



S.T.I.G.

St.Dennis Incinerator Group

June 2008

Environmental Statement

Consultee Response to CERC Planning Application

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

Applicant
Sita Cornwall Ltd.

Application Reference
08/00203/WAS

Address of Proposal
Land at
Rostowrack Farm
St.Dennis
St.Austell
Cornwall
PL26 8DX

Proposal
Construct and Manage a
240,000 TPA Energy Recovery Centre
(Mass Burn Incinerator)

Environmental Statement

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Chapter 2 - Alternatives

Quote from Environmental Statement

National Policy

2.5 PPS10 sets out relevant national policies for waste management facilities, including location criteria to inform local planning policy and planning decisions. In searching for sites suitable for new waste management facilities, PPS10 recommends that a broad range of locations, including industrial sites, are suitable, giving priority to the re-use of previously developed land.

2.6 In deciding which sites and areas to identify, PPS10 sets out criteria against which the suitability of sites should be assessed. These are as follows:

- The extent to which they support the policies in the PPS.
- The physical and environmental constraints on development, including existing and proposed neighbouring land uses.

Cornwall's WLP

2.7 The WLP was adopted in December 2002 and the majority of its policies are saved to October 2010. On the basis of the BPEO study that informed the WLP, the WPA identified an area of search located in the centre of Cornwall, within which a single EfW plant should be located. The suitability of sites identified within this area of search will be assessed against a range of criteria listed in Policy L6 of the WLP, although it is acknowledged that a site need not achieve them all. The equally weighted criteria are: -

- Demonstrate reasonable proximity and accessibility to the Primary Route Network.
- The plant is to be served by rail.
- Demonstrate reasonable proximity and a good quality connection to the main electricity grids.
- Will produce both electricity and heat for off-site consumption.
- Will have sufficient on-site capacity to provide for residue processing facilities.
- Can demonstrate that any adjacent ancillary development will be in accordance with the spatial strategy contained in the relevant development plan.
- Does not adversely affect the integrity of a Special Area of Conservation
- The plant has a gross maximum annual capacity of no more than 200,000 tonnes.

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Emerging WDF

2.10 The sites identified in the emerging WDF were derived from a search undertaken by the WPA to identify those sites that were considered to be most appropriate 'in principle' for use as waste management facilities, not specifically EfW. Sites with the following attributes were identified as being potentially suitable: -

- Vacant and undeveloped sites larger than 0.5 ha.
- Land allocated for employment and industrial uses in adopted / draft local plans.
- Unallocated sites with existing industrial uses.
- Existing minerals and waste management sites.
- Areas of contaminated, derelict or previously developed land.

STIG Response

National policy, the Cornwall Waste Local and the Waste Development Framework all suggest criteria for sites that are clearly not met.

Clear points of conflict:

National Policy

- 2.6 The cumulative effects on the well being of the local community, including any adverse impacts on environmental quality.
- The capacity of existing and potential transport infrastructure to support the sustainable movement of waste and products arising from resource recovery, seeking when practicable and beneficial to use modes other than road transport.

NOT MET

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LARGELY NOT MET

Emerging WDF

2.9 Following a second round of public consultation, these four sites were reduced to two in the submission stage of the WDF, which, although not formally submitted to the Secretary of State, was agreed by CCC's Executive in November 2006.

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BULLET POINTS IN 2.10 ARE NOT MET

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Chapter 3 - The Site

STIG Response

Clause 3.8 states that a 15km radiused area was considered when visual impact was considered. St Dennis and Treviscoe villages and several hamlets are well within 1km of the proposed site.

Clause 3.9 states that: The CERC and its access road will be constructed on an area of previously undeveloped Grade 3 classified agricultural farmland. A portion of this land has been identified for china clay industry related development in the MLP.

This is clearly in conflict with clauses quoted above (NP. PPS 10, WLP. 2.7 and WDF 2.10).

General Observations The Site

It is our view that the site does not meet the criteria cited above. We believe the site selection to be flawed in the extreme. It has been freely admitted, in the Planning Application documentation, that mitigation can not be achieved to alleviate known problems as described in the Environment Statement.

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Chapter 4 - The Proposals

4.8 The building, housing the plant process equipment, will be approximately 145.5m long, between 37.7m and 58.2m wide and between 7.5m to 45.0m in height, relative to the ground level, at the apex of the roof (162.5-190.0m AOD). Elevations of this building are shown in figures 4.4 to 4.7 and a longitudinal section in figure 4.8.

STIG Response

The building is huge in proportion to even the largest china clay plant buildings on the adjacent site.

When compared to the domestic scale of St Dennis and Treviscoe it is totally disproportionate to any building in the area.

As stated previously no mitigation or landscaping will overcome such a building mass only a distance of 400 metres from residents in both St Dennis and Treviscoe.

4.12 A 120.0m (265.0m AOD) chimney stack will be situated at the northern end of the site between the main CERC building and the bottom ash recovery facility. It will comprise two flues, one for each line, each having an outside diameter of 3.4m. The height is subject to final agreement with the Environment Agency through the PPC application process; hence it could be subject to change, possibly resulting in the need to amend relevant sections of this ES.

STIG Response

This clause shows clearly the dimensions of the modified chimney stack.

Whilst trying to mitigate the effects on the local immediate environment there has been no consideration given to the local residents and the blot on their views across existing green fields, indeed farmland.

4.13 The proposed height has been determined through extensive computer dispersion modelling of emissions and evaluation of the resulting dispersion plumes. This height meets the PPC requirement to utilise best available techniques (BAT) to minimise pollution and will ensure that ground level concentrations of key pollutants are kept within acceptable levels under all operating conditions, including emergency shutdowns.

Environmental Statement

4.14 The stacks have been structurally designed to meet all predicted climatic conditions. Each stack has lightning protection, sampling points for manual measurement and connections for continuous emissions monitoring equipment.

STIG Response

The data used in the design of the 120mtr. Chimney stack is stated to be computer generated.

Why has there been no assessment of the existing chimney emission direction and effect on the locality?

What effects will the mixing of various chimney stack emissions in the vicinity have on the local air quality?

Design and Materials

No comment.

Access and Site Access Road

The Environmental Statement variously describes the haul road as 'mainly on Imerys land', 'constructed across farmland'. There will be 2km. of road that need not have to be built if the proposed site fulfilled the criteria previously set out above in National Policy, WLP and WDF.

Alternative Routes and Modes

No comment.

Landscape Strategy

STIG Response

Cerc Site and Haul Road

Clauses 4.49 to 4.62 deal with landscaping issues when taken in context of the massing of the building and the ancillary works.

NO AMOUNT OF LANDSCAPING WILL MITIGATE THE EFFECTS OF THIS MASSIVE BUILDING.

Environmental Statement

Process Efficiency, Recovery Verses Disposal

STIG Response

Clauses 4.73 to 4.78 refer to the efficiency or more properly described the inefficiency of energy recovery, marginally above the required efficiency factor of 0.65 from December 2008.

Estimated efficiency factor for the Incinerator energy production and the heat recovery methods to be employed is 0.66.

If any part of the process fails to deliver the optimum amount of energy recovery the whole process will become a disposal operation and not a Combined Heat and Power Plant. (CHP).

Waste Inputs, Tipping Hall, Odour And Dust Suppression, Liquid Run Off, Furnace And Flue Gas Treatments

STIG Response

Clauses 4.79 to 4.101 set out the optimum methods for dealing with the topics addressed therein.

4.79 to 4.81 NO COMMENT

4.82 To 4.88 Deals With a Critical Part of the Process

The delivery and tipping of waste products are believed by STIG to be a source of air pollution by dust, noise and odours.

It has been personally evidenced by a Restormel councillor that vehicles delivering and returning from the plant do create noise, dust and odour problems. (Southampton (Marchwood) and I of M.)

It has also been evidenced by a Restormel councillor that in the event of a catastrophic breakdown the management of the systems do not work as described in 4.83 to 4.98. When a serious breakdown occurred at Kirklees the system management failed to stop further operation of the plant. The plant was somehow started by the operative with no water in the combustion chamber jacket causing a catastrophic breakdown.

These points may not seem to be Environmental issues but will become so if pollutants are allowed to escape into free air.

Environmental Statement

The areas of most environmental concern would be possible leaching from the Refuse Bunker; failure of the Air Fans; variation from recommended, regulated temperatures in the Super heater, Gas Scrubbers and Boiler; spillage or failure in the Filters and chemical formation in the flue gasses as they escape the plant via the stack. The "clean flue gas" is anything but clean, and therefore is part of the waste stream.

Monitoring

STIG Response

The monitoring of the flue gasses are of great concern to STIG as there are exceedances evidenced from plant data in several locations both in UK and Europe.

Abnormal Operating Conditions

STIG Response

Clauses 4.133 to 4.141 deal with the most contentious areas from an Environmental point of view.

The start up and shut down phases of operation give cause for serious questioning with regard to the robustness of the systems employed to monitor the two phases of operation. It has been shown at other Incinerator operation sites that these two phases of operation are the most problematic to control effectively giving rise to exceedances and complaints from the public.

Environmental Statement

Chapter 5 - Defining the Issues

Cumulative Impacts

5.27 Where there is the potential for the CERC to give rise to cumulative impacts with other proposed, permitted (but not implemented) developments or developments for which land is allocated, these will be assessed using all available relevant information/data. However, no such significant developments are known of within the vicinity of the CERC. All existing developments will be incorporated into the determination of the baseline environment.

STIG Response

Taking into account the various emission points around the proposed site is a reasonable valuation to take for reference purposes. However the issue of most concern is the mixing of the various emissions when they are emitted to free air. What cocktails of mixed chemicals will this produce ?

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Chapter 7 - Air Quality and Climate

Legislation and Policy

7.3 This section details the legislation and policy covering the emissions to air from the chimney of the proposed CERC. The human health, vegetation and eco systems air quality assessment criteria used in this assessment are also provided.

Table 7.3: Air Emissions Characteristics Modelled for the Proposed CERC

Variable Value

Equivalent chimney diameter (m) 2.192

Chimney location (National Grid Reference) 194441,057132

Chimney height (m) 120

Exit temperature (°C) 132

Exit velocity (m/s) 18.4

Normalised volumetric flow rate (N/m³/s) 38.8

Actual volumetric flow rate (A/m³/s) 69.5

Pollutant Emission Rates (g/s) (b)

Particulates (PM) 0.388

Volatile organic compounds (VOC) 0.388

HCl 0.388

HF 0.039

SO₂ 0.78

Oxides of nitrogen (NO_x) 5.81

Ammonia 0.19

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Group 1 metals 0.00194

Group 2 metals 0.00194

Group 3 metals 0.0194

Dioxins and furans 3.88×10^{-9}

CO 1.94

Notes

a) All of the modelling undertaken during this assessment, unless stated otherwise, assumed continuous operation as a worst case (i.e. 8,760 hours per year).

b) Assuming emission concentration based on the air emission limit values specified in the WID (mg N/m³ (11% O₂ (dry), 273 K). Emissions of metals are taken as an equal proportion of their respective limit value, for instance the lead emission is taken as an equal proportion (one ninth) of the total group 3 metals limit value.

c) Emissions are as provided to ERM by SITA Cornwall Ltd, based on the contractor's design. Note that there are two chimneys, separated by a small distance. The emissions are modelled as one 'effective' source; with the flow rate (and associated calculations) based on the total flow through the two chimneys and total mass release rates for each pollutant.

STIG Response

The figures given in the table are admitted to be 'assumed and modelled'. What confidence does this give to residents who live in close proximity to the chimney stack? The model goes on to state that the two chimneys are modelled as 'one effective source'. How can this assumption be made when it is clear that any one of the two combustion chambers may be working in isolation?

It is generally recognised that the start up procedure and shutting down procedure are the two most polluting parts of the process together with any exceedence periods. There are no explanatory clauses in the text to suggest how these difficult stages of operation will be controlled or monitored.

Environmental Statement**Table 7.4:
AQS Objectives for the Key Pollutants for the Protection of Human Health****Pollutant Concentration - Measured as :-**

PM10

NO₂SO₂**Other Pollutants**

HCl

HF

Cadmium

Thallium

Mercury

Antimony

Arsenic

Chromium

Cobalt

Copper

Manganese

Nickel

Vanadium

Dioxins and furans

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STIG Response

There is no measurement of PM2.5's at all. It is the opinion of nationally recognised experts that PM2.5's are very harmful to human health. Clause 7.7, table gives a list of pollutants that will be emitted from the chimney stack. 15 different pollutants to be precise. The most disturbing point to note is that furans and dioxins will be the least monitored of all.

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Chapter 8 - Noise

Introduction

8.1 This chapter considers the potential effects of the CERC proposals on existing and future noise levels in the vicinity of St Dennis, Cornwall. The EIA scoping exercise highlighted noise effects as a primary issue due to the scale of the development and its 24-hour operation.

STIG Response

It is appreciated that the evaluation processes employed to ascertain noise levels and their effect on the human ear are of a highly technical nature. Therefore the following points of concern are made in generalised terms.

The residents living in St Dennis and Treviscoe already have problems from time to time with mechanically produced noises emanating from the Goonvean and Imerys China Clay Works. It is therefore inevitable, at some stage, that noise created from the procedures carried out in the plant operations will disturb members of the public in the two villages mentioned above. The vehicle movements to and from the incinerator are also a concern of residents when considered as a source of noise pollution.

It has been established by the Cornwall Air Quality Forum that 1 Heavy Goods Vehicle (HGV) equates to 22 private cars in terms of polluting the atmosphere. It is therefore reasonable to assume from data provided in this submission Table 6.8 (below) that a total of 350 vehicle movements will take place daily minus 122 staff movements leaving 228 movements of HGV type vehicles. Simple mathematics will show that 228 multiplied by 22 as the private car equivalent gives a figure of 5016 plus the 122 staff movements. This equates to 5138 private car movements per day. How can this amount of traffic increase be dismissed as having no effect on St Dennis and Treviscoe?

It is not reasonable to come to the conclusion that this increase in traffic volume will have no adverse impact when considering Environmental implications on the immediate area.

Environmental Statement**Table 6.8 Predicted Daily Vehicle Movements**

Trip Type / Arrivals Departures / Total

Service deliveries 5 / 5 / 10

Staff 61 / 61 / 122

Visitor coach (per week) 1 / 1 / 2

Waste vehicle (import) 72 / 72 / 144

Waste vehicle (export) 20 / 20 / 40

On-site recycling (import) 14 / 14 / 28

On-site recycling (export) 2 / 2 / 4

Total 175 / 175 / 350

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Chapter 9 - Landscape and Visual Effects

Landscape Related Planning Designations

9.3 The following paragraphs describe areas with landscape or related environmental or cultural designations that might either be directly affected by the development, or indirectly affected because they lie within the 15km projected visual influence of the proposals.

STIG Response

Clauses 9.4 to 9.14 set out areas of special interest that will be affected by this application.

They are :-

Special Areas of Conservation

9.4 The Goss Moor SAC is centred in the main area of Goss Moor 2km north of the site, but the boundary of the SAC extends along the River Fal tributary streams, one of which extends up to within 100m of the site of the main building. The SAC also extends adjacent to the haul road access to Stamps Hill.

National Designations - Area of Outstanding Natural Beauty (AONB)

9.5 There are two AONBs within the outer margins of the 15km projected zone of visual influence (ZVI) of the proposals. These are Trevoze Head to Stepper Point on the north coast and South coast central. As national landscape designations they are important factors in determining the significance of effects on surrounding landscape resources.

Heritage Coast

9.6 There is one area of heritage coast within the outer area of the 15km projected ZVI of the proposals. The area affected is 14-15km south of the site, immediately to the west of Caerhays and within the AONB. As national landscape designations they are important factors in determining the significance of effects on surrounding landscape resources.

Scheduled Monuments

9.7 No scheduled monuments are directly affected by the proposals. Within the projected ZVI there are several scheduled monuments. Although these are not landscape designations, the potential effects on their settings are taken into

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consideration. The scheduled monuments of main concern are those for which a wider landscape setting is an important part of their appreciation. ES chapter 14: cultural heritage, describes the sites in more detail.

Site of Special Scientific Interest (SSSI)

9.8 Within the projected ZVI there are several SSSIs. Although these are not landscape designations, the potential effects on their settings are not fully taken into consideration. The SSSIs of main concern are those for which a wider landscape setting is an important part of their appreciation by people visiting the site. ES chapter 10: natural heritage describes the sites in more detail.

National Nature Reserve (NNR)

9.9 Within the projected ZVI there is one NNR at Goss Moor and this designation is overridden in importance by its SAC designation. ES chapter 10: natural heritage describes the site in more detail.

Listed Buildings

9.12 The proposals could potentially affect the settings of listed buildings in the surrounding area. Consideration of this is included in the evaluation of the effects on landscape resources.

Local Designation

Area of Great Landscape Value (AGLV)

9.13 There are six AGLVs within the projected ZVI, the closest two are 4.5km to the south and 4.5km to the south west. The others are in the area north of Truro, to the north east and south west of Newquay and the area extending east and south of Bodmin.

County Wildlife Sites

9.14 There are several county wildlife sites within the projected ZVI.

The expressed view on these categories, all of which are of nationally recognised importance, is that a Waste Treatment Plant of such magnitude must have an effect on the surrounding countryside and hinterland. It is freely admitted, in the application documents, (Landscape 9.3) that an area of 15km radius will be affected by this application in one way or another.

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It is also freely admitted, in the application documents, that no amount of mitigation can overcome the visual impact on the surrounding area.

When considering the Methodology, Definition and Classification of significance of effect on visual amenity, Land Use and Development Patterns, Land Resource, Landscape Character, assessments contained in clauses 9.15 to 9.89, it is largely accepted that the facts given are reasonable.

9.93-9.138

STIG Response

From the evidence highlighted in clauses 9.93 to 9.138 it is clear that in most cases the impact on residents is in the high category. Why it is necessary or even reasonable to subject so many residents to the high degree of visual intrusion as referred to in this application which relates to a site named by Cornwall County Council, as the model, for all Contract Applicants when the first round of Applicants was considered.

Stack and plume

9.138 The stack comprises two 3.4m diameter flues 120m high set apart from the main CERC building. The first 35m of chimney will be clad in non-reflective steel similar to the CERC cladding and its base long axis will be 12m and the short axis 7m. It is demonstrably the most widely visible element due to its height and will be finished in a light matt grey in order to minimise its degree of visibility. **The plume is predicted to be visible for 47% of the daylight hours of the year. The maximum plume length predicted is 221m but it is estimated that there will only be two hours per year where the plume length is over 200m long.** Average plume length is predicted to be 45m. Visible plumes can occur at any time but would predominantly occur during the night because of cooler temperatures and higher relative humidity. The plume is mainly composed of water vapour and therefore will appear white or light grey in daylight, possibly darker grey when viewed backlit by the sun, for instance in views from northerly directions.

STIG Response

This plume can only be described as totally unacceptable and constitutes yet more visual intrusion. The chimney stack is huge in proportion to many chimney stacks viewed at other Incinerator operation sites in the U K. One can only assume from the height of stack required to dissipate the emissions that the choice of site is flawed and totally unsuitable in Environmental terms.

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CERC Facility

9.139 The CERC building is 145.5m long, varying from 37.7m to 58.2m wide and up to 45m high at the apex of the roof.

STIG Response

This building is massive by any standards and is totally unacceptable in this prominent position that can be viewed from so many points as previously evidenced. The remainder of Chapter 9 gives values for intrusion of a visual nature both now and after a 10 year maturity of the site. It is unfortunate and unacceptable that the majority of views will be unaffected by any mitigating measures that will be employed. The massing of the building and the prominent position of the site are the two main causes for concern and objection and contribute to the impossibility of trying to screen the site from view. The Environment that local residents currently enjoy will be seriously affected visually and most likely be affected by noise pollution. It is therefore considered that the Plant buildings and ancillary equipment proposed can only be detrimental to the general environmental climate that the surrounding residents enjoy.

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Chapter 13 - Water Environment

13.1 This chapter considers the potential effects of the development proposal on the surface water environment at the site.

STIG Response

- The containment of water on site is a major concern to residents in the immediate area of the Waste complex.
- In the event of a fire in the area of the refuse reception hall, how will the water used to extinguish a fire be dealt with?
- How will the water needed in the process be provided?
- It is of the greatest importance that the river Fal is protected from any run off from the site.