

Non-technical summary

Introduction

- NTS 1 SITA Cornwall Ltd (SITA) proposes to develop the Cornwall Energy Recovery Centre (CERC) at Rostowrack Farm, St Dennis, see figure NTS1. The CERC, which will treat up to 240,000 tonnes per annum (tpa) of predominantly residual municipal solid waste (MSW)⁽¹⁾ from within Cornwall, is planned to become operational in 2012. The CERC will include a bottom ash recovery facility with a capacity of 60,000 tpa and an administration building incorporating a visitor centre. A planning application has been submitted to Cornwall County Council (CCC), the local planning authority for the determination of applications for waste management developments within the county.
- NTS 2 This non-technical summary (NTS) is a summary of the environmental statement (ES) that is required to accompany the planning application for the CERC under the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 (the EIA Regulations). The ES contains detailed information needed by the local planning authority to assist them in their determination of the application.

Waste management within Cornwall (background to the CERC proposals)

- NTS 3 To meet its requirements under the Planning and Compulsory Purchase Act 2004, the CCC's Waste Planning Authority (WPA) is in the process of preparing a waste development framework (WDF) which, when adopted, will replace the current waste local plan (WLP). The WDF is currently in draft form and the WLP remains current planning policy against which the application will be determined.
- NTS 4 The draft WDF continues to support the development of a single energy from waste (EfW) plant, but it goes further than the WLP, in that it identifies two potential sites, Rostowrack Farm and land adjacent to Victoria Business Park at Roche.

Confirmation of proposed waste strategy

- NTS 5 It was identified that the WLP was not up to date as it preceded the publication of PPS10⁽²⁾ and the government's White Paper Waste Strategy 2007. SITA resolved that it was necessary to determine if the waste strategy promoted in the WLP is still valid and if there is still need for a large scale EfW plant. The assessments listed below were therefore commissioned from independent consultants ERM to support the CERC planning application. The full reports are provided as supporting documents to the planning application.

¹ Residual waste is the fraction remaining once waste has been removed for recycling or composting.

² Planning Policy Statement 10: Planning for Sustainable Waste Management, July 2005.

- Need assessment for municipal and commercial and industrial wastes in Cornwall
- Assessment of number of facilities
- Technological options appraisal.

NTS 6 The reports conclude that a single, centrally located EfW plant is still the preferred option for dealing with residual MSW within Cornwall, and that 240,000 tpa is an appropriate size. Depending on changes in the rate of growth of MSW and the success or otherwise in achieving high levels of recycling and composting, the reports indicate that some of this capacity could be used to divert residue commercial and industrial (C&I) waste from landfill. The principle of treating MSW and C&I in a single facility is supported by the WLP and the waste strategy for England (2007).

The applicant - SITA Cornwall Ltd

NTS 7 SITA Cornwall Ltd is a special purpose company, created to deliver and manage the day-to-day operation of CCC's Integrated Waste Management Contract. Further details can be found on the web site www.sitacornwall.co.uk. Unless stated otherwise SITA Cornwall Ltd will be referred to as SITA throughout this NTS.

Combined heat and power

NTS 8 At the heart of the proposed CERC is a process incorporating incineration; but the CERC will achieve much more than the simple incineration of residual waste. It will recover energy from the residual waste in the form of electricity for export to the national grid and heat for supply to the adjacent china clay dryers; this enables it to be classed as a combined heat and power (CHP) plant. The CHP process will be designed to operate for at least 8,000 hours per year. The CERC will also provide a plant for recycling the bottom ash arising from the CHP process, and a transfer station for the bulking up of recyclables collected in the local area.

Layout

NTS 9 The CERC will comprise two main buildings: one will house the waste recovery and CHP processes, and be adjoined by a building housing offices and the visitor centre; the other building will house the bottom ash treatment plant. Both buildings are architecturally designed to reflect the surrounding landscape and are set within a wider landscape scheme, see figures NTS2 and NTS3. Between these two buildings, at the northern end of the site, the 120m chimney will be located. Further details on the CERC development proposals are provided in the following paragraphs and in ES chapter 4: proposals.

The environmental statement (ES)

NTS 10 This NTS summarises the findings of the EIA undertaken by Terence O'Rourke. It has been produced in accordance with the EIA Regulations and

best practice guidance issued by government departments and the Institute of Environmental Management and Assessment (IEMA).

Planning application process

- NTS 11 The ES and the supporting technical appendices have been prepared and submitted to the WPA, on behalf of SITA Cornwall Ltd. As the proposed development requires the submission of an ES, a total of 16 weeks is given to the WPA to determine the application. During this time the WPA must satisfy itself that the submitted ES contains sufficient information to identify and address the significant effects of the CERC proposals.
- NTS 12 The WPA will undertake a comprehensive review of all the information submitted with the planning application, of which the ES forms a part. It must consult with a number of statutory consultees including the Environment Agency (EA), Natural England and the Highways Authority, whose views it will take into account in determining the application. It must also consult with a wider audience.

Pollution prevention and control

- NTS 13 Before the facility can be operated, SITA will require an authorisation from the EA under the terms of the Environmental Permitting Regulations 2008⁽³⁾. This authorisation will set out environmental standards for the operation of the plant, mainly relating to control of emissions to the atmosphere. An authorisation is, of necessity, considerably more narrowly defined and technical than a planning permission. It will include requirements for environmental performance and it may be revoked if the plant, once built, consistently fails to meet these requirements. The EA will be asked for its comments on the planning merits of the project, although it should be noted that those comments will not prejudice the EA's subsequent determination of the authorisation permit application.

Alternative sites

- NTS 14 Although not expressly required by the EIA Directive or the EIA Regulations, SITA has followed what is considered to be good practice for a development proposal of this type by carrying out an assessment of alternative sites.
- NTS 15 The WLP acknowledges the inherent difficulties for the efficient collection, transfer, management and disposal of waste in the county because of its geographical area, rural nature and dispersed population. This led to the definition of the Central Cornwall Area of Search (CCAS). The CCAS lies almost entirely within Restormel Borough Council's administrative area, see figure NTS4.
- NTS 16 Within the CCAS boundary are major location advantages, including the county's major road network, most notably the A30, the Newquay / Par

³ This regulation came into force in April 2008 and replaced the Pollution Prevention and Control (England and Wales) Regulations 2000.

railway line and the Cornwall Minerals Railway. Electricity grids and a number of existing switching stations are also located in the area and provide good connections to the National Grid. The presence of the china clay industry offers significant opportunities for the provision of heat. SITA agrees that a location within the CCAS, with reasonable access to the A30 and with potential for rail access and heat customers nearby, is the optimum.

- NTS 17 The methodology adopted for the assessment comprised the following stages:
- List of all potential CERC sites – identification of a list of 35 candidate sites (the 'long list').
 - Selection of potential CERC sites – desk-top examination of the long list of sites in order to formulate a 'medium list' of candidate sites for further examination.
 - Determination of site suitability – exclusion of sites on the basis of size, practical and operational criteria to leave a short list of potential sites.
 - Site visits to potential CERC sites – detailed testing of the 13 short listed sites against specified planning and environmental criteria to determine their suitability to accommodate the CERC.
 - Determination of the availability of suitable sites for lease/purchase.
- NTS 18 The assessment concluded that, based on operational, planning and environmental criteria, see ES chapter 2: alternatives for full details, Rostowrack Farm was found to be the most suitable site within the CCAS for the location of the CERC.

The proposed development site

- NTS 19 The application boundary encompasses a total area of 14.6 ha, covering the CERC site, access road, private haul road and area for heat pipe work routing in the adjacent china clay dryers. The CERC will be situated on approximately 6.6 ha of land at Rostowrack Farm, which is located south west of the villages of Hendra and St Dennis, within the borough of Restormel. The planning application boundary is shown in figure NTS1. Immediately to the south of the site are a minerals railway and the Goonvean and Imerys china clay dryers at Parkandillick, a series of industrial buildings used for processing the locally extracted china clay. To the south west are the villages of Central Treviscoe and Treviscoe Barton.
- NTS 20 The site is located in a valley, between St Dennis and Treviscoe, and will be visible from the villages, local public rights of way and parts of the neighbouring ecological sites. The site is also visible from further a-field in Indian Queens, St Columb Major and the A30.
- NTS 21 The site and its access road are not covered by any national, regional or locally important environmental designations. It does not contain any listed buildings or scheduled ancient monuments. The north west boundary is adjacent to a County Wildlife Site (CWS), and less than 100m to the north are the Goss Moor National Nature Reserve (NNR), the Goss and Tregoss

Moor Site of Special Scientific Interest (SSSI) and the Breney Common and Goss and Tregoss Special Area of Conservation (SAC). Within 2km of the site are the SSSI and SAC designated St Austell Clay Pits, and Trelavour Down geological SSSI, see NTS5. Land uses in the vicinity of the application boundary are shown in NTS6.

- NTS 22 The proposed haul road is within land owned by Imerys. It will principally follow the alignment of existing haul roads associated with the Wheal Remfry china clay works and Marclaren's refinery, west of the C184. The only designations that apply to the length of the haul road are in the vicinity of Trerice Bridge. Here it will pass through a CWS, an area of great historical value and the River Fal's food plain.
- NTS 23 A new site access road will be constructed west from the CERC site, to join the public highway north of Treviscoe. The majority of the traffic accessing the CERC will travel via the A30, exiting at the Indian Queens junction and then heading south via the B3279 and Stamps Hill. The haul road will enable vehicles accessing the CERC to by-pass Trerice Bridge and the majority of the houses between the bridge and the new site access road.
- NTS 24 The most environmentally significant feature of the site is its proximity to the European designated Breney Common and Goss and Tregoss Moors SAC. The SAC supports a range of habitats and species listed in Annexes I and II of the EU Habitats Directive, all of which are sensitive to the emissions from the CERC, see NTS5. If there is a likelihood of the CERC proposals having a significant effect on the integrity of the SAC, an appropriate assessment of the proposals will need to be undertaken by the WPA and EA, as the relevant competent authorities, in accordance with Regulation 48 of the Conservation (Natural Habitats &c) Regulations 1994.
- NTS 25 It is SITA's reasoned opinion, based on extensive consultation with the EA and Natural England, that iterations to the CERC proposals have removed any likelihood of a significant effect on the integrity of the SAC. The EA, as the competent authority for authorisation permit applications, has confirmed that, in relation to process emissions, the application for the CERC will not require an appropriate assessment, because of the low levels of deposition from the process onto the SAC. As the competent authority for the planning application, it is considered that the WPA will reach a similar conclusion. Should the WPA disagree, sufficient information is presented in the ES and its technical appendices to enable the WPA to undertake an appropriate assessment.

The principal development proposals

- NTS 26 The proposal is for a twin stream energy recovery facility, with a single steam turbine generator designed to utilise the heat generated by the combustion process. This will generate approximately 20 MW of electrical power, of which 16.6 MW will be exported to the national grid sub-station at Fraddon, with the remainder used within the CERC. The proposals also allow for the

export of heat, in the form of steam or hot water, to the adjacent china clay dryers.

- NTS 27 The operation of the CERC will alter the current movement of residual MSW within Cornwall. Currently residual MSW is moved by road between the network of refuse transfer stations (RTSs), and the county's two landfills. Once the CERC is operational all residual MSW will be transferred to it. The CERC will generate a total of 175 vehicle trips (two movements per trip) per day. The majority of these are not new trips, but diverted trips e.g. from landfill to the CERC.

Main elements

- NTS 28 The main elements of the proposal are illustrated in figures NTS7 and NTS8.

- NTS 29 The main CERC building houses the thermal process equipment and the administration and visitor centre is attached. It will be approximately 145.5m long, between 37.7m and 58.2m wide and between 7.5m to 45.0m in height. The requirement to minimise dust, noise and odour has resulted in the enclosure within the main building of almost all the different elements of the CERC. The principal waste outputs from the thermal treatment process are bottom ash and air pollution control residues. Full details of the different stages of the incineration process are set out in the ES Chapter 4: the proposals.

- NTS 30 The bottom ash recovery facility is located in the eastern half of the site. It will be 172.2m long by 55.7m wide at its widest point, narrowing down to 30.7m, its height varies from 13.8m at the ends and 23.4m at the apexes of the roof. The ash will be graded; remaining ferrous material will be recovered and unburned materials extracted, prior to the removal of the ash off-site to be recycled as a substitute aggregate for road construction.

- NTS 31 A 120.0m chimney stack will comprise two flues, one for each line, each having an outside diameter of 3.4m and sampling points for manual measurement and connections for continuous emissions monitoring equipment. The proposed height has been determined through extensive computer dispersion modelling of emissions and evaluation of the resulting dispersion plumes. This height exceeds the EA's 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.

Design and materials

- NTS 32 The design strategy for the CERC has focused on creating a high quality innovative proposal, whilst being sympathetic to its surroundings. As a result the scale and shape of the building have been devised to fit with the surrounding topography and recognise the character and sensitivity of its landscape setting, see NTS2 and NTS3. The buildings will be constructed from steel frames clad in a combination of complementary materials including metal panels, concrete and translucent polycarbonate. The roofs

will be constructed from aluminium. The air-cooled condensers will have a suspended façade of perforated architectural mesh over the translucent airflow control walls.

- NTS 33 The landscape strategy for the CERC site, its access road and haul road will be based around the use of native plants, with the aim of assimilating them into the existing pattern of scrubby woodland and abandoned waste tips in the immediate area. It will also feature the translocation of Cornish hedges as well as the construction of over 1km of new Cornish hedge. The planting is not designed to provide full visual screening due to the very large scale of the buildings, but it will screen much of the ground level activities, including low level plant, vehicles, road surfaces and storage of materials, which will help to reduce the visual impact of the proposals in some local views.

Access

- NTS 34 To reach the CERC from the A30 vehicles will travel along Stamps Hill. At the point where the road narrows, just north of the grade II listed, single lane, Trecice Bridge, vehicles will leave the highway and join a private haul road. The route of the 2km long haul road is shown on figure NTS9. Its entire length is within land that CCC has obtained from Imerys. Once vehicles rejoin the highway, they will travel 250m along a straight section of road, before reaching the junction with the new site access road. The haul road will be gated at both ends, with the gates operated by transponders mounted in the vehicles; this will prevent unauthorised use.
- NTS 35 The new site access road will be constructed across farmland. The route will initially follow an existing track, before crossing the fields. Access to Bodella Farm, the railway bridge and the fields to the south will be provided. A locked gate will be placed over the access to the railway bridge to prevent any 'rat running' through the Parkandillick dryers. The road's junction with the highway will be a simple T-junction. To improve visibility the existing highway will be realigned 5.5m further south west from the houses at La Mount Corner; the Cornish hedges opposite the junction will also be realigned.
- NTS 36 No construction or waste delivery vehicles, other than the RCVs operating locally, will access the CERC via St Dennis or Treviscoe. All delivery vehicles will access the CERC southward from the A30 as shown in figure NTS9. The haul and access roads will be constructed prior to the commencement of construction activities at the CERC site.

Staff, operating hours and maintenance

- NTS 37 Seventy-three staff will be based at the CERC, a pattern of shift working will ensure that staff will be present on site at all times. Although the CERC will operate 24 hours a day, there will be periods of annual maintenance when waste is not processed. Deliveries and collections will be received/made between 07:00 and 18:00 hours Mondays to Fridays, and 07:00 and 13:00 hours on Saturdays; although daily waste deliveries will be completed by 17:00 hrs.

- NTS 38 The CERC will require close attention to a detailed maintenance programme during plant operation to ensure systems and equipment operate safely, effectively and reliably. Individual items of plant and equipment will have a defined frequency of inspection, checking, cleaning, adjustments and servicing. The inspection and servicing periods vary from weekly, monthly to yearly. Maintenance of large items of a line's equipment e.g. the boiler, flue gas treatment equipment, will require the line to be shutdown. It is estimated that each line will need to be shutdown for three weeks per year. Apart from a yearly total shutdown of three to five days for maintenance of some shared items of equipment and the turbine, maintenance will be programmed such that both lines will not need to be shutdown at the same time.

Pedestrian access and footpaths

- NTS 39 The alignment of the site access road will initially follow an existing track that forms a part of a footpath that runs along the site's southern boundary, before crossing under the railway and continuing to Hendra and St Dennis.
- NTS 40 The site access road will include a pavement along its northern edge to replace sections of this footpath that will be built over. The need to control pedestrian access to the CERC site means that it will be necessary to divert the footpath around the operational areas. The diversion will pass through the landscaped areas of the site and rejoin the existing alignment at the point where it passes under the railway.
- NTS 41 To enable the movement of cattle between Rostowrack Farm and Bodella Farm, a new farm track will be constructed, parallel to the site's northern boundary. The track can serve as a temporary diversion for the footpath during the CERC's construction phase.

Energy recovery process

- NTS 42 A generic flow diagram of the energy recovery process is provided in figure NTS10. The process equipment will be entirely enclosed within the CERC building.

Flue gas treatment

- NTS 43 All combustion gases will be cleaned before they are released into the atmosphere. This will be achieved by means of a gas scrubbing system, fabric filters and a nitrogen oxides reduction system, designed to better the EA's BAT requirements for pollution prevention. The final configuration and design of the abatement plant will be agreed with the EA as part of the authorisation process.
- NTS 44 The flue gas treatment system will also comply with the exacting standards of the EC Directive on Waste Incineration (2000/76/EC) (WID), which will be enforced by the EA through conditions attached to the facility's authorisation permit. A flue gas monitoring system is required to operate at all times. Should any item of monitoring equipment fail, a stand-by will be brought into use; if this fails the plant will be shut down until repairs are completed.

Should the electricity supply fail, a stand-by generator is available to provide power. Full details are provided in the ES chapter 7: air quality and climate.

Air pollution control (APC) residues

- NTS 45 It is estimated that the plant will produce about 11,000 tonnes of APC residues from the flue gas treatment system per year. APC residue is classified as a hazardous waste and hence is kept entirely separate from bottom ash. The APC residues generated by the CERC will be re-used to neutralise waste acids at a plant in Gloucestershire. This process produces a final residue that meets the classification criteria for non-hazardous waste, which is then landfilled.

Bottom ash

- NTS 46 It is predicted that approximately 60,000 tonnes of bottom ash will be produced a year, of which, on average, 10% will be recoverable ferrous and non-ferrous metals. A sorting facility will remove the ferrous and non-ferrous metals and any unburnt material, which will be disposed to landfill. The remainder will be graded into differing sizes, stored to dry out, then taken off-site for use as a secondary aggregate e.g. road building.

Construction

- NTS 47 The total construction programme for the haul road, access road and CERC, including the detailed design phase, is expected to last for approximately 42 months. SITA has awarded a contract to the highly experienced Japanese company Takuma⁽⁴⁾ to design and build the plant. Takuma in turn will seek to employ local/UK/European contractors to undertake the construction work. Under the terms of SITA's contract with CCC, CCC will be responsible for the detailed design and construction of the site access road and haul road.
- NTS 48 It is predicted that the construction of the haul road and access road, together with the on-site groundwork will give rise to an average of 14 delivery vehicle trips per day. Once on-site construction of the CERC commences there will be an average of 19 delivery vehicle trips day. All construction traffic will access the sites from the A30 and will not pass through St Dennis or Treviscoe.
- NTS 49 It is estimated that the maximum number of people employed on site at any time during the construction period will be 255.

The Environmental Impact Assessment (EIA) process

- NTS 50 The range of environmental issues likely to arise as a result of the proposals at Rostowrack Farm, and their significance, were identified during a 'scoping exercise' at an early stage in the project. These issues to be considered within the EIA, were then divided into those likely to be of primary or

⁴ For further detail see <http://www.takuma.co.jp/english/index.html>

secondary importance. The findings were presented to a range of organisations including CCC, Natural England, EA, Restormel Borough Council, Highways Authorities and the Health Protection Agency, and their views sought on the scope of the EIA. Their responses were reviewed and changes made to the scope of the EIA as appropriate.

- NTS 51 The general approach to assessing the environmental effects of proposals is to consider the current conditions at and around the site for each issue, and then to compare the predicted effect of the proposals with the current conditions. Where there are international, national or local standards, policies or guidelines, these are taken into account in the consideration of the significance of the identified effects.
- NTS 52 The significance of an effect was determined by considering the sensitivity of a receptor to change in environmental conditions and the magnitude of the predicted change. This process was iterative in nature, in that when a significant adverse effect was identified, mitigation measures were put forward and the significance of an effect reassessed.
- NTS 53 The environmental assessment of the proposed development was completed once all the mitigation measures had been identified and assessed; the remaining effects, for each of the environmental issues, termed 'residual effects', are summarised in each of the chapters of the ES.

Traffic and transport

- NTS 54 The ES considers the potential traffic and transport implications of the proposed development, in terms of both the general effect on the highway network and on sensitive receptors.
- NTS 55 Once operational the CERC will give rise to the following daily vehicle trips:
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|---|-------------------------------------|-----|-------|
| • | Waste and recyclables moved by HGVs | 108 | trips |
| • | Staff vehicles | 61 | trips |
| • | Deliveries of process materials | 5 | trips |
| • | Coach carrying visitors | 1 | trip |
| | Total | 175 | trips |
- NTS 56 Although the development will lead to a small to medium change in traffic flow at the Highgate Hill interchange, Gaverigan roundabout and the new haul road junctions onto the C184, none of the junctions will be over or near capacity, and so no significant effect is predicted.
- NTS 57 During an average 10-minute period, a maximum of ten CERC-associated vehicles will use the site access road during the AM and operational peaks, and nine vehicles in the PM peak. This relatively low frequency of vehicles indicates that fear and severance will be negligible for pedestrians crossing the road.

- NTS 58 A small number of local waste vehicles will access the site from the south, with others arriving from St Austell on the A3058 and B3275. These vehicle movements will not generate a significant impact.
- NTS 59 An operational travel plan will be implemented once the CERC becomes fully operational. It will provide a strategy for introducing and maintaining a package of measures designed to limit the number of car trips to the CERC and promote the use of alternative means of travel.
- NTS 60 The main construction contractor(s) once appointed will produce a separate construction travel plan. This will deal with mitigating the impacts of construction vehicles, plant and site workers.

Air quality effects

- NTS 61 In considering air quality effects, a comprehensive air quality baseline monitoring exercise was undertaken, and the emissions from the construction and operational phases of the development were predicted.
- NTS 62 The effects on local air quality of emissions from the proposed CERC's chimney during operation have been quantified through the use of dispersion modelling. Other aspects considered are odour, plume visibility and health risk.
- NTS 63 The selection of chimney height has been made taking a number of factors into account, most notably visual impact and the need to minimise ground level concentrations. These two factors have opposite requirements and the result is always a balance between the two. The dispersion modelling results show that a chimney height of 120 m is sufficient to ensure adequate dispersion of pollutants, with regard to existing air quality, ambient air quality standards and the need to avoid any adverse effects on the integrity of the adjacent SAC.
- NTS 64 Data presented in ES chapter 7: air quality and climate, show that the predicted cumulative ground level concentrations of all pollutants arising from the CERC emissions are well within their respective assessment criteria and therefore are not expected to cause any significant impact on human health.
- NTS 65 Data are also presented in ES chapter 7: air quality and climate, in relation to potential deposition on SACs in the vicinity of the site. Based on EA guidance it has been concluded that the impact of the emissions at all the sites will not be significant, thus maintaining the integrity of the European sites.
- NTS 66 Impact from operational vehicles has also been assessed and no significant impacts are predicted.

- NTS 67 A small visible plume is predicted from the chimney for 47% of the daylight hours in the year. Visible plumes can occur at any time but would predominantly occur during times of cooler temperatures and higher relative humidity. There are no predicted visible plume groundings.
- NTS 68 No significant fugitive emissions of gases, vapours, odours or particulate matter are predicted.
- NTS 69 The human health risk assessment, reported in ES chapter 7: air quality and climate, found that it is highly unlikely that emissions from the proposed CERC would cause an adverse health risk. The health effects associated with the CERC are shown to be very small, especially in comparison to the health effects associated with the existing exposure to atmospheric pollutants.
- NTS 70 The assessment of the greenhouse gas emissions from the CERC concluded that it would lead to a reduction in emissions relative to the current practice of landfilling all residue MSW within Cornwall.

Noise

- NTS 71 The potential effects of the CERC on existing and future noise levels in the vicinity of St Dennis and Treviscoe were assessed.
- NTS 72 In the areas surrounding the development site, a key factor influencing noise levels and their observed variability is distance from the china clay dryers. At Rostowrack Farm and Bodella Farm, observed noise levels are dominated by the influence of noise from these dryers. At more distant residential locations, wind direction and speed directly influenced both the dominant source and level of noise.
- NTS 73 Daytime and night-time noise design criteria were agreed with CCC, the EA and Restormel Borough Council. As the majority of the surrounding residences are located at distances greater than 400m, these criteria are readily achieved. To achieve these criteria at the two closest receptors, Bodella Farm and Rostowrack Farm, low noise air-cooled condensers had to be included in the design of the CERC.
- NTS 74 The inclusion of these condensers together with other operational controls mean that both daytime and night time noise effects are considered to be negligible at all locations.

Landscape and visual

- NTS 75 The landscape and visual assessment concludes that, although there are large scale industrial buildings adjacent to the site, including the neighbouring clay dryers, the height and massing of the main building exceeds that of any existing building in the area. The chimney is also

significantly larger in scale than other chimneys in the area. The industrial nature of the proposals is broadly in character with the area but the scale is larger than the characteristic industrial structures.

- NTS 76 This larger scale can be accommodated in the landscape by the large scale and dramatic slopes of the local topography. In addition, the character of the majority of the area that lies south of the site would not be influenced by sight of the proposals with the exception of the upper part of the chimney and the plume from higher ground.
- NTS 77 Changes to visual amenity will be generated as a direct consequence of changes in the appearance of the site, and these have been assessed for viewpoints up to 15 km from the site, including night time effects. Generally speaking the more distant views are less affected than those closer to the site, where some substantial effects will be apparent.
- NTS 78 Measures to minimise the landscape and visual effects have been developed during the design process and incorporated into the final design. These measures are described in ES chapter 4: the proposals. The predicted adverse effects are all as a result of the scale of the proposals and there are no further measures available which could reduce this further.

Natural heritage

- NTS 79 The EIA considered the impacts of the proposals on local wildlife and habitats. The construction of the CERC will result in the loss of two agricultural fields, the translocation of lengths of Cornish hedge, together with the construction of new hedge, and the creation of new habitats in the landscape around the CERC and along the haul road. Overall, it is predicted that, once established, the landscaping proposals will have a positive effect on the habitats on site.
- NTS 80 The proposals for a private haul route will lead to the loss of a small amount of woodland and some acid grassland. However, the establishment of new planting and balancing ponds for surface water drainage will lead to new or replacement habitats. Additional plant around the new bridge across the River Fal will mitigate any habitat loss associated with the bridge's construction.
- NTS 81 During operation of the plant, aerial emissions will be controlled to ensure that compounds that have potential as soil nutrients are reduced to negligible levels, thereby protecting the fragile habitats in the SAC.
- NTS 82 A range of biodiversity enhancements are proposed for the site. These will be implemented through a biodiversity management plan, to be drawn up prior to the CERC commencing operation. It will detail measures to provide mitigation for potential impacts on dormice, otters, badgers, reptiles, bats and birds.

Social and community effects

- NTS 83 There will be a short term increase in employment during the construction phase, with approximately 255 jobs likely to be created. Many of these jobs are likely to be filled by workers based outside the local area. Construction workers are likely to contribute to a temporary increase in spending in local shops and services during the construction period. It is unlikely that any influx of construction workers would have a significant effect on the demography of the local area.
- NTS 84 Site preparation and construction activities will be undertaken in an orderly manner and the site and access road will be kept clean at all times. In order to minimise noise nuisance, construction works audible outside of the site boundary will take place only during standard working hours (07:30 to 18:00 Monday to Friday and 07:30 to 13:00 on Saturday), with no works on Sundays or public holidays. Other measures to minimise nuisance during the construction phase are set out in the air quality and noise chapters of the ES. Given these provisions, there will not be a significant adverse effect on the amenity of local residents, visitors or businesses.
- NTS 85 During operation the proposed CERC will create approximately 48 jobs, including 4 in administration, 32 in operations, 8 in maintenance and 4 in management. Many of these jobs are likely to be filled by local people. The salary for all the jobs compares favourably with the current annual incomes in the Clay Area, where over half of households have an annual income of less than £15,000. In addition, the plant will form the office base for SITA Cornwall Ltd, with a further existing 20 jobs being moved from other locations in Cornwall. Some of these jobs may also become available to locals. The increase in jobs is likely to lead to an associated increase in spending in the local economy.
- NTS 86 ERM carried out a health risk assessment (HRA), which considered the potential effects of human exposure from emissions to air from the CERC. Human exposure to any harmful pollutants discharged directly to the aquatic environment and from solid waste disposal was considered to be negligible. Ben Cave Associates carried out a health impact assessment (HIA) that considered potential effects on local health inequalities. The consultation data from the HIA suggest that many local people perceive a potential health risk from the CERC emissions. There are also concerns regarding the potential for combined emissions from the CERC, transport and the adjacent clay industry. The study emphasised that there is no evidence that the CERC emissions will pose a risk to health, but that there is a need to address people's perceptions of risk. Suggested solutions to this include clear communication of the evidence for energy recovery safety, clear explanation of the monitoring systems and the introduction of a well-publicised process for the community to express its concerns regarding the CERC.
- NTS 87 The CERC plant is subject to controls that will ensure that it runs safely and in accordance with the EA's authorisation emission limits. Emissions will be constantly monitored and residues will be handled in accordance with the authorisation permit. The plant has been designed to manage potential

abnormal operating conditions safely and to ensure that there will be no significant effects on the health of local residents as a result of plant malfunction.

- NTS 88 In 2005, Cluttons researched the impacts of three operational energy recovery centres in Hampshire (Chineham, Marchwood and Portsmouth) on property prices in the surrounding areas, as part of a study into the potential impacts of a proposed energy recovery facility at Newhaven in East Sussex. The study showed that average house prices in the areas surrounding all three energy recovery centres, based on actual sales for different house types, have risen significantly since late 1998, during the planning application and construction phases of the facilities. The study therefore indicates that the development of the energy recovery centres has not had any noticeable or lasting detrimental effects on residential property prices or the development of community facilities at any of the locations during the planning process, construction or since commissioning. Values have continued to rise in line with other areas in their local markets. It has also not deterred investment in these areas by major national house builders. This suggests that the proposed CERC is not likely to have any long term adverse effects on property prices in St Dennis or other local villages.
- NTS 89 A study by DTZ Pidea (2002) into the potential economic impacts of constructing an energy recovery centre in Newhaven, West Sussex, included background research into the effects of modern energy recovery centres on the commercial property market in the vicinity. It found that there was no evidence that such plants have an adverse effect on the ability of an area to attract inward investment or on the image and perception of an area as a business location, which could have an adverse effect on existing companies. A possible exception to this finding was companies in the food processing sector. The proposed CERC is therefore not likely to adversely affect the regeneration potential of the area.
- NTS 90 Given the range of general design and mitigation measures that will be implemented to ensure that the site is properly operated, it is considered that the amenity of local residents and visitors to the area will not be adversely affected by the operation of the proposed plant. Similarly, there will be no changes to the amenity of the local area that could adversely affect inward investment or regeneration initiatives.
- NTS 91 SITA UK has an integrated Quality and Environmental Management System (QEMS) to control the quality of its services and the environmental impact of its operations, which is certified to the international standards. Such a system will be set up for the CERC. This will provide assurance to the local community that the facility operation is undertaken in strict compliance with regulations and that continual improvement in performance will be sought. The QEMS will require SITA to work in a transparent manner, maintain and improve the confidence of regulators and neighbours, and have a proactive approach to environmental improvement. These commitments will help to ensure that adverse effects on amenity will not arise.

- NTS 92 Existing local facilities are likely to continue in their present use and the proposals will not deter the development of new services.
- NTS 93 The proposals include a visitor centre, which will focus on the energy recovery undertaken at the facility and the waste and recycling operations undertaken throughout Cornwall as part of SITA's contract. The centre is designed to increase awareness of waste issues and encourage public participation in strategic waste management decisions.
- NTS 94 The public perception review highlighted that people often fear that the construction of energy recovery centres will discourage recycling. The scale of the proposed CERC has been calculated to ensure that recycling and composting will continue to expand in Cornwall and will not be discouraged by the development. The integrated waste management strategy for Cornwall is designed to be recycling-led and to increase recycling and composting percentages in the county. The construction of the CERC will therefore not result in significant adverse effects on recycling rates in Cornwall.

Ground conditions

- NTS 95 The assessment of ground conditions found that contamination is not a significant issue for any for the areas within the planning application boundary. However, asbestos and Japanese Knotweed have been identified along the route of the proposed CERC site access road. These will be to be disposed of in accordance with relevant construction industry standard guidance.
- NTS 96 A construction environmental management plan (CEMP) will be developed for the preparatory and construction works to address potential pollution risks. Mitigation measures to be incorporated in the CEMP will include:
- Monitoring of the removal of the asbestos and Japanese Knotweed works, by a suitably qualified environmental engineer
 - Sampling and testing of excavated soils
 - Careful storage of excavated topsoil
 - Procedures to be implemented during installation of underground services and foundations.
- NTS 97 Effects on the health of construction workers and the general public from potentially contaminated soils and materials will be controlled under the Construction (Design and Management) Regulations 2007. A health and safety management plan will be prepared, including a site specific risk assessment, that will specify appropriate safe working practices.
- NTS 98 During operation, all fuel storage facilities will comply with relevant legislation and guidance. The scheme will include design details, such as hardstanding and appropriate surface water drainage infrastructure to mitigate contamination risks.

NTS 99 No significant residual effects are predicted following mitigation.

Water environment

NTS 100 The ES considers the potential effects of the development proposal on the surface water environment at the site.

NTS 101 Potential impacts during construction include: those on surface water resulting from hydrocarbon contamination and sedimentation, and those on groundwater and the SAC/SSSI from the pumping out (dewatering) of excavations

NTS 102 To remove the risk of impacts on the surface water features in the vicinity of the CERC site, the surface water storage lagoon, which will control the drainage of the site once operational, will be constructed prior to the commencement of the main construction works. With regards to the SAC, the groundwater associated with Goss Moor is isolated from deeper groundwater and the SAC is not groundwater fed. Therefore, it is considered that during the excavation of the CERC's foundations, the dewatering of localised groundwater is unlikely to have significant effect on the SAC.

NTS 103 Once the CERC is operational, a combination of rainwater re-use, storage provision in the lagoon and soft landscaping will be in place to control the downstream flood risk. The new bridge taking the haul road over the River Fal will be designed in accordance with EA recommendations and this will ensure there is no detrimental effect on the watercourse or an increased flood risk.

Archaeology and cultural heritage

NTS 104 The application site is part of an ancient landscape of dispersed farmsteads and field systems, and the St Dennis area has a significant industrial heritage from medieval tin extraction to the ongoing influence of the china clay industry. Around Terice Bridge there is a group of features from various periods; fragments of two medieval field systems, a ruined early 19th century small farm, a stamping mill, ruins of Wheal Remfry brickworks established for the adjacent clay works and the 19th century double-arched stone bridge. The field boundaries at Rostowrack Farm are Cornish hedges, which are a particular archaeological resource both in themselves and for the potential of the former ground surface surviving beneath them.

NTS 105 The ES finds that effects on archaeology will occur predominantly during construction, resulting from all works requiring ground disturbance, including construction of 2.8km of new road, a new junction off Stamps Hill, a new section of road and a bridge over the River Fal, the relocation of existing Cornish hedges and ground works at the CERC site itself. Given the generally high potential and sensitivity of the entire study area, a substantial effect on archaeology is predicted.

- NTS 106 The proposals will result in significant visual changes that affect the special interest of various areas and structures of local historic interest, such as the grade-II* listed church of St Denys, the centre of St Dennis village, the area around Trelice Bridge which is an Area of Great Historical Value (AGHV), Parkandillick Engine House, and a wedge of anciently enclosed land along the Fal valley. The CERC will be a presence in the historic area through the views available of it. Where views of the CERC are possible the visual change, mainly due to the plant's scale and potential dominance, will result in substantial changes to areas and structures of historic interest.
- NTS 107 The road over Trelice Bridge will not be used for access for the construction or operation of the CERC. The new access road and bridge across the River Fal will be an addition to the present setting of the bridge and the ancient crossing point on the river. However, the immediate setting of the bridge as the road falls to the river crossing, is within a wooded area. The CERC is a significant addition to the wider landscape in views from the approach to the bridge. However, there are no particular historical or function links to give this change relevance to the setting or interest of the AGHV. The proposals are therefore not predicted to have any effect on the setting of the listed Trelice bridge or the surrounding AGHV.
- NTS 108 The substantial effect on archaeology will be mitigated through a programme of archaeological work (geophysical survey where practical and watching brief of all ground works) to be agreed with the Cornwall county archaeologist prior to any works beginning. The sections of Cornish hedge through the centre of the site and along the access road are to be relocated and incorporated in the landscape proposals for the scheme. Detailed proposals to survey and record this important historic landscape feature prior to these works should be incorporated as part of the construction environmental management plan that will be prepared. Once removed the ground beneath should be treated as an area for archaeological investigation. Close consultation between the site archaeologist and those responsible for these works will ensure that no significant excavation takes place as part of the removal works until archaeology has been considered properly.

Land use and agriculture

- NTS 109 Within the CERC site and access road 75% of the agricultural land is of low quality, with the remainder only marginally better. The CERC will result in the permanent loss of some 7.7 ha of agricultural land.
- NTS 110 The CERC operations will result in a permanent noticeable change in the existing land use. The CERC will have various effects on the single agricultural holding within which is situated, resulting from the physical loss of farmland and the severance of the fields south of the access road. There will be minor changes to the day-to-day management of the agricultural land holding, but they will not threaten its commercial viability.

- NTS 111 The human health risk assessment and air quality assessment have shown that emissions from the CERC will not cause any adverse pollution that would affect the ability of the farm to continue in milk production. To determine whether the perceived risk from the CERC could impact on agricultural businesses, a survey of milk buyers and producer organisations was undertaken. In total, nineteen replies have been received comprising two milk buyers and 17 producer organisations. No organisation has identified any production criteria for producers operating close to incineration stacks. From this consultation exercise, it is concluded that the CERC proposals will not have a significant effect on the marketability of local agricultural or dairy produce.
- NTS 112 The operation of the plant will have no significant land use effects on the wider St Dennis area.
- NTS 113 The introduction of the new CERC facility at the site represents a new land use. This is considered to be a significant beneficial effect in land use terms, given the function of the CERC in providing for the waste management needs of the county.

Waste

- NTS 114 The ES examines the wastes expected to arise during the construction and operational phases of the development.
- NTS 115 The construction of the CERC will produce waste arisings such as excavated soils and bedrock and waste building materials. However, since the levels across the site will be altered to accommodate the new development, the majority of the excavated soil will be used on-site wherever possible. This minimises the transport impact on the local highway network.
- NTS 116 During operation, the CERC will process up to 240,000 tpa of predominantly residual MSW from within Cornwall. Waste minimisation will be achieved by recycling schemes operated prior to receipt of the waste at this plant. This includes material recovery facilities, household waste recycling centres and composting plants.
- NTS 117 The processing of residual waste at the CERC will have the beneficial effect of diverting waste from landfill. The provision of the CERC will result in a large change in waste management practice in Cornwall, and this is deemed to be a beneficial effect of substantial significance.
- NTS 118 Both ferrous and non-ferrous scrap metal collected from the process will be sent for recycling. At present scrap metal collected from the region is sent to Cardiff by train to be melted and recycled. The recycling of this material is considered to be a beneficial effect of the CERC process.

Conclusions

- NTS 119 The environmental effects of the proposals must be considered against other alternative means of managing waste. There is no "do nothing" alternative available for waste management. The waste strategy for Cornwall will increase the amount of recycling and composting, but it is inevitable there will be residual waste that cannot be managed using these methods.
- NTS 120 To manage this residual waste, the only currently viable alternative to building the CERC would be to rely more heavily on landfill, a waste management option which brings its own problems and which is acknowledged as having adverse environmental effects. The capacity of existing landfill sites within the waste local plan area is insufficient to deal with the quantities of waste arising. Increased landfill would therefore lead to a need to export waste out of Cornwall.
- NTS 121 The significance of the other effects that remain after mitigation measures have been taken is considered to be acceptable. Overall the CERC will make a contribution to the sustainable development of Cornwall. Notwithstanding the visual impact on the local area arising from what is necessarily a large building, as recognised in the waste local plan, the environmental effects of the project are, on balance, beneficial. This is particularly so taking into account the beneficial extraction of energy resources and materials from waste.