

**ENDECOM**



# **PROPOSED KEEKLE HEAD WASTE MANAGEMENT CENTRE**



## ABOUT THE PROPOSAL

Endecom UK Ltd, a wholly-owned subsidiary of recycling and resource management company SITA UK, has unveiled plans for a new low level radioactive waste disposal facility at Keekle Head, west Cumbria.

The company has been established to operate in support of the country's nuclear industries and to contribute to the UK's national waste policy by seeking to provide alternative facilities for dealing with low activity wastes.

We have agreed purchase arrangements, subject to planning permission and permits being granted, with the owners of a derelict opencast coal quarry at Keekle Head, which is less than a mile from Pica, and five miles inland from Whitehaven.

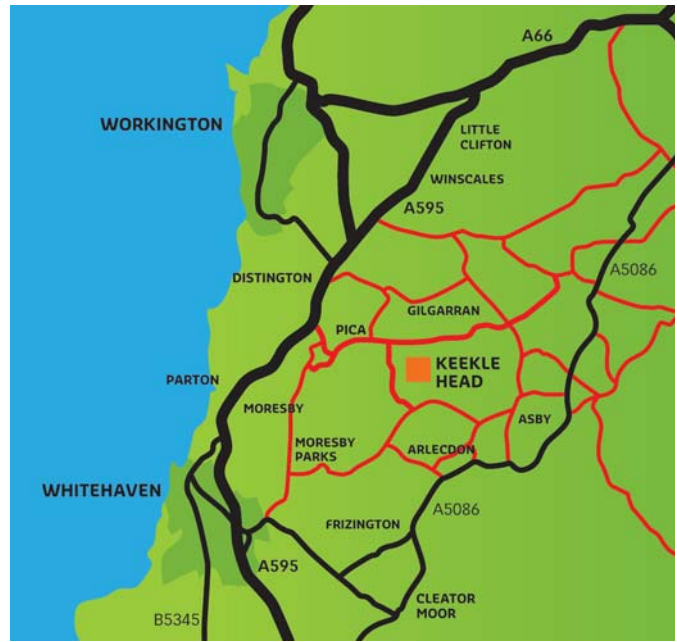
The proposal is to use part of the 173-acre site for the disposal of low and very low level radioactive waste, primarily construction and demolition waste from Sellafield, but also from other parts of the UK.

We are proposing to establish a modern, purpose-built facility for the safe, cost-effective and environmentally responsible disposal of lower activity wastes, which would otherwise have been disposed of at the Low Level Waste Repository (LLWR), near Drigg.

The proposed scheme would involve the early restoration of large parts of the site to a high standard, including re-instating the River Keekle, close to its original course and, after the landfilling is complete, final restoration of the area as heath and woodland.

The facility will have a capacity for around one million cubic metres of waste during a 50-year life-span. About 50 people would be employed to construct the new centre and approximately 15 permanent staff would operate the facility. In addition, the centre would contribute to the local economy by purchasing goods and services from local businesses, including construction and landscaping materials, fuel, and laboratory and office supplies.

The proposal specifically does not involve high or intermediate level waste, or any liquid waste. Only the lower end of low level waste (LLW) activity range would be accepted for disposal.





## WHAT'S BEING PROPOSED? WHY THIS SITE?

Nuclear decommissioning will generate significant amounts of waste as sites, such as Sellafield, are either redeveloped or demolished. Most of the waste will comprise low level waste (LLW) and, of that, the majority will be very low level waste (VLLW), sometimes also referred to as high volume low activity (HVLA) waste.

The waste will mostly be made up of rubble, contaminated soil, and concrete, plus work items from Sellafield, such as overalls, gloves and boots, which, due to their slight contamination, must be disposed of as radioactive waste in an environmentally safe manner.

The current capacity at the Low Level Waste Repository (LLWR), near Drigg, is limited, so other disposal facilities are needed to take the low activity and lower risk wastes, which will form the bulk of the LLW that will arise. This will enable the LLWR to preserve its capacity for the higher activity level wastes, which it is authorised and designed to accept.

The plan is in line with the new proposed national strategy announced for consultation by the Government and the Nuclear Decommissioning Authority (NDA), which states that alternative solutions are required for the disposal of low level and very low level waste, preferably in close proximity to the point of waste arising.

The former opencast coal quarry at Keekle Head has been derelict since mining ceased in 2006, leaving behind a substantial area of despoiled land and an excavation void, which needs to be backfilled.

The current owners are legally responsible for restoration of the land following the end of coal extraction. However, to date, this has not been undertaken.

The geological conditions of the site make it well-placed and suitable for development as a landfill disposal facility and, situated only 17 miles from Sellafield, it is well-located for the waste to be transported.

We would take responsibility for the early restoration of the site, giving confidence that it would be undertaken to a high standard and in accordance with a scheme agreed with Cumbria County Council, removing the need for the council to proceed with protracted and potentially costly enforcement action or restoration.



## HOW THE SITE WILL OPERATE

Since LLW and VLLW contain some radioactivity, it is important that health and safety measures and environmental controls are in place to ensure staff working at the site, visitors and neighbours are appropriately protected. It is also important that all waste sent to the landfill is disposed of in a manner that prevents any contamination of the surrounding area. The site will operate under the Radioactive Substances Act.

Prior to shipment from the source site, the wastes will be carefully packaged in sealed bulk bags or drums and placed inside re-usable ISO (International Standards Organisation) freight containers, which are engineered to radioactive movement standards.

It is estimated that only about 12 lorry loads a day on average will be transported to the proposed site. During transport and disposal procedures at the facility, the waste will be carefully handled to ensure minimal environmental risk or impact.

The waste containers will be unloaded into the receipt bay, documentation checked and prepared for placement in the disposal cells. Some waste will be diverted for radiological checks and content sampling before disposal.

All disposal operations connected to the filling and capping of the disposal cells would take place under a weatherproof enclosure, about 50 metres wide, 150 metres long and 15 metres high. It would be designed to keep the disposal area dry and minimise the potential for dust generation.

On completion of landfilling, each cell would be capped with low permeability materials to restrict ingress of water. This capping system would then be covered with at least one metre of soil.

If planning approval is granted, The Keekle Head Waste Management Centre would be designed, constructed and operated to the highest technical standard and in accordance with UK regulatory requirements and best practice. The design team has undertaken international research visits and has held technical discussions to identify the best practicable means of receiving, treating and handling the waste prior to disposal.

# WHAT IS LOW LEVEL WASTE?

## a) Activity

We are only intending to dispose of the low level waste category, and predominantly with the category's lowest risk elements – high volume very low level waste (VLLW), which contains extremely low levels of radioactivity and is classed as low risk. The proposed activity range is 0.4 becquerels per gram to 400/500 becquerels per gram – a becquerel being a measure of activity.

It is predicted that more than 90 per cent of the UK's waste legacy by volume will be made up of LLW/VLLW, which contains less than 0.00003 per cent of the total radioactivity in all categories.

## b) Radiation

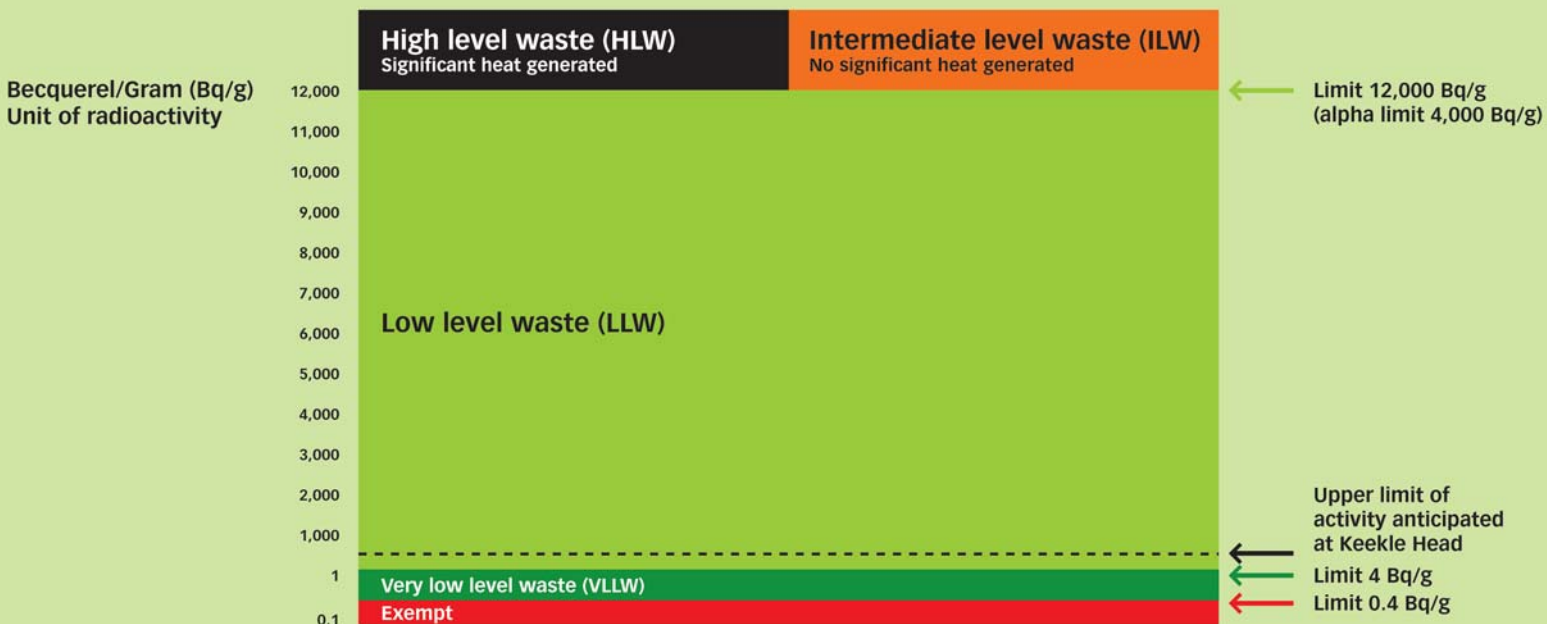
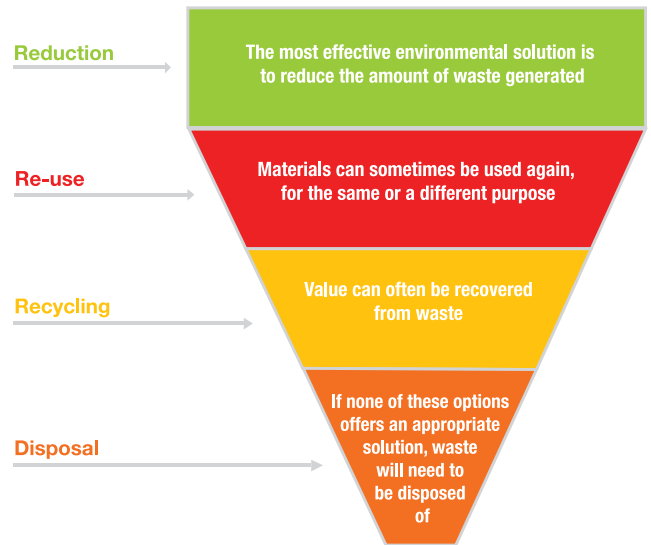
People in the UK generally receive 2.6 millisieverts of radiation per year from natural sources, such as geological radon, food and drink, gamma and cosmic rays from space, medical treatment, sources at work and historic fall-out.

A sievert is the unit of measuring a dose of radiation. One millisievert is 1/1000th of a sievert, and one microsievert is 1/1000th of a millisievert, or 1/1000,000 of a sievert.

In Cornwall, the average radiation is 7.8 millisieverts, mostly from natural radon, compared to the average radiation in west Cumbria at 2.1 millisieverts, mostly from natural sources.

The Keekle Head Waste Management Centre will be designed and operated in a way that limits radiation exposure to workers, visitors and all local residents. Its impact will be negligible and will not enhance the existing west Cumbria background level further.

## The Waste Hierarchy



## ACTIVITY COMPARISONS

- A frequent air traveler would receive up to 3.0 millisieverts, while a member of the aircrew would receive about 4.6 millisieverts
- A household smoke alarm might produce a 2.5 microsieverts per year dose to a person who is in the same room as the detector for three hours a day
- A kilogram of coffee beans has an activity of 1,000 becquerels
- A bunch of bananas contains about 80 becquerels
- A healthy human being has 4,000 becquerels per kilogram

## COMMUNITY FUNDING

Through the company's environmental body, SITA Trust, Endecom would be able to provide funding through the Landfill Communities Fund.

Since 1997, the trust has committed £70m of vital funding to qualifying projects across the UK. Funding would be made available on application for community and environmental groups to carry out a range of improvement projects in the communities close to Keekle Head.

## WORKING WITH THE COMMUNITY

We are hoping to submit a planning application to Cumbria County Council by the end of 2009. However, we aim to be as open and transparent as possible, so residents fully understand our plans and have an opportunity to influence them.

We have already held a presentation for local councillors, industry professionals and environmental partners, and plan to hold a series of public exhibitions later this year, where members of the community can find out more, talk to Endecom and Environment Agency representatives, and give their views.

Phil Holland, Endecom's Development Manager, will also be talking to members of the community at various community forum and parish council meetings in the months ahead.

## PUBLIC EXHIBITIONS WILL BE HELD AS FOLLOWS:

**Distington Community Centre,  
Church Road, Distington**

Monday and Tuesday 12 & 13 October,  
2009

11am to 8pm

**Moresby Rugby Club,  
Walkmill Park, Moresby Parks,  
Moresby**

Thursday 15 October 2009

11am to 8pm

Public events will also be advertised nearer the time.

To find out more about the plans, and to read the full Scoping Report on the plans, go to [www.sita.co.uk](http://www.sita.co.uk) – and type Keekle Head into the search engine.