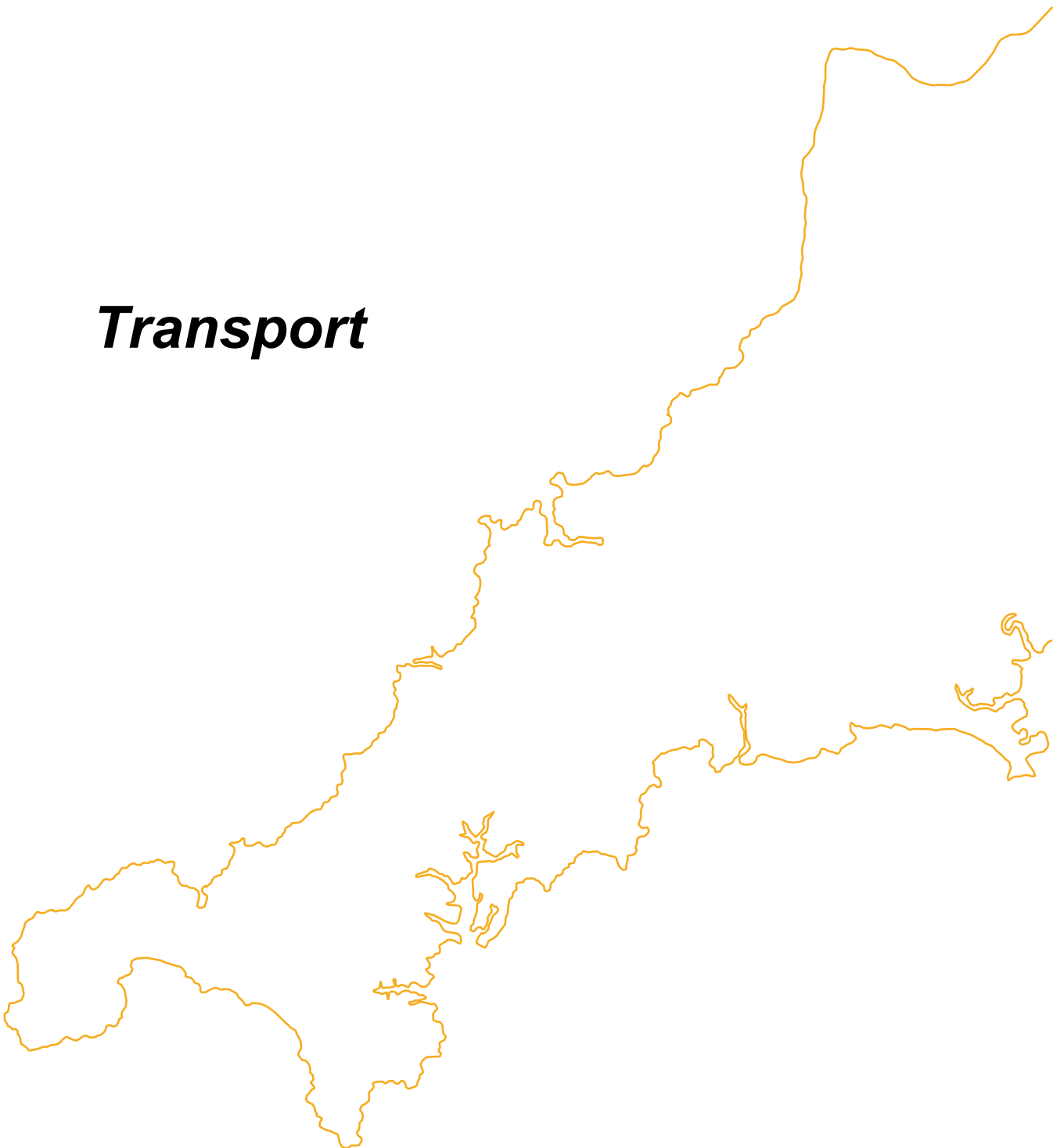




Consultee Response to CERC Environmental Permit Application

Consultee
St.Dennis Anti Incinerator Group (S.T.I.G.)

Transport



Transport

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Transport

1. KEY FAILURES

SITA's application to the Environment Agency for a permit to operate a mass burn incinerator is fundamentally flawed and therefore a permit should not be issued.

The key failure areas of the application within this section are:

VOLUME 2

4.1. Waste Reception

- When lorries are queuing on the access road will they switch off their engines?
- Will lorries queue when using the weighbridge and tipping hall?
- Have the emission levels of lorries sitting with engines on idle been assessed?
- Have maximum queuing times and vehicle numbers been calculated?
- What will the direct effects on site air quality levels from the emissions of the queuing lorries be?
- There will be six tipping bays into which vehicles will reverse. Have the increased emissions associated with manoeuvring been taken into account?
- Will the self closing doors open and close for each lorry?
- Is the roller shuttering the same as the self closing door?
- How will pressure be maintained when the plant is stopped or shut down in order to minimise emissions of odour?
- Have calculations and modelling been carried out on the additional journeys that will need to be made in cases of prolonged shutdown of the plant?

4.6.3. Powdered activated carbon injection system

- What are the details of the material handling and emissions control systems referred to in the statement "sent to fly ash silo and discharged by trucks"?

4.7.2. Fly ash storage silo

- What emissions control systems are in place when the feeder discharges the fly ash and sends it into a transportation vehicle, especially at transfer and tipping points?

4.8. Bottom ash treatment plant

- What materials handling and emissions control systems are in place in relation to the temporary discharge of the bottom ash?

4.10.8 Emergency diesel generator

- Have annual running hours been calculated for the diesel generator if used in order to shut down the plant safely?
- Have the emissions from the generator be allowed for in the modelling and carbon balance?

Transport

4.13.1 Abatement of fugitive emissions to air

- Will Industrial and Commercial waste be delivered in covered vehicles or containers?
- How are odorous substances and any dust retained when the plant is shut down? and is there evidence from existing SITA plants that they do work?

10 Energy consumption, generation and efficiency vehicle operations

- What calculations have been carried out to ensure high levels of availability and reduced fuel consumption over the life years of these vehicles and what are the proposed maintenance regimes?
- What is the impact on energy consumption when the proximity principle is applied?

11.5.1. Overall potential for operational impacts

- The scope of the HAZOP studies should be open ended and not limited to specific areas as laid out in the application.

11.5.2 Liquid storage facilities emergency/pollution preventive measures

- Will compliance to the Dangerous Substances and Explosive Atmospheres Regulations 2002 be adhered to?

11.5.6 Overall reliability

- As CAMM systems are only as good as the data fed into them what systems will be in place to measure Overall Equipment Effectiveness?
- How will maintenance frequencies be calculated and monitored for effectiveness?
- Will Plant Availability, Downtime, Mean Time Between Failure and Mean Time To Repair statistic from existing SITA plants be provided?

11.6 Risk Assessments

- Will all employees be trained to carry out risk assessments to ensure that all risks and consequences of carrying out any task they undertake so that each hazard is considered in the context of its effect upon the activities with regard to materials/substances; equipment; the work place; people; procedures and the environment?
- Will actual accident statistics from existing SITA sites be provided?

12.1 Introduction

- Has the meeting between Bureau Veritas and Cornwall County Council taken place to discuss the shortcomings and clarifications required to ensure that all additional mitigation measures are in place?

Transport

VOLUME 4

D9.1 Introduction

- Why have the CO2 emissions, PM1 and PM2.5, HC and other particulates such as soot from diesel exhausts been ignored in this assessment?

D.9 Methodology

- Does the methodology used take into account prevailing meteorology conditions such as temperature inversions and high incidents of mist and fog?

Table D2.9 Receptor points within SAC

- Is the assumption of improvements in vehicle efficiency correct?
- Has the deterioration of the engines condition over the life of the vehicles been taken into account?

Baseline traffic data for operational year

- Baseline counts were taken on 7th September 2006 and are not representative of peak traffic flows and do not take into account the duelling of the Goss Moor.
- The data taken from Automatic Traffic Counters used during January 2007 did not represent peak traffic flows.
- No data has been provided on the environmental impact of the additional traffic at the A30 Highgate Hill Junctions or the effects on the surrounding villages of Indian Queens, Fraddon and St Columb Road.
- The effects of queuing traffic at peak times should be included.
- What allowances have been made in the model to take into account backlogs associated with plant shutdowns, stoppages and breakdowns?
- What will the impact of vehicles and the emergency generator at the site be on local people, in particular those in Hendra Road?
- What will the impact of vehicles and the emergency generator at the site be on the villages of St Dennis and Treviscoe
- Will fuel delivery lorries use the haul road and how many fuel delivery movements will there be?
- Have the fuel delivery lorries been included in all data?
- Will scrap collection lorries use the haul road and how many movements will there be?
- Have the scrap collection lorries been included in all data?
- Will chemical delivery lorries use the haul road and how many movements will there be?
- Have the chemical delivery lorries been included in all data?
- Will spares delivery lorries use the haul road and how many movements will there be?
- Have the spares delivery lorries been included in all data?
- Will ash collection lorries use the haul road and how many movements will there be?

Transport

- Have the ash collection lorries been included in all data?
- Will reject waste lorries use the haul road and how many movements will there be?
- Have the reject waste lorries been included in all data?
- Will these lorries be subject to the same routing restriction as the SITA lorries?
- In the Operational Traffic Data the number of vehicle movements is based on assumptions and cannot be assumed to be accurate.

11.2.1. Construction Program

- How will the management of the risk to health during the construction phase, as laid out in the Construction (Design and Management) Regulations 2007 be monitored?

11.2.2 Construction Methodology

- There is no stipulation that the roads, junctions and bridge must be capable of carrying the size of loads required during operation and maintenance. Will this be rectified?
- What restrictions on the routing of construction traffic will be put in place?
- What pollution control measures have been identified in the design of the road, junctions and bridge?
- What mitigation schemes have been identified to protect the environment during construction of roads, junctions and bridge?

Transport

2. INTRODUCTION

The following are comments and questions which go to prove that SITA/Cornwall County Council's Environmental Permit application is fundamentally flawed. They are targeted at points concerning transport but include other unrelated areas which the authors feel need drawing to your attention. No permit should be issued to operate a mass burn incinerator in Cornwall.

Transport

3. RESPONSES TO VOLUME 2

4. PROPOSED ACTIVITIES

4.1 Waste Reception

Vehicles will queue on the access road to the plant to avoid vehicles queuing on the public highway.

STIG Response

When lorries are queuing will they switch their engines off or keep them running?

Will lorries queue to use the weighbridge?

Will lorries queue to use the tipping hall?

What are the emission levels of lorries sitting with engines on idle?

What are the calculated maximum queuing times and vehicle numbers?

What are the direct effects on site air quality levels of the emissions from the queuing lorries?

There may also be an option for waste to be delivered by rail.

STIG Response

Paragraphs 6.60-6.61 of Planning Application 08/00203/WAS submitted by SITA provide a justification as to why there will be no provision of rail access. Specifically, that the track in the locality cannot accommodate the movement of high cube containers which are required for the rail transport of waste, and there is no provision of funds to upgrade the rail track in the Cornwall area.

There will be six tipping bays into which the vehicles will reverse.

STIG Response

What are the increased emissions associated with manoeuvring lorries into the tipping bays?

The tipping hall will be fitted with a roller shutter door to minimise fugitive emissions of odour. This door will remain closed when there are no waste deliveries occurring.

STIG Response

Will the self-closing doors open and close for each lorry?

Is the roller shutter the same as the self-closing door?

The tipping hall will also be maintained at a low pressure in order to further minimise emissions of odour.

Transport

STIG Response

How will low pressure be maintained when the Plant is stopped or shut down?

The bunker will have the capacity to store 4 days of waste at normal operating capacity. In case of prolonged shutdown, waste can be transfer back from the bunker into lorries for safe disposal in a licensed facility.

STIG Response

What allowance has been made in the calculation for lorry journeys and traffic modelling for these additional journeys?

4.6.3 Powdered Activated Carbon (PAC) Injection System

Volatile organic compounds (VOCs), dioxins/furans and PAH removal

Volatile organic compounds (VOCs), polychlorinated dibenzo-p-dioxin (PCDD), polychlorinated dibenzofuran (PCDF) and PAH (polychlorinated aromatic hydrocarbons) are adsorbed by activated carbon and caught in the fabric filter with activated carbon and are sent to a fly ash silo and discharged by trucks

STIG Response

What are the details of the material handling and emissions control systems referred to in the statement “sent to a fly ash silo and discharged by trucks”?

4.7.2 Fly Ash Storage Silo

Fly ash is stored in the fly ash silo. A circle feeder will be installed at the bottom of silo. The feeder discharges the fly ash and sends it into a transportation vehicle.

STIG Response

What emissions control systems are in place, especially at transfer and tipping points?

4.8 Bottom Ash Treatment Plant

In case of breakdown of the transport system between the incinerator and the bottom ash treatment buildings, it will be possible to temporarily discharge the bottom ash directly from the outlet of the extractor onto the ground inside the incinerator building.

STIG Response

What materials handling and emissions control systems are in place in relation to the temporary discharge of the bottom ash?

Transport

4.10.8 Emergency Diesel Generator

An emergency diesel generator will be provided for emergency loads in order to shut down the plant safely

STIG Response

What are the calculated annual running hours for this generator?

Are the emissions from this generator allowed for in the modelling and carbon balance?

4.13.1 Abatement of Fugitive Emissions to Air

Incoming waste will be delivered in covered vehicles or containers. There will be no large scale storage of fuels or stockpiles of raw materials, other than of municipal waste which is contained in the bunker within the tipping hall. Vehicular access to the tipping hall will be via an entrance fitted with a roller shutter door which will remain closed outside of normal delivery periods and periodic washing down will be carried out to maintain a clean area.

STIG Response

What will happen to the Industrial and Commercial waste?

Will the roller shutter doors open and close for each lorry?

Is the roller shutter the same as the self-closing door?

Combustion air is drawn from above the waste storage bunker so that the odours and airborne dust are drawn from the tipping hall and the waste bunker into the incineration lines. Odorous substances will thus be destroyed by incineration and any dust retained in the bottom ash or in the APC residue.

STIG Response

What happens when the plant has shut down?

These techniques will help to keep the amount of dust in the tipping hall to a minimum and to reduce the possibility of the escape of both dust and odour.

STIG Response

Will they? Does this work in existing SITA plants?

10. Energy Consumption, Generation and Efficiency

Vehicle Operations

All vehicles operated by SITA will be regularly maintained to ensure high levels of availability and reduced fuel consumption.

STIG Response

What are the anticipated drop-off calculations over the life years of the vehicles?

Transport

What are the proposed maintenance regimes to back up this statement?

What is the impact on energy consumption when the proximity principle is applied?

11. System to Identify, Assess and Minimise Environmental Risks and Hazards of Accidents and their Consequences

11.5 Site-Specific Technical Safety Issues

11.5.1 Overall Potential for Operational Impacts

A Hazard and Operability (HAZOP) study will be conducted on the plant during the design stage. Further assessments will be carried out on major new equipment or subsequent design modifications. The HAZOP study is a systematic structured review of the process and engineering design in order to identify potential hazards and operability problems and consequences. These assessments include consideration of the following risks:

fire in the waste storage bunker;

fuel oil fire under various scenarios;

release of bottom ash or APC residues (for example during removal from the Site);

accidental release of hazardous chemicals.

STIG Response

HAZOP studies are carried out throughout the design, construction and operation phase of a project to identify hazards and risks. The study develops the design of the plant to eliminate the hazards or incorporate mitigation into the design or operation of the plant. The scope of the HAZOP studies should be open ended and not limited to specific areas as laid out in the application.

11.5.2 Liquid Storage Facilities Emergency/ Pollution Preventive Measures

The CERC is not classified as a COMAH (Control of Major Accident Hazards) site. It is supplied with fuel oil on an as needs basis with no provision for more flammable fuels except propane gas in bottles.

STIG Response

The site may not be classified as a COMAH site but it certainly comes under the Dangerous Substances and Explosive Atmospheres Regulations 2002 (DSEAR). I see no mention of compliance to these regulations.

11.5.6 Overall Reliability

Process reliability is a key issue because of the need to supply electricity continuously. One of the main features to aid reliable Plant operation will be the implementation of a preventative maintenance regime. A Computer Aided Maintenance Management (CAMM) system will be implemented which will automatically generate work order cards which will prompt maintenance technicians to service, maintain and calibrate equipment. The frequency of the work will be based on recommendations given in the manufacturer's instructions.

Transport

STIG Response

CAMM systems are only as good as the data fed into them. What systems are in place to measure Overall Equipment Effectiveness (OEE) and calculate maintenance frequencies and then monitor their effectiveness?

This high standard of maintenance will enable the plant to operate as designed and will help to minimise the probability of all types of accidents, including those with potential environmental consequences

STIG Response

This is a bold statement. To be valid in this application it should be backed up by Plant Availability, Downtime, Mean Time Between Failure (MTBF) and Mean Time To Repair (MTTR) statistics from existing SITA plants.

11.6 Risk Assessments

They will be performed by trained staff supported by members of the plant's Health and Safety team.

Risk assessment requiring specialist knowledge will be conducted by consultants selected from a database of approved HSE consultants.

STIG Response

There is a discrepancy in the two statements in this section. All employees should be able to carry out risk assessments to ensure they think about the risks and consequences of carrying out any task they undertake. The depth of the assessment is dependent on the type of task being undertaken.

Each hazard will be considered in the context of its effect upon the activities with regard to:

materials/substances;

equipment;

the workplace;

people;

procedures; and

the environment.

STIG Response

Modern Behavioural Based Safety (BBS) philosophy would include behaviour in this list.

Transport

Table 1.1 Accidents Risk Assessment and Management Plan.

STIG Response

If this were a true risk assessment exercise the results would be measured against actual performance. The assessments should be measured by actual accident statistics from existing SITA sites.

12 Noise and Vibration

12.1 Introduction

The full noise assessment as prepared for the Planning Application, including baseline noise measurements and a detailed description of the local environment is presented in Annex C. This section has been prepared in conjunction with Annex C, to summarise the potential noise and vibration impacts from the proposed Cornwall Energy Recovery Centre (CERC). No further analysis has been carried out as the impacts from noise are predicted to be of minor significance.

STIG Response

As the full noise assessment prepared for the Planning Application has been used for this application without any further analysis refer to the Bureau Veritas Environmental Statement Review dated June 2008. Appendix 1. Noise assessment notes.

Transport

4. RESPONSES TO VOLUME 4

D9 IMPACTS FROM TRAFFIC

D9.1 Introduction

The development has the potential to cause changes in road traffic flows during the operational phase. As such, nitrogen dioxide (NO₂) and particulate matter (PM₁₀) have been assessed here, as they are the principal pollutants relating to emissions from road traffic.

STIG Response

Why has the following been ignored?

CO₂ emissions. Road transport is responsible for 26% of UK carbon dioxide emissions.

PM₁ and PM_{2.5}.

HC and particulates. Diesel exhaust contains soot particles which are coated in hydrocarbons and sulphuric acid as well as residues of diesel oil and engine oil. Hydrocarbon emissions from traffic consist mainly of unburned fuel which produces offensive odours and may be harmful to health. Highly volatile hydrocarbons (VOC) are involved in the creation of poisonous ozone at the Earth's surface. Cancerous aromatic hydrocarbons (PAH) can occur either as vapour or on the surface of soot and dust particles in exhaust fumes.

D9.2 METHODOLOGY

Air quality impacts from vehicles will be high within close proximity to the road, but will drop off with increasing distance from the pollution source.

STIG Response

Does this take into account prevailing meteorology conditions such as temperature inversions and high incidents of mist and fog?

TABLE D2.9 RECEPTOR POINTS WITHIN SAC

As background pollutant concentrations show a decreasing trend over future years because of improvements in vehicle efficiency and the use of cleaner fuels, assessment for the first year of operation will provide a worse case impact over the operational lifetime of the plant.

STIG Response

Is the assumption of improvement correct? Deterioration of engine condition over the life of the vehicles has not been taken into account. As engines and transmissions wear they become less efficient.

Transport

Baseline Traffic Data for Operational Year

STIG Response

Baseline counts were taken on the 7th September 2006. These figures are not representative of peak traffic flows (holiday periods) and do not take into account the duelling of the Goss Moor.

Data taken from Automatic Traffic Counters deployed during January 2007 does not represent peak traffic flows.

Not included in the data is the environmental impact of the additional traffic at the A30 Highgate Hill Junctions and the effect on the surrounding villages of Indian Queens, Fraddon and St. Columb Road. This should also include the effect of queuing traffic at peak times.

Have allowances been made in the model to take into account backlogs associated with plant shutdowns, stoppages and breakdowns?

Not included in the data is the environmental impact of all vehicles, including the emergency generator, at the site itself on the local people. In particular those living in Hendra Road and more generally St. Dennis and Treviscoe.

Does the modelling take into account the topography of the Haul Road? The junctions, steep inclines and single lane traffic management will involve higher engine loads from climbing inclines and pulling away from junctions than that experienced on the C184 alone. There will also be a higher incidence of engine overrun and idle time. Does the data also take into account engine idle time while queuing at the weighbridge and high engine loads while manoeuvring into the waste reception area?

Will fuel delivery lorries use the haul road?

Will scrap collection lorries use the haul road?

Will chemical delivery lorries use the haul road?

Will spares delivery lorries use the haul road?

Will ash collection lorries use the haul road?

Will reject waste collection lorries use the haul road?

Will these lorries be subject to the same routing restrictions as the SITA lorries?

Operational Traffic Data

There will be a total of 216 daily HGV movements and 122 daily staff movements during the operational phase. There will be five further notional service vehicle deliveries during a day, providing a total of 226 daily HDV movements.

STIG Response

These figures differ from those published in Table 6.10: Daily traffic movements generated by the CERC in the Planning Application.

Transport

Source	HGV	Staff Movements	Notional service vehicle	Total
Planning Application	218	92	5	315
Environmental Permit Application	216	122	10	348
Variance	-2	+30	+5	+33

The figures quoted in the Environmental Permit Application have been skewed towards private vehicles which have a significant less pollution impact than HGVs.

The number of vehicle movements is based on assumptions, not hard facts and can not be assumed to be accurate.

How many fuel deliveries movements are there?

Have fuel delivery lorries been included in this data?

How many scrap collection movements are there?

Have scrap collection lorries been included in this data?

How many spares deliveries movements are there?

Have spares delivery lorries been included in this data?

How many ash collection movements are there?

Have ash collection lorries been included in this data?

How many reject waste collection movements are there?

Have reject waste collection lorries been included in this data?

I.1 COMMISSIONING PLAN

I.1.2.1 Construction Program

STIG Response

No mention of management of the risk to health during the construction phase, as laid out in the Construction (Design and Management) Regulations 2007.

I.1.2.2 Construction Methodology

Haul road and access road

Standard road construction methods will be used to construct the new sections of the haul road, the access road and the associated junctions. The new bridge over the river Fal will require concrete abutments on either side of the river and a single pier.

Transport

STIG Response

No mention of risks to the environment associated with the construction of the road or bridge.

There are no mitigation schemes identified to protect the environment during construction of the roads, junctions or bridge.

There are no pollution control measures identified in the design of the roads, junctions or bridge.

No stipulation that the haul and site access roads must be completed before ground works commence on the site.

There are no restrictions on routing the construction traffic.

There is no stipulation that the roads, junctions and bridge must be capable of carrying the size of loads required during construction, operation and maintenance.