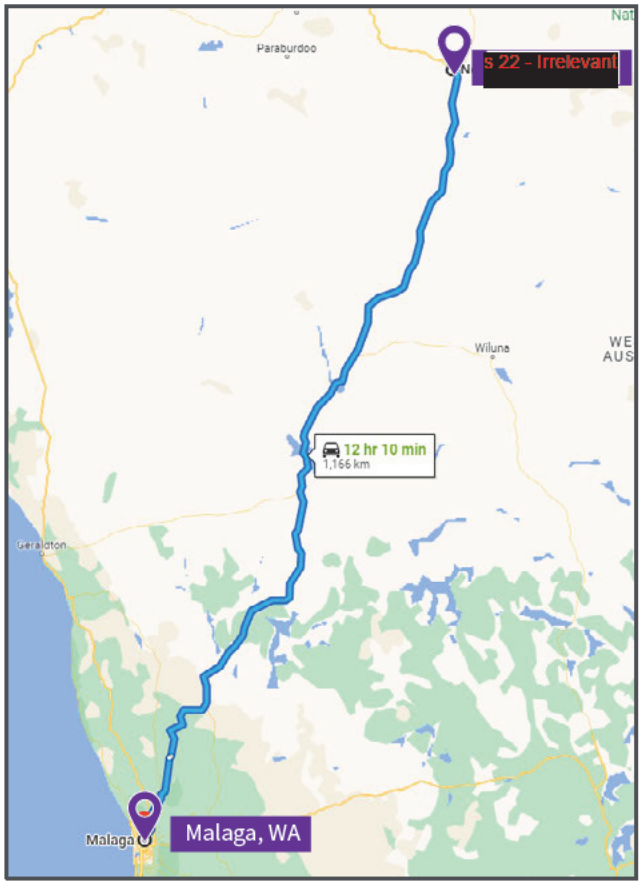
Australian Government
Australian Radiation Protection and Nuclear Safety Agency

arpansa

ARPANSA Situation Report: Missing radiation source in Western Australia

Time/date of event: 12–16 January 2023 | **Location:** Western Australia | **Source:** 19.9 GBq industrial radiation source



BACKGROUND

- A 19.9 Giga-becquerel (GBq) industrial radiation source in a level gauge was transported by road on a trailer from s 22 - Irrelevant in the Pilbara to the Perth metropolitan area for [redacted]. The ceramic radioactive material was inside a metal capsule which is 6 mm diameter and 8 mm long.
- The source was packed on 10 January 2023 - secured in the gauge housing, then inside a transport box (to which it was bolted), this was mounted on a pallet and initially stored s 22 - Irrelevant The pallet was collected and loaded onto a trailer [redacted] on 12 January 2023 for transport by road (Great Northern Highway) to Perth. It travelled through some intermediate depots before arriving at the premises s 22 - Irrelevant in Malaga on 16 January 2023. The pallet was stored at those premises until being opened on 25 January 2023, when the source was found to be missing. The source is thought to have fallen through a hole in the damaged box and then from the trailer to the road.
- Investigations by s 22 - Irrelevant including physical and instrumental searches of various sites and a section of the Great Northern Highway near Bindoon, have been conducted and are continuing. These efforts to find the source have not been successful to date, and all avenues of investigation are being carried out by authorities.
- The Department of Fire and Emergency Services (DFES) is the Hazard Management Agency for the incident s 22 - Irrelevant [redacted] of the missing material.
- Fixed and portable radiation gauges are used to measure product characteristics in mining, oil and gas, manufacturing and other industries. They contain either a sealed radiation source or an X-ray source and are regulated by State and Territory Competent Authorities in accordance with national codes set by ARPANSA including the Code for the Safe Transport of Radioactive Material. These codes apply a graded approach in such that safety and security precautions are taken depending on the danger presented by the radioactive material.

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SITUATION UPDATE

- **ARPANSA's Duty Officer** was contacted by the s 22 - Irrelevant [redacted] on Friday 27 January advising that a Category IV radiation source (20GBq Cs-137) became detached from the gauge during transit between north of Newman and Malaga, WA (approximately 1,400km distance).
- The Australian Government has activated COMDISPLAN and under two separate Requests for Assistance, will provide support to the Western Australian Government in recovering the capsule:
  - s 22 - Irrelevant [redacted]
- Analysis and simulated drives conducted by ARPANSA today (30 January) has determined a maximum driving speed of 70km/h for 25m detection distance. These calculations will be provided to DFES for planning purposes.
- s 22 - Irrelevant [redacted]

SAFETY AND SECURITY RISK

- ARPANSA s 22 - Irrelevant [redacted] that the material presents a low chance of harm however is of enough concern to warrant its recovery if possible. The radiation exposure is approximately 2mSv/h at 1m with the possibility of radiation burns if held closely for extended periods. The exposure risk will remain for several years due to the approximately 30 year half-life of Caesium-137.
- If found, a general cordon of 30m is sufficient in line with ARPANSA emergency guidance.
- As a Category 4 source, the material is of a lower level of radiological security concern and is not ordinarily subject to enhanced security measures.

MEDIA

See whole-of-government Talking Points s 22 - Irrelevant [redacted]

CONTACT

ARPANSA's central point of contact s 22 - Irrelevant [redacted]