

Frequently Asked Questions

Q: Who is Augean?

A: Augean Plc is the UK's market leader for the safe disposal and treatment of hazardous waste. The company began trading in December 2004 and is listed on the Alternate Investment Market (AIM) of the London Stock Exchange. They employ over 200 people nationally at eleven operational sites and at their Head Office located in Wetherby.

Q: What is a Becquerel?

A: A Becquerel is the measure of radioactivity of a substance. The concentration of a radioactive substance is measured in Becquerels per gram (Bq/g).

Q: Why has an upper limit of 200Bq/g been set?

A: Augean has always intended that the site should only accept wastes at the lower end of the scale for low-level waste. The limit of 200 Bq/g is one at which special measures are not necessary to handle the waste and in the event of an accident the risks are negligible.

Q: What is a Sievert?

A: A Sievert is the measure of dose to a person from a radioactive material or source. In these documents we have used the unit of measurement of milli-Sieverts (mSv) where 1 mSv is equal to one thousandth of a Sievert.

Q: How much of this type of waste will be imported to the site?

A: The majority of the site has already been completed with current operations in Phase 4 and Phase 5 is yet to be engineered. In theory the remaining capacity could be used for this waste, but in practise we will continue to accept the hazardous waste currently permitted.

Q: How the risk assessments are conducted.

A: Risk assessments are the standard tool and approach used for all forms of environmental management. This is not just a series of theoretical mathematical models. Risk assessments are based on well understood processes such as groundwater flow, air dispersion and acceptable exposures. Where there is uncertainty, conservative or worst case assumptions are made. Where the effectiveness of a protection measure is not clear, it is assumed that the measure is not present. Risk assessment therefore generates a conservative assessment of the maximum impact. The risk assessments are based on international standards and national standards of safety and take into account fatal and nonfatal outcomes, the effect on unborn babies, effects on all age groups (including children and the elderly), the cumulative effect on all organs and effects from external and internal irradiation.

Q: What is the worst case impact that could happen as a result of handling this waste?

A: The radioactive content of the waste is limited by the Environment Agency authorisation. This is of such a low level that significant radiation exposures to either workers or members of the public are not expected from any likely scenarios.

During the waste disposal phase, the worst case is that a waste package is dropped and the contents spilled. This possible event has been assessed and it is concluded that the consequences of such an unlikely occurrence are minimal. Nevertheless, procedures will be in place to ensure that any spills are rapidly cleaned up.

After closure of the landfill, the worst case scenario is an occurrence in which the landfill including the waste is excavated without knowledge of the contents and the excavated waste is used as the surface material for new housing development. This is a very unlikely occurrence, but it has been assessed as part of the planning process. Such accident scenarios are subject to a dose limit of 3 mSv, but the estimated radiation exposure to people is below this value.

Q: As the site is close to RAF Wittering, will a no-fly zone be required at the site?

A: The possibility of an aircraft crashing into the site is very low but has been considered as part of the risk assessment. Even if a plane crashed directly into the site, there would be little environmental impact due to the disturbance of the radioactive material. Indeed the heat and toxic fumes from burning fuel would be the more dangerous component and present the greater risk of such a scenario. Therefore, there is no reason to impose a no-fly zone.

Q: Will access to the site be restricted after restoration because of the radiation?

A: There is no need, and there are no plans, to restrict access to the restored site as a result of these proposals or current operations. Currently the restoration scheme is to return the land to agriculture and nature conservation uses, which is unchanged by these proposals.

Q: What are the impacts of transporting the controlled burial waste to the site?

A: The safety of the transport of materials with a radioactive content is governed by UK dangerous goods transport regulations. These require the wastes to be contained in packages appropriate for the level of radioactivity. If the waste were involved in an accident during transport to East Northants RMF, an established response arrangement involving the emergency services would be enacted. The levels of radioactivity involved would not require extensive arrangements during the recovery operation and the risk to members of the public from exposure to radioactivity would be negligible.

The number of vehicle movements and the environmental impact of transport is not increased by this authorisation application because the total capacity of the landfill is unchanged by the proposal.

Q: What about the proximity principle in transporting this waste?

A: The proximity principle requires that waste should be disposed of in one of the nearest appropriate facilities. Currently the only facilities suitable to accept LLW are in Cumbria and Lancashire. The proposal

will make available a suitable facility for decommissioning sites in the southern half of the country. Nevertheless all sites producing the waste will need to demonstrate to the Environment Agency that disposal to East Northants RMF is the Best Practicable Environmental Option which will include consideration of the option of disposal on the site where the material is generated.

Q: Have other alternatives to landfill disposal been considered?

A: Every site in the nuclear industry (which includes the power stations and research sites), and any other source of this type of waste such as hospitals, wishing to consign waste to landfill will first have to demonstrate to the regulatory authorities that landfill is the Best Practicable Environmental Option (BPEO). This is a requirement for the consigning sites to be granted a transfer authorisation under the Radioactive Substances Act, which they will need to send wastes off-site. They will also have to demonstrate that they have exhausted options to Reduce, Recycle and Reuse the materials.

All alternatives will be considered in the BPEO context. In some cases, for example, wastes can be treated, incinerated or recovered through smelting. Landfill disposal will be considered as a last resort after these other approaches have been considered.

It is likely the majority of wastes will arise from historically contaminated land and buildings for which the other waste management options are generally less suitable.

Q: Why clean up one site from radiation and contaminate another site with it. Why not leave the waste where it is or recycle and dispose of it at the source?

A: The primary objective is the long term protection of the environment. Some of the waste is recycled or disposed of at source. All sites must first consider recycling as much waste as possible and then the option of disposal on the site where the material is generated. In some cases the Best Practical Environmental Option will be to remove waste to another site where it can be properly contained. Decommissioning sites must assess the option of disposal on site, indeed, Dounreay in Scotland has already committed to the development of an onsite disposal facility. However, for environmental or land use reasons, some sites will not be suitable for on-site disposal, hence the need for facilities like East Northants RMF to accept LLW. All sites producing LLW will need to demonstrate to the Environment Agency that disposal to East Northants RMF is the Best Practicable Environmental Option.

All the reviews that have been carried out identify a clear need for facilities such as East Northants RMF to accept LLW. Continuing to stockpile wastes rather than to dispose of them safely is less environmentally sustainable and this is recognised by Government in their 2007 Policy Statement.

The East Northants landfill is a site that is already engineered to contain hazardous waste and the disposal of material with small amounts of radioactivity will not result in any additional land use constraints on the site. The East Northants RMF provides a secure facility for the safe disposal of this material.

Q: These proposals are for an untested form of waste disposal and premature to the NDA Strategic Review.

A: While the proposals are one of the first under Government policy published in 2007 this will not be the first time that these sort of wastes have been disposed of in landfill in the UK. Wastes with small amounts of

radiation have been disposed of safely in varying amounts for many years in UK landfill sites and similar practice takes place elsewhere in Europe and in the United States. The Government policy has been in place for two years and early implementation is promoted. The proposals neither pre-empt nor compromise the NDA strategy.

Q: What other types facilities are currently available in the UK for LLW?

There is a highly engineered concrete vault facility in Cumbria but this is designed to take waste with much higher levels of radioactivity and has very limited space. It is simply just not sustainable to dispose waste with only small amounts of radioactivity at this highly engineered site. The only other available facilities are also landfill sites located in the north west.

Q: What controls would be in place to ensure the waste can be disposed of safely?

A: Controls that would be in place include:

- The waste will be subject to pre-acceptance tests to ensure it is acceptable before it is transported to the site. The integrity of the packaging is checked before each consignment is dispatched.
- The waste will be checked upon arrival at the site. Radiation levels can be easily and immediately measured using simple instruments to ensure waste acceptability.
- The waste will be handled in closed containers.
- The waste will be deposited immediately on receipt and covered with soil layers at the end of each day.
- Augean are experienced in the handling of hazardous wastes; the company has well developed procedures/arrangements and has a good safety culture and record.
- Specific procedures and a radiation protection plan will be established for the waste operations.
- Monitoring will be carried out to ensure protection of the workers and the public.
- The operations are subject to specific authorisation, regulation and inspection by the Environment Agency and works will be carried out in accordance with the authorisation conditions.

Q: The containers that are proposed for the LLW.

A: The type of containers that should be used are specified in legislation. LLW will be transported in steel drums or highly engineered, flexible containers of a water-resistant woven fabric, which will be placed directly in the landfill.

Q: How the site is regulated.

A: The Environment Agency is the main regulator for the site together with the Health and Safety Executive and the Local Planning Authority. The environment Agency regulates sites by:

- Deciding whether or not it should grant applications for new authorisations or changes to existing authorisations, and setting appropriate limits and conditions in any authorisations that it issues, which ensure that the public and the environment are well protected

- Reviewing authorisations and operators' environmental performance and varying authorisations to make sure that the authorisation's limits and conditions are up to date and effective and continue to ensure that the public and the environment are well protected
- Reviewing the results of waste, effluent and environmental monitoring and assessments of public radiation exposure to confirm that the facility is being managed as designed
- Carrying out announced and unannounced inspections
- Where necessary investigating incidents and using its powers

Q: Who regulates the disposal of this type of waste?

A: The principal regulator in England is the Environment Agency and the disposal is authorised under the Radioactive Substances Act. The occupational safety of workers and the public is regulated by the Health & Safety Executive principally under the Ionising Radiations Regulations. The road transport of radioactive materials is regulated by the Department for Transport.

Q: Will the waste be subject to the Landfill Tax?

A: Yes, the waste is subject to the tax. The proposal will result in an increase in the types of waste deposited at the site that are taxable and therefore increase the money available to the community under the Landfill Tax Credit Scheme.

Under this scheme projects that have benefited the local community include the new King's Cliffe sports facility, the Resource at King's Cliffe, the Rutland osprey project and repairs to village halls in the locality.

Q: Why is the proposal necessary?

A: The safe decommissioning of nuclear power stations is a critical environmental objective arising from the legacy of the electrical power the UK has enjoyed for the last 50 years. As part of the decommissioning programme it has been identified that there will be a large amount of slightly contaminated material of low risk that must be properly disposed of. The purpose of this proposal is to help address this problem.

Q: This application is the 'thin end of the wedge' that will lead to higher and higher levels of radioactivity being accepted at the site.

A: The upper level of activity specified in the application is 200 Becquerels per gram (Bq/g). The level has been indicated by the Nuclear Decommissioning Authority as one which will provide essential support for the decommissioning process. At the same time the very low level of radioactivity ensures that the waste can be handled using the existing containment engineering and other precautions already in place for the handling of hazardous waste. This is not a 'foot in the door approach' and we have no proposals to take wastes with a level of activity any higher than those already proposed.

Q: Why ENRMF is an appropriate site.

A: As a working landfill site for hazardous waste it is already constructed to the high standards of engineered containment required by law. Augean staff at East Northants RMF are very experienced in handling wastes that in practice can be more difficult to manage than LLW. We already have rigorous pre-

acceptance and acceptance procedures. No waste is received at the site without detailed analysis and assessment prior to even leaving the producer's site.

Staff will receive thorough training in all aspects of handling LLW before any consignments arrive on site. Our workforce at ENRMF have no concerns about the nature of the waste they are being asked to handle. Protecting their welfare is a primary concern of Augean. Protecting the welfare of our staff results also in stringent levels of protection to members of the public.

Q: Will these proposals extend the life of the site or the size of the landfill?

A: These proposals do not affect the geographical extent of the site or the date when the landfill is due to be complete, which is in 2013. An extension of the site geographically or beyond the time limit of 2013 are not part of this application and would have to be applied for under a separate planning application to Northamptonshire County Council.

Q: How much more radiation will this add to the area?

A: At 3.6 milli Sieverts per year (mSv/y), Northamptonshire does have a higher level of natural background radiation than the national average of 2.2 mSv/y. Other areas, such as Cornwall at 7.4 mSv/y, have even higher levels, which does not result in a difference in the health of people living in that area. A maximum additional dose for the general public, as a result of the operation of the site, has been set at 0.02 mSv/y and in practice we expect the dose to be much lower. This is the equivalent of just over 0.5 per cent of the natural background radioactivity in the area.

Q: At what dose is there a risk to my health?

A: The dose limit for people working with radioactive material is 20 mSv per year. As a precaution the government sets lower limits for the general population of 1 mSv per year. The proposals are based on a maximum likely annual dose of 1 mSv for workers and 0.02 mSv for the public. Therefore the maximum annual exposure to the public is 0.1 per cent of that allowed for those safely working with radioactive material. The actual exposures are expected to be considerably lower than these figures.

Q: Why the proposed development will be safe.

A: Augean prepared its proposals following the advice of the Government regarding these wastes which have only small amounts of radioactivity. We have followed closely the standards set by law and the guidance of the Environment Agency and the Health Protection Agency to ensure that the proposals will be safe. In fact, even at the boundary of the site, the proposals will result in less than 1 per cent of the average level of exposure to radiation that we receive on a day to day basis naturally throughout the UK. We hope that you will be assured that the Environment Agency has confirmed that the proposals meet the necessary standards and are the Best Available Technique for disposal of the waste.

Q: How monitoring of radiation will take place and who will do it.

A: The Environment Agency is the regulator for radioactive waste and employs a team of specialists to regulate sites. The site will be allocated an inspector from the radiological team to check the performance of the site operation. The site is already the subject of extensive monitoring, which will be substantially

extended to include radiological measurements, for example, of water, soil and air. The detailed scope of this will be agreed with and regulated by the Environment Agency.

The monitoring of the site under the existing Permit is undertaken by Augean and audited by the Environment Agency. The extended regime to include radiological observations will similarly be undertaken by Augean and audited by the Environment Agency. The Health Protection Agency as Radiation Protection Advisor will also undertake health-based checks.

Q: Will there be monitoring of the health of local villagers?

A: Regular monitoring of the radiation doses received by our workers on the site will be made, as these are the people who will be closest to the waste. We would not have put forward these proposals if we thought there was the possibility of harm coming to our employees. The precautions taken to monitor their health, such as radiation badges, are to provide an extra level of re-assurance, rather than being a regulatory requirement. As extensive measures are not needed to monitor the health of those actually working on the site, due to the low level of radiation involved, it is not necessary to monitor the health of those not present at the site.

Q: Dounreay has an aftercare period of 300 years. Who will be responsible for the site in the long-term and for how long?

A: A sum of money has been put aside by Augean for the long term management of the site. This money is available to the Environment Agency in the event that Augean no longer exists. The site must be managed in accordance with the Environmental Permit until the Environment Agency is satisfied that the site no longer needs to be managed to prevent pollution of the environment or harm to human health. There is no time limit set for this.

Q: Consideration of the effects on the environment, such as groundwater and ecology.

A: Effects on the environment, such as ecology, air and water quality, were all considered in the Environmental Statement which was based on a rigorous risk assessment submitted as part of the planning application. In all cases, the likely effects were found to be not significant. Natural England was satisfied there would be no adverse effects on ecology, when consulted on the application, and stated they had no objection. Anglian Water and the Environment Agency were satisfied that there would be no adverse effects on water quality, now or in the future.

Q: The level of site security.

A: Security will be the subject of a condition of the Authorisation issued by the Environment Agency. Augean will provide the appropriate level of security as specified by the Agency. If necessary, these could include new fencing and manned monitoring systems. Notwithstanding this due to the low level of radioactivity of the waste, the waste poses a low security risk. It has no intrinsic value or qualities that would result in theft for financial benefit, terrorism or other purposes and it is of negligible risk to trespassers.