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# DEVELOPMENT OF THE KEEKLE HEAD WASTE MANAGEMENT CENTRE

July 2008



## **SITA UK'S VISION FOR A MAJOR WASTE MANAGEMENT FACILITY IN THE FORMER OPENCAST COALMINE AT KEEKLE HEAD, WEST CUMBRIA**

Nuclear decommissioning will generate significant quantities of very low activity radioactive wastes which present a relatively low hazard. Continued disposal of these wastes to the highly engineered national Low Level Waste Repository, near Drigg, is not sustainable, and is very expensive for the taxpayer.

Government policy encourages the disposal of these wastes to alternative, appropriately engineered facilities, ideally close to the location at which they arise.

In line with this policy, SITA UK, one of the largest and most experienced recycling and waste management companies in the UK, plans to develop a new facility on the site of a disused opencast coalmine at Keekle Head, near Whitehaven. It will be a modern engineered facility for the safe, cost effective and environmentally sustainable disposal of lower activity wastes arising from Sellafield and other sites, which would otherwise have been disposed of at the LLWR.





## **1. CONSIDERATION OF OPTIONS FOR THE TREATMENT OF LOW LEVEL WASTES FROM SELLAFIELD (PICTURED ABOVE) AND OTHER SITES**

In recent months Sellafield Ltd, which operates the Sellafield nuclear licensed site in West Cumbria on behalf of the Nuclear Decommissioning Authority, has been reviewing options for managing Sellafield's low and very low level wastes. This is part of a process to ensure that waste is managed in the most effective manner, with due regard to both the short- and long-term impacts.

UK Nuclear Waste Management Ltd has been appointed as the new operator of the Low Level Waste Repository (LLWR) near Drigg. It is also examining new methods for treating and disposing of very low level radioactive waste (VLLW) in order to optimise the use of the remaining capacity at the LLWR – the UK's strategic facility.

The outcome of both examinations will be a comprehensive integrated waste strategy covering operational and decommissioning wastes from sites across the UK.

The development of this new strategy will take time to finalise and to be put in place. However, because optimising use of the LLWR is critical to achieving mid-term goals for

Sellafield, which alone accounts for as much as half the waste currently consigned to the LLWR, as well as the decommissioning and clean up of other sites, alternative solutions for the treatment and disposal of VLLW need to be implemented fairly soon.

For this reason, since May 2008, the LLWR has started to seek expressions of interest from companies with the capabilities and experience to dispose of VLLW which would otherwise be deposited at the LLWR. There is an immediate need to deal with this material, as well as any new waste generated by risk reduction and remediation activities, and the demolition of ageing facilities on the Sellafield and other sites.

These activities will create relatively large volumes of radioactive wastes which are contaminated at very low levels, including demolition rubble, concrete, excavated soil and other decommissioning wastes. The volume to be disposed of is thought to be in the order of one million tonnes of concrete and potentially several million tonnes of soil, though Sellafield Ltd is undertaking more detailed research to determine more precisely the amount of potential waste.

The Nuclear Decommissioning Authority, Environment Agency and Nuclear Installations Inspectorate have all

indicated their commitment to properly supported, transparent decision making, using the Best Practicable Environmental Option concept. This option aims to achieve the most desirable balance for the near and long term future.

## 2. GOVERNMENT POLICY

The Government has determined that disposal of waste is preferable to storage, as the latter cannot continue indefinitely. In addition to the cost of continued storage and the use of valuable space, keeping wastes in storage is potentially hazardous and would require double handling when the wastes are eventually disposed of. Direct disposal to appropriate landfill facilities is being actively considered as an acceptable option for some wastes, such as high volumes of VLLW.

In July 2008, the Government launched its vision for Britain's Energy Coast, which names West Cumbria as the centre of the UK's revitalised nuclear industry and aims to firmly place the region as a world leader in energy related business.

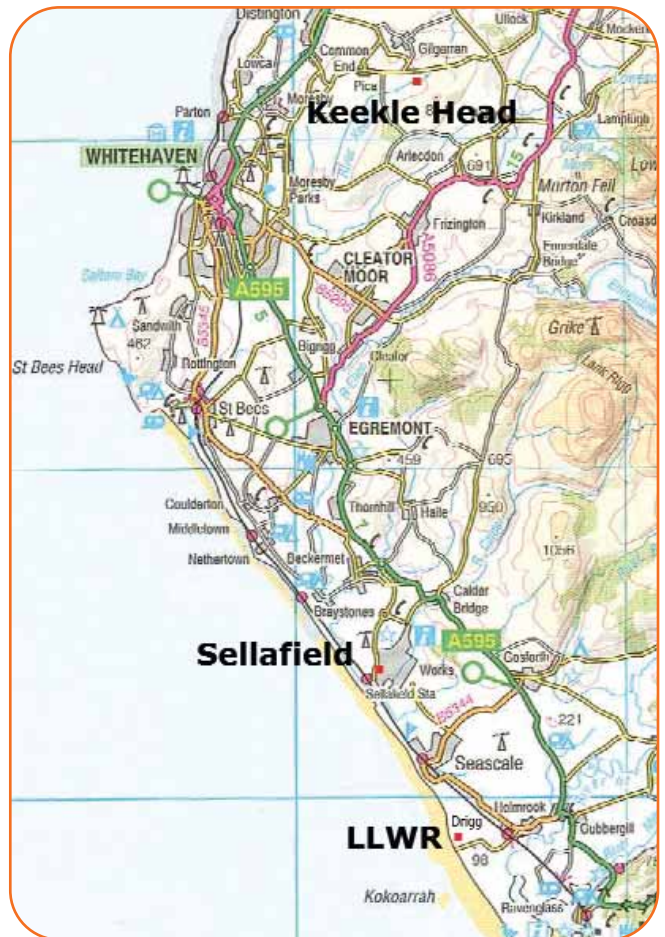
## 3. SITA UK PRESENTS A NEW OPPORTUNITY FOR THE DISPOSAL OF LOW LEVEL WASTES

SITA UK believes it is well placed to assist the nuclear industry in West Cumbria by providing a safe and secure disposal route for the very lowest level radioactive wastes.

The site of the former Keekle Head opencast coalmine is being proposed as the location for a new Waste Management Centre for the disposal of very low activity radioactive wastes, including High Volume VLLW.

The opencast mine, which covers around 50 hectares, is located about 7km north east of Whitehaven and 3km east of Distington.

Mining at the site has created a substantial area of despoiled land and an excavation void which, with appropriate design and civil engineering, can be made ideal for the disposal of waste materials. It is anticipated that with engineering there could be more than one million cubic metres of space that will need to be filled to re-level the site and make it suitable for final restoration.



Map showing the location of Keekle Head in relation to Sellafeld and the LLWR, near Drigg.

The primary purpose of the facility would be to safely dispose of lightly contaminated demolition materials from the decommissioning of Sellafeld and diverted from disposal at the LLWR. The site will only take wastes at the lower activity end of the Low Level Waste range.

The company has held exploratory talks with planners at Cumbria County Council about the potential to restore Keekle Head by disposing of exempt, non-radioactive and very low activity radioactive wastes. Subject to further, more detailed discussions with the county and local councils, key nuclear and environmental stakeholders and local residents, and subsequently, to the granting of planning approvals and authorisation to operate, SITA UK wishes to create a state

of the art VLLW treatment, handling and disposal facility at Keekle Head. This proposal fits well with the aims of the blueprint for Britain's Energy Coast.

The Government's revised policy for the long-term management of solid low level radioactive waste, issued in 2007, encourages the construction and use of facilities such as the proposed Keekle Head Waste Management Centre in order to accept lower activity wastes which would otherwise have been consigned to the LLWR. The standards of design and operation of such facilities must be proportionate to the low hazards posed by these wastes, meaning that disposal costs will be minimised, reducing the overall cost to the taxpayer of dealing with the UK's civil nuclear liabilities. The proposed new facility at Keekle Head is only 25km from Sellafield and 33km from Drigg, which will minimise transport impacts and create employment in the area.

At present it appears that the proposed Keekle Head Waste Management Centre is the only planned facility in proximity to the Sellafield site. The potential for competitor sites is constrained by the availability of other suitable sites in the area and by the number of potential operators with the confidence, experience or capital to develop a VLLW landfill site.

As one of the country's leading waste management and recycling companies, SITA UK is ideally placed to take on the challenges presented by this site, which in its present state is a derelict blot on the local landscape.

**Current views of Keekle Head site in its unrestored state.**



The geological conditions are considered favourable for the construction of the proposed Waste Management Centre. Large quantities of coal spoil from quarrying are present on the site, which will be used to partly infill the existing quarry void. These materials, which are mainly mudstones, will be placed in an engineered manner to both provide a suitable foundation for the waste cells and to augment the performance of the containment lining system.

The site also has the benefit of a resource of low permeability clays which will be used to construct a robust and long lasting engineered basal containment liner. Other containment lining materials, such as High Density Polyethylene (HDPE), may also be used to further enhance the performance of the facility. SITA UK will use its extensive experience of constructing engineered containment systems for traditional landfill sites to ensure that the highest engineering and safety standards are achieved.

The company believes that it has the technical ability and professional expertise to landfill and progressively restore Keekle Head to its original use as an important heathland habitat.

## **5. ENVIRONMENTAL PERMITS AND AUTHORISATIONS**

Consultation with the Environment Agency has established that the proposed site would be regulated under a Radioactive Substances Act 1993 (RSA) authorisation, with additional engineering, operational and monitoring elements adapted from the existing Pollution Prevention and Control (PPC) and Environmental Permitting (EP) regulatory regimes.

The authorisation application and supporting documentation would be designed to adequately address the relatively low environmental risks associated with the wastes proposed for acceptance on the site.

SITA UK, in agreement with the appropriate regulators, will make adequate financial provision for the aftercare of the site.

The Keekle Head Waste Management Centre will be designed, constructed and operated to the highest technical standard and in accordance with regulatory requirements and industry best practice.

The outcome of a scoping assessment undertaken by consultants on SITA UK's behalf is that a VLLW landfill located at Keekle Head is technically and economically viable. There is no identified reason why an RSA authorisation could not be issued if a high quality application is prepared and submitted to the EA.

## **6. COMMUNICATION AND STAKEHOLDER ENGAGEMENT**

Effective, high quality communications will be crucial at all stages of the process. The company will consult with and listen to the views expressed by stakeholders and the public. The delivery of a robust stakeholder and public engagement plan, aimed at building trust and relationships, will be central to our plans.

As part of this engagement process the company will hold a number of stakeholder presentations and public exhibitions. This will include an announcement when the project Scoping Report is issued, followed by comprehensive pre- and post-planning application consultation.

## **7. ABOUT SITA UK**

SITA UK, a subsidiary of SUEZ ENVIRONNEMENT, is a recycling and waste management company generating environmental, social and economic value from the nation's waste.

To achieve this, the company treats waste as a resource and delivers environmentally responsible and increasingly innovative solutions for the public, local government, industry and commerce, which reduce our customers' impact on the environment.

SITA UK has been in the UK since 1988 and has grown to employ over 5,500 people, generating a turnover of more than £750 million in 2007. SITA UK serves over 12 million people and handles more than 10.9 million tonnes of domestic, commercial and industrial waste. With experts and specialists in subjects ranging from power generation to composting and from landfill to hazardous waste, SITA UK is well equipped to assist and advise its customers in all aspects of recycling and waste management.

SITA UK's customers vary in size from single unit businesses to large complexes and multi-site companies,

and are drawn from all the major commercial and industrial sectors.

The company's services include: recycling, composting, business waste, security shredding, residential waste collection and disposal, energy from waste, hazardous waste disposal, green energy generation, landfill engineering, environmental compliance, bulk haulage, street cleansing and management of civic amenity sites and waste transfer stations.

In 2007, SUEZ ENVIRONNEMENT achieved sales turnover of 12 billion euros.

## 8. AN INTERNATIONAL BUSINESS

Our parent company, SUEZ ENVIRONNEMENT, provides equipment and services that protect the environment and deliver the essentials of life. Employing over 62,000 people worldwide, its activities include production and distribution of drinking water, wastewater collection and treatment, and waste treatment and recovery. With its international experience in the water and waste industries, SUEZ ENVIRONNEMENT has the know-how to provide sustainable solutions that meet the needs of local authorities and businesses.

### SITA UK – KEY FIGURES 2006

Turnover (including landfill tax): £750 million

Employees: 5,500

#### CUSTOMERS

- SITA UK serves over 12 million people
- Industrial and commercial customers 31,630
- Local authority:
  - Municipal 20
  - Integrated waste management 8
  - Treatment 36

#### OPERATIONS

- Total waste handled 10.9 million tonnes
- Total amount of compost produced 217,000 tonnes
- Total amount electricity generated from landfill – 417,837MWh

- Total amount electricity generated from EfW – 578,034MWh

#### FACILITIES

- Operating landfill sites 26
- Transfer stations 59
- Composting sites 12
- Material recycling facilities 34
- Civic amenity sites 119
- Energy-from-waste (EfW) plants 4 (includes plant owned by 50/50 joint venture company, London Waste Limited)
- Mechanical-biological treatment (MBT) 1 plant

#### FLEET

- Trucks (3.5t and over) 1,730
- Vans 75
- Cars 275



SITA UK, Unit 4 Tustin Court, Portway, Preston, Lancashire PR2 2YQ

Telephone: 01772 325500

Fax: 01772 325544

[www.sita.co.uk](http://www.sita.co.uk)

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