



Australian Government
Australian Radiation Protection
and Nuclear Safety Agency



Something ‘hot’ is missing in the outback – how can the Commonwealth help?

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Andrew Popp – ANSTO

Disclaimer

Did you know that many stakeholders, particularly in Emergency Preparedness and Response do not know the difference between ARPANSA and ANSTO?

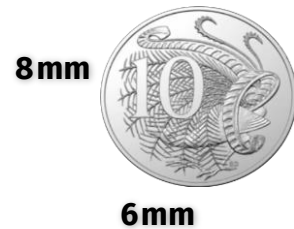
Today we intend to blur those lines even further!

WA State Response

- An 8 mm by 6 mm radioactive capsule went missing somewhere along a 1400 kilometre journey from Rio Tinto's Gudai-Darri iron ore mine to its final destination in Perth, Western Australia.
- Capsule misplaced by Rio Tinto and third party transportation company.



Mining radiation gauge



^{137}Cs Capsule was the size of a ten cent piece



Request for Support through NEMA

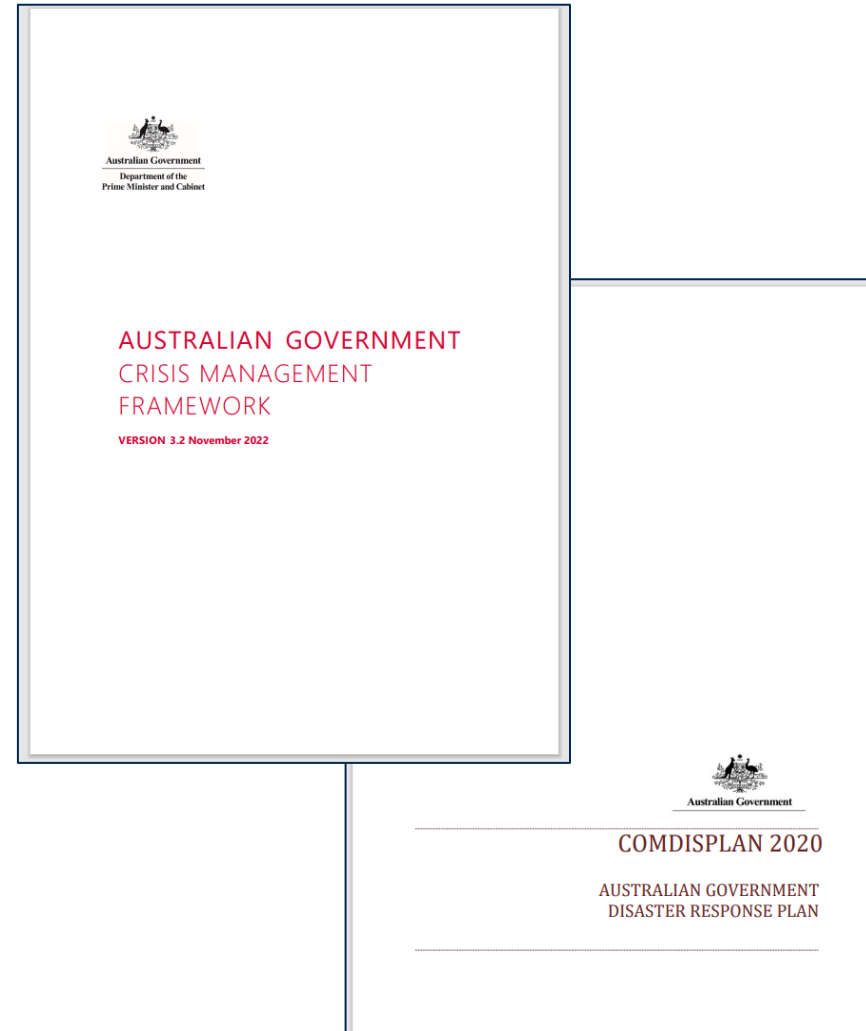
COMDISPlan Activation

Department of Fire and Emergency Services
Government of Western Australia

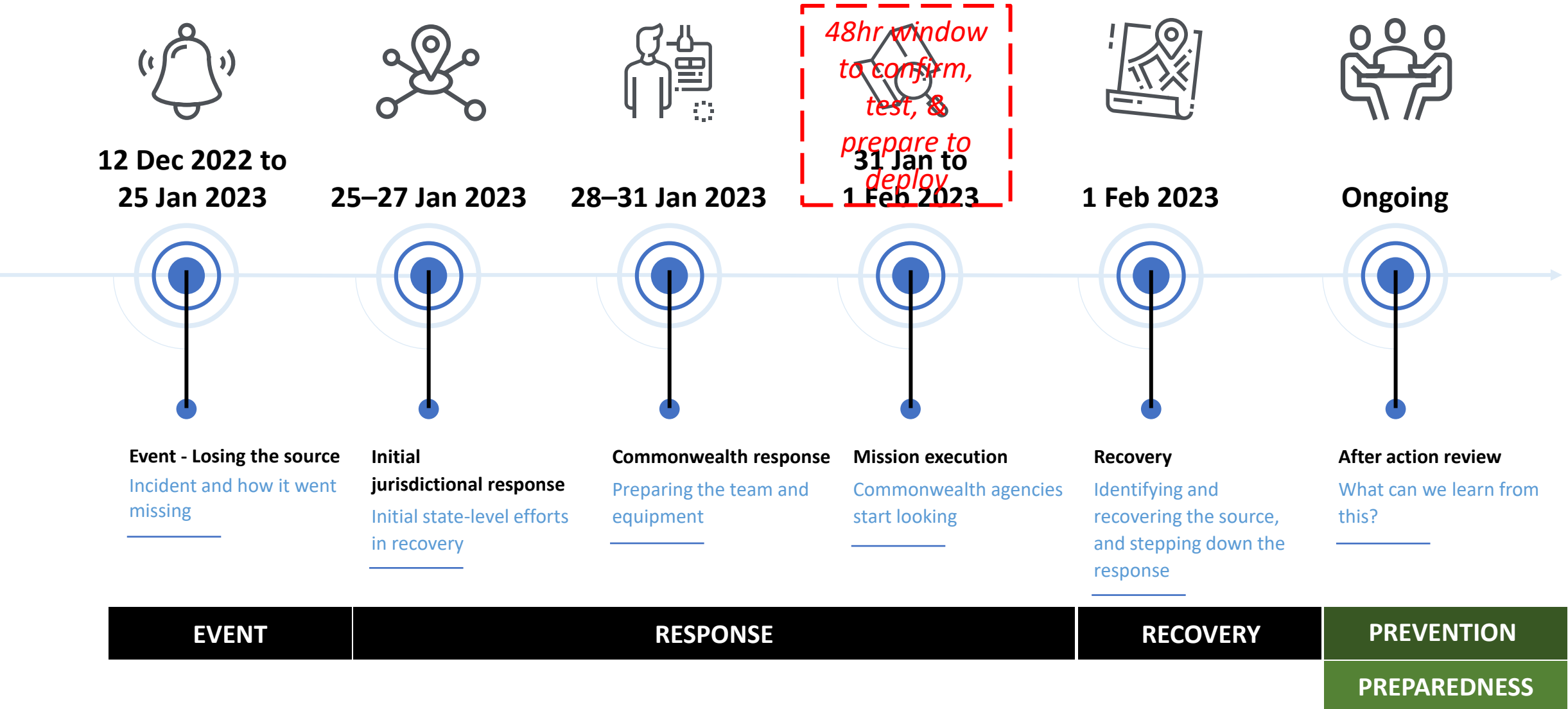
ARPANSA
Australian Radiation Protection and Nuclear Safety Agency

Department of Defence
Australian Government

ANSTO
Australian Nuclear Science and Technology Organisation



Timeline of events







Stakeholders in a radiological emergency response

Commonwealth



Australian Government
Australian Radiation Protection
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Australian Government
Defence

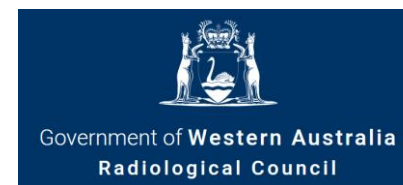


Australian Government
National Emergency Management Agency

COMDISPLAN 2020

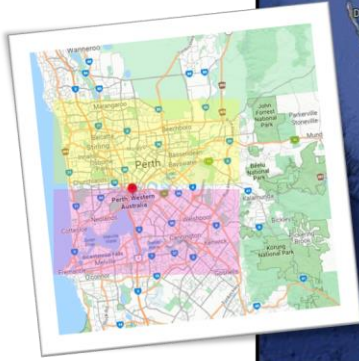
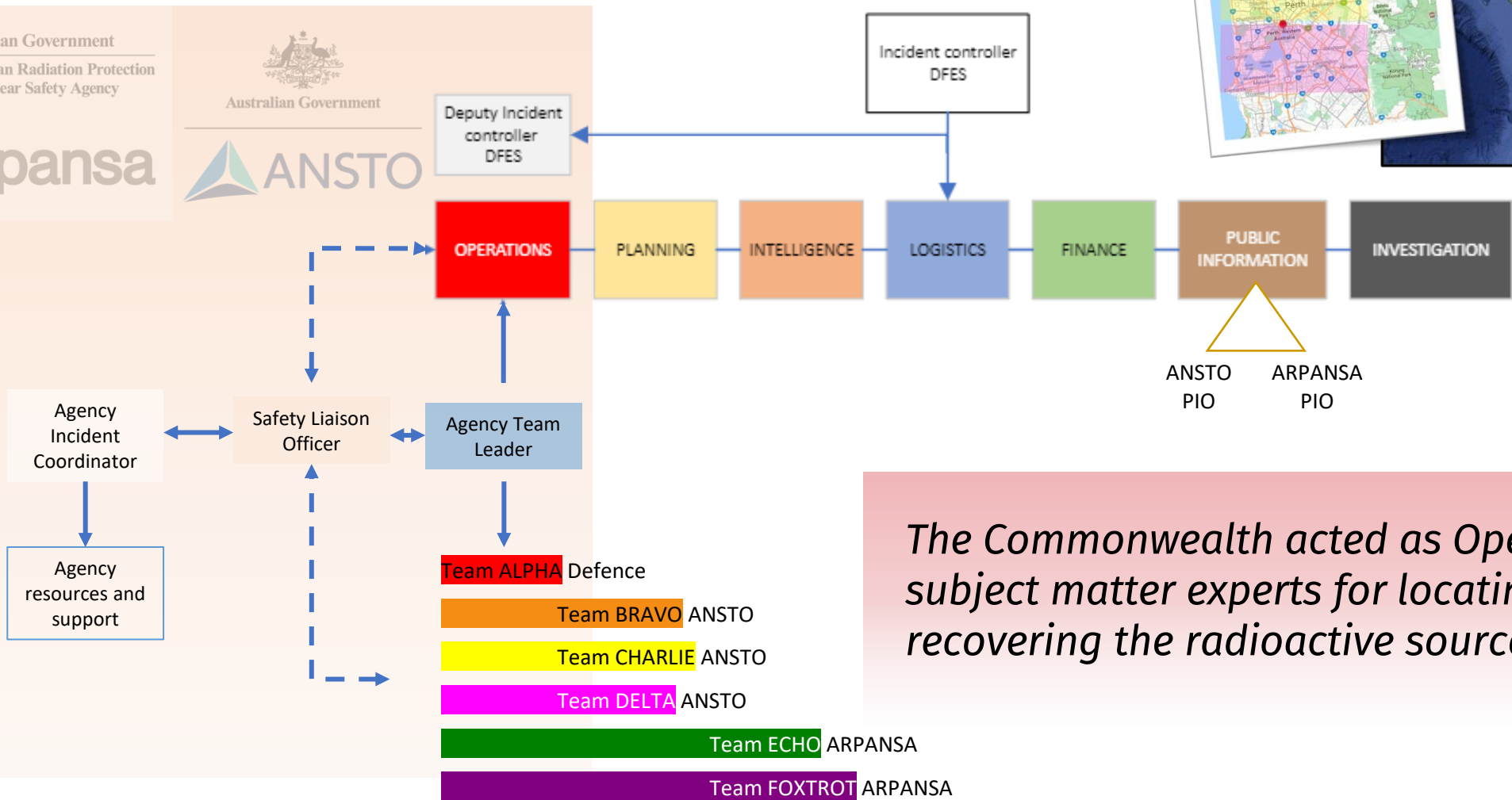
AUSTRALIAN GOVERNMENT
DISASTER RESPONSE PLAN

Western Australia



FOR A SAFER STATE





The Commonwealth acted as Operational subject matter experts for locating and recovering the radioactive source

Maintaining safety

The challenges

- Isolation
- Extreme heat
- Road trains
- Fatigue

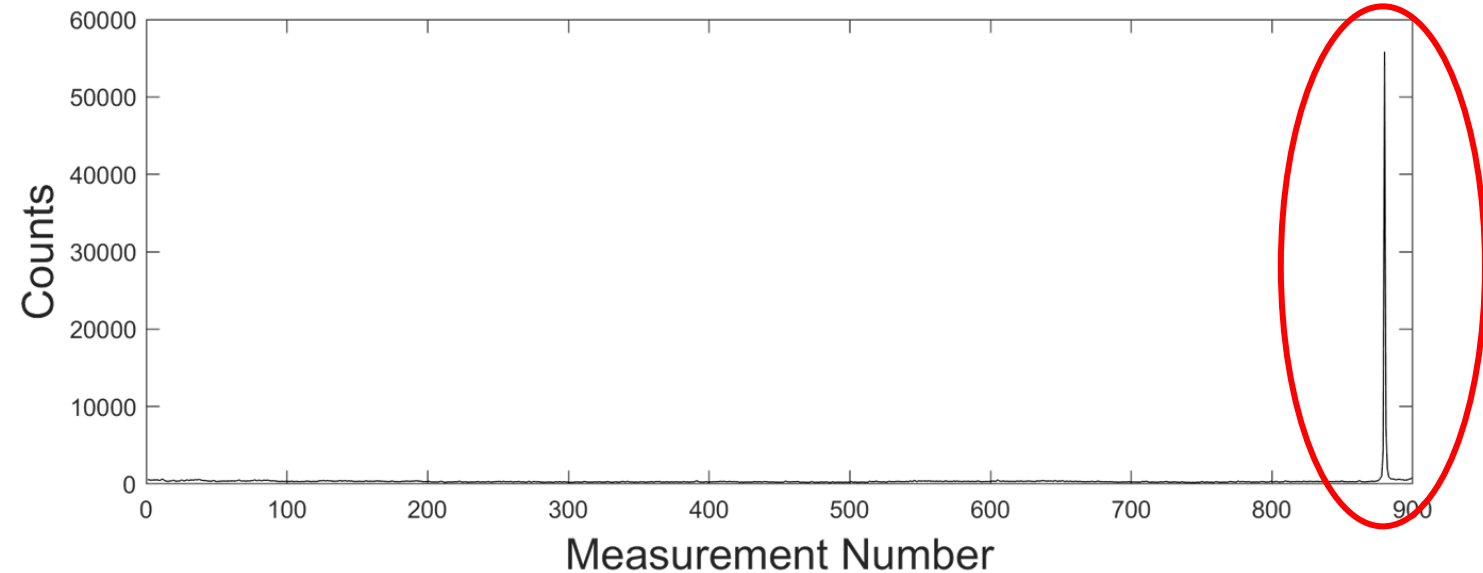
Control

- Satellite phones
- Check-ins
- Debriefs
- Tracking
- Scheduling
- Escort vehicles w emergency equipment
- Condition forecasts
- Buddy systems



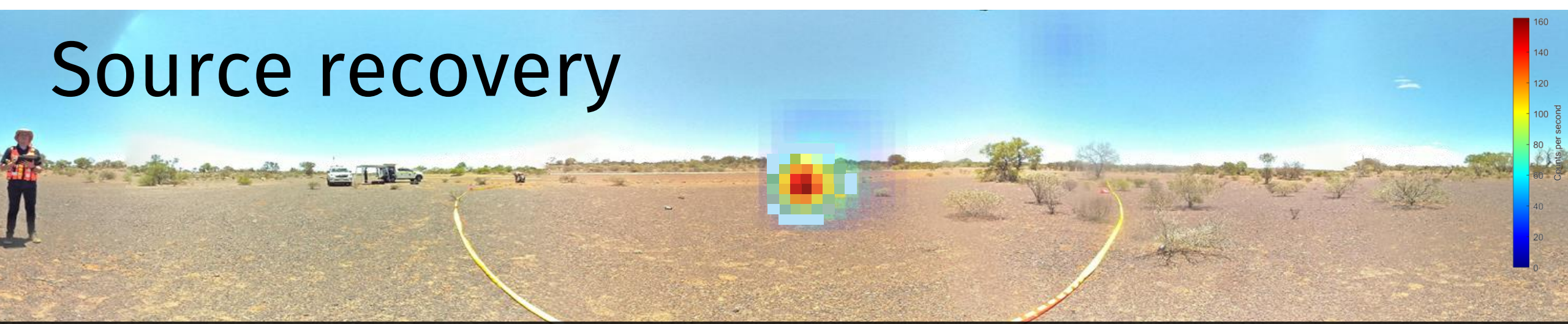


Finding lost WA source



- Modified CORIS360® system in “search mode” (pictured) is secured in back of van
- Suite of equipment (*such as NaI Detectors*) were utilized for holistic identification and redundancy
- Device spikes as van drives past source at 70 km/hour (circled)
- Multiple devices began to alarm indicating significant nearby source

Source recovery



ANSTO's CORIS360® image locating the radioactive capsule

Planning

- Site secured and perimeter established → include readings
- Source location pinpointed in ~1 minute
- Calculate dose constraints
- Plan recovery methodology

People

- State IC takes over
- Report into head IC and EOC
- Establish resourcing needed for post recovery and transport.
- Practice recovery until confident!







Incident Management Team, including Incident Controller Darryl Ray.



Author

Department of Fire and Emergency Services WA

As with everything we do, this has been a massive team effort - here's the very team who located the capsule, all smiles once it was verified by the serial number as being the radioactive capsule we were searching for.

DFES Bravo team



Love Reply 16w

Most Relevant is selected, so some replies may have been filtered out.

274







Key Learnings

Capability & preparedness

1.

Know your capabilities before an event occurs, and those of your partners

- Equipment
- Training
- People

Interoperability

2.

Use a range of tools – provides confidence and redundancy

3.

Identify early gaps & opportunities to improve, and act on them

People

1.

Practice scenarios regularly

2.

Understand & utilize people's strengths

3.

Define roles and responsibilities early to enable dynamic & positive team relationships

