SUPPORTING THE NATIONAL LOW LEVEL WASTE STRATEGY

Endecom UK Ltd is proposing to create a facility for the disposal of very low activity wastes in west Cumbria.

The company, which is a wholly-owned subsidiary of SITA UK, has been established to operate in support of the disposal of the nuclear industry's lowest activity levels of waste.

Endecom is contributing to the UK's national waste policy and the nuclear industry's Integrated Waste Strategy by seeking to provide alternative disposal facilities.

The capacity of the Low Level Waste Repository (LLWR), near Drigg, is limited, so other disposal facilities are needed to take low activity and lower risk wastes. This will enable the LLWR to preserve its capacity for higher activity level wastes.

The proposed facility would also provide a long-term alternative for CLESA (the Calder Landfill Extension Segregated Area), located on the Sellafield site, which is potentially threatened by rising sea levels.

The nuclear industry is developing rapidly, along with the demand for disposal of low level waste

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WHAT IS LOW LEVEL WASTE?

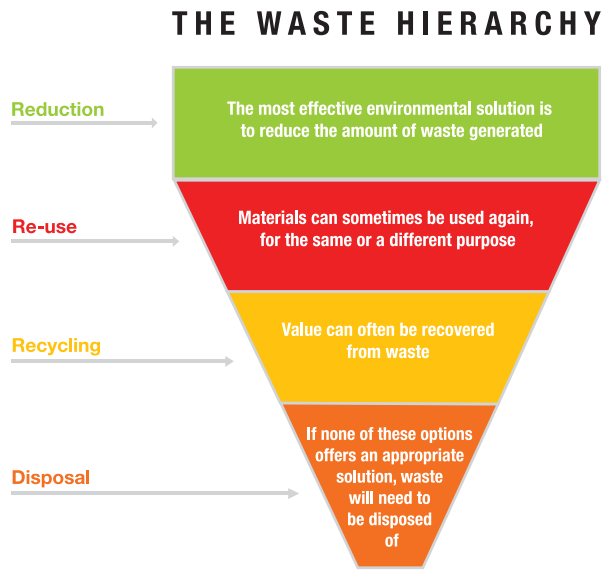
Nuclear redevelopment and decommissioning will generate significant quantities of low activity waste, mostly rubble, soil and concrete, but also work items, such as gloves, overalls and footwear. Approximately two thirds of this waste will come from sites in Cumbria and other parts of the north west.

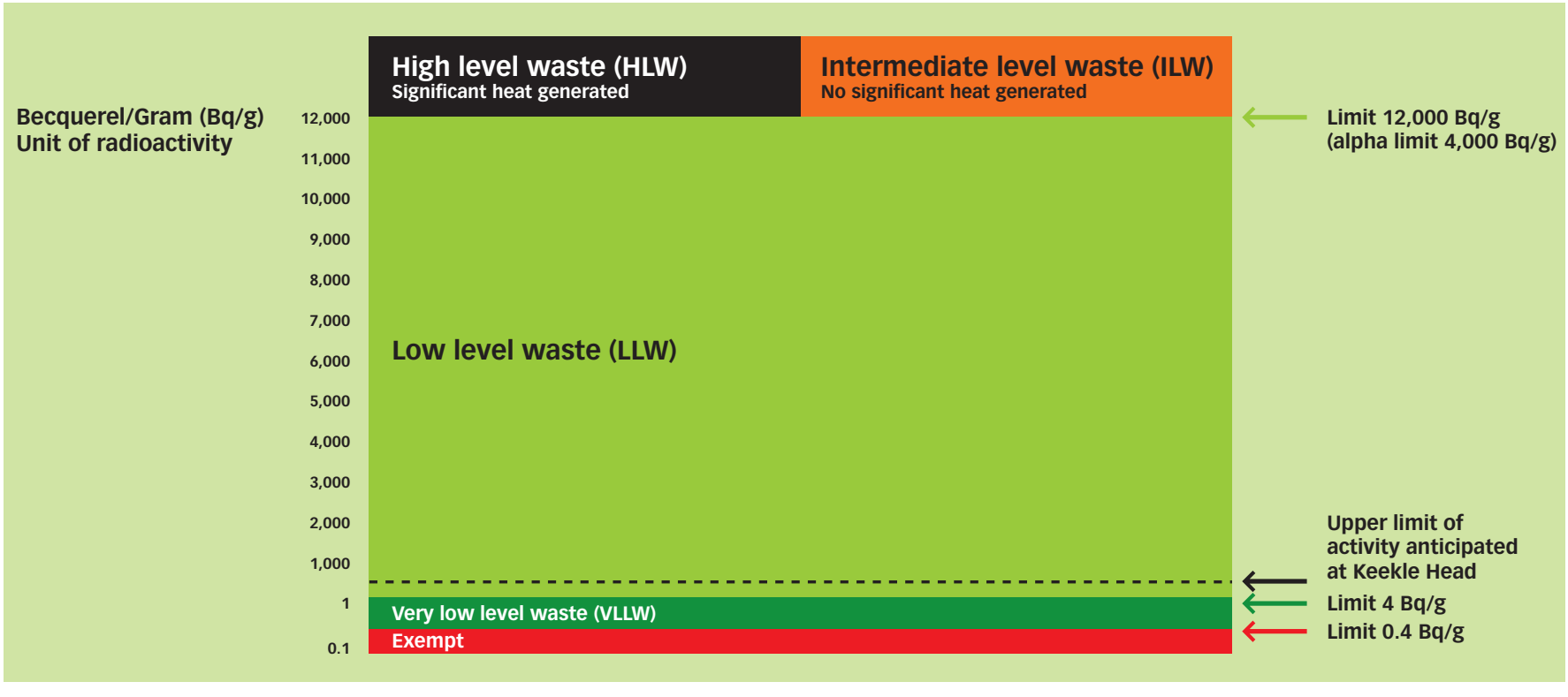
Solid radioactive waste is divided into three broad categories – High, Intermediate and Low levels – according to its radioactivity content and the heat it produces.

Endecom is only intending to deal with the lowest level waste category (LLW), and predominantly with the category's lowest risk elements – high volume very low level waste (VLLW), which contains extremely low levels of radioactivity. Anticipated activity ranges will be from 0.4 becquerels per gram to 400/500 becquerels per gram (a becquerel is a measure of activity).

It is predicted that over 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.

This proposal specifically does not involve High or Intermediate levels of waste, or any liquid waste.





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THE KEEKLE HEAD SITE

Keekle Head is a former opencast coal quarry located just under a mile from Pica and five miles inland from Whitehaven.

The quarry has been derelict since mining ceased in 2006, leaving behind a large area of despoiled land and an excavation void which needs to be backfilled.

Endecom has agreed terms for the purchase of the land, subject to planning approval being granted.

The geological condition of the site, which is about 70 hectares (173 acres) in size, 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 waste to be transported by road.

Keekle Head site

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ENDECOM'S PROPOSAL

Endecom is seeking planning approval for a new disposal facility for low and very low level radioactive wastes, mainly from Sellafield, but possibly also from other sites.

This would include construction and demolition materials, such as concrete, rubble and contaminated soil, together with items such as overalls, gloves and footwear.

The scheme would involve the early restoration of large areas of the site to a high standard, including re-instating the River Keekle near its original course. There would be ongoing restoration during the life of the facility and, after the landfilling is complete, final restoration as heath and woodland.

The modern, purpose-built facility will be designed, constructed and operated to the highest technical standard and in accordance with regulatory requirements and industry best practice.

The facility will have capacity for around one million cubic metres of waste during a 50-year life-span.

Keekle Head site

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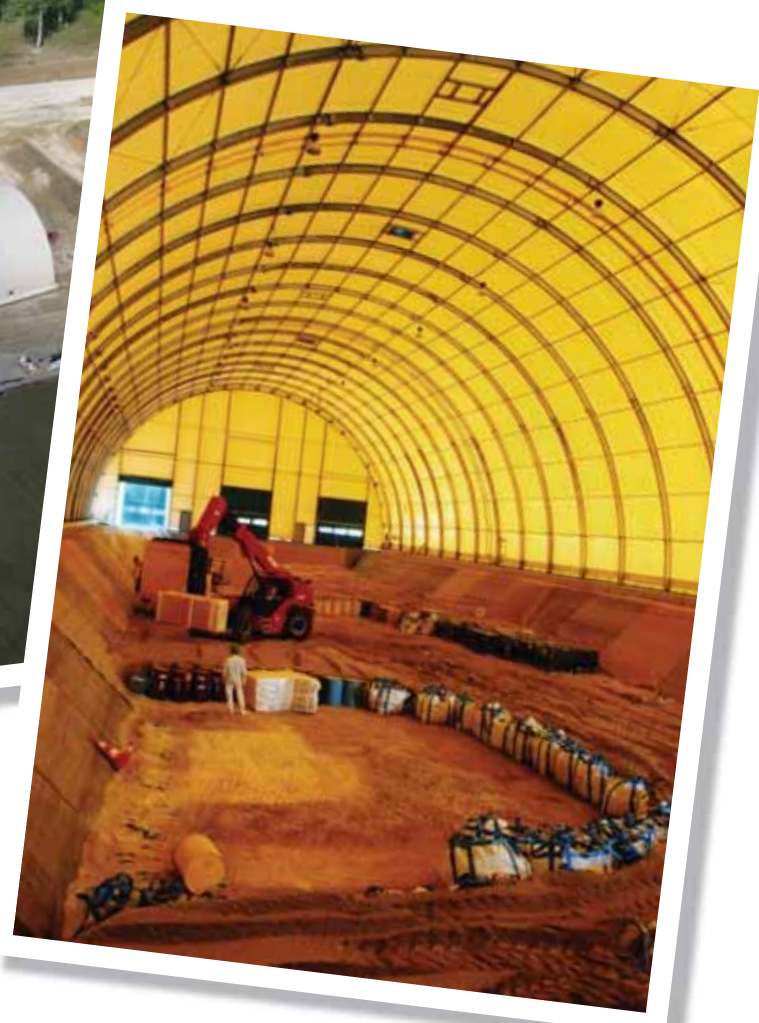
HOW A SIMILAR CENTRE IN FRANCE LOOKS



Images courtesy of ANDRA's Morvilliers disposal facility for VLLW, France

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HOW THE CENTRE WOULD OPERATE

Endecom has undertaken international research to identify the best practicable means of receiving, treating and handling this type of waste prior to disposal.

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 waste movement standards (IP2).

It is estimated that only about 12 lorry loads a day on average will be transported to the site.

Laboratory facilities will be in place at the site to allow for detailed radiological checks and content sampling.

The site will operate under the Radioactive Substances Act (RSA) and would be regulated by the Environment Agency.

THE DISPOSAL OPERATION

Disposal cells would be elongated rectangular features, with perimeter mounding to screen operations from outside the site.

All disposal operations connected to the filling and capping of the disposal cells would take place inside a weatherproof enclosure consisting of a steel structure, completely covered with a plastic tarpaulin-type sheet.

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 cell as it is filled.

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

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BOUNDARY AND ARTIST'S IMPRESSION OF THE SITE

Image showing the boundary of the site

An artist's impression of the proposed
Keekle Head Waste Management Centre

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ENVIRONMENTAL IMPACTS

As part of the planning process, Endecom is undertaking an Environmental Impact Assessment and surveys, the results of which will be available for public scrutiny. They'll cover:

- Health
- Landscape and visual impact
- Archaeology and heritage
- Noise, vibration and air quality
- Assessment of alternatives
- Transportation and highways
- Ecology and nature conservation
- Geology, hydrology, hydrogeology and flood risk
- Socio-economic impact

TIMETABLE

To date	Preliminary investigations, including exploratory drilling, undertaken over last 18 months
July 2009	Presentations to key stakeholders
Autumn 2009	Pre-planning public engagement
December 2009	Planning application submission
2010	Application for Radioactive Substances Act authorisation
2011-12	If planning application approved, advance site restoration
Over 50 years	Landfill activities
	Final phase of restoration on completion

KEEPING IN TOUCH

Keeping local communities informed about our plans and operations is important to us.

We will provide information updates and establish a site liaison group so that local residents and their representatives can meet company managers on a regular basis.

Endecom is based at Unit 4, Tustin Court, Portway, Preston, Lancashire PR2 2YQ
Tel: 01772 325500 Email: keeklehead@sita.co.uk

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RISKS AND EXPOSURES

People in the UK generally receive 2.6 millisieverts of radiation a 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.

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. The disposal of low activity materials at the site will not significantly enhance the existing west Cumbria back ground level of radiation.

- A frequent air traveller would receive up to 3.0 millisieverts, while a member of the aircrew would receive about 4.6 millisieverts.
- A kilogram of coffee beans has an activity of 1,000 becquerels
- A kilogram bunch of bananas typically contains 80 becquerels
- A typical human being has 4,000 becquerels per kilo of weight
- A household smoke alarm might produce 2.5 microsieverts per year dose to a person in the same room as the detector for 3 hours a day

The Becquerel measures how much activity there is in a quantity of radioactive material. One becquerel is a transformation/decay per second.

The Sievert measures the amount of damage radiation does to biological tissue. The sievert is used as a 'dose equivalent'.

By way of simplification, if we use a boxing anology, the becquerel is equivalent to the number of punches being thrown, whilst the sievert is the damage caused by those punches.

SITA UK undertakes regular site monitoring

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CONTRIBUTING TO THE LOCAL ECONOMY

If this proposal is successful, Endecom will contribute to the local economy in several significant ways:

1 COMMUNITY FUNDING

Through the environmental body, SITA Trust, Endecom would be able to provide funding in the local area through the Landfill Communities Fund. Since 1997, the Trust has committed £70 million of vital funding to qualifying projects in the UK.

Funding could be made available on application for community and environmental groups to carry out a range of improvement projects.

2 EMPLOYMENT AND SUPPORT FOR LOCAL BUSINESSES

As many as 50 people would be employed to construct the new centre and about 15 permanent employees would operate the facility. These jobs would be available for at least 50 years – the proposed life of the facility.

In addition, the centre would require goods and services from local businesses, including construction materials, landscaping materials, fuel, plus laboratory and office supplies.

A wide range of community schemes have been supported by SITA Trust

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