOS Grangemouth to SABIC installation at Wilton,
 Teeside. (WGEP)
- MOSSMORRAN TO GRANGEMOUTH ETHYLENE PIPELINE 24 mile long (38km) 8" diameter Ethylene Pipeline from ExxonMobil plant in Fife to INEOS Grangemouth. (MGEP)
- MOSSMORRAN TO GRANGEMOUTH ETHANE PIPELINE 24 mile long (38km) 10" diameter Ethane Pipeline from plant in Fife to INEOPS Grangemouth. (MGEP)
- BLACKNESS TO GRANGEMOUTH NATURAL GAS PIPELINE

7 mile long (11 km) 12" diameter Natural Gas Pipeline from Transco main distribution pipeline at Blackness to INEOS Grangemouth. (NGPG)

TEESSIDE TO SALTEND ETHYLENE PIPELINE
 95 miles long (153 km) 12" diameter Ethylene Pipeline from
 Teesside to INEOS Enterprise at Hull.

2 APPLICATION

The requirement of these recommendations shall apply to all works carried out in the vicinity of INEOS Pipelines and associated installations. The document is intended for the guidance of those responsible for planning and carrying out such work activities in close proximity to existing pipelines and associated equipment and of INEOS personnel appointed to supervise the work on site.

Normal agricultural activities which result in ground disturbance to a maximum depth of 300mm are not within the scope of this document.

Please note for all emergency works call: FREEPHONE 0800 374185





3 ESSENTIAL PRELIMINARIES

It is a legal duty of any organisation to determine the exact location of underground pipelines and services when proposing excavation and/or construction works. The process to be followed when an INEOS pipeline is affected is outlined below and detailed in the following sections.

3.1 Formal Consent

No work should be undertaken within a 100 metre corridor (50 metres either side) of the pipeline route or in the same parcel of land without prior formal consent and agreement by an INEOS representative. INEOS's representative will attend the site and provide advice free of charge. This is done in the interest of your safety and to protect the integrity of the pipeline.

Don't assume you know the location of the pipeline; it often changes direction in the same parcel of land.

Any work to take place within the pipeline Wayleave/easement, (3 metres either side of the pipeline) must only be carried out under the direct supervision of an INEOS representative. Even if you have formal approval don't begin the work unless an INEOS representative is present.

In considering the granting of formal consent INEOS may require the promoter of the new works, his servants, agents and contractors to insure against any loss, damage, expenses, claims and actions brought against INEOS, its servants, agents and contractors in consequence of the provision of the new works and activities associated therewith.

Formal consent may be obtained from:

INEOS Pipeline Team INEOS Chemicals Grangemouth Ltd Po Box 21, Bo'ness Road Grangemouth, Stirlingshire, FK3 9XH

FREEPHONE 0800 374185 EMAIL ggrapipelines@ineos.com

A signed "Approval to Work" form is required before commencement of works within INEOS Wayleave/easement. (See Appendix 11.16 for a specimen copy of the Approval to Work Form).

3.2 Commencement of Works

When formal consent has been given, a minimum of five working days notice is requested before commencement of works. However, please give as much notice as possible.

3.3 Locating the Pipeline

Before any work is carried out in the vicinity of existing INEOS pipelines, an INEOS representative shall locate and peg out the line of the pipeline and shall then supervise the hand digging of any trial holes necessary to confirm the position of the pipe.

3.4 Supervision of Works

An INEOS representative shall be responsible for protecting the company's interest and shall supervise all works in close proximity to the pipeline. They shall have the power to stop work proceeding if, in their opinion, safety of personnel or the integrity of the pipeline is being threatened as a result of these activities. The actions of the representative do not remove the responsibility of the promoter, his servants, agents and contractors from complying with the requirements of these conditions.

3.5 Other Considerations

The following should be taken into account:

Buildings, structures, caravans and storage of materials within the wayleave or in the vicinity of the pipeline apparatus shall not be permitted.

Lighting of fires within the Wayleave or in the vicinity of the pipeline apparatus shall not be permitted.

The new works shall not reduce or increase the cover above the existing Wayleave unless agreed by an INEOS representative.

If the pipeline is to be left exposed overnight, security arrangements will be provided.

The Health and Safety at Work Act and associated statutory regulations shall be strictly observed.

4 NEW SERVICES

The design of structures close to or crossing an existing INEOS pipeline must be discussed and agreed at an early stage to ensure there is no risk to the integrity of the pipeline. Design of new services crossing should comply with the details below:

4.1 Orientation and Location

- 4.1.1 Where a new service is to cross an existing INEOS pipeline whether above or below it the normal minimum separation distance of 600mm should be maintained between the outside pipe walls, or between protective sleeves if they are used. A concrete separation slab, ducting, marker tiles or warning tape may be required.
- 4.1.2 Planning of a new service which must cross an INEOS pipeline should take account that the preferred angle of crossing shall be not less than 60 degrees.
- 4.1.3 At such crossing both the pipeline and the new service must be suitably supported to prevent future settlement and backfilling must be carried out to the satisfaction of the INEOS representative.
- 4.1.4 As a general rule, no new service shall be laid parallel to an existing INEOS pipeline within the wayleave. However under special circumstances and at the discretion of the INEOS representative, a new service may be laid parallel to an existing pipeline provided there is adequate clearance between them and provided that the service is not laid either directly above or below the existing INEOS Pipeline.
- 4.1.5 If future access to the pipeline is to be restriced, e.g. a new road crossing across the pipeline, INEOS may require to inspect and rewrap the pipeline. The costs if this excavation work will be borne by the initiator of the new service.

4.2 Cathodic Protection

- 4.2.1 INEOS Pipelines are cathodically protected. Where a new service is to be laid, INEOS will require interaction tests to be carried out to determine whether the cathodic protection system will be adversely affected. The cost of any mutually agreed remedial action shall be charged to the promoter of the new works.
- 4.2.2 Should any cathodic protection posts or associated apparatus have to be moved to facilitate constriction operations, reasonable notice shall be given to INEOS and associated costs shall be borne by the promoter of the works.

4.3 Pressure Testing

Hydraulic testing shall not be permitted within 8 metres of an existing INEOS pipeline unless suitable precautions have been taken against the effects of a possible burst. Should safeguards such as the use of pre-installation tested pipe, sleeves, barriers etc. be required, then any such details are to be approved by the INEOS representative.

5 NEW ROADS ANDS RAILWAYS

5.1 Road / Rail Crossings

Where new road /rail works are to be carried out and are to cross existing INEOS pipelines, permanent pipeline protection shall be provided. This will generally be by means of a protective reinforced concrete slab but in all cases INEOS will discuss and approve the design.

5.2 Major Roads

In the case of new major roads where it may not be possible to obtain a license to excavate for future pipeline repairs, it shall be necessary to provide a spare sleeve adjacent to the pipeline through which a replacement pipe section could be installed if required. This is in addition to the permanent pipeline protection.

5.3 Marker Posts

For all motorways and trunk roads and for many other roads, marker posts in the road fencing lines shall be installed on the line of the pipelines.

6 NOTIFIABLE ACTIVITIES

6.1 Notification

The promoter of the new works shall notify INEOS before activities are carried out within the 100 metre pre-notification zone.

Typical examples of activities where pre-notification is required and some specialist pre-notification activities are detailed below:

(i) All drainage work within the 100metre pre notification zone (in the same parcel of land).

(ii)Fencing activities that involve strainer posts within the 100 metre pre-notification zone.

- Buildings including temporary buildings within the 100 metre notification zone (in the same parcel of land).
- (iv) Installation of posts, lamp posts, sign posts, core sampling or test boring, or other equipment that involves excavation or ground disturbance.
- (v) Installation of underground services, electrical cables, telecommunication cables, gas pipes, water pipes, or other service pipes.
- (vi) Planting trees/ shrubs.

6.2 Use of Naked Flame

No welding or other hot works involving naked flame shall take place within the Wayleave without the written consent of the INEOS representative.

6.3 Use of Explosives

Before a decision is made to use explosives for blasting within 400 metres of any part of a INEOS pipeline or associated installations, the INEOS representative is to be consulted and agreement obtained. This agreement shall include the position and size of the charge(s) to be used.

6.4 Piling / Boring

The INEOS representative shall be consulted and agreement obtained prior to any piling or boring being carried out within the 100 metre pre-notification zone.

6.5 Non Ground Cover Planting

Generally only ground cover planting is permitted within the INEOS Wayleaves. All tree planting proposals within or close to the pipeline Wayleave must be submitted to INEOS for approval.

Guidelines for planting of shrubs, hedges and trees are given in Appendix 11.12

For Tree/shrub planting, where either rootball or height of plant may impact on pipeline protection, contact INEOS Pipeline Team on 0800 374185.

7 CONSTRUCTION TRAFFIC

7.1 Crossing the Pipeline

Construction traffic and other plant shall cross INEOS Pipelines only by public roads or at previously agreed and clearly marked crossing points and crossing lanes that confirm with all requirement of Appendices 11.6 to 11.11 inclusive.

7.2 Temporary Fencing

Crossing points shall be fenced on both sides over a width not less than the full Wayleave and shall be returned along the Wayleave corridor away from the crossing for a distance specified by the INEOS representative.

7.3 Temporary Protection

It may be necessary at crossing points to install temporary protection over the Wayleave. Such protection may, at the discretion of the INEOS representative, consist of the laying of steel plates of adequate thickness on a hard-core base, or an approved sleeper raft, or other approved method. The design and construction of such protection is to be approved by the INEOS representative. The protection installed shall be maintained in good condition to the satisfaction of the INEOS representative for the duration of the works.

7.4 Warning Notices

Any temporary crossing must be clearly marked by appropriate warning notices and flags which draw attention to the danger of not using the crossing. Additionally, the crossing should be provided with lights at dusk, at night or in poor visibility conditions. All notices should be erected and maintained in a clearly legible condition.

8 EXCAVATION

(See Appendix 11.17)

8.1 Mechanical Excavation

Excavation within 3 metres of the pipelines require the authority and supervision of the INEOS representative. It shall be carried out by hand unless he specifically authorises the use of a mechanical excavator and hand held power tools; in any event, the use of such tools shall not be permitted within 500mm or the pipeline or associated equipment

8.2 Support of Pipeline

Where necessary to excavate below an INEOS pipeline, the pipeline shall be supported, during all stages of the operation, and protected against damage to the satisfaction of the INEOS site representative. On completion permanent supports shall, if necessary, be constructed to avoid future settlement.

8.3 Protection of Exposed Pipeline

To avoid damage during work, any exposed part of the pipeline shall be protected by cladding (e.g. timber) as directed by the INEOS representative and any damage to the protective wrap / coating of the pipeline, whether existing or caused by excavation work etc. shall be brought to his notice.

8.4 Security

If a pipeline has to be left exposed overnight or during non-working periods, a continuous watch will be provided using accredited security personnel acceptable to the INEOS representative. These personnel should be equipped with a mobile phone and suitable shelter. This will be to the cost of the promoter of the new works.

8.5 Demarcation of Wayleave

Where excavation machinery or any construction traffic is operating outwith the pipeline wayleave but in close proximity to it, a temporary fence with signage shall be erected to demarcate the wayleave and exclude access.

9 BACKFILLING

(See Appendix 11.17)

9.1 Backfilling Operations

An INEOS representative shall be in attendance during the whole of the backfilling operations and shall advise as to the suitability and degree of consolidation of backfill material around the pipeline.

9.2 Coating Damage

Any accidental damage to the coating of an INEOS pipeline, however slight, shall be brought to the attention of the INEOS representative so that he can arrange for the coating damage to be inspected and repaired. Backfilling cannot take place until the INEOS representative confirms that the coating damage repair has been accepted.

10 SAFETY PROCEDURE IN THE EVENT OF DAMAGE TO THE PIPELINE

- A Evacuate all personnel from the vicinity of the incident.
- B Keep upwind of the incident.
- C Notify the Emergency Services (999) and INEOS on Freephone 0800 374185.
- D Shut down all working plant and machinery in the vicinity (350 metres upwind and 750 metres downwind) of the incident. Ensure there are no other potential sources of ignition in the vicinity.
- E Prevent the approach of traffic or any other unauthorised persons.
- F Wait for a representative from INEOS or the Police to arrive on site and ensure that assistance is given as required to safeguard persons and property.

N.B. IN THE EVENT OF AN INEOS PIPELINE LEAK OCCURING OBSERVE THE ABOVE PRECAUTIONS BUT **DO NOT** ATTEMPT TO STOP THE LEAK.





Appendix 11.1 – INEOS Pipeline Route Mossmorran to Grangemouth Ethylene & Ethane Pipelines (MGEP)





Appendix 11.2 - INEOS Pipeline Route

Blackness to Grangmeouth Natural Gas Pipeline Pipelines (NGPG)





Appendix 11.3 - INEOS Pipeline Route

Finnart to Grangmeouth – Bowling Crude Oil *& Multi Product Pipelines (FGOP)









Appendix 11.4 - INEOS Pipeline Route

Wilton to Grangemouth Ethylene Pipeline (WGEP Scottish Sector)





24 HOUR FREEPHONE NUMBER: 0800 374 185



The second

10.

Appendix 11.5 - INEOS Pipeline Route Teesside To Saltend Ethylene Pipeline (TSEP)









Appendix 11.6

Guidelines for Crossings Above the Pipeline

EXCAVATIONS WILL BE CARRIED OUT BY HAND UNLESS THE INEOS PIPELINE REPRESENTATIVE SPECIFICALLY AUTHORISES THE USE OF POWER TOOLS. UNDER SUCH CIRCUMSTANCES A METHOD STATEMENT FOR THE EXCAVATION WILL BE AGREED ON SITE AND APPROVED BY THE INEOS PIPELINE REPRESENTATVE. IF THE USE OF A JCB OR SIMILAR TYPE MACHINE IS APPROVED THE TINES WILL BE REMOVED FROM THE DITCHING BUCKET AND THE EXCAVATIONS WILL BE CARRIED OUT IN LAYERS NOT EXCEEDING 150mm DEEP. TRIAL EXCAVATION WILL BE CARRIED OUT BY HAND OVER THE PIPELINE AND THE LOCATION OF THE PIPELINE WILL BE CHECKED BY PROBING PRIOR TO EVERY MACHINE EXCAVATED LAYER BEING REMOVED



PROTECTION DETAILS FOR NEW SERVICE CROSSING ABOVE PIPELINE.

TYPE 'C' NEW SERVICE (ABOVE)

WHERE COVER ALLOWS, NEW PIPE OR CABLE SERVICES SHALL CROSS ABOVE THE PIPELINE

Appendix 11.7

Guidelines for Crossings Below the Pipeline

EXCAVATIONS WILL BE CARRIED OUT BY HAND UNLESS THE INEOS PIPELINE REPRESENTATIVE SPECIFICALLY AUTHORISES THE USE OF POWER TOOLS. UNDER SUCH CIRCUMSTANCES A METHOD STATEMENT FOR THE EXCAVATION WILL BE AGREED ON SITE AND APPROVED BY THE INEOS PIPELINE REPRESENTATVE. IF THE USE OF A JCB OR SIMILAR TYPE MACHINE IS APPROVED THE TINES WILL BE REMOVED FROM THE DITCHING BUCKET AND THE EXCAVATIONS WILL BE CARRIED OUT IN LAYERS NOT EXCEEDING 150mm DEEP. TRIAL EXCAVATION WILL BE CARRIED OUT BY HAND OVER THE PIPELINE AND THE LOCATION OF THE PIPELINE WILL BE CHECKED BY PROBING PRIOR TO EVERY MACHINE EXCAVATED LAYER BEING REMOVED



NOTE:

3000mm MIN LENGTH X 1000mm M IN WIDTH UNITS FROM RICHARD LEES LTD OR SIMILAR APPROVED : OR INSITU CONCRETE UNIT TO BE 100mm thk X 3000mm MIN LENGTH X 1000mm MIN WIDTH WITH 1 LAYER A252 MESH.

PROTECTION DETAILS FOR NEW SERVICE

TYPE 'D' NEW SERVICE (BELOW)

CROSSING BELOW PIPELINE.

WHERE COVER ALLOWS, NEW PIPE OR CABLE SERVICES SHALL CROSS ABOVE THE PIPELINE



Appendix 11.8

Pipeline Protection Minor Road Crossing



FOR HEAVY TRAFFIC, CONCRETE SLAB & REINFORCEMENT TO BE INCREASED TO 250mm thk WITH TWO LAYERS OF A393 MESH REINFORCEMENT (1 TOP & 1 BTM)

LAYER 'X' CAN BE MINIMISED BY INCLUDING A ;LAYER OF POLYSTYRENE, BUT A LAYER OF FILL MUST ALWAYS COVER THE PIPELINE TO ENSURE C.P. AVAILABILITY IF EXPOSED, PIPELINE SHOULD BE 'HOLIDAY' DETECTED & OVERWRAPPED WITH 'SERVIWRAP' OR SIMILAR

Appendix 11.9

Pipeline Protection Major Road Crossing





Appendix 11.10

Temporary protection for Haul Roads along Existing Metalled Tracks



<u>1:25</u>

Appendix 11.11

Temporary Protection for Haul Roads Through Open Country



Appendix 11.12 Tree Planting Guide

General

- 1 Written approval must be obtained from INEOS before any new planting, or change of plant species is carried out within the permanent pipeline wayleave.
- 2 Any such approval to plant within the permanent pipeline wayleave is subject to INEOS reserving the right to remove, at any time, any crop that may constitute a hazard to the safe operation of the pipelines.

Shrub and Tree Planting Heathers & Others

- 1 Ground cover planting may be permitted anywhere along the pipeline route.
- 2 Certain shallow rooted planting may be permitted directly across the pipeline route only where hedging or screening is required at field boundaries or similar. Otherwise a minimum 1.5 metres distance from the pipeline is generally requested. Suitable species include Blackthorn, Quickthorn, Broom, Hazel, Elder, laurel, Privet, Snow berry and most ornamental shrubs.
- 3 Planting of apple trees or similar, drafted onto dwarf rootstock may be permitted to within 3 metres either side of the pipeline.
- Certain conifer planting may also be permitted to within 4 3 metres of the pipelines, e.g. Norway Spruce (picea abies), however its permission may only be granted on the strict understanding the trees are clear felled at intervals not exceeding seven years.
- 5 For most conifers a minimum 6 metres planting distance will be requested, and the following trees may also be permitted at this distance; ash, beech, elm, chestnut, lime, oak, sycamore, etc, These trees may only be planted as individual specimens or in a single row at a distance of 6 - 10 metres from the pipelines. Dense mass planting may only be carried out at distances greater than 10 metres from the pipeline.
- 6 Permission will not be granted to plant poplar and willow trees any nearer than 10 metres from any pipeline.

Wind breaks, forestry belts and any other individual features will be treated as such, with advice given as the need arises.

Any diversion from these guidance notes may only be taken after consultation with the INEOS representative.



Typical Tree Planting Distances from Pipelines

Distance from Pipeline		Eventual height
No Restriction:	Heathers	
	And other ground cover plants	
1.5 metre min:	Berberis	
	Cotoneaster	
	Blackthorn (prunus spinosa)	4 metres
	Broom (sarothamnum scoparius)	2 metres
	Hazel (corylus avellana)	9 metres
	Laurel (Prunus sp.)	6 metres
	Privet (ligustrum ovalifolium)	3 metres
	Rhododendron (rhododendron pontieum)	6 metres
	Snowberry (symophoricarpos rivularis)	2 metres
	And other shrubs	
3 metre min:	Birch (betula sp.)	30 metres
O metre min.	Crab apple (malus sulvestric)	9 metros
	Elder (sambucas piera)	9 metros
	Howthern (crotocous monoguna)	11 metres
	Helly (ilex aquifalium)	20 matros
	Missesters	20 metres
	P ()	J.J metres
	Pear (pyrus communis)	20 I
	Kowan (sorbus aucuparia)	20 metres
	Whitebeam (sorbus aria)	24 metres
	And other amonity and orgamental trees	12 metres
	And other amenity and offiamental trees	
6 metre min:	Alder (alnus sp.)	22 metres
	Ash (fraxinus sp.)	40 metres
	Beech (fagus sylvatica)	36 metres
	Cedar (thuja sp.)	25 metres
	Chestnut (aesulus hippocastonum)	35 metres
	Elm (ulmus sp.)	36 metres
	Fir (abies sp.)	55 metres
	Hornbeam (carppinus betulus)	24 metres
	Larch (larix deciduas)	38 metres
	Lime (tilia sp.)	40 metres
	London plane (plantanus hispanica)	30 metres
	Oak (quercus sp.)	35 metres
	Pine (pinus sp.)	36 metres
	Spruce (picea sp.)	40 metres
	Sycamore (acer pseudoplatanus)	35 metres
10 metre min:	Poplar (populus sp.)	33 metres
	Willow (coliv.co.)	21 motros

(salıx sp.)



Appendix 11.13

Summary Document for Conditions & Restrictions

1.PIPELINE WAYLEAVE



NO MECHANICAL WORK WITHIN PIPELINE WAYLEAVE UNLESS APPPROVED AND SUPERVISED BY A PIPELINE TEAM REPRESENTATIVE

3. LAND USE PLANNING



PLANNING AUTHORITY REFERS ALL LAND USE PLANNING APPLICATION WITHIN CONSULTATION DISTANCE TO THE H&SE FOR COMMENT.

(See Appendix 11.15 for table of Consultation Distances.)

5. OPENCAST MINING



6M STAND-OFF FOR OPENMCAST MINING ACTIVITIES WITH AN ANGLE OF REPOSE OF 30° TO THE HORIZONTAL

7. USE OF EXPLOSIVES



400M CONSULTATION DISTANCE FOR USE OF EXPLOSIVES. VIBROGRAPH SPECIFICATION ARE: 1. PEAK PARTICLE VELOCITY < 25MM/SEC 2. VIBRATIONAL AMPLITUDE < 0.1MM

2. PRE-NOTIFICATION OF ALL WORK



PRE-NOTIFY PIPELINE TEAM OF ALL PROPOSED MECHANICAL WORK OTHER THAN NORMAL AGRICULTURAL ACTIVITIES WITHIN 50M OF THE PIPELINE





25M STAND-OFF FOR PILING ACTIVITIES VIBROGRAPH SPECIFICATION ARE: 1. PEAK PARTICLE VELOCITY < 25MM/SEC 2. VIBRATIONAL AMPLITUDE < 0.1MM



6M STAND-OFF FOR LAND OVERBURDEN WITH AN ANGLE OF REPOSE OF 30°TO THE HORIZONTAL

8. TREE PLANTING & RETENTION



UP TO 3M	-	SEE SCHEDULE A
3M - 6M	-	SEE SCHEDULE B
OVER 6M	-	SEE SCHEDULE C

Appendix 11.14

Requirements for the siting of Wind Turbines in close proximity to INEOS Pipelines

REQUIREMENTS FOR THE SITING OF WIND TURBINES CLOSE TO PIPELINES CONTAINING HAZARDOUS FLUIDS

Pipeline Operators are receiving increasing numbers of applications from developers to site wind turbines in the vicinity of pipelines containing hazardous fluids. In response to this, a detailed technical study has been undertaken to identify the potential risks to these pipelines from wind turbines.

The study was based on data collected for wind farms in the UK and used a methodology that has been developed in the Netherlands. The study assessed all the potential failure modes that could be a potential threat to the integrity of a pipeline, including blade failure, fall of the nacelle or rotor and toppling of the mast.

Based on the study, the appropriate exclusion zone (distance from base of the wind turbine mast to the edge of the pipeline) has been identified as 1.5 times the turbine mast height.

Further work is ongoing to investigate whether there are any additional pipeline protection measures that could be taken to reduce this exclusion zone. Until this work is completed, the 1.5 times the mast height exclusion zone should be observed.

Internet Address: www.ukopa.co.uk

Email Address: info@ukopa.co.uk

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HSE Planning Matrix

DEVELOPMENT CATEGORY	INNER ZONE	MIDDLE ZONE	OUTER ZONE
А	Refuse	Consult H&SE	Allow
В	Allow	Allow	Allow
С	Consult H&SE	Consult H&SE	Allow
D	Refuse	Consult H&SE	Consult H&SE

WHERE:

The categorisation of the development is broadly as follows:-

Category A	Large Scale housing development, hotel/holiday accommodation
Category B	Small & Medium sized workplaces, parking areas
Category C	Small scale housing developments. Retail outlets, community/leisure facilities and larger scale workplaces
Category D	Education establishments and institutional accommodation such as sheltered housing and nursing homes

NB: The size of the development and number and type of persons likely to use the development may also affect ifs categorisation

Pipeline	Consultation distance	Inner Zone	Middle Zone	Outer Zone
Mossmorran to Grangemouth Ethane /Ethylene	200m	Up to 70m	71m - 150m	151m - 200m
Wilton to Grangemouth Ethylene	230m	Up to 85m	86m - 190m	191m - 230m
TSEP Ethylene	200m			
Blackness to Grangemouth Natural Gas				
Finnart to Grangemouth Oil & Multi Product				

Appendix 11.16

Approval to Work

PROFORMA - APPROVAL TO WORK IN CLOSE PROXIMITY TO THE INEOS PIPELINES

THIS FORM RECORDS THE DISCUSSION AND AGREEMENT ON THE METHOD REQUIRED FOR SAFE WORKING NEAR THE CROSS-COUNTRY PIPELINES, ANY CHANGE IN THE SCOPE OF THE WORK OR TIMING MUST BE AGREED WITH THE PIPELINE REPRESENTATIVE

Pipeline:	Date:	Time:	
Company Name:			
Telephone No:			
E-Mail Address:			
SITE MEETING			
Ineos Representative:			
Third Party Representative:			
Sketch showing approximate position of pipe and works (If available use GIS layout map)			
Distance from Pipe			
Pipeline Depth (Lowest)			
Agreed Method of Excavation / Works:			
Consent and Precautions:			
INEOS Representative Approval			
Name:	Signed:	Date:	
Third Party Acceptance)I will observe the precautions liste	d above)		
Name:	Signed:	Date:	
White copy - 3rd Party Blue Copy - INEOS Pink Copy - Master			



Appedix 11.17 Excavation at Live INEOS Pipeline NOTES





