



Australian Government  
Department of Industry, Science,  
Energy and Resources

## National Radioactive Waste Management Facility

OCTOBER 2019



*Lyndhurst nominated site - viewed from the south-west corner*

### Overview

Lyndhurst was voluntarily nominated by its landowner as a possible site for the National Radioactive Waste Management Facility (the facility) in 2017.

Located approximately 18 kilometres (by car) north-east of Kimba, the 1931.8 hectare property is currently used for agriculture. The site has subdued topography with vegetated dune crests and land packages lined with remnant Mallee scrub.

More technical information describing Lyndhurst is available at [www.radioactivewaste.gov.au](http://www.radioactivewaste.gov.au).

### Our requirements

The original call for site nominations in 2015 stated that the Department of Industry, Innovation and Science required 'no less than 100 hectares' of land for the facility, and our initial scoping identified that about 40 hectares would be required for the core operational facility, plus at least 60 hectares to provide a buffer zone between the facility and its neighbours, as well as room for supporting infrastructure.

Since then, the department has undertaken extensive site characterisation works at Lyndhurst and other volunteered sites, to understand aspects such as the site geography, flora and fauna, cultural heritage, and access to infrastructure.

Based on this, the buffer zone will need to expand from 60 to approximately 120 hectares to accommodate site features, power infrastructure and road access, and community agricultural research & development that has been requested by the community. The (approximately) 40 hectare operational footprint has not changed.

The total size of the site needed to accommodate items included above at Lyndhurst is approximately 160 hectares\*.



This is part of a series of factsheets for the National Radioactive Waste Management Facility.

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\*subject to survey and confirmation of boundaries

## Detail of what we've learned

### Consideration for site-specific geography and heritage leads to adjustment within Lyndhurst borders

Preliminary site investigations were undertaken by AECOM in 2018 and 2019.

Their work included installing boreholes to gather groundwater samples, LIDAR mapping to understand the site features, flood modelling and flora and fauna studies to identify any significant or threatened species and supporting habitats.

More information on the AECOM site characterisation studies can be found at <https://bit.ly/2xjmXVR>.

Site use	Early estimate (approx ha)	Revised estimate (approx ha)
Operational facility	40	40
Buffer and enabling infrastructure	60	100
Community agricultural R&D	0	20
Total	100	160*

### Community uses and enabling infrastructure increase the size of the footprint

Based on research and technical studies, we know that if Lyndhurst is chosen, the site size would need to accommodate a micro-electricity grid, spanning approximately 20 hectares, and contractors' compound to support the incremental development of waste facilities on the site as required.

In 2018, the Senate referred an inquiry into the selection process for a National Radioactive Waste Management Facility in South Australia to the Senate Economics References Committee for inquiry.

\*subject to survey and confirmation of boundaries

In response to that inquiry approximately 20 hectares has been added for a community agricultural research and development, following expressions of interest from the community in using land for that purpose.

More information on the inquiry recommendation can be found at <http://bit.ly/2LxgCyL>.

### Technical studies inform a change in shape and position for the land package

The shape and location of the proposed site has also changed to minimise impact to vegetation and enable access from Bindawalla Gate Road. If Lyndhurst is chosen, this would improve public access to the community zone; for visitors to the facility; movements of waste to the facility and access to the electricity micro-grid.

Site characterisation work identified a need for a micro-electricity grid at Lyndhurst. If the site is chosen, approximately 20 hectares will be required, to provide this infrastructure and a contractor's compound to support the incremental development of waste facilities on the site as required.

Based on this, the proposed location of the facility has been adjusted to accommodate the specific characteristics of the Lyndhurst site - taking into account the landform conditions, predicted water movements and minimising the impact on vegetation.

## Heritage value areas

An independent desktop assessment of Aboriginal cultural heritage has confirmed that there are no registered heritage sites within or surrounding Lyndhurst.

If selected, a cultural management plan will be developed in partnership with the Barngarla and Gawler Ranges communities.

Since 2018, all possible sites have been assessed for environmental and other hazards.

All technical studies to date have assessed that there are no impediments (flora, fauna and geology etc.) to siting the facility at Lyndhurst.

The studies have informed the revised site size and location.

## Usage zones

The estimated operational footprint of the facility remains at approximately 40 hectares of usable land, but should the proposal proceed at Lyndhurst, approximately 160 hectares in total would be acquired by the Australian Government to accommodate a buffer zone, community uses and supporting infrastructure.

Once the site was acquired, the precise location of the operational and buffer zones within the site would be determined based on detailed, site-specific investigations and design.

### Operational zone

This zone will comprise, among other things, a waste operations centre, several low-level waste disposal vaults, storage for intermediate level waste, and security infrastructure.

All vehicles and personnel will require validation prior to being allowed on site.

### Buffer and enabling infrastructure zone

The buffer zone comprises essentially two sections. The first would be a sterile section located immediately around the entire operational zone to provide an empty, secure space in line with regulatory requirements and to form an area for bushfire protection.

Secondly, beyond supporting utilities, a public zone would accommodate a visitor centre and administration building, a contractor's compound and an electricity micro-grid noted above.

In total, the buffer zone will be extended to around 100 hectares in size to meet these community, infrastructure, technical and regulatory requirements.

### Community agriculture research and development zone


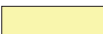

As mentioned previously, approximately 20 hectares has been set aside for a community zone.

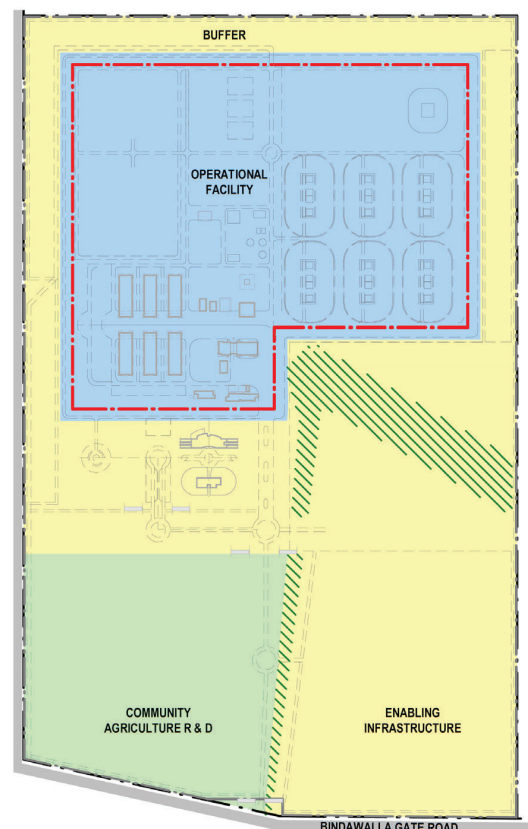
The final sizing and placement of the community zone will be undertaken once the facility's operational footprint and its supporting infrastructure, security and safety measures have been determined.

This could take some time to determine and is dependent on detailed site investigation and site-specific design and technical works being completed. During this time, consultations with the host community will be undertaken to plan the community zone requirements.

## Design concept

**NB: The location of zones and boundaries on maps within this factsheet are indicative only and may be subject to change in future.**

- Operational zone 
- Buffer and enabling infrastructure zone 
- Community agriculture research and development zone 







*Aerial view of the Lyndhurst nominated site*

