

# MUCKATY RADIOACTIVE WASTE DUMP — BASIC FACTS

Written by Dr Peter Karamoskos, nuclear radiologist

## What is radioactive waste?

Radioactive waste is rubbish which gives off energy. Radioactive energy is dangerous to humans, animals, and plants.

## Why is it dangerous?

Radioactive energy causes cancer. The cancer may start to grow ten or twenty years after you have been near the waste. Some kinds of radioactive waste can keep causing cancers for hundreds or thousands of years.



## How does the waste get into our bodies?

If waste gets into the soil, air, or into water under the ground, it can get into our food and water. When we eat our food or drink the milk or water, tiny bits of waste enter our bodies, and we can get cancer.

## Why do we need to look after waste?

The energy in radioactive waste runs down like a battery. After the energy runs out, the waste is not dangerous any more. Some radioactive waste runs down very fast, in just a few minutes. Other types take tens of thousands of years to run out of energy.

## Does all radioactive waste need a waste dump?

Waste that runs out of energy fast does not need a special dump. After a few days, or a few weeks, it will be safe to put into a normal rubbish tip.

Most radioactive waste from medicine and hospitals runs out of energy quickly, and then can be put into a normal rubbish tip.

The most dangerous radioactive waste in Australia will be taken to Muckaty. **Almost no waste from medicine will be taken there.**

## What waste will be taken to Muckaty?

Two types of waste will be taken to Muckaty: **low level waste** and **intermediate level waste**.

## What is the low level waste?

**Low level waste** takes about 300 years to run out of energy. This will be buried in the ground for ever.

10,000 drums of radioactive soil will be brought from a shed at Woomera. This was left there 50 years ago by scientists studying radioactive rock for mining.

At Lucas Heights near Sydney there is a nuclear reactor which is used to study radioactive energy. Some low level waste from Lucas Heights will be buried at Muckaty.

Waste may come from other places around Australia where people have been studying radioactive rocks and radioactive energy.

Doctors use radioactive stuff for treating sick people.

But probably **NONE** of the **low level waste** waste that is buried will come from medicine. If there is any, it will be a tiny amount.



# Muckaty basic facts

## How is the waste buried?

**Low level waste** will probably be buried in a trench around 15-20 metres deep. It must be kept away from water, and from soil where plants are growing.

## Will all the waste be buried?

**NO.** Only the **low level waste** will be buried.

The most dangerous waste at Muckaty is the **intermediate level waste**. This is long-lived waste and needs to be kept safe for thousands of years or more.

This intermediate level waste will **NOT** be buried. It will be kept in a large shed, in containers sitting on shelves.

The government says this waste will only be at Muckaty for 300 or 400 years, but it has not said where it will go after that. In the future, if it is buried, it must be at least 300 metres under the ground, in dry rock.

Other countries say that Australia should find a way to keep this waste safe for ever.

## Where does the most dangerous waste come from?

The most dangerous waste is mostly made at the Lucas Heights nuclear reactor. Some waste also comes from mines, factories and universities.

Only a very small amount might come from nuclear medicine. This small amount needs to be kept in a safe place forever. The government should not say this is the main reason for having a radioactive waste dump at Muckaty.

## How much intermediate level waste is there?

At the moment there are over 500 cubic metres (500,000 litres) of long-lived intermediate level waste.

## What waste will come to Muckaty in the future?

The Lucas Heights nuclear reactor gets its power out of fuel rods. When the useful energy in these has run down, they are sent overseas and some of the metal is recycled. The rubbish, which is still very dangerous, will be sent back to Australia, starting in 2015.

Scotland will send back fifty-three 500 litre concrete containers by 2020 (26,500 litres). Around 80,000 litres will be sent back from France.



*This low level waste is being buried in Western Australia. It must never be dug up.*

Another million litres will come from Australia, mainly from the nuclear reactor at Lucas Heights. This will all be kept in the shed.

As well, almost two million litres of **low-level waste** will be taken to Muckaty to be buried there over the next forty years. Almost all of this comes from the Lucas Heights nuclear reactor.

## Do we need a nuclear reactor in Australia to treat cancer patients?

**No. We can buy our nuclear medicine supplies from overseas,** like most other countries do.

Doctors are looking for other ways to make these medicines. In the future we will not need a nuclear reactor to make these medicines.

## Is Muckaty the best site for a dump?

Muckaty is not the best site for a nuclear waste dump. In the 1980s the government looked all around the country to find a waste dump site. They made a list of ten places, but Muckaty was not on that list.

It will cost a lot to blast the rock to bury the waste, and to stop the waste getting into the water. The water is not far under the ground at Muckaty.

It is important that the government gives the correct information to the Traditional Owners at Muckaty and listen to what they want to do.

**Contact Dr Peter Karamoskos at the Medical Association for Prevention of War, 03 9023 1958 or [mapw@mapw.org.au](mailto:mapw@mapw.org.au)**

