



Endecom UK Ltd



**PROPOSED DEVELOPMENT OF THE
KEEKLE HEAD WASTE MANAGEMENT CENTRE,
CUMBRIA.**

ENVIRONMENTAL SCOPING REPORT

June 2009

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1.0 INTRODUCTION

- 1.1 Endecom UK Ltd is a wholly-owned subsidiary of SITA UK. The company has been established to operate in support of the country's nuclear industries, particularly in respect of the disposal of low and very low level radioactive wastes (LLW and VLLW) and other contaminated materials.
- 1.2 The company will contribute to the UK's national waste policy and the nuclear industry's Integrated Waste Strategy by providing alternative facilities for dealing with VLLW. The company will provide the best practicable means of processing, treatment and disposal and will investigate and introduce innovative and cost effective solutions to help industry and the country meet their obligations to dispose of waste safely.
- 1.3 SITA UK Ltd has extensive experience of handling and disposing of waste, operates safe and secure facilities in an environmentally responsible manner, ensuring the minimum impacts of disposal in both the short and long term. The company operates in an open and transparent fashion and will engage with regulators, stakeholders and the public to ensure that our operations are fully understood and to encourage participation in our business activities.
- 1.4 Endecom UK Ltd has agreed purchase arrangements for the derelict opencast coal quarry at Keekle Head, near Whitehaven, with a view to its re-use as a Waste Management Centre for the disposal of low and very low level radioactive construction and demolition wastes arising primarily from Sellafield and other sites, plus possibly some non-radiological waste. The scheme would include early, high quality restoration of large parts of the site including reinstating the River Keekle close to its original course. After the landfilling is complete, and the operational life span is anticipated to be in the order of fifty years, a full landscape restoration scheme would be completed.
- 1.5 This proposal is being progressed in line with the 'UK Nuclear Industry LLW Strategy' currently being consulted on by the Nuclear Decommissioning Authority, which seeks to identify alternative treatment and disposal options to

reduce the volume of low level waste (LLW) and to preserve the capacity of the Low Level Waste Repository (LLWR) near Drigg for the UK's future needs. This strategy is supported by Defra policy LD42 "Policy for the Long Term Management of Solid Low Level Radioactive Waste in the United Kingdom" published in March 2007, which sets out a framework for the flexible management of LLW.

- 1.6 This document has been prepared to aid a formal request, under Regulation 10 of the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 (*"the Regulations"*), to agree the scope of Environmental Impact Assessment (EIA) required for the planning application for the proposed development of a waste management centre at the former Keekle Head Open Cast Site, Pica, Cumbria.
- 1.7 The site is located within the open countryside with adequate road connections to the Sellafield complex in west Cumbria, this being the principal source of forecast LLW and VLLW arisings. A development of this type is needed to divert high volume LLW and VLLW arisings from the Low Level Waste Repository (LLWR) facility near Drigg and in so doing, preserve the capacity of this finite resource for higher level wastes. Development on the Keekle site would ensure that the waste can be disposed of in accordance with the principles of proximity and thereby minimise vehicle miles in transporting decommissioning waste from the point of generation to final disposal.
- 1.8 The development would include a waste reception area and associated buildings including visitor facilities, and the re-engineering of the former open cast coal workings to create a purpose built landfill void primarily for very low level radioactive waste, and including some lower end activity low level waste. The project would include an extensive scheme of landscape restoration that would serve to both return large parts of the existing site to beneficial green field uses and create a well screened setting for the new facility.
- 1.9 Circular 02/99: Environmental Impact Assessment; provides guidance on the Regulations, and states that the likelihood of significant effects associated with

installations for the disposal of non-hazardous waste will generally depend on the scale of the development and the nature of the potential impacts. Installations for the deposit, recovery and/or disposal of household, industrial and or commercial waste (as defined by the Controlled Waste Regulations 1992) are more likely to require EIA where new capacity is created to hold more than 50,000 tonnes per annum, or to hold waste on a site of 10 hectares or more.

- 1.10 Council Directive 91/689/EEC on hazardous waste lists properties of wastes that render them hazardous. Whilst radioactivity is not listed in the annexes to this directive, wastes that have properties that could potentially be 'harmful', 'carcinogenic', 'teratogenic' or 'mutagenic' are classified as hazardous. Waste disposal installations for the incineration, chemical treatment, or landfill of hazardous waste require an Environmental Impact Assessment in every case.

- 1.11 In light of this advice, Endecom UK Ltd has elected to undertake an EIA in respect of the proposed development. Section 2.0 of this report describes the existing Keekle Head Site and its planning history. Section 3.0 describes the proposed development. Section 4.0 outlines the main environmental issues that are of relevance to the proposed scheme and considers the scope of the environmental assessment under a series of headings. Section 5.0 sets out the likely structure of the Environmental Statement (ES), which is the document in which the EIA will be reported. Finally, Section 6.0 identifies those bodies/organisations that the applicant intends to consult in undertaking the EIA and proposals for wider community consultation.

2.0 BACKGROUND

2.1 The Site

2.1.1 The former Keekle Head opencast coal mine is proposed as the location for a new Waste Management Centre for the disposal of low and very low activity radioactive waste, including High Volume VLLW.

2.1.2 The site covers about 70 hectares and is located one mile from Pica and five miles from Whitehaven. The C4006 Pica to Dean Cross Road forms the northern boundary of the site and part of the High Park escarpment forms its southern boundary.

2.1.3 A small number of residential properties are located in the vicinity of the site, including Wilson Park Farm, Keekle Head Farm, Midtown Farm and residences at the former Greyhound Public House. Access to the site is from the north from the Pica to Deans Cross Road. Abutting the site to the south is an area designated as a Landscape of County Importance. The context of the locality is largely made up of large pasture fields divided by established hedgerows and farmsteads. The topography is predominantly rolling in nature to the north rising to High Park to the south of the site with a summit at 247m AOD. The location of the site is shown on Figure 1.

2.1.4 The site is located within the administrative area of Copeland Borough Council. The eastern boundary of the site forms the boundary between districts of Copeland and Allerdale.

2.2 Planning History

2.2.1 Planning permission was originally granted by Cumbria County Council for the extraction of 1.5 million tonnes of coal at the Keekle Head site on 15 September 1998 (Planning Ref. 4/97/9027). Permission was granted pursuant to a number of conditions and the signing of Section 106 and 278 Agreements. Planning conditions required amongst other things, that mineral extraction cease within

seven years from the date of permission, and that restoration be completed within two years from the cessation of mineral extraction.

- 2.2.2 A revised scheme of working for the site was agreed by Cumbria County Council Development Control and Regulatory Committee on the 27 November 2000 which reduced the extent and depth of the excavations at the site.
- 2.2.3 A second application was submitted for a minor extension to the site in 2001 (Planning Ref. 4/01/9004) but this never went ahead. Cumbria County Council resolved to grant consent subject to conditions and a revised Section 106 Agreement but the legal agreement was never completed and the decision notice was therefore never issued.
- 2.2.4 Subsequently, in August 2008, an Enforcement Notice was served on the landowners by Cumbria County Council, pursuant to Section 171A(1) of the Town & Country Planning Act 1990, in respect of the alleged failure to restore the site in accordance with planning permission 4/97/9027. The initial requirements of the notice are being complied with.

3.0 THE SCHEME PROPOSALS

3.1 Overview

3.1.1 It is proposed to create a 1 million cubic metre disposal facility for the disposal over an operational life of around fifty years of low and very low level radioactive waste material through the reworking of a site that has been despoiled by open cast coal extraction.

3.1.2 Solid radioactive waste is divided into three broad categories – High, Intermediate and Low levels – according to its radioactivity content and the heat it produces. Endecom is only intending to deal with the lowest waste category, and with its lowest activity sub-category, known as very low level waste (VLLW), along with small amounts at the lower end of low level waste (LLW). This contains extremely low levels of radioactivity and is classed as low risk. Very low level waste is typically material such as demolition rubble, concrete, excavated soil and other decommissioning wastes that have become slightly contaminated at source.

3.1.3 The proposed waste management centre **would not** be used for the disposal of any High or Intermediate levels of waste, or for the disposal of any liquid wastes.

3.1.4 If planning approval is gained, the Keekle Head Waste Management Centre would be designed, constructed and operated to the highest technical standard and in accordance with regulatory requirements and industry best practice.

3.1.5 In parallel with the creation of the disposal facility, an extensive land restoration scheme would be undertaken to reinstate a natural valley for the River Keekle which was diverted to facilitate coal extraction

3.1.6 The proposed development would principally comprise six key elements that will be described in further detail below. These are:

- enabling restoration;
- purpose built disposal area;

- other new site infrastructure;
- method of placing waste;
- restoration of the disposal area; and
- long term programme of monitoring and maintenance.

3.2 Enabling Restoration

3.2.1 The existing site is a former open cast coal site. Specifically it consists of two large, deep excavations that have filled with water since coal extraction ceased in 2005, substantial overburden mounds and the remains of site infrastructure such as screening bunds and hardstandings. The River Keekle, which was diverted to facilitate coal extraction, currently remains along its diverted alignment. Two footpaths that were stopped up to facilitate coal extraction remain closed.

3.2.2 It is proposed that the site would be re-engineered by draining the large bodies of water, infilling the resultant voids with overburden material and then restoring much of the existing site to a finished landscape restoration profile at an early stage. As well as delivering clear benefits to the site and surrounding area, this phase would also incorporate advanced screening of the proposed facility using a combination of strategic mounding and tree planting.

3.2.3 Central to the design of this phase is a return of the River Keekle to an alignment close to its original, consideration of alternative footpath routes and the reinstatement of adjoining land for biodiversity benefit. The restored Keekle valley would include a natural flood plain and water meadows.

3.2.4 It is noted that there are County Wildlife sites at the upstream and down stream limits of the site (both of which are designated on the basis of wet/damp vegetation) and it is proposed that the scheme would introduce a range of riparian and wetland habitats that would complement these sites.

3.2.5 Land to the north of the River Keekle, currently occupied by vacant areas of hardstanding would be restored to predominately agricultural use, providing an effective buffer between the proposed site activities and the public highway. This

area would ultimately accommodate the access road to the new facility and to the south the reception facilities (refer to further detail below).

- 3.2.6 Extensive tree planting is proposed to the peripheries of the proposed facility to achieve screening. It is envisaged that this would be implemented at a very early stage in the project so as to be gaining maturity and stature at the earliest possible time.

3.3 Purpose Built Disposal Area

- 3.3.1 Since LLW and VLLW do contain some radioactivity, it is important that health and safety measures are in place to ensure that personnel working at the site do not receive a radioactive dose higher than the safe legal limits. It is also important that all waste sent to the landfill is disposed of in a manner to prevent any contamination of the surrounding area.

- 3.3.2 Endecom's design team has undertaken international research visits and has held technical discussions to identify the best practicable means of receiving, treating and handling this type of waste prior to disposal. The landfill disposal facility will be designed to provide treatment and disposal with environmental control systems, of equivalent quality to those used elsewhere in Western Europe.

- 3.3.3 The proposed disposal area would occupy the main north west facing slope within the former open cast site. The disposal site void would be created as part of the same overall site modeling exercise employed to achieve the enabling restoration, as described above.

- 3.3.4 The disposal void would be a rectangular feature with a consistent sub-grade profile and with perimeter screening bunds to reduce the visibility of operations from the surrounding area. Within the void, disposal would proceed from north west to south east, in a series of linear phases aligned north east to south west. A guiding principal of the design has been that the waste should be placed and kept in as dry an environment as possible to keep to an absolute minimum the

generation of leachate. Each of these contained cells would for this reason be covered by a weatherproof enclosure

3.3.5 Each weatherproof enclosure would consist of a steel structure completely covered with a plasticized tarpaulin type sheet so that precipitation would be prevented from entering. The structure would be approximately 50 metres wide, 150 metres long and 15 metres high and mounted on a rail system to allow it to be moved along the length of the containment cell as it is filled. All operations connected to the creation, filling and capping of the containment cells would take place inside this weatherproof enclosure.

3.3.6 In addition to the use of the weatherproof enclosure, the following measures would also be taken to achieve a dry disposal environment:

- groundwater below the site would be intercepted and positively drained above the subgrade (3 metres below the formation of the lining system);
- each phase would be lined with a composite lined containment system;
- after capping the structure a further protective layer of clay and clean spoil would be placed, followed by restoration soils and vegetation.

Leachate Management

3.3.7 Because of all the precautions taken to exclude water from the containment cells, it is very unlikely that any leachate will be collected within the containment cells during the operational and post closure periods. Nevertheless, as a fail safe measure, each containment cell will have a conventional leachate collection and extraction system.

3.3.8 The base of each containment cell would have a 300mm thick layer of gravel with a filter geotextile over its surface. This would connect to a leachate extraction chamber which would connect the lowest part of the containment cell to the surface and enable any leachate to be sampled and extracted. A dedicated road would be provided as part of the site restoration to enable tanker access to the leachate extraction chambers, should this be required. The leachate extraction chambers would be sealed to the capping membranes so as to avoid the extraction chambers becoming a future source of inward leakage

Landfill Gas

- 3.3.9 Very little, if any, of the waste imported to the site would contain putrescible material. Therefore the propensity of the waste to generate landfill gas (a mixture of methane and carbon monoxide) would be extremely limited.

Groundwater Management

- 3.3.10 As mentioned previously, a groundwater drainage system would be installed below the engineered general fill layer which itself would be below the containment cells. This under drainage system would comprise HDPE slotted pipes and would be drained either by pumping or by a gravitational discharge to an under drainage collection pond located to the north of the disposal area. This pond would be regularly monitored and provided that the water was of good quality it would be discharged to a water treatment area for final conditioning and released into the River Keekle.

- 3.3.11 Calculations have been undertaken to examine the potential for the site to cause pollution of the groundwater. These have demonstrated that the purifying properties of the lining system and the engineered zone beneath it are such that any leakage of leachate (should any leachate arise) would be sufficiently purified by the time it arrived at the under drainage system.

- 3.3.12 Notwithstanding these findings, in order to address the unlikely situation that the under drainage system needed to be decommissioned, the system would be constructed in such a way that it would be possible to fully grout it and remove it as a potential leakage route

Surface Water Management

- 3.3.13 As the waste handling activities would all take place within enclosures or closed vehicles the possibility of waste material contaminating surface water has effectively been eliminated.

- 3.3.14 The site would however contain an increased area of impermeable surfacing compared with the current situation. It would therefore be necessary to provide

infrastructure to ensure that the clean surface water discharge to the River Keekle is attenuated so that it matches or is slower than the equivalent greenfield run off from the site before it was disturbed.

- 3.3.15 This would be achieved by the construction of a system of ponds in the water treatment area to provide storage capacity for surges of run off and to ensure the water is cleaned (through the removal of fines etc.) to the requirements of the Environment Agency.

3.4 Other New Site Infrastructure

Waste Management Centre Building

- 3.4.1 A split level steel portal framed building measuring approximately 50 metres by 100 metres and with a height to the eaves of approximately 8 metres would be constructed to the south east of Wilson Park Farm on the north bank of the restored River Keekle (at a level beyond any risk of flooding). The building would provide an undercover reception area for the checking of incoming waste and collection of details for entry into the site inventory prior to their transfer to the containment cells.

- 3.4.2 A percentage of the waste would be diverted to a measurement suite within the building where they would be either measured for radiological content or sampled for quality control tests.

Offices, Laboratories, Visitor, Welfare and Hygiene Facilities

- 3.4.3 Office accommodation, laboratories and welfare and hygiene facilities for staff would be provided in a separate building (or buildings) close to the Waste Treatment Centre Building on the north side of the River Keekle. It is envisaged that Visitor facilities would also be located in this area.

Access Roads and Carparking

- 3.4.4 A new access road would be constructed from the established access to the site from the C4006 Pica to Dean Cross Road to the Waste Management Centre Building. All vehicles would be required to report to a gatehouse set back from

the public highway before proceeding to the Waste Management Centre. At the Waste Treatment Centre Building there would be carparking for staff and visitors as well as sufficient external hardstanding to accommodate waiting Heavy Goods Vehicles.

3.4.5 A further access road would be constructed between the Waste Management Centre Building and the disposal area. This road would cross the reinstated River Keekle by means of a large diameter pipe crossing.

3.4.6 There would be further access roads within and around the disposal area to facilitate vehicle movements to service, monitor and inspect the various elements of infrastructure.

Water Treatment Areas

3.4.7 There would be a number of water treatment areas on the site, each consisting of a series of connected ponds or lagoons that would be used to treat and monitor the quality of water prior to its discharge to the River Keekle. There would be separate systems for leachate (should any arise), intercepted groundwater, and surface water. In all cases, there would be systems in place to moderate and/or prevent the flow of water into the river.

3.5 Method of Placing Waste

3.5.1 Waste arriving at the site would be taken to the Waste Management Centre building. Within this building, all wastes would be checked and details entered into the site inventory. The waste packages would be unloaded into a receipt bay, documentation checked and prepared for transportation and emplacement in the containment cells. A percentage of wastes would be diverted to a measurement suite where they would be either non-intrusively measured for radiological content or intrusively sampled for more involved quality control tests.

3.5.2 The waste would normally be accepted in either drums or sealed bulk bags. These would be stacked in layers within the containment cell using a telehandler (a telescopic fork lift).

- 3.5.3 Minor voids between the placed containers would be carefully packed with sand or quarry fines and a layer of approximately 150mm thickness of the same packing material placed on top of each layer of items to provide a running surface for the placement of the next layer. Larger items that may occasionally be accepted (such as freight containers or individual pieces of plant or machinery) would be pre-packaged at source and again be carefully incorporated into the containment cell and packed to fill all voids and achieve a stable construction.
- 3.5.4 The upper profile of the waste in the cell would be formed in layers of decreasing area with access to the deposition area being gained by means of a ramp with a running surface constructed from packing material.

3.6 Restoration of the Disposal Area

- 3.6.1 As each containment cell is completed, as has been described above, it would be capped with a system comprising a flexible membrane, followed by further layers of drainage material, clay and overburden. Subsequently, it would be restored to a green field state through the addition of soils and seeding with a suitable conservation grassland / heathland seed mixture.

3.7 Future Monitoring and Management

- 3.7.1 The nature of the deposited wastes would be such that a long term programme of monitoring, maintenance and management would be put in place. This would include monitoring of water quality from under drainage, leachate and surrounding surface and ground waters.
- 3.7.2 The restored areas of landscape surrounding the new Waste Management Centre would be subject to a long term programme of management that would commence after the initial enabling restoration and continue throughout and beyond the operational phase of the facility. The management plan, which would be prepared in conjunction with the relevant statutory bodies, would set specific

management objectives, with progress against these objectives monitored on a regular basis and management inputs reviewed accordingly.

4.0 ENVIRONMENTAL ISSUES

4.1 Introduction

4.1.1 The Environmental Statement will include the information required under Schedule 4 of the Environmental Impact Assessment Regulations, but will be focussed upon where the potential exists for the development to give rise to the main or significant environmental effects.

4.1.2 This section sets out Endecom's views as to the main environmental issues to be assessed and the manner in which they intend to address them. The principal issues have been considered under the following headings:

- Health Impact Assessment
- Transportation and Highways;
- Landscape and Visual Impact;
- Ecology and Nature Conservation;
- Geology, Hydrology and Flood Risk;
- Noise and Vibration;
- Air Quality;
- Archaeology and Heritage;
- Socio-Economic Impact;
- Assessment of Alternatives

4.2 Health Impact Assessment

4.2.1 The potential health impacts of the proposed development will be outlined in a Health Impact Assessment. This will include:

- profiling of areas and communities with potential to be affected
- involving stakeholders and key informants in predicting potential health impacts, using a predefined model of health
- evaluating the importance, scale and likelihood of predicted impacts

- considering alternative options and making recommendations for action to enhance or mitigate impacts

4.3 Transportation and Highways

4.3.1 The impact of traffic generated by this proposal on the highway network will need to be fully investigated through a Traffic Impact Assessment (TIA). This may accompany or form part of the ES and would be undertaken in accordance with the guidelines published by the Institute of Highways and Transportation. The scheme would utilise the existing access from the north and traffic routes as used during open cast operations, thereby avoiding any traffic passing through the village of Pica.

4.3.2 The Transportation Assessment would consider the possible effects of predicted development traffic on the highway infrastructure in the area, focusing primarily on road based traffic impacts to include:

- A review of existing conditions local to the site;
- Predictions of vehicle trip generation, routing & assignment;
- Anticipated growth and design year considerations;
- Highway safety;
- Highway amenity.

4.4 Landscape and Visual Impact

4.4.1 The potential landscape and visual effects of the scheme would be assessed separately in accordance with the methodology set out in the 'Guidelines for Landscape and Visual Impact Assessment' (The Institute of Environmental Assessment and Landscape Institute, Second Edition).

4.4.2 The site falls within the Countryside Agency's classification – Countryside Character Area 7. A Borough Landscape Appraisal undertaken and detailed within Technical Paper 5 - Landscape Character identifies the area as falling within sub-type 9A: Open Moorlands, and adjacent to sub-type 9D: Ridges.

- 4.4.3 The landscape and visual assessment would highlight the key characteristics of the site and those of the wider area, and evaluate the magnitude of impact that would arise from the scheme upon those key defining characteristics.
- 4.4.4 The previous open cast operations have had some significant landscape and visual effects and it is the resultant despoiled landscape that we propose would form the principal component of the baseline position against which the assessment would be made. It is acknowledged that a restoration scheme for the site has been previously submitted and approved in 1998 and that were the appropriate mechanisms in place to achieve such a restoration, the assessment baseline would be substantially different. In recognition of this, it is proposed that the landscape and visual assessment would also make reference to the baseline that would have existed had the approved restoration scheme been implemented.
- 4.4.5 Waste disposal sites in general have the potential to cause visual intrusion during engineering, landfilling and post-landfilling operations. In this instance, the significant commitment to early landscape restoration means that it is likely that the landscape and visual change brought about by the project would be overwhelmingly positive.
- 4.4.6 Potential impacts would be assessed for residential properties, public rights of way, other areas with public access, institutional, sporting and commercial premises (these are ordered by degree of sensitivity, i.e. residential properties are the most sensitive).
- 4.4.7 It is proposed to identify a range of representative viewpoints and to first agree these with the relevant officers at the District and County Planning Authorities. The assessment process would be supported by the preparation of photomontages.
- 4.4.8 The site is in general well-contained by the surrounding topography, in particular to the east and south, where the land rises towards High Park. Whilst some very

distant views of the site are likely to be possible from elevated land to the east, it is unlikely that the development would be conspicuous given the distances of these views (several kilometres). Clearer views of the development would be likely to be experienced from the farmhouses immediately to the east and south of the site. Extensive mitigation measures will however be incorporated into the design to address this.

4.5 Ecology and Nature Conservation

4.5.1 An ecological background data search and extended Phase 1 Habitat Survey has been undertaken. The results of the background data search include that there are no international or national statutory designated sites within two kilometers of the site boundary. It has however been noted that the River Keekle flows into the River Ehen which is designated as a Site of Special Scientific Interest (SSSI) and a Special Area of Conservation (SAC) up stream of the confluence. The proposed scheme will be developed mindful of any potential impacts upon this statutory designation. In addition there are six non-statutory County Wildlife Sites (CWS) within one kilometre of the site boundary.

4.5.2 The extended Phase 1 Habitat Survey has shown that although much of the site is dominated by two large lakes and consists of sparsely vegetated ground associated with the former coal workings, a variety of semi natural habitats are also present. Additional surveys are either underway or planned in respect of badgers, breeding birds, otters, water vole, great crested newts and reptiles. The results of these surveys, including the potential impacts upon identified habitats as a result of the development will be reported in full within an Ecological Impact Assessment (EclA). The EclA will include an Environmental Action Plan (EAP) identifying appropriate mitigation and / or compensation when necessary.

4.6 Geology, Hydrology and Flood Risk

4.6.1 The geology of the area is well known by virtue of extensive records as a result of historical opencast workings and prospecting. Indeed, the site has been selected in large part due to the suitability of the local geology. Further Site

Investigation work is planned which will inform the ES, and a planning application has been submitted (ref 4/09/9002) to enable a number of monitoring boreholes to be installed. A full Hydrogeological, Hydrological and Flood Risk Assessment will be carried out and submitted as part of the ES submission.

4.7 Noise and Vibration

4.7.1 A full Noise Impact Assessment (NIA) would be undertaken to support the planning application. The noise environment of the area would be characterised by reviewing existing monitoring data, including any relevant data held by the local authority. Depending upon the data available, additional noise monitoring may be needed in order to adequately characterise the noise environment, particularly at nearby residential properties. Measurements would be undertaken at locations and to a methodology agreed with the County Planning Authority.

4.7.2 Reference would be made to BS 5228 'Noise and vibration control on construction and open sites' in order to assess possible noise impacts during the site preparation and operational phases. In addition, reference would be made to Minerals Policy Statement (MPS) 2: Controlling and Mitigating the Environmental Effects of Mineral Extraction, in order to evaluate potential noise impacts during the enabling restoration, landfill engineering and landfilling phases. Where possible, noise monitoring data from similar operations will be reviewed in order to obtain accurate predicted noise levels at sensitive receptors. Guidance presented in BS 4142 'Rating industrial noise affecting mixed residential and industrial areas' will also be used in order to assess the likelihood of complaint from local residents living at selected properties.

4.7.3 Predictions of traffic noise at selected receptors would be undertaken using the methodology presented in the documentation 'Calculation of Road Traffic noise'.

The noise report would be prepared detailing:

- the measured baseline noise levels;
- the method of prediction, based upon MPS2 guidance;
- impact of road traffic noise;
- mitigation measures where appropriate.

4.8 Air Quality

4.8.1 There would be a number of potential dust emission sources associated with the proposals, first during site restoration/construction phases and later during the operation of the facility. These would include the movement of vehicles over bare earth areas and general soil erosion by wind during dry periods of weather prior to establishment of vegetation. During the operational phase of the proposed facility, dust emissions could arise from vehicles movements on unpaved site roads, and during some engineering works in the disposal area (although only those operations taking place at the very beginning and end of the process – most of the engineering being done under the weatherproof enclosure).

4.8.2 Site specific Waste Acceptance Criteria (WAC) would be developed with each waste producer to ensure that the waste type and source is clearly identified and safely packaged for road transport prior to leaving the source of waste arising. On receipt at the site the individual packages would be received, logged and processed as required, to ensure safe disposal in a dust free manner.

4.8.3 In preparing the impact assessment background information would be collated on the following to assist in assessing the potential impacts upon air quality:

- prevailing meteorological conditions; (currently being monitored by an automated on-site weather station)
- location of sensitive receptors;
- other local sources of emissions to air.

4.8.4 It is noted that whilst the nearest properties to the site lie within 100 metres of the eastern and southern boundaries, these properties are significantly further away from any of the operational areas.

4.9 Archaeology and Heritage

4.9.1 Recent use of the site as an open cast colliery suggests that there is a very low likelihood that any artefacts will be evident on the site. Therefore, it is likely that the assessment would be restricted to the identification of Listed Buildings, Conservation Areas and Scheduled Ancient Monuments and the potential harm which could occur to their setting/character.

4.9.2 The EIA process will include a full desk study to identify the potential for any archaeological remains that may be affected by the development and identify any mitigation measures where appropriate.

4.10 Socio-Economic Impact

4.10.1 This section of the ES would assess the potential impacts which the development may have on the socio-economic character of the area, specifically considering the employment issues related to the development, disruption to the local community and effects on local economy.

4.11 Assessment of Alternatives

4.11.1 The ES will include a description of the main practical alternatives to the proposed development that have been considered. This will include alternative sites, alternative site layouts, alternative processes and alternative approaches to phasing.

5.0 STRUCTURE OF THE REPORT

5.1 The likely contents and proposed structure of the Environmental Statement report is shown below.

VOLUME 1 - NON-TECHNICAL SUMMARY

VOLUME 2 - ENVIRONMENTAL STATEMENT MAIN REPORT

1.0 INTRODUCTION

2.0 SCOPE OF THE ENVIRONMENTAL ASSESSMENT

3.0 NEED FOR THE SCHEME

4.0 DETAILED SCHEME DESCRIPTION

5.0 ENVIRONMENTAL ISSUES

- i. Health Impact Assessment
- ii. Need, Planning Policy and Land Use;
- iii. Transportation and Highways;
- iv. Landscape and Visual Impact;
- v. Ecology and Nature Conservation;
- vi. Geology, Hydrology and Flood Risk;
- vii. Noise and Vibration;
- viii. Air Quality;
- ix. Archaeology and Heritage;
- x. Socio-Economic Impact;
- xi. Assessment of alternatives considered

6.0 SUMMARY OF EFFECTS

FIGURES AND DRAWINGS

TECHNICAL APPENDICES

6.0 CONSULTATIONS

6.1 Throughout the planning application process, Endecom will undertake a programme of public consultation to ensure effective and proactive engagement with the local community.

6.2 Informal consultations will also be carried out with a range of statutory and non-statutory planning consultees to further inform the EIA process. At this time it is envisaged that these will comprise:

Statutory Consultees

- Cumbria County Council;
- Copeland Borough Council;
- Natural England;
- Environmental Agency;

Non-Statutory Consultees

- Local Parish Council;
- Nuclear Decommissioning Authority;
- Cumbria Wildlife Trust;
- Allerdale Borough Council
- Lake District National Park Authority