

s22

From: s22
Sent: Wednesday, 14 June 2023 2:22 PM
To: s22 Sander, Mark CDRE; Grzeskowiak, Steven MR 2; s22
 s22

Subject: FOR REVIEW: Drafting Plan [SEC=PROTECTED]

PROTECTED

PROTECTED

Hi all

Thanks for your input to today's meeting.

Further to the discussion today, please find attached the drafting plan for the review.

I've removed the timeframes that were on the hardcopy – we will progress that work in parallel and provide further guidance going forward.

Grateful for thoughts on the attached, especially for guidance on whether we've misinterpreted suitable leads for parts of the document.

Thanks

s22

s22

Assistant Director | Non-Proliferation | International Policy and Agreements
 Nuclear Powered Submarine Task Force

Email: s22 [@defence.gov.au](mailto:s22@defence.gov.au)

W: s22

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<<

Review Drafting Plan V2.docx (22.3KB)

(22.3KB)

>>

s22

From: s22
Sent: Wednesday, 5 April 2023 4:36 PM
To: Blix, Sophia MS; Sander, Mark CDRE; s22

Subject: FOR REVIEW: Drafting Plan for the Review of the Defence Estate [SEC=PROTECTED]

PROTECTED

Hi all

As foreshadowed in today's meeting, please find attached the drafting plan for the Review of the Defence Estate.

As flagged, more than happy to make adjustments at this stage and as we go forward. Welcome any thoughts, both on content as well as allocation of work as we go forward.

Please provide any comments by **Tuesday 11 April** to enable us to discuss with Steve G next week

Thanks

s22

s22

Nuclear Powered Submarine Task Force
Email: s22 [@defence.gov.au](mailto:s22@defence.gov.au)
W: s22

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<< Review Drafting Plan.docx (20.6KB)
(20.6KB)
>>

s22

From: s22
Sent: Wednesday, 3 May 2023 4:27 PM
To: s22
Subject: FW: Review background tables and Senate Estimates briefing [SEC=PROTECTED]

PROTECTED

PROTECTED

Hi s22

As discussed,

s22

Good afternoon all

Thank you for your continued work on the Review.

As discussed in today's meeting, please find attached two background tables the team has been working on:

- **Revised International approaches to HLW and spent fuel management:** This table contains relevant information on practices for spent fuel management by a number of leading countries s47E(d)
s47E(d)

-

Grateful any comments, alterations or suggested additions by **COB Friday**.

Attached also is the Taskforce's briefing for the upcoming Senate Estimates hearings, for background information only. Note that coordination meetings of Estimates briefings are s47E(d)
s47E(d)

We have also prepared points for agencies involved in the Review that they may wish to use in their Senate estimates briefings (see below):

- In March 2023, Government announced a review to identify locations in the current or future Defence estate that could be suitable for the storage and disposal of intermediate- and high-level radioactive waste from nuclear-powered submarines.
- The outcomes of the review will inform a more detailed process that will include consultation and engagement with stakeholders, including community and Indigenous groups, and consideration of wider social license and economic implications.
- Defence is leading the review, so detailed questions should be referred to them.

- [insert agency, e.g. ARWA, Geoscience] is committed to supporting the review.

s22

Assistant Director | Non-Proliferation | International Policy and Agreements

Nuclear Powered Submarine Taskforce

Email: s22 @defence.gov.au

W: s22

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<<

Revised international approaches to HLW and spent fuel management.docx (27.4KB)

s47E(d) Table_ International and Domestic Best Practice.docx (36.4KB)

NPS Submarines - Estimates Briefing - Radioactive waste.docx (65.3KB)

(129.0KB)

>>

s22

From: GA - s22
Sent: Tuesday, 26 September 2023 5:16 PM
To: s22
Cc: GA - s22
Subject: s47E(d) [SEC=PROTECTED, CAVEAT=SH:CABINET]
Attachments: Draft-s47E(d) -OfficialSensitive.png

PROTECTED//CABINET

Hi s22

s47E(d)

This is the proof of concept to support the statements within the report. I suggest this is sufficient for your needs, please let me know your thoughts on this.

s47E(d)

Happy to discuss.

Kind regards,
s22

s22

From: GA - s22
Sent: Thursday, 24 August 2023 5:53 PM
To: s22
Cc: GA - s22 s22
Subject: RE: FOR REVIEW: Summary and outline of s47E(d) [SEC=PROTECTED, CAVEAT=SH:CABINET]

PROTECTED//CABINET

Hi s22
Cc- s22

Please accept my apologies for not providing direct feedback s47E(d) to date. I am sure there has been a lot of value input. I had visibility of s22 edits which was useful. There are two points of feedback that I hope you don't mind that I've placed directly into this email:

s47C

Happy to discuss.

Kind regards,
s22

From: s22 @defence.gov.au>
Sent: Thursday, 24 August 2023 10:44 AM
To: s22 @defence.gov.au>; s22 @industry.gov.au>; s22
s22 s@defence.gov.au>; s22 @defence.gov.au>; GA -
s22 @protected.ga.gov.au>; s22 @defence.gov.au>; s22 ,
s22 @defence.gov.au>; s22 @industry.gov.au>; s22
s22 @defence.gov.au>; s22 @industry.gov.au>; s22
s22 @defence.gov.au>; s22 @defence.gov.au>; s22

PROTECTED CABINET

Please keep the document under close hold.

Thanks again, and don't hesitate to reach out with any questions.

s22

s22

Assistant Director
Policy, Strategy and Engagements Division | Safeguards and Non-Proliferation Branch
Australian Submarine Agency

 s22

|  s22

[@defence.gov.au](mailto:s22@defence.gov.au)

In the spirit of reconciliation the Australian Submarine Agency acknowledges the Traditional Custodians of country throughout Australia and their connections to land, sea and community. We pay our respect to their Elders past and present and extend that respect to all Aboriginal and Torres Strait Islander peoples today.

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s22

From: s22
Sent: Thursday, 19 October 2023 11:55 PM
To: s22
Cc: s22 - s22
Subject: RE: FOR REVIEW: s47E(d) [SEC=PROTECTED, CAVEAT=SH:CABINET]
Attachments: MEGIS_23001-66.png; MEGIS_23001-66.pdf; s47E(d)_taskforce.jpg;
s47E(d)_taskforce.png; s47E(d) - Draft of 6 October_KC.docx

PROTECTED//CABINET

Hi s22 ,

Please find attached comments on the latest draft along with an s47E(d) as requested. My apologies my COB Thursday is quite late on Thursday.

As I aid in the meeting, I think you have done a great job in incorporating our suggestions on the last draft and the revision is shaping up well. Some key points to draw your attention to:

s47C

Best regards,

s22

s22

From: GA - s22
Sent: Thursday, 26 October 2023 5:30 PM
To: s22
Cc: s22 GA - s22 s22
Subject: RE: FOR REVIEW: s47E(d) [SEC=PROTECTED, CAVEAT=SH:CABINET]
Attachments: MEGIS_23001-66.png

PROTECTED//CABINET

Hi s22 ,
 s47C

We do have one more version we can show you which is kind of between the two which s47E(d) I can show you this one
 and explain the rational behind it if you are interested.

Let me know if you have any questions.

Best regards,

s22

From: s22 @defence.gov.au>
Sent: Thursday, October 26, 2023 1:27 PM
To: GA - s22 @protected.ga.gov.au>
Cc: s22 @defence.gov.au>; s22
 s22 @protected.ga.gov.au>; s22 @defence.gov.au>; s22
 s22 @defence.gov.au>
Subject: RE: FOR REVIEW: s47E(d) [SEC=PROTECTED, CAVEAT=SH:CABINET]

PROTECTED CABINET

Hi s22

Thanks again for your work on this.

We're keen to know why there appear to be parts of the current version of s47E(d)

Can you advise? All things being equal we'd probably prefer to have the earlier version of what's included and excluded but happy for an explanation for the changes

Thanks

s22

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-----Original Message-----

From: s22 @defence.gov.au>
 Sent: Friday, 20 October 2023 9:42 AM
 To: GA - s22 s22 @protected.ga.gov.au>; s22
 s22 @defence.gov.au>
 Cc: s22 @defence.gov.au>; GA - s22
 s22 @protected.ga.gov.au>; s22 @defence.gov.au>
 Subject: RE: FOR REVIEW: s47E(d) [SEC=PROTECTED, CAVEAT=SH:CABINET]

PROTECTED CABINET

This is great s22 , thanks for your and s22 's efforts on this work - it's very m s22 appreciated. Thanks, s22

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-----Original Message-----

From: GA - s22 @protected.ga.gov.au>
 Sent: Friday, 20 October 2023 9:38 AM
 To: s22 @defence.gov.au>
 Cc: s22 @defence.gov.au>; GA - s22
 s22 @protected.ga.gov.au>; s22 @defence.gov.au>; s22
 s22 @defence.gov.au>
 Subject: RE: FOR REVIEW: s47E(d) [SEC=PROTECTED, CAVEAT=SH:CABINET]

Hi s22 ,

No problem. Do let us know if you need any revisions.

I'm in Canberra next week (s22 will be overseas) and the week after both of us are at a Conference in Sydney for the week. If you require modifications, it would be best if I could get onto them next week.

Best regards,

s22

-----Original Message-----

From: s22 @defence.gov.au>
 Sent: Friday, October 20, 2023 7:39 AM
 To: GA -s22 22 @protected.ga.gov.au>
 Cc: s22 @defence.gov.au>; GA -s22 s22 @protected.ga.gov.au>; s22 @defence.gov.au>; s22 s22 @defence.gov.au>
 Subject: Re: FOR REVIEW: s47E(d) [SEC=PROTECTED, CAVEAT=SH:CABINET]

Hi s22

Thanks for all the work that has gone into this. Love the s47E(d) especially. We'll integrate with the report

Thanks again

s22

> On 19 Oct 2023, at 11:55 pm, GA -s22 s22 @protected.ga.gov.au> wrote:
 >
 > PROTECTED//CABINET
 > Hi s22
 >
 > Please find attached comments on the latest draft along with an updated s47E(d) as requested. My apologies my COB Thursday is quite late on Thursday.
 >
 > As I aid in the meeting, I think you have done a great job in incorporating our suggestions on the last draft and the revision is shaping up well. Some key points to draw your attention to:

>
 s47C

> Best regards,

>

> s22

>

> _____

> Notice:

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>

> _____

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s22

From: s22 @defence.gov.au>
Sent: Friday, 6 October 2023 6:49 PM
To: GA -s22
Cc: GA -s22
Subject: RE: s47E(d) [SEC=PROTECTED, CAVEAT=SH:CABINET]

PROTECTED CABINET

Hi s22

Thanks again for this.

We had a discussion with the review chair yesterday, s47C

s47C

Grateful advice and happy to discuss next week

Thanks

s22

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From: GA -s22 @protected.ga.gov.au>
Sent: Tuesday, 26 September 2023 5:16 PM
To: s22 @defence.gov.au>
Cc: GA -s22 s22 @protected.ga.gov.au>
Subject: s47E(d) [SEC=PROTECTED, CAVEAT=SH:CABINET]

PROTECTED//CABINET

Hi s22

I attach the s47E(d)

This is the proof of concept to support the statements within the report. I suggest this is sufficient for your needs, please let me know your thoughts on this.

s47C

Happy to discuss.

Kind regards,
s22

Notice:

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s22

From: GA - s22 e
Sent: Tuesday, 26 September 2023 4:51 PM
To: s22
Cc: GA - s22
Subject: RE: REQUEST FOR REVIEW TEAM INPUT: s47E(d) [SEC=PROTECTED,
CAVEAT=SH:CABINET]

PROTECTED//CABINET

Hi s22

This email contains brief feedback on the s47E(d) that you shared.

s47C

Other related comments will be shared within the feedback contained in the Report (email to follow).

Happy to discuss any of our comments.

Kind regards,
s22

From: s22 @defence.gov.au>
Sent: Thursday, 21 September 2023 3:39 PM
To: s22 @industry.gov.au>; s22 @defence.gov.au>; GA -

s22 @protected.ga.gov.au>; s22 @industry.gov.au; s22
s22 @defence.gov.au>; s22 @industry.gov.au; s22
s22 @defence.gov.au>; s22 @defence.gov.au>; s22
s22 @defence.gov.au>; s22 @defence.gov.au>; s22
s22 @defence.gov.au>
Cc: Sander, Mark CDRE s22 @defence.gov.au>; Blix, Sophia MS s22 @defence.gov.au>; s22
s22 @defence.gov.au>; s22 @defence.gov.au>; s22
s22 @defence.gov.au>
Subject: RE: REQUEST FOR REVIEW TEAM INPUT: s47E(d) [SEC=PROTECTED, CAVEAT=SH:CABINET]

PROTECTED CABINET

Hi all

In addition to the report, we'd also appreciate any views on the attached s47E(d) that we intend to attach to the report.

We're looking to use the s47E(d) to show the scope of work that is required as well as the interconnections between each stream of work, so welcome any thoughts on those elements.

Thanks

s22

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From: s22
Sent: Thursday, 21 September 2023 10:56 AM
To: s22 @industry.gov.au>; s22 @defence.gov.au>;
s22 @protected.ga.gov.au' s22 @protected.ga.gov.au>; s22 @industry.gov.au'
s22 @industry.gov.au>; s22 @defence.gov.au>;
s22 @industry.gov.au' s22 @industry.gov.au>; s22
s22 @defence.gov.au>; s22 @defence.gov.au>; s22
s22 @defence.gov.au>; s22 @defence.gov.au>; s22
s22 @defence.gov.au>
Cc: s22 @defence.gov.au>; s22 @defence.gov.au>; s22
s22 @defence.gov.au>; s22 @defence.gov.au>; s22
s22 @defence.gov.au>
Subject: REQUEST FOR REVIEW TEAM INPUT: s47E(d) [SEC=PROTECTED, CAVEAT=SH:CABINET]

PROTECTED CABINET

Hi all

As foreshadowed in yesterday's team meeting, please find attached the latest version of the report for your review.

To enable a review team version of the report being finalised next week, we would appreciate any comments or changes by **COB Tuesday 26 September**.

Thanks

s22

s22

Assistant Director
Policy, Strategy and Engagements Division | Safeguards and Non-Proliferation Branch
Australian Submarine Agency



s22



s22

[@defence.gov.au](mailto:s22@defence.gov.au)

In the spirit of reconciliation the Australian Submarine Agency acknowledges the Traditional Custodians of country throughout Australia and their connections to land, sea and community. We pay our respect to their Elders past and present and extend that respect to all Aboriginal and Torres Strait Islander peoples today.

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s22

From: GA -s22
Sent: Tuesday, 26 September 2023 5:10 PM
To: s22
Cc: GA - s22
Subject: RE: REQUEST FOR REVIEW TEAM INPUT: s47E(d) [SEC=PROTECTED, CAVEAT=SH:CABINET]
Attachments: s47E(d) - Draft to Review Team 21 Sep_GeoscienceAustralia.docx

PROTECTED//CABINET

Hi s22

Please find attached our review of the Draft Report.

We are happy to discuss any revisions or comments made.

You will note we specifically s47E(d)

Kind regards,
s22

From: s22 @defence.gov.au>
Sent: Thursday, 21 September 2023 10:56 AM
To: s22 @industry.gov.au>; s22 defence.gov.au>; GA -
s22 s22 @protected.ga.gov.au>; s22 ndustry.gov.au>; s22
s22 @defence.gov.au>; s22 @industry.gov.au>; s22
s22 @defence.gov.au>; s22 @defence.gov.au>; s22
s22 @defence.gov.au>; s22 @defence.gov.au>; s22
<s22 @defence.gov.au>
Cc: Sander, Mark CDRE s22 @defence.gov.au>; Blix, Sophia MS s22 @defence.gov.au>; s22
s22 defence.gov.au>; s22 @defence.gov.au>; s22
s22 @defence.gov.au>
Subject: REQUEST FOR REVIEW TEAM INPUT: s47E(d) [SEC=PROTECTED, CAVEAT=SH:CABINET]

PROTECTED CABINET

Hi all

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To enable a review team version of the report being finalised next week, we would appreciate any comments or changes by **COB Tuesday 26 September**.

Thanks

s22

s22

Assistant Director
Policy, Strategy and Engagements Division | Safeguards and Non-Proliferation Branch
Australian Submarine Agency



[@defence.gov.au](mailto:s22@defence.gov.au)

In the spirit of reconciliation the Australian Submarine Agency acknowledges the Traditional Custodians of country throughout Australia and their connections to land, sea and community. We pay our respect to their Elders past and present and extend that respect to all Aboriginal and Torres Strait Islander peoples today.

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s22

From: s22 @defence.gov.au>
Sent: Tuesday, 5 December 2023 9:01 AM
To: s22
s22 s22 GA - s22 s22
s22
Cc: s22
Grzeskowiak, Steven MR 2; Blix, Sophia MS; Sander, Mark CDRE
Subject: RE: Update on the s47E(d) [SEC=PROTECTED, CAVEAT=SH:CABINET]
Attachments: s47E(d) _041223_lowres_2.pdf

PROTECTED CABINET

Hi all,

Please see attached the latest version of the radioactive s47E(d)

Thanks again for your contributions and expertise in shaping the report and look forward to working with you on follow-on activities once Government has considered next steps.

Thanks
s22

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From: s22
Sent: Friday, 10 November 2023 4:41 PM
To: s22 @defence.gov.au>; s22 @defence.gov.au>;
s22 @ansto.gov.au>; s22 @defence.gov.au>; GA - s22
s22 @protected.ga.gov.au>; s22 @defence.gov.au>; 'GA - s22
s22 @protected.ga.gov.au>; s22 @industry.gov.au>; s22
s22 @defence.gov.au>; s22 @industry.gov.au>
Cc: s22 @defence.gov.au>; s22 @defence.gov.au>; s22
s22 @defence.gov.au>; s22 @defence.gov.au>
Subject: Update on the s47E(d) s22

Hi s47E(d) colleagues,

Thanks again for your advice in developing outcomes and advice to Government as part of the review.

We're currently in the process of consulting the s47E(d) with seniors and making final edits ahead of clearance. Please see attached a clean draft that we'll look to finalise next week.

Please reach out if there are edits we've missed or glaring omissions (noting we're still incorporating changes). Also feel free to socialise this draft with seniors in your organisations, or reach out if we can arrange separate briefings.

For awareness, an interagency Band 1 IDC was held yesterday s47E(d)
s47E(d)

We expect Steve Grzeskowiak will brief members of the AUKUS Band 3 IDC on 20 November, s47E(d)

Thanks
s22

s22

Director | Safeguards and Non-Proliferation Branch
Policy, Strategy, and Engagements Division
Australian Submarine Agency



s22



s22



s22

@defence.gov.au

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s22

From: s22 defence.gov.au>
Sent: Thursday, 30 November 2023 9:27 AM
To: GA - s22 , s22 - s22
Cc: s22
Subject: RE: s47E(d)
[SEC=PROTECTED, CAVEAT=SH:CABINET]

PROTECTED CABINET

Hi s22

s47E(d)

o s34(2)

Thanks – we're almost there

s22

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From: s22
Sent: Wednesday, 29 November 2023 3:30 PM
To: 'GA - s22 's22 @protected.ga.gov.au>; s22
s22 @defence.gov.au>; GA - s22 s22 @protected.ga.gov.au>
Cc: s22 @defence.gov.au>
Subject: RE: s47E(d) [SEC=PROTECTED, CAVEAT=SH:CABINET]

PROTECTED CABINET

Hi s22

s47E(d)

Thanks for all of your assistance.

s22

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From: GA - s22 22 @protected.ga.gov.au>
Sent: Monday, 27 November 2023 12:15 PM
To: s22 @defence.gov.au>; s22
s22 @defence.gov.au>; GA - s22 s22 @protected.ga.gov.au>
Cc: s22 @defence.gov.au>
Subject: RE: s47E(d) [SEC=PROTECTED,
CAVEAT=SH:CABINET]

PROTECTED//CABINET

Hi s22

s47E(d)

s47E(d) I'll be occupied in meetings from 1pm today but s47E(d) is available and will respond to further communication.

Best regards,

s22

From: s22 @defence.gov.au>
Sent: Monday, November 27, 2023 11:27 AM
To: GA - s22 s22 @protected.ga.gov.au>; s22
s22 @defence.gov.au>; GA - s22 s22 @protected.ga.gov.au>
Cc: s22 @defence.gov.au>
Subject: RE: s47E(d) [SEC=PROTECTED,
CAVEAT=SH:CABINET]

PROTECTED CABINET

Thanks s22

We've sought advice from Defence on s47E(d) . Hopefully we'll have something back soon.

In the meantime a couple of extremely minor edits from our end to the legend:
s47C

Thanks

s22

s22

Assistant Director
Policy, Strategy and Engagements Division | Safeguards and Non-Proliferation Branch
Australian Submarine Agency

+s22 | s22 | s22 @defence.gov.au

In the spirit of reconciliation the Australian Submarine Agency acknowledges the Traditional Custodians of country throughout Australia and their connections to land, sea and community. We pay our respect to their Elders past and present and extend that respect to all Aboriginal and Torres Strait Islander peoples today.

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From: GA - s22 | s22 protected.ga.gov.au>
Sent: Monday, 27 November 2023 11:14 AM
To: s22 @defence.gov.au>; GA - s22
 s22 @protected.ga.gov.au>
Cc: s22 @defence.gov.au>; s22 @defence.gov.au>
Subject: RE: s47E(d) [SEC=PROTECTED,
 CAVEAT=SH:CABINET]

PROTECTED//CABINET

Hi s22

s47E(d)

Best regards,

s22

From: GA - s22
Sent: Monday, November 27, 2023 8:22 AM
To: s22 @defence.gov.au>; GA - s22
 s22 @protected.ga.gov.au>
Cc: s22 @defence.gov.au>; s22 @defence.gov.au>
Subject: RE: s47E(d) [SEC=PROTECTED,
 CAVEAT=SH:CABINET]

PROTECTED//CABINET

Hi s22

We will get the ^{s47E(d)} to you as soon as we can, today using the words you pass on.

We were unable to have a look at the ^{s47E(d)} sent through on Friday but we will have a look at these today to check what we had aggrs with these outlines. If there is an issue I'll get back in touch with you.

Thank you for all the input,

s22

From: s22 <s22@defence.gov.au>
Sent: Friday, November 24, 2023 4:25 PM
To: GA - s22 <s22@protected.ga.gov.au>; GA - s22 <s22@protected.ga.gov.au>
Cc: s22 <s22@defence.gov.au>; s22 <s22@defence.gov.au>
Subject: RE: ^{s47E(d)}
 CAVEAT=SH:CABINET] [SEC=PROTECTED,

PROTECTED CABINET

Hi s22 ,

^{s47E(d)}

Hope this is all you might need but let me know if not.

Thanks
 s22

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From: S
Sent: Friday, 24 November 2023 3:35 PM
To: GA - s22 <s22@protected.ga.gov.au>; GA s22 <s22@protected.ga.gov.au>
Cc: s22 <s22@defence.gov.au>; s22 <s22@defence.gov.au>
Subject: RE: ^{s47E(d)}
 CAVEAT=SH:CABINET] [SEC=PROTECTED,

PROTECTED CABINET

Hi s22

s47E(d)

I'll push back on timeframes here noting Steve G is still reviewing final over weekend – would Monday be okay you think? I'm not sure how time intensive this would be for you, ^{s22} and others.

As always, appreciate the support.

Thanks
s22

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From: s22 @defence.gov.au>
Sent: Friday, 24 November 2023 2:42 PM
To: s22 @defence.gov.au>; s22
s22 @defence.gov.au>; GA - s22 s22
s22 @defence.gov.au>; GA - s22 s22
s22 @defence.gov.au>; s22
Cc: s22 @defence.gov.au>
Subject: RE: s47E(d) [SEC=PROTECTED,
CAVEAT=SH:CABINET]

PROTECTED CABINET

Hi All

The suggested approach by Steven has merits and given the time constraints ^{s47E(d)} appears as the most pragmatic solution. ^{s47C}

s22

s22 | Acting Director
Land Planning and Regulation Directorate - Estate Planning Branch

Department of Defence
Infrastructure Division | Security and Estate Group
s22 | 26 Brindabella Park Circuit, Brindabella Business Park, ACT 2609
Phone: s22 | mobile: s22 | Email: s22 @defence.gov.au

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From: s22 @defence.gov.au>
Sent: Friday, 24 November 2023 1:51 PM
To: s22 @defence.gov.au>; s22 @defence.gov.au>; GA -
s22 22 @protected.ga.gov.au>; s22 @defence.gov.au>; GA -
s22 s22 protected.ga.gov.au>; s22
s22 @defence.gov.au>; s22 @defence.gov.au>
Cc: s22 defence.gov.au>
Subject: RE: s47E(d) [SEC=PROTECTED,
CAVEAT=SH:CABINET]

PROTECTED CABINET

Hi all

To throw my two cents in, I wonder whether the best approach would be:

s47C

Welcome thoughts

s22

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From: s22 @defence.gov.au>
Sent: Friday, 24 November 2023 1:21 PM
To: s22 @defence.gov.au>; s22 @defence.gov.au>; GA - s22
s22 @protected.ga.gov.au>; s22 @defence.gov.au>; s22
s22 @protected.ga.gov.au>; s22 @defence.gov.au>; s22
s22 @defence.gov.au>
Cc: s22 @defence.gov.au>; s22 @defence.gov.au>
Subject: RE: s47E(d) [SEC=PROTECTED,
CAVEAT=SH:CABINET]

PROTECTED CABINET

Hi s22 ,

I'm a little confused and unfortunately can't open the s47E(d) .

s47C

Also, if is this a question Air Force can answer, grateful for a contact or if you could explore with them?

Thanks
s22

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From: s22 @defence.gov.au>
Sent: Friday, 24 November 2023 12:58 PM
To: GA - s22 @protected.ga.gov.au>; s22 @defence.gov.au>; s22 @defence.gov.au>; GA - s22 @protected.ga.gov.au>; s22 @defence.gov.au>; s22 @defence.gov.au>
Cc: s22 @defence.gov.au>; s22 @defence.gov.au>
Subject: RE: s47E(d) [SEC=PROTECTED, CAVEAT=SH:CABINET]

PROTECTED CABINET

Dear All,
s47C

Happy to discuss.

Regards

s22

s22 **Acting Director**
 Land Planning and Regulation Directorate - Estate Planning Branch

Department of Defence
 Infrastructure Division | Security and Estate Group

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From: GA - s22 <s22 @protected.ga.gov.au>
Sent: Friday, 24 November 2023 9:18 AM
To: s22 @defence.gov.au; s22 @defence.gov.au;
s22 @defence.gov.au; GA - s22
s22 @protected.ga.gov.au; s22 @defence.gov.au; s22
s22 @defence.gov.au
Cc: s22 @defence.gov.au; s22 @defence.gov.au
Subject: RE: s47E(d) [SEC=PROTECTED,
CAVEAT=SH:CABINET]

PROTECTED//CABINET

Hi s22 ,

Thanks for the information. s22 we will wait for your confirmation. s47E(d)

s47E(d)

Please let us know how you would like us to proceed.

Best regards,

s22

From: s22 @defence.gov.au
Sent: Friday, November 24, 2023 8:47 AM
To: s22 defence.gov.s22 @defence.gov.au; GA
.s22 22 @protected.ga.gov.au; GA - s22
s22 @protected.ga.gov.au; s22 @defence.gov.au; s22
s22 @defence.gov.au
Cc: s22 @defence.gov.au; s22 @defence.gov.au
Subject: RE: s47E(d) [SEC=PROTECTED,
CAVEAT=SH:CABINET]

PROTECTED CABINET

Hi All,

I have been away sick and just noticed this request. I will leave it for s22 and her team to advise, however if you need anything more please reach out.

s22

s22 | **Acting Director**
Land Planning and Regulation Directorate - Estate Planning Branch

Department of Defence

Infrastructure Division | Security and Estate Group

s22 | 26 Brindabella Park Circuit, Brindabella Business Park, ACT 2609
Phone: s22 | mobile: s22 | Email: s22 @defence.gov.au

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From: s22 @defence.gov.au>
Sent: Thursday, 23 November 2023 6:25 PM
To: s22 @defence.gov.au>; GA - s22
s22 @protected.ga.gov.au>; GA - s22 @protected.ga.gov.au>; s22
s47E(d) @defence.gov.au>; s22 @defence.gov.au>; s22
s22 @defence.gov.au>
Cc: s22 @defence.gov.au>; s22 @defence.gov.au>
Subject: RE: s47E(d) [SEC=PROTECTED,
CAVEAT=SH:CABINET]

PROTECTED CABINET

Hi Folks,

s47E(d)

Regards
s22

s47E(d)

Strategic Engagement & Corporate Branch | Strategic Policy
Strategic Policy & Industry | Department of Defence

Phone s22
 Email: s22 @defence.gov.au
 s22 | Russell Offices | PO Box 7901 | Canberra BC | ACT 2610

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From: s22 @defence.gov.au>
Sent: Thursday, 23 November 2023 6:01 PM
To: GA - s22 s22 @protected.ga.gov.au>; GA - s22
 s22 @protected.ga.gov.au>; s22 @defence.gov.au>; s22
 s22 @defence.gov.au>
Cc: s22 defence.gov.au>; s22 @defence.gov.au>
Subject: RE: s47E(d) [SEC=PROTECTED,
 CAVEAT=SH:CABINET]

PROTECTED CABINET

Hi s22
 s47C

s22 , grateful for your advice and if you could please confirm.

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From: GA - s22 s22 @protected.ga.gov.au>
Sent: Thursday, 23 November 2023 5:43 PM
To: GA - s22 s22 @protected.ga.gov.au>; s22
s22 @defence.gov.au>; s22 @defence.gov.au>; s22
s22 @defence.gov.au>
Cc: s22 @defence.gov.au>; s22 @defence.gov.au>
Subject: RE: s47E(d) [SEC=PROTECTED,
CAVEAT=SH:CABINET]

PROTECTED//CABINET

Hi all,
s47C

Best regards,

s22

From: GA - s22 @protected.ga.gov.au>
Sent: Thursday, November 23, 2023 1:58 PM
To: s22 @defence.gov.au>; GA -s22
s22 @protected.ga.gov.au>; s22 @defence.gov.au>; s22
s22 @defence.gov.au>
Cc: s22 @defence.gov.au>; s22 @defence.gov.au>
Subject: RE: s47E(d) [SEC=PROTECTED,
CAVEAT=SH:CABINET]

PROTECTED//CABINET

Hi s22 ,

s47E(d)

I'll speak to s22 at this end and let you know if there are any issues with getting this to you tomorrow.

Kind regards,
s22

From: s22 @defence.gov.au>
Sent: Thursday, November 23, 2023 12:16 PM
To: GA -s22 s22 @protected.ga.gov.au>; GA -s22
s22 @protected.ga.gov.au>; s22 @defence.gov.au>; s22
s22 @defence.gov.au>
Cc: s22 @defence.gov.au>; s22 @defence.gov.au>

Subject: s47E(d)
CAVEAT=SH:CABINET]

FOI 74273 Doc 12 - 13
[SEC=PROTECTED,

PROTECTED CABINET

Hi s22

Thanks for your ongoing support on the s47E(d) – we're close now to a final draft which we plan to hand over to our designers soon before submitting through to Government for consideration.

There was an AUKUS Band 3 IDC this week which went well – I understand your CEO Dr James Johnson was on the distribution. Also positive comments from nuclear agency heads on Tuesday.

One issue that came up after the Band 3 meeting was a request s47E(d)

s47E(d)

Happy to talk through or arrange a meeting if preferred. We would like to finalise by the end of the week if possible – but let me know if unachievable.

Thanks
s22

Director | Safeguards and Non-Proliferation Branch
Policy, Strategy, and Engagements Division
Australian Submarine Agency



+s22



s22



s22

[@defence.gov.au](mailto:s22@defence.gov.au)

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Notice:

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s22

From: s22
Sent: Tuesday, 28 March 2023 2:48 PM
To: Sander, Mark CDRE; s22

Cc: Taskforce Non-Proliferation Implementation
Subject: Request for documents for Defence Review [SEC=PROTECTED]

PROTECTED

Hi all,

I will be coordinating the drafting of the s47E(d) for the Review of the Defence Estate.

To start this process, I would really appreciate any suggestions you have for documents that should be put on the master list to be included in the s47E(d). This will help me get a good idea of s47E(d) across your areas and ensure all need avenues of research are covered for the review.

In objective, we have compiled a 'reading pack' for Steve G and as this list evolves, these documents will be used for the s47E(d). I have attached the objective link for the reading pack and attached a soft copy of the resource list. Could you please send through any resources you have with a short summary of the main objectives of the document via email by **Thursday 6th April COB** (next week). We can discuss this further at the meeting tomorrow.

Thank you,

s22

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<<
 Reading Pack for Steve Grzeskowiak.obr (0.4KB)
 Master Copy Reading Pack List.xlsx (16.6KB)

 (17.0KB)
>>

s22

From: s22 @defence.gov.au>
Sent: Monday, 18 September 2023 12:56 PM
To: GA - s22
Cc: s22
Subject: s47E(d) SEC=PROTECTED, CAVEAT=SH:CABINET]
Attachments: s47E(d) .docx

PROTECTED CABINET

Hi s22

Just sent you an email on the other account – I'll call soon with an update on Review and wanted to share the attached now for your review.

Following guidance on the terms/scope of the Review, s47E(d)

Let me know when you're free and I'll give you a call – or happy to come over your way / chat on Wednesday if you are coming to the team meeting.

Feel free to add and edit as you wish.

Thanks
s22

s22

Director | Safeguards and Non-Proliferation Branch
 Policy, Strategy, and Engagements Division
 Australian Submarine Agency



s22



@defence.gov.au

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s22

From: s22
Sent: Tuesday, 11 April 2023 9:28 AM
To: s22 s22
Cc: s22
Subject: Reading List [SEC=OFFICIAL]

OFFICIAL

Good morning all,

Apologies, I sent through an email on Thursday that bounced back due to the size of the attached documents. Please find attached the reading list we mentioned in the meeting last week. Most of these documents are publically available – so can be found on google. I am also able to send you through the pdf copies if you need. I've also put below the links to the article and podcast mentioned in the last meeting.

Thanks

s22

Cosmos Magazine article and podcast.

Article:

[Explainer: What is involved in disposing of radioactive waste from AUKUS nuclear submarines? \(cosmosmagazine.com\)](#)

Podcast:

[Disposing of radioactive waste from AUKUS nuclear submarines \(cosmosmagazine.com\)](#)

Also available on Spotify, Apple and Amazon.

s22

Policy Officer | Non-Proliferation Implementation
 International Policy and Agreements | Nuclear Powered Submarine Task Force
 E: s22 y@defence.gov.au

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<< Master List for Reading Pack.xlsx (18.8KB)
 (18.8KB)
 >>

CONSULTATION PLAN

s47E(d)

From: s22
To: s22 ; s22
Cc: [Sander, Mark CDRE](#)
Subject: Commonwealth landholdings [SEC=OFFICIAL]
Date: Tuesday, 27 June 2023 11:53:01 AM
Attachments: [LandData.xlsx](#)

OFFICIAL

Hi all,

s47E(d)

Thanks

s22

s22

Director Non-Proliferation
International Policy and Agreements Division
Nuclear Powered Submarine Taskforce
s22 [@defence.gov.au](#)

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s22

From: s22
Sent: Monday, 26 June 2023 9:36 AM
To: s22
Subject: Data Layers - Spreadsheet [SEC=OFFICIAL:Sensitive]
Attachments: Data Layer Spreadsheet_for s22 _24June2023.xlsx

Hi s22

As requested, I attach the DRAFT data layer spreadsheet that we discussed at the most recent meeting.

s47E(d)

Apologies for not sending this on Friday, I ended up at s47E (d) in the 'author's meeting' for the report.

Kind regards,
 s22

s22

Director | s22
 s47E(d)

Advice, Investment Attraction and Analysis Branch
 Minerals, Energy and Groundwater Division

t +s22 ga.gov.au

Mon, Tues, Wed and Thurs | Fri: Out of Office

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 Earth sciences for Australia's future

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Geoscience Australia acknowledges the Traditional Custodians of Country throughout Australia and recognises the continuing connection to lands, waters and communities. We pay our respects to Aboriginal and Torres Strait Islanders Cultures; and to Elders past, present and emerging.

From: s22
To: s22
Cc: [Sander, Mark CDRE](#): s22 ;
s22
Subject: Defence Estate Review - Geoscience Australia Representative [SEC=OFFICIAL:Sensitive]
Date: Thursday, 9 March 2023 12:08:25 PM

OFFICIAL: Sensitive

Good morning Dr s22 ,

I just wanted to follow up with an introductory email after my voice message earlier this morning. By way of introduction I am a staff officer working for Commodore Mark Sander RAN, Director Stewardship Enablers, Capability Division of the Nuclear Powered Submarine Taskforce.

It is my understanding that you are already aware of the nature of the Review. But just to confirm you have been nominated by Geoscience Australia to be their representative as part of an integrated team supporting the conduct of a Review of the Defence Estate by Mr Steven Ggzeskowiak. Unfortunately, at this point in time I am unable to provide you with any further information, due to the classified nature of the subject matter.

To date the first meeting of the integrated team was chaired by Mr Ggzeskowiak yesterday afternoon at the Taskforce's offices - Brindabella s47E(d)

Going forward I will ensure that you are included on all future meetings invitations. At this point in time the Chair of the Review intends that the integrated team will be meeting weekly on a Wednesday. The next scheduled meeting will be on Wednesday 15 March from 1100 – 1300hrs at s47E(d)

Thank you for your time in regards to this matter and please let me know if you have any questions or concerns.

For your consideration.

Regards

s22

Lieutenant Colonel (O5)
Capability Division | Stewardship Enablers Branch
Nuclear Powered Submarine Task Force

P: s22 (personal)

E: DPN/DSN: s22 [@defence.gov.au](mailto:s22@defence.gov.au)

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From: s22
To: s22
Cc: s22
Subject: DRAFT Ch2 Australia as responsible nuclear steward [SEC=OFFICIAL:Sensitive]
Date: Tuesday, 1 August 2023 2:15:41 PM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[DRAFT Ch2 Australia as responsible nuclear steward.docx](#)

Hi s22 team,

s47E(d)

Happy to discuss,

Regards, s22

s22

**Senior Advisor, Nuclear Science and Technology
Nuclear Safety, Security and Stewardship**

Tel s22
Mobile s22
Email s22@ansto.gov.au
Web www.ansto.gov.au

ansto



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OFFICIAL: Sensitive

From: s22
To: s22
Cc: s22
Subject: Draft Terms of Reference for s47E(d) [SEC=OFFICIAL]
Date: Thursday, 3 August 2023 8:58:41 AM
Attachments: [image001.jpg](#)
[image002.jpg](#)
[Draft TOR - s47E\(d\)](#) [Meeting - final draft for review 26 July.docx](#)

OFFICIAL

Hi all

Please find attached FYSA the terms of reference s47E(d)
as shared by s22 and as raised on Thursday.

Also a friendly reminder that draft chapters are due back by COB today. Thanks to all who have already shared their chapters.

Thanks

s22

Assistant Director
Policy, Strategy and Engagements Division | Safeguards and Non-Proliferation Branch
Australian Submarine Agency

☐ +s22 ☐ [@defence.gov.au](#)

In the spirit of reconciliation the Australian Submarine Agency acknowledges the Traditional Custodians of country throughout Australia and their connections to land, sea and community. We pay our respect to their Elders past and present and extend that respect to all Aboriginal and Torres Strait Islander peoples today.

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From: s22
To: s22
Cc: s22
Subject: Email Request | Copy of the report [SEC=OFFICIAL]
Date: Wednesday, 11 October 2023 7:03:00 AM
Attachments: [image001.png](#)

Good morning s22 ,

I am hoping that one of you can help me this morning by please forwarding s22 a copy of the report for review. His email address is s22 [@protected.ga.gov.au](mailto:s22@protected.ga.gov.au)

s22 will be in attendance at the meeting today, and unfortunately I have been having computer issues and have been unable to forward him my copy.

As early as possible would be appreciated.

Kind regards,
s22

A/g Branch Head

s47E(d) | Minerals, Energy and Groundwater Division

t: +s22 f: s22 www.ga.gov.au



[Twitter](#) | [Facebook](#) | [YouTube](#) | [LinkedIn](#)

Geoscience Australia acknowledges the Traditional Custodians of Country throughout Australia and recognises the continuing connection to lands, waters and communities. We pay our respects to Aboriginal and Torres Strait Islanders Cultures; and to Elders past, present and emerging.

s22

From: s22 @defence.gov.au>
Sent: Thursday, 18 May 2023 2:35 PM
To: s22
Cc: s22
Subject: FW: s47E(d) SEC=OFFICIAL]
Attachments: s47E(d)

OFFICIAL**OFFICIAL**

Hi s22 ,
 s47E(d)

If you need any further detail please let me know.

Regards

s22

s22 | **Assistant Director**
 Land Planning and Regulation Directorate - Estate Planning Branch

Department of Defence

Infrastructure Division | Security and Estate Group
 s22 | 26 Brindabella Park Circuit, Brindabella Business Park, ACT 2609
 s22 @defence.gov.au

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From: s22 @defence.gov.au>
Sent: Thursday, 18 May 2023 11:24 AM
To: s22 @defence.gov.au>
Subject: RE: s47E(d) SEC=OFFICIAL]

OFFICIAL

Hi s22

Find attached the zipped s47E(d)

The data comes with the caveat that they are indicative only and should not be used for detailed planning. These are not the point of truth and should not be considered as such.

Anything else I can help with then please ask.

Kind Regards

s22

Asst. Director Spatial Information,
Estate Planning Branch
Infrastructure Division
SEG, Dept of Defence
s22

Brindabella Cct
Brindabella Business Park, Pialligo
PO Box 7925, Canberra BC 2610
Ph: s22
email: s22 @defence.gov.au

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From: s22 @defence.gov.au>
Sent: Thursday, 18 May 2023 9:50 AM
To: s22 @defence.gov.au>
Subject: s47E(d) [SEC=OFFICIAL]

OFFICIAL

Hi s22

Are you able to provide s47E(d) for the following:
s47E(d)

Thanks

s22

| **Assistant Director**
Land Planning and Regulation Directorate - Estate Planning Branch

Department of Defence

Infrastructure Division | Security and Estate Group

s22 | 26 Brindabella Park Circuit, Brindabella Business Park, ACT 2609

Phone: s22 | mobile: s22 | Email: s22@defence.gov.au

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s22

From: s22 @defence.gov.au>
Sent: Monday, 20 March 2023 1:45 PM
To: s22
Cc: s22
Subject: s47E(d) [SEC=OFFICIAL]
Attachments: s47E(d)

OFFICIAL**OFFICIAL**

Good afternoon s22

As discussed following the Defence Estate Review meeting held on Wednesday 15 March, please see attached s47E(d)

It is provided with the caveat For Official Use Only and not for public release/access/dissemination.

Happy to discuss

Regards

s22

| Acting Director

Land Planning and Regulation Directorate - Estate Planning Branch

Department of Defence

Infrastructure Division | Security and Estate Group

s22 | 26 Brindabella Park Circuit, Brindabella Business Park, ACT 2609

Phone: s22 [@defence.gov.au](mailto:s22@defence.gov.au)

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s22

From: s22 @defence.gov.au>
Sent: Friday, 21 July 2023 9:26 AM
To: s22 Sander, Mark CDRE; Grzeskowiak, Steven MR 2; s22
s22 Blix, Sophia MS; s22
s22

Subject: Media thread - radioactive waste - Kimba / AUKUS [SEC=OFFICIAL]
Attachments: The Australian - op-ed - 21 July - rad waste.pdf; Media - 19 July - Kimba - Rex Patrick - ABC Adelaide.pdf

OFFICIAL

Hi all,

Sharing a few items of interest in case you haven't seen - feel free to share others in reply to thread.

Media

- Broad media coverage on the Federal Court ruling in favour of the Barngarla Determination Aboriginal Corporation seeking to stop a nuclear waste site being built near Kimba in South Australia.
- **The Australian** editorialises today that Australia will have to go back to the drawing board to find a place to store nuclear waste from hospitals and nuclear medicine following the decision to set aside the site allocation for the National Radioactive Waste Management Facility, adding that the AUKUS nuclear-powered submarines will likely require a site be developed to store waste that is potentially more difficult. Attached.
- **Rex Patrick** was interviewed on ABC Radio about nuclear waste / implications for AUKUS. Attached.
- **Ian Lowe**, Emeritus Professor Griffith University, has been interviewed on ABC Radio a few times about nuclear waste at Kimba which included discussion on the impact for nuclear-powered submarines.

Current talking points

- As a responsible nuclear steward, Australia will manage radioactive waste from its conventionally-armed nuclear-powered submarines. This waste will be stored on the current or future Defence estate.
- Australia has safely and securely managed radioactive waste in Australia for decades, and is committed to the responsible management of radioactive waste from the nuclear-powered submarine program.

Thanks

s22

s22

Director | Safeguards and Non-Proliferation Branch
Policy, Strategy, and Engagements Division
Australian Submarine Agency

 s22


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s22

From: s22 @defence.gov.au>
Sent: Friday, 30 June 2023 10:19 AM
To: Sander, Mark CDRE; Grzeskowiak, Steven MR 2; s22
s22 Blix, Sophia MS; s22
s22
Subject: Outcomes - Action Items and Minutes (extract) - Notes - 23 June - Hosted by GA
[SEC=OFFICIAL]

OFFICIAL

Ladies and Gentlemen,

Please find appended an extract from the s47E(d)

The following is provided in advance of next week's meeting in order to enable respective stakeholders time to progress and/or close out action items.

Action Items

s47E(d)

For your consideration.

Regards

s22

Lieutenant Colonel (O5)
Capability Division | Stewardship Enablers Branch
Nuclear Powered Submarine Taskforce

P: s22

[@defence.gov.au](mailto:s22@defence.gov.au)

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s22

From: s22 @defence.gov.au>
Sent: Friday, 28 July 2023 12:04 PM
To: s22
Subject: s47E(d) [SEC=OFFICIAL:Sensitive]

OFFICIAL: Sensitive

Good morning all

Thanks for the helpful discussion yesterday. I think it was helpful for taking the work forward.

As discussed yesterday, please find below the plan for s47E(d)

s47E(d)

Hope that all makes sense, but happy to discuss

s22

Assistant Director
Policy, Strategy and Engagements Division | Safeguards and Non-Proliferation Branch
Australian Submarine Agency

 s22  [@defence.gov.au](mailto:s22@defence.gov.au)

In the spirit of reconciliation the Australian Submarine Agency acknowledges the Traditional Custodians of country throughout Australia and their connections to land, sea and community. We pay our respect to their Elders past and present and extend that respect to all Aboriginal and Torres Strait Islander peoples today.

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s22

From: s22 @defence.gov.au>
Sent: Friday, 24 March 2023 3:55 PM
To: s22
Subject: Provisional NV1 [SEC=OFFICIAL]

OFFICIAL

G'day s22

Apologies for the delay in getting back to you regards the use of someone with a provisional NV1. Long story short, it shouldn't be a problem.

Below is the advice I received from our security section:

Please see the link for the Protective Security Policy Framework:
<https://www.protectivesecurity.gov.au/publications-library/policy-9-access-information>

In the PDF for Policy 9 – there is a section called **requirement 4** which sets out the expectations and obligations for Government agencies providing personnel temporary access to classified resources.

Paragraph 24 has the main details that Security Division truly care about, but if the personal already has provisional access granted – then **presumably the majority of these steps have been taken**. In particular: *“confirmation from the authorised vetting agency that the person has no identified security concerns, or a clearance that has been cancelled or denied”*.

In terms of safeguarding our (possible) SECRET information – it's well worth the agency in question just detailing in a document for accountability purposes that includes the below. It's good practice and if any issues arise then there is a document to point to that shows the decision making process.

- The level of information being accessed;
- How it will be accessed (verbal, hard copy, ICT system);
- Any risks as a result of this sharing of information; and
- Any mitigations – e.g. only in a Zone 4 or above, or a brief on the importance of need to know, or escorted access when looking at hard-copy documents, etc.

For completeness, the NPSTF division has asked for the above to be documented however if you can just answer the 2nd and last questions, I'm happy with the others.

Regards,

s22

Stewardship Enablers | Nuclear Powered Submarine Task Force
 Department of Defence

P: s22

[@defence.gov.au](mailto:s22@defence.gov.au)

Defending Australia and its National Interests
www.defence.gov.au



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s22

From: s22 @industry.gov.au>
Sent: Friday, 19 May 2023 11:11 AM
To: s22
Cc: s22
Subject: RE: Action Item - s47E(d) - Figure 6.1 Australian Surface Heat Flow Grid [SEC=OFFICIAL]

OFFICIAL

No worries,

Further to this, as this data is really only surface heat flow, which is a “moderate” or “adequate” 2D proxy, s47C

M

OFFICIAL: Sensitive

From: s22 @ga.gov.au>
Sent: Thursday, 18 May 2023 3:44 PM
To: s22 @industry.gov.au>; s22 @defence.gov.au>
Cc: s22 @defence.gov.au>; s22 @ga.gov.au>
Subject: RE: Action Item - s47E(d) - Figure 6.1 Australian Surface Heat Flow Grid [SEC=OFFICIAL]

OFFICIAL

Thanks s22

I appreciate the interaction.

Cheers,

s22

From: s22 @industry.gov.au>
Sent: Thursday, 18 May 2023 9:53 AM
To: s @ga.gov.au>; s22 defence.gov.au>
Cc: s22 @defence.gov.au>; s22 @ga.gov.au>
Subject: RE: Action Item - s47E(d) - Figure 6.1 Australian Surface Heat Flow Grid [SEC=OFFICIAL]

OFFICIAL

I am intending to have some further s47E(d) but that discussion won't start for a few days.

Consulting my own notes on this from several years back for a meeting with s22 and s22 CEO of Torrens Energy) many years ago, I am leaning towards s47E(d) as it is really peripherally related to a “geothermal energy economic potential” cut-off for Torrens Energy with geothermal licences s47E(d). The s47E(d) is purposefully designed to include geothermal potential areas of the so-called s47E(d) ” that capture areas beneath the s47E(d). Hence the fact the it appears as an s47E(d). On other Australian

heat flow diagrams (such as those by s22 and s22), s47E(d)

So following on from the philosophy that we need s47E(d) (but prior to really investigating closely) I think for now s47E(d)

The justification for this is that the geothermal potential s47E(d)

Be aware that upon further investigation s47E(d)

The issue of accuracy is a good discussion point, but for now s47E(d)

s47C

Cheers

s
2

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From: s22 <s22@ga.gov.au>
Sent: Thursday, 18 May 2023 7:40 AM
To: s22 <s22@defence.gov.au>; s22 <s22@industry.gov.au>
Cc: s22 <s22@defence.gov.au>; s22 <s22@ga.gov.au>
Subject: RE: Action Item - s47E(d) - Figure 6.1 Australian Surface Heat Flow Grid [SEC=OFFICIAL]

OFFICIAL

Hi all,

s47E(d)

Another factor to consider is uncertainty in the data but we can discuss how to treat that in a future meeting.

Best regards,

s22

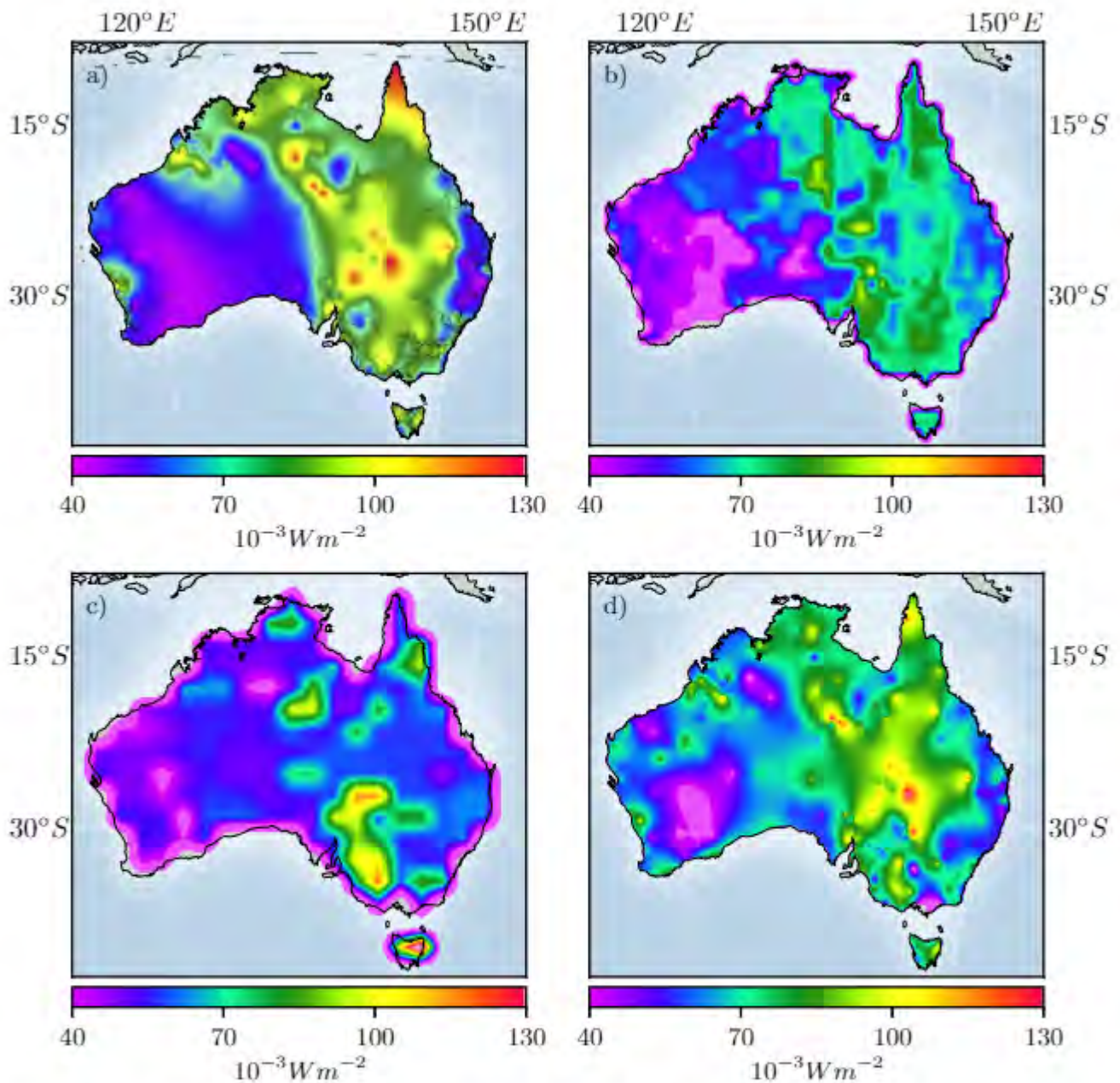


Figure 6.1: Australian surface heat flow grids. a) An unpublished grid produced by Hot Dry Rocks Pty Ltd in 2009 (Dr. Graeme Beardsmore, *personal communication*), as a merger of heat flow, bottom-hole temperature and thermal conductivity data. b) Extract from the 1° global interpolation from Goutorbe et al. (2011). c) Extract from the 2° global interpolation from Davies (2013). d) A tension in spline interpolation by Hasterok & Gard (2016).

From: s22 <s22@defence.gov.au>

Sent: Wednesday, 17 May 2023 4:13 PM

To: s22 <s22@industry.gov.au>

Cc: s22 <s22@defence.gov.au>; s22

<s22@ga.gov.au>; s22

<s22@ga.gov.au>

Subject: RE: Action Item - s47E(d)

- Figure 6.1 Australian Surface Heat Flow Grid [SEC=OFFICIAL]

OFFICIAL

G'Day s22

Thank you for all your support and SME input – it is greatly appreciated by the Chair and the rest of the team.

Regards

s22

Lieutenant Colonel (O5)
 Capability Division | Stewardship Enablers Branch
 Nuclear Powered Submarine Task Force
 P: s22 (personal)
 E: s22 @defence.gov.au

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Sent: Wednesday, 17 May 2023 4:07 PM
To: s22 @defence.gov.au>
Cc: s22 @defence.gov.au>; s22 @ga.gov.au>;
 s22 @ga.gov.au>
Subject: RE: Action Item - s47E(d) - Figure 6.1 Australian Surface Heat Flow Grid [SEC=OFFICIAL]

OFFICIAL

Thanks s22 ,

I'll find a way to compress this part of our proposed s47C
 . No worries 😊

Cheers

s22

Manager

Technical & Safety | ILW Technical Operations
 Australian Radioactive Waste Agency
 P s22

@industry.gov.au



Australian Government
 Department of Industry,
 Science and Resources

**Australian
 Radioactive
 Waste Agency**

OFFICIAL: Sensitive

From: s22 @defence.gov.au>
Sent: Wednesday, 17 May 2023 2:31 PM
To: s22 @industry.gov.au>
Cc: s22 @defence.gov.au>; s22 @ga.gov.au>;

s22

Subject: Action Item - s47E(d)

- Figure 6.1 Australian Surface Heat Flow Grid [SEC=OFFICIAL]

OFFICIAL

OFFICIAL

G'Day s22
s47E(d)

For your consideration.

Regards

s22

Lieutenant Colonel (O5)
Capability Division | Stewardship Enablers Branch
Nuclear Powered Submarine Task Force
P: s22

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s22

From: s22 @defence.gov.au>
Sent: Monday, 20 March 2023 3:10 PM
To: s22 Sander,
Mark CDRE; Grzeskowiak, Steven MR 2; s22
s22 Blix, Sophia MS; s22
Cc: s22
Subject: RE: s47E(d) [SEC=OFFICIAL]
Attachments: s47E(d) s22.docx

OFFICIAL

Hi all,
Apologies for the delay in getting to this.

Agree with both s22 very good points.
s47C

s33(a)ii

I've also added some feedback into the document.

Happy to discuss or clarify any of these points.

Cheers,
s22

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From: s22 @defence.gov.au>
Sent: Friday, 17 March 2023 12:04 PM
To: s22 @ansto.gov.au; s22 @defence.gov.au; s22 @defence.gov.au; Grzeskowiak,
 Steven MR 2 s22 @defence.gov.au; s22 @defence.gov.au; s22 @defence.gov.au; s22 @defence.gov.au; s22 @defence.gov.au; s22 @defence.gov.au; Blix, Sophia MSs22 @defence.gov.au; s22 @defence.gov.au; s22 @defence.gov.au; s22 @defence.gov.au; s22 @ga.gov.au; s22 @industry.gov.au; s22 @defence.gov.au; s22 @industry.gov.au>
Cc: s22 @ansto.gov.au; s22 @ansto.gov.au>
Subject: RE: s47E(d) [SEC=OFFICIAL]

OFFICIAL

Good morning everyone,

Thanks for the opportunity for ARWA to comment, which are:

s47C



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www.defence.gov.au

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From: [s22](#) [@ansto.gov.au](#)>
Sent: Friday, 17 March 2023 10:46 AM
To: [s22](#) [@defence.gov.au](#)>; [s22](#) [@defence.gov.au](#)>; Grzeskowiak, Steven MR 2 [@defence.gov.au](#)>; [s22](#) [@defence.gov.au](#)>; [s22](#) [@defence.gov.au](#)>; [s22](#) [@defence.gov.au](#)>; [s22](#) [@defence.gov.au](#)>; [s22](#) [@defence.gov.au](#)>; Blix, Sophia MS [@defence.gov.au](#)>; [s22](#) [@defence.gov.au](#)>; [s22](#) [@ga.gov.au](#)>; [s22](#) [industry.gov.au](#)>; [s22](#) [@defence.gov.au](#)>

Cc: s22 @ansto.gov.au>; s22 @ansto.gov.au>
 Subject: RE: s47E(d) [SEC=OFFICIAL]

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Hi everyone,

Since our meeting I have spoken briefly with colleagues, Hefin Griffiths (Chief Nuclear Officer) and s22 (Engineering Program Manager) s47E(d), s47C

s47C

Looking forward to hearing your thoughts on all of this.

Regards, s22

OFFICIAL

From: s22 @defence.gov.au>
 Sent: Wednesday, 15 March 2023 1:09 PM
 To: s22 @defence.gov.au>; Sander, Mark CDRE s22 @defence.gov.au>;
 Grzeskowiak, Steven MR 2 s22 @defence.gov.au>; s22 @defence.gov.au>; s22
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 @defence.gov.au>; s22 @defence.gov.au>; s22
 @ansto.gov.au>; s22 @ga.gov.au; s22 s@industry.gov.au; s22
 defence.gov.au>; s22 2 @defence.gov.au>
 Subject: s47E(d) [SEC=OFFICIAL]

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OFFICIAL

Hi all

Thanks for the comments in today's meeting. Please find attached for comment the s47E(d) documents discussed today.

Grateful for comments, if possible, by COB Friday.

Thanks

s22

Nuclear Powered Submarine Task Force
Email: s22 @defence.gov.au
W: s22

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s22

From: s22 @defence.gov.au>
Sent: Friday, 31 March 2023 11:39 AM
To: GRIFFITHS, Hefin; s22
Subject: RE: CSIRO outline assessment of suitable geologies for deep geological disposal [SEC=OFFICIAL]

OFFICIAL

Thanks Hef, I've requested advice on relevance to the Defence project.

s22

s47E(d)

Department of Defence

P: s22

[@defence.gov.au](mailto:s22@defence.gov.au)



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From: GRIFFITHS, Hefin s22 @ansto.gov.au>
Sent: Friday, 31 March 2023 9:20 AM
To: s22 @ga.gov.au; s22 , s22 @defence.gov.au>; s22 @csiro.au>; s22 @csiro.au>
Subject: CSIRO outline assessment of suitable geologies for deep geological disposal [SEC=OFFICIAL]

 **EXTERNAL EMAIL:** Do not click any links or open any attachments unless you trust the sender and know the content is safe. 

Hi s22 ,

As discussed at the IDC, CSIRO have been undertaking work for ARWA in support of future ILW disposal options. The project is led by s22 , with the technical lead being s22 has extensive experience from SCK-CEN in Belgium who are developing the Belgian deep disposal option.

s22 has developed an outline of suitable Australian geology for hosting Deep ILW disposal, however I don't have a copy of this. As this work was funded either by ARWA or directly by CSIRO, I've included s22 on this. I know s22 produces high quality work as, hopefully, you will be able to see for yourself.

Best regards

Hef

Mr. Hefin Griffiths

Chief Nuclear Officer
Office of the CEO

Tel s22
Mobile s22
Email [@ansto.gov.au](mailto:s22@ansto.gov.au)
Web www.ansto.gov.au



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s22

From: s22 @defence.gov.au>
Sent: Thursday, 16 March 2023 10:01 AM
To: s22 Sander, Mark CDRE; s22
 Blix, Sophia MS; s22

Cc: Taskforce Non-Proliferation Implementation
Subject: RE: Elements related to the review from DPM's press conference [SEC=OFFICIAL]
Attachments: australian-national-inventory-of-radioactive-waste-2021 (1).pdf

OFFICIAL

Good morning colleagues on the Review IPT, (I've added s22 , and corrected s22 email)

As requested at yesterday's meeting, I've attached the latest inventory of Australia's radioactive waste, which can also be found here: [Australia's national inventory of radioactive waste 2021 | Department of Industry, Science and Resources](#)

s47C

Regards,
 s22

s47E(d)
 Department of Defence

P: s22



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From: s22 @defence.gov.au>
Sent: Wednesday, 15 March 2023 9:57 AM

To: s22
s22
s22

@defence.gov.au>; Sander, Mark CDRE s22
@defence.gov.au>; s22
@defence.gov.au>;
defence.gov.au>; Blix, Sophia MS s22

FOI 74273 Doc 33 - 2
@defence.gov.au>;
@defence.gov.au>;
@defence.gov.au>; s22
@defence.gov.au>; s22
.gov.au;
@defence.gov.au>; s22
@defence.gov.au>

s22 @industry.gov.au; s22
@defence.gov.au>; s2 @ansto.gov.au; s2 @ansto.gov.au; s22
@defence.gov.au>; s22
defence.gov.au>; s22

Cc: Taskforce Non-Proliferation Implementation <taskforcenon-proliferationimplementation@dpe.protected.mil.au>

Subject: Elements related to the review from DPM's press conference [SEC=OFFICIAL]

OFFICIAL

Radioactive waste elements from DPM Marles' press conference yesterday:

Key points s47C

Transcript elements below, full link [here](#)

s22

MARLES: We are making a commitment that we will dispose of the nuclear reactor. That is a significant commitment to make. This is going to require a facility to be built in order to do that disposal. Obviously, that facility will be remote from populations and today we are announcing that that facility will be on Defence land, current or future. Now, to be clear, the first of the naval reactors that we will be disposing of will not happen until the 2050s. But within the year, we will announce a process by which this facility will be identified.

...

REPORTER: Is a high-level nuclear waste dump the price that South Australia will have to pay for the jobs that go to the state?

MARLES: Well, as I indicated there will be a process that we will determine within the next 12 months for how the site will be identified. You've made a leap there, which we're not going to make for some time. It will be a while before a site is ultimately identified. But we will within the next 12 months establish a process for how we walk down that path.

...

REPORTER: Just back on the waste issue, we've been squabbling for 30 years over where to bury low-level waste and it's still yet to be resolved. You've got less time than that to establish a high-level facility plus reprocessing. You've said Defence land. Would it not be easy to just make a decision to plonk it in Woomera, which is Defence land and already has waste up there?

MARLES: In respect of the first question, first thing, we are talking about more than 30 years from now is when the first of the reactors would need to be disposed of. So that is the timeframe. We will, in the course of the next year, announce a process by which that site will be identified. We're not about to identify right now. And there is plenty of time in which to identify. The point we are making though, and this is different from what's happened with the low-level nuclear waste site, is we are committing to the fact that it will happen on Defence land, be it current Defence land or future Defence land.

...

REPORTER: But you said future Defence land, you could acquire Kimba as the Defence location?

MARLES: Can I just answer the question, the answer to your question is Defence land. It's Defence land, is the answer.

s22

Panel Member

Nuclear Powered Submarine Task Force

Email: s22 [@defence.gov.au](mailto:s22@defence.gov.au)

W: s22

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s22

From: s22
Sent: Wednesday, 10 May 2023 3:24 PM
To: s22 Sander, Mark CDRE; Grzeskowiak, Steven MR 2; s22
 MS; s22 Blix, Sophia

Subject: RE: Integrated Team Meeting - Review of the Defence Estate [SEC=OFFICIAL]

Dear all,

One of the action items from today's meeting was for me to send the Nickel Mineral Potential Mapper report so you can see how we wrote up this body of work and compiled the maps.

You can access the report here: <http://dx.doi.org/10.11636/Record.2016.001>

The PDF is 34 MB so best I don't attach it.

Best regards,

s22

s22
 s47E(d) – Exploring for the Future Program
 Minerals, Energy and Groundwater Division | [Geoscience Australia](#)

t: s22 www.ga.gov.au

-----Original Appointment-----

From: s22 @defence.gov.au>
Sent: Friday, 5 May 2023 9:18 AM
To: s22 Sander, Mark CDRE; Grzeskowiak, Steven MR 2; s22
 s22 Blix, Sophia MS; s22
 s22

Subject: Integrated Team Meeting - Review of the Defence Estate [SEC=OFFICIAL]
When: Wednesday, 10 May 2023 12:00 PM-2:00 PM (UTC+10:00) Canberra, Melbourne, Sydney.
Where: s47E(d)

OFFICIAL

Ladies and Gentlemen,

The next meeting of the integrated team supporting the Review of the Defence Estate will be conducted at Brindabella Park s47E(d) on Wednesday 10 May from 1200-1400hrs.

Agenda: The agenda for the meeting is attached.

Visitor Access: In order to facilitate building access / sign in and pass issue it is requested that all external representatives arrive at the ground floor entry foyer of ^{s47E} by 1145hrs.

Remote dial-in access: The teleconference link for classified (S) level dial-in will be distributed separately (^{s22} TECH DIV Adelaide / ARWA).

Regards

^{s22}

Lieutenant Colonel (O5)
Capability Division | Stewardship Enablers Branch
Nuclear Powered Submarine Task Force
P: ^{s22}

[@defence.gov.au](mailto: @defence.gov.au)

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s22

From: s22 @defence.gov.au>
Sent: Monday, 3 July 2023 12:45 PM
To: s22 Sander, Mark CDRE; Grzeskowiak, Steven MR 2; s22
s22 Blix, Sophia MS; s22

Subject: RE: Integrated Team Meeting - Review of the Defence Estate [SEC=OFFICIAL]
Attachments: s47E(d) docx

OFFICIAL

Hi all,

Sharing the s47E(d)

Feel free to reach out if you have questions or comments.

Thanks
s22

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-----Original Appointment-----

From: s22 @defence.gov.au>
Sent: Monday, 3 July 2023 10:57 AM
To: Sander, Mark CDRE; Grzeskowiak, Steven MR 2; s22
Blix, Sophia MS; s22

Subject: Integrated Team Meeting - Review of the Defence Estate [SEC=OFFICIAL]
When: Wednesday, 5 July 2023 12:00 PM-2:00 PM (UTC+10:00) Canberra, Melbourne, Sydney.
Where: s47E(d)

OFFICIAL

Ladies and Gentlemen,

The next meeting of the integrated team supporting the Review of the Defence Estate will be conducted at Brindabella Park s47E(d) on Wednesday 05 July from 1200-1400hrs.

Agenda: Please find attached the agenda for this week's meeting.

Visitor Access: In order to facilitate building access / sign in and pass issue it is requested that all external representatives arrive at the ground floor entry foyer of s47E by 1145hrs.

Remote dial-in access: The teleconference link for classified (S) level dial-in will be distributed separately (s22 – TECH DIV Adelaide / ARWA).

Regards

s22

Lieutenant Colonel (O5)
Capability Division | Stewardship Enablers Branch
Nuclear Powered Submarine Task Force
P: s22

[@defence.gov.au](mailto: @defence.gov.au)

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s22

From: s22
Sent: Thursday, 3 August 2023 7:57 PM
To: s22
Cc: s22
Subject: RE: s47E(d) [SEC=OFFICIAL:Sensitive]
Attachments: Chapter GA - draft - 230803.docx

Hi s22 ,

I attach the draft chapter as requested. Both s22 and I have contributed to this, and will continue to do so as required.

We have left some comments in the document, and you will see some areas under sub-headings we have chosen to leave unwritten. As this is quite a significant body of work, we want to ensure that we are writing in the right direction before finalising. I think the team will get a clear overview of what this draft chapter will entail, and I look forward to discussion and feedback.

Please note that I have highlighted recommendations in comments (for original context as requested), and also combine comprehensively at the conclusion of the document.

Kind regards,
s22

s22 s22

Director | s47E(d)
s47E(d)

Advice, Investment Attraction and Analysis Branch
Minerals, Energy and Groundwater Division

t +s22 ga.gov.au

Mon, Tues, Wed and Thurs | Fri: Out of Office



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Geoscience Australia acknowledges the Traditional Custodians of Country throughout Australia and recognises the continuing connection to lands, waters and communities. We pay our respects to Aboriginal and Torres Strait Islanders Cultures; and to Elders past, present and emerging.

From: s22 @defence.gov.au>
Sent: Friday, 28 July 2023 12:04 PM
To: s22 @defence.gov.au>; s22 @defence.gov.au>;
s22 @defence.gov.au>; s22 @defence.gov.au>;
s22 ansto.gov.au; s22 @ga.gov.au>; s22
s22 @industry.gov.au>
Subject: Plan for drafting of s47E(d) [SEC=OFFICIAL:Sensitive]

OFFICIAL: Sensitive

Good morning all

Thanks for the helpful discussion yesterday. I think it was helpful for taking the work forward.

As discussed yesterday, please find below the plan s47E(d)

s47E(d)

s22

s22

Assistant Director
Policy, Strategy and Engagements Division | Safeguards and Non-Proliferation Branch
Australian Submarine Agency

 s22



[@defence.gov.au](mailto: @defence.gov.au)

In the spirit of reconciliation the Australian Submarine Agency acknowledges the Traditional Custodians of country throughout Australia and their connections to land, sea and community. We pay our respect to their Elders past and present and extend that respect to all Aboriginal and Torres Strait Islander peoples today.

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s22

From: s22
Sent: Friday, 16 June 2023 12:58 PM
To: s22
Subject: RE: Questions re seismicity [SEC=OFFICIAL]

Hi s22

Thank you for reaching out to the engineering expertise at ANSTO.

For the purposes of next week's meeting I have what I need in terms of seismic hazard mapping, and will put it to the group if further information is needed. I'll ensure I pass on any outstanding questions to you for input (after the meeting).

Enjoy your time away from the office. Thanks again.

Kind regards,
s22

From: s22 @ansto.gov.au>
Sent: Thursday, 15 June 2023 6:43 AM
To: s22 @ga.gov.au>; s22 @defence.gov.au>
Subject: Questions re seismicity [SEC=OFFICIAL]

Hi s22 ,

It looks as though I won't be able to get an engineer to the meeting. One option is having a teams or other form of video hookup though you may need a classified room and system - s22 can you advise whether this would be needed for the smaller group meeting?

Alternatively if you could put together a list of questions or information you are after, we could try to get you responses before the meeting or have an unclassified Teams meeting to cover off this area.

I'm on leave till Monday but I'll keep an eye on my emails.

Regards s22

OFFICIAL

s22

From: s22 @industry.gov.au>
Sent: Monday, 15 May 2023 3:16 PM
To: s22
Cc: s22
Subject: RE: Rock Type Meeting - ARWA and GA [SEC=OFFICIAL:Sensitive]

OFFICIAL: Sensitive

So to respond to this document in writing, prior to the meeting. At the granularity of the rock types, I can see no significant issues on this subdivision, but some contextual note eluded to at various times previously.

- It is generally best practise to not use a binary approach to criteria or to rank any input as zero without a very good reason to do so. The rationale behind this is summarised in the following figure from US DoE and the following quote *“Waste-management programs need to find sites that belong to both the blue and red sets. At the early stage, many locations, prospective settings, remain in contention either because available information is insufficient to eliminate them or because, at that point in the process, the requirements for suitability and “Waste-management programs need to find sites that belong to both the blue and red sets. At the early stage, many locations, prospective settings, remain in contention either because available information is insufficient to eliminate them or because, at that point in the process, the requirements for suitability and acceptability are looser. At the late stage, fewer sites remain in contention either because available information eliminates many others or because the requirements for suitability and acceptability have become more stringent. Ultimately, a handful of locations, candidate sites (not shown in Figure 1), emerge from the winnowing process. This figure has been intentionally drawn to show no overlap at the late stage because, as is often the case, no site is both technically suitable and socially acceptable. Faced with this outcome, the implementer has to choose between at least two fundamentally different courses of action. It can suspend the site-selection process to obtain additional information, or work on the social aspects in the hope that improved or evolving knowledge about suitability and/or changes in attitudes toward acceptability would permit the selection of a site. If that hope is not realized, however, the implementer may be forced to launch an entirely new site-selection process. In Canada, France, Germany, Japan, Sweden, Switzerland, the United Kingdom, and the United States, the implementer did precisely that. Alternatively, the implementer could explicitly or implicitly decide to alter the technical suitability and social acceptability requirements (or both) so that locations that had been (or might have been) rejected are now deemed satisfactory. locations, potential sites, remain in contention.”* An example of this may be sediments that have reported carbonate content, yet no reported karst or sinkholes. These may be ranked low, but *not zero or very low*. The extreme end member of this is that large areas of limestone with known collapse structures could conceivably be ranked lowest or perhaps excluded. s47C

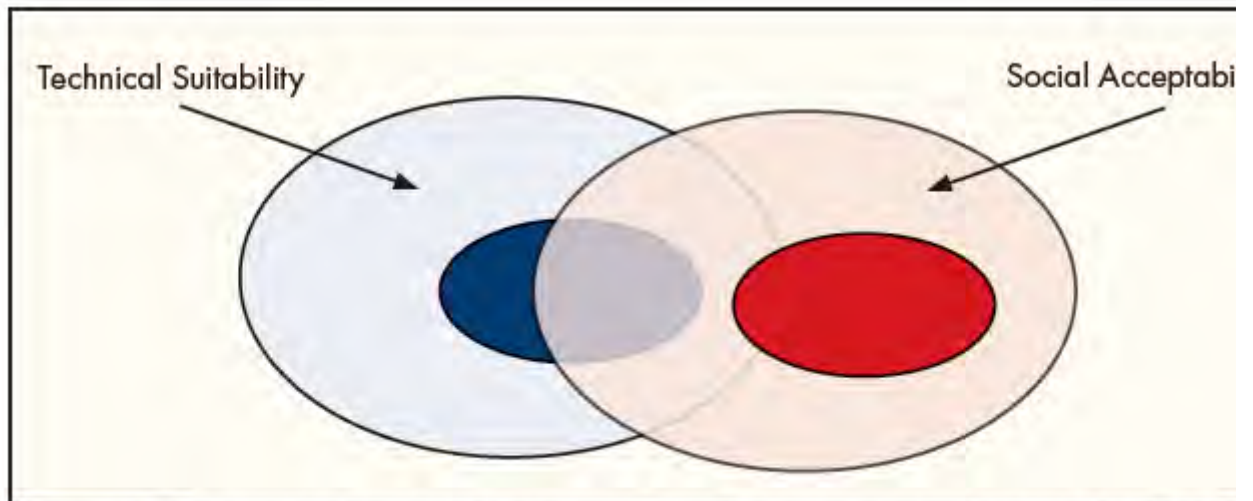


Figure 1. Selecting a site is an iterative process. It involves successive evaluations of technical suitability and social acceptability. Lighter shades denote early-stage judgments, and darker shades denote late-stage judgments.

s47C

s
2**OFFICIAL: Sensitive**

From: s22 @ga.gov.au>
Sent: Wednesday, 10 May 2023 2:51 PM
To: s22 @defence.gov.au>; s22 @industry.gov.au>
Cc: s22 @defence.gov.au>; s22 industry.gov.au>; s22 @ga.gov.au>
Subject: RE: Rock Type Meeting - ARWA and GA [SEC=OFFICIAL:Sensitive]

OFFICIAL: Sensitive

Hi s22

Thanks for initiating this meeting. I think it's best to meet short and frequent rather than one off long meetings as this allows us to do work in the background and then iterate. Is an online meeting OK via teams?

Attached is the table, the summary I provided to you today is under the sheet "Summary" the other one has other information associated with each unit. s47C

I'm free at the following times and I include comments on s22 availability in brackets []:

- Thursday 12:30-13:30 – online [unavailable]
- Monday 15:30-17:00 – online or in person [available?]
- Tuesday any time from 10:30-13:00 – online or in person [only from 12:30-13:00]

s22, if you could have a look and provide comments that would be super! I'm sure I missed bit but I wanted to keep things simple and defensible so I have opted for using the s47C

Best regards,

s22

From: s22 @defence.gov.au>
Sent: Wednesday, 10 May 2023 1:40 PM
To: s22 @ga.gov.au>; s22 @industry.gov.au>
Cc: s22 @defence.gov.au>; s22 industry.gov.au>; s22 @ga.gov.au>
Subject: Rock Type Meeting - ARWA and GA [SEC=OFFICIAL:Sensitive]

OFFICIAL: Sensitive

Good afternoon,

Following that IPT meeting on Defence Estate, I wanted to connect us up for a (more detailed) conversation on the s47C " etc.

s22 are you able to share the rock type table by replying all?

s22, you are the key people for this meeting, so can you suggest/agree a day/time over the next week? I'd expect the conversation could be held at OFFICIAL:SENSITIVE.

s22 and I would like to participate, even just for our edification.

Regards,
s22

s47E(d)
Department of Defence

P: s22
[@defence.gov.au](mailto:s22@defence.gov.au)

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s22

From: s22 @defence.gov.au>
Sent: Thursday, 20 April 2023 9:24 PM
To: s22
Cc: s22
Subject: RE: Senate Briefing Material [SEC=OFFICIAL]

OFFICIAL

Hi s22

Should be able to share something shortly – thanks for your patience as I know we promised to get you something a couple weeks back.

Thanks
s22

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From: s22 @defence.gov.au>
Sent: Thursday, 20 April 2023 1:55 PM
To: s22 @defence.gov.au>
Cc: s22 defence.gov.au>; s22 @ga.gov.au>
Subject: FW: Senate Briefing Material [SEC=OFFICIAL]

OFFICIAL

G'Day s22

With s22 currently out of the office - are you able to assist s22 in regards to this request, thank you.

Regards

s22

Lieutenant Colonel (O5)
 Capability Division | Stewardship Enablers Branch
 Nuclear Powered Submarine Task Force
 P: s22
[@defence.gov.au](mailto:s22@defence.gov.au)

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From: s22 <s22@ga.gov.au>
Sent: Thursday, 20 April 2023 1:28 PM
To: s22 <s22@defence.gov.au>
Cc: s22 <s22@defence.gov.au>
Subject: Senate Briefing Material [SEC=OFFICIAL]

Hi s22

I was hoping I might be able to obtain the updated talking points, and (most importantly) the best wording to address the topic of external entities supporting the Defence Estate Review.

I have been cautious even referring to the title of the taskforce and team I am contributing to internally at GA, until I receive advice as to whether our involvement is included in public talking points etc.

Senate Estimate briefing is now due, and I will be asked to contribute to a brief regarding GA advice to Defence (Unclassified material only).

Your advice is appreciated.

Kind regards,
s22

s22 | **Director**
s47E(d) | Advice, Investment Attraction and Analysis
Branch Minerals, Energy and Groundwater Division
t +s22 [ga.gov.au](mailto:s22@ga.gov.au)
Mon, Tues, Wed and Thurs | Fri: Out of Office



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s22

From: s22
Sent: Thursday, 20 April 2023 1:05 PM
To: s22
Subject: RE: Soft copy of the GA presentation by Dr s22 [SEC=OFFICIAL]
Attachments: Multi_criteria_assessments_Geoscience_Australia.pdf

Hi s22

Please find attached. I'm catching up with s22 I in half an hour, so I'll seek his availability for next Wednesday afternoon. For me, 2-5pm suits best, but will of course be flexible with the requirements of others.

Kind regards,
s22

From: s22 @defence.gov.au>
Sent: Thursday, 20 April 2023 9:15 AM
To: s22 @ga.gov.au>
Subject: Soft copy of the GA presentation by Dr s22 [SEC=OFFICIAL]

OFFICIAL

G'Day s22

Thank you for putting together the site visit and for hosting the Integrated Team Meeting at GA yesterday – it was a very successful day.

I'm just putting together the action items and minutes from yesterday and would really appreciate a copy of s22 presentation as this would assist me greatly in compiling the outcomes.

For your consideration.

Regards

s22

Lieutenant Colonel (O5)
 Capability Division | Stewardship Enablers Branch
 Nuclear Powered Submarine Task Force
 P: s22)
 E: s22 @defence.gov.au

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s22

From: s22 @ansto.gov.au>
Sent: Thursday, 21 September 2023 10:06 AM
To: s22
Subject: RE: Waste in the media | Q&A [SEC=OFFICIAL]

Thanks s22 – very interesting – I had missed this.

Regards, s22

OFFICIAL

From: s22 @ga.gov.au>
Sent: Thursday, 21 September 2023 9:54 AM
To: s22 @defence.gov.au>
Cc: s22 @defence.gov.au>; s22 ansto.gov.au>
Subject: Waste in the media | Q&A [SEC=OFFICIAL]

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Morning s22

You probably saw this, but Q&A had a direct question on waste this week.

I attach the link below.

Kind regards,
s22

https://x.com/abcnews/status/1703741957082906854?s=12&t=jQ1Fv_wJ1zoqIEwUQUYEgQ

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s22

From: s22 @defence.gov.au>
Sent: Monday, 26 June 2023 11:15 AM
To: s22
Subject: RE: s47E(d) [SEC=OFFICIAL]
Attachments: s47E(d)

OFFICIAL

OFFICIAL

Hi all, (*resending as it bounced*)

Thanks for your time Friday afternoon, and thanks again to s22 for hosting us at Geoscience. (I've been telling people all weekend about these salt basins right under our feet.)

Please see attached the s47E(d) . I've summarised a few milestones below for the drafting team – but please reply if I've missed something in the draft outline or plan.

s22 /all, also attached is some work s47E(d) . You may find this useful.

s47E(d)

Thanks
s22

Director Non-Proliferation
International Policy and Agreements Division

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From: s22
Sent: Monday, 26 June 2023 10:24 AM
To: s22 @ansto.gov.au>; s22 @ansto.gov.au>; s22 @defence.gov.au>; s22 @defence.gov.au>; s22 @defence.gov.au>; s22 @defence.gov.au>; s22 @industry.gov.au>; s22 @ga.gov.au>
Subject: RE: s47E(d) [SEC=OFFICIAL]

OFFICIAL



Hi s22 ,

Fog is sitting heavy – I faintly recall a meeting where we had it all figured out! I'll revise my scribbles and send through an outline and next steps soon.

Thanks
s22

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From: s22 @ansto.gov.au>
Sent: Monday, 26 June 2023 9:51 AM
To: s22 @defence.gov.au>; s22 ansto.gov.au>; s22 @defence.gov.au>; s22 @defence.gov.au>; s22 @defence.gov.au>; s22 @industry.gov.au>; s22 @ga.gov.au>
Subject: RE: s47E(d) [SEC=OFFICIAL]

 **EXTERNAL EMAIL:** Do not click any links or open any attachments unless you trust the sender and know the content is safe. 

Hi s22 and team,

Great meeting last Friday PM, but the fog of the weekend has dimmed the memory of what I committed to and who I'm working with 😊.

s47E(d)\

Regards, s22

OFFICIAL

-----Original Appointment-----

From: s22 <s22@defence.gov.au>

Sent: Friday, 23 June 2023 12:48 PM

To: s22

Subject: s47E(d) [SEC=OFFICIAL]

When: Friday, 23 June 2023 3:30 PM-4:30 PM (UTC+10:00) Canberra, Melbourne, Sydney.

Where: s47E(d)

CAUTION, EXTERNAL EMAIL: This message has come from outside of ANSTO. Do not take action, click links or open attachments unless you trust the source of this message and know the content is safe. Report spam and phishing using the **Report Message** button or if unsure, forward this message to s47E(d) <[s47E\(d\)@ansto.gov.au](mailto:s47E(d)@ansto.gov.au)> as an attachment.

OFFICIAL

Let me know if you'd prefer to dial in and I'll set up a link (protected network – sorry).

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s22

From: s22
Sent: Thursday, 21 September 2023 1:55 PM
To: s22
Subject: RE: s47E(d) shared with protected email address [SEC=OFFICIAL]

Thanks s22

Since we have moved to Fortress, I get notifications for new email snow, but I do appreciate the heads up. I will get feedback to you by the requested date.

I'll also get the additional (image) components requested by the same date if that suits? It will allow me to review what is written and ensure what is prepared is fit for purpose.

Kind regards,
s22

From: s22 @defence.gov.au>
Sent: Thursday, September 21, 2023 10:57 AM
To: s22 @ga.gov.au>
Subject: s47E(d) shared with protected email address [SEC=OFFICIAL]

OFFICIAL

Hi s22

I've sent the s47E(d) to your protected email address.

Thanks

s22

Assistant Director
Policy, Strategy and Engagements Division | Safeguards and Non-Proliferation Branch
Australian Submarine Agency

 s22  s22 [@defence.gov.au](mailto:s22@defence.gov.au)

In the spirit of reconciliation the Australian Submarine Agency acknowledges the Traditional Custodians of country throughout Australia and their connections to land, sea and community. We pay our respect to their Elders past and present and extend that respect to all Aboriginal and Torres Strait Islander peoples today.

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s22

From: s22 @defence.gov.au>
Sent: Friday, 21 April 2023 3:23 PM
To: s22
Cc: s22
Subject: Senate Estimates - suggested words [SEC=OFFICIAL:Sensitive]

OFFICIAL: Sensitive

Hi s22 ,

Suggest these words may be useful for your organisation – happy to provide more lines if needed.

- In March 2023, Government announced a review to identify locations in the current or future Defence estate that could be suitable for the storage and disposal of intermediate- and high-level radioactive waste from nuclear-powered submarines.
- The outcomes of the review will inform a more detailed process that will include consultation and engagement with stakeholders, including community and Indigenous groups, and consideration of wider social license and economic implications.
- Defence is leading the review, so detailed questions should be referred to them.
- [insert agency, e.g. Geoscience] is committed to supporting the review.

Thanks
s22

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s22
Director Non-Proliferation Implementation
International Policy and Agreements Division
Nuclear Powered Submarine Taskforce
s22 @defence.gov.au

s22

From: s22 @industry.gov.au>
Sent: Wednesday, 5 July 2023 11:14 AM
To: s22
Subject: some heat flow verbiage to be culled or expanded upon - up to you [SEC=OFFICIAL:Sensitive]

OFFICIAL: Sensitive

s47C

anomalous to store enough heat to be beyond mitigation measures in geological disposal of radioactive waste.

Matthews, C., & Beardsmore, G. (2007). New heat flow data from South-Eastern South Australia. Exploration Geophysics, 38, 260- 269

McLaren, S., Sandiford, M., Hand, M., Neumann, N., Wyborn, L., & Bastrakova, I. (2003). The hot southern continent: Heat flow and heat production in Australian Proterozoic terranes. Special Papers - Geological Society of America, 372, 157– 167.

Neumann, N., Sandiford, M., & Foden, J. (2000). Regional geochemistry and continental heat flow: Implications for the origin of the south Australian heat flow anomaly. Earth and Planetary Science Letters, 183, 107– 120.

s22

Manager – ILW Technical Operations

Technical & Safety | ILW Technical Operations
 Australian Radioactive Waste Agency

P s22

[@industry.gov.au](mailto:s22@industry.gov.au)


Australian Government
 Department of Industry,
 Science and Resources

**Australian
 Radioactive
 Waste Agency**

OFFICIAL: Sensitive

s22

From: s22 @defence.gov.au>
Sent: Friday, 28 April 2023 10:46 AM
To: s22
Cc: s22
Subject: Update on whole of government estate data [SEC=OFFICIAL:Sensitive]

OFFICIAL: Sensitive

Hi s22

Yesterday I chatted with s22, from the Property Policy Team in the Department of Finance.

s22 advised that Finance aren't able to provide a comprehensive national map of all Commonwealth land holdings as there are legal issues with sharing information about land across Government departments (without written agreement).

Finance's public [dataset of commonwealth-owned land](#) only contains 25-30 per cent of all commonwealth holdings, as Departments are able to request that their land holdings are not made public. Defence is one of the main sources of excluded land. The public dataset contains name, address and location coordinates but does not include size.

We can make requests to Finance for more s47E(d)

Thanks also for your work during Wednesday's meeting – is there any chance you could share the spreadsheet that you prepared? I can then start the shell of the draft of that chapter of the report.

Thanks and happy to discuss

s22

Assistant Director | Non-Proliferation | International Policy and Agreements
 Nuclear Powered Submarine Task Force

Email: s22 [@defence.gov.au](mailto:s22@defence.gov.au)

W: s22

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s22

From: s22 defence.gov.au >
Sent: Thursday, 5 October 2023 5:57 PM
To: s22
Subject: Updated report coming tomorrow afternoon [SEC=OFFICIAL]

OFFICIAL

Hi all

Just a quick update on the work of the review.

We've been progressing the draft (including significant changes to structure) over the last couple of weeks.

With that in mind, I will be providing a new version of the draft to people's protected email addresses tomorrow afternoon. We'll be seeking comments by Wednesday next week, with a meeting likely to be held mid next week s22 will advise further)

Thanks

s22

Assistant Director
Policy, Strategy and Engagements Division | Safeguards and Non-Proliferation Branch
Australian Submarine Agency

 s22[@defence.gov.au](mailto:s22@defence.gov.au)

In the spirit of reconciliation the Australian Submarine Agency acknowledges the Traditional Custodians of country throughout Australia and their connections to land, sea and community. We pay our respect to their Elders past and present and extend that respect to all Aboriginal and Torres Strait Islander peoples today.

IMPORTANT: This email remains the property of the Department of Defence. Unauthorised communication and dealing with the information in the email may be a serious criminal offence. If you have received this email in error, you are requested to contact the sender and delete the email immediately.

s22

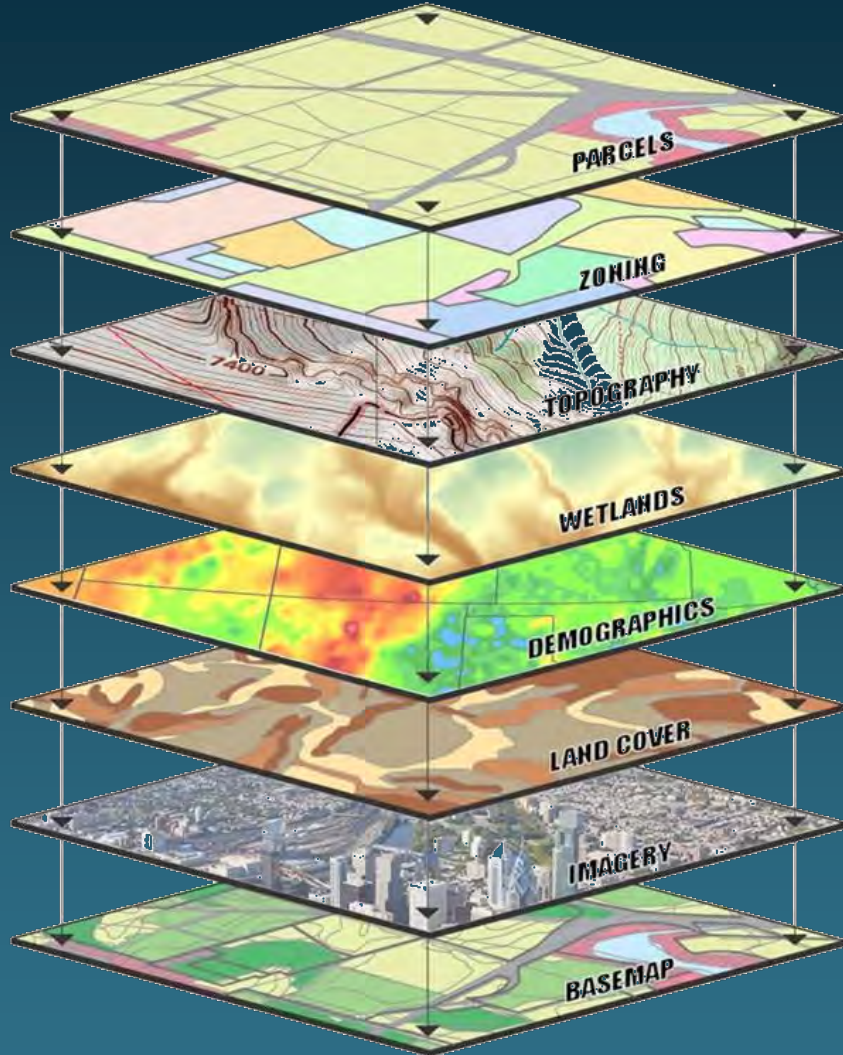
From: anonymous
Sent: Thursday, 9 March 2023 11:13 AM
To: s22
Subject: Voice Mail (1 minute and 1 second)
Attachments: audio.mp3

Yes. Good morning, doctor s22 . It's Lieutenant s22 calling from Department of Defense from the nuclear Power Submarine Task Force. My number is s22 I'm just calling in regards to a review of defence estate and an integrated team that's been put together and you've been given to me as a point of contact for Geoscience Australia to be a representative as part of that team I'll follow up shortly with an e-mail, but I just wanted to establish communications with you and in this e-mail I'll provide you with some additional information. The topic of discussion is a little bit sensitive at the moment, but we can go into further detail next Wednesday when you participate in the washing group, which will be conducted here on Wednesday afternoon. Thank you. Cheers. Bye.

You received a voice mail from [anonymous](#).

Thank you for using Transcription! If you don't see a transcript above, it's because the audio quality was not clear enough to transcribe.

[Set Up Voice Mail](#)



Ryan and Nimick, 2019

Multi criteria assessments

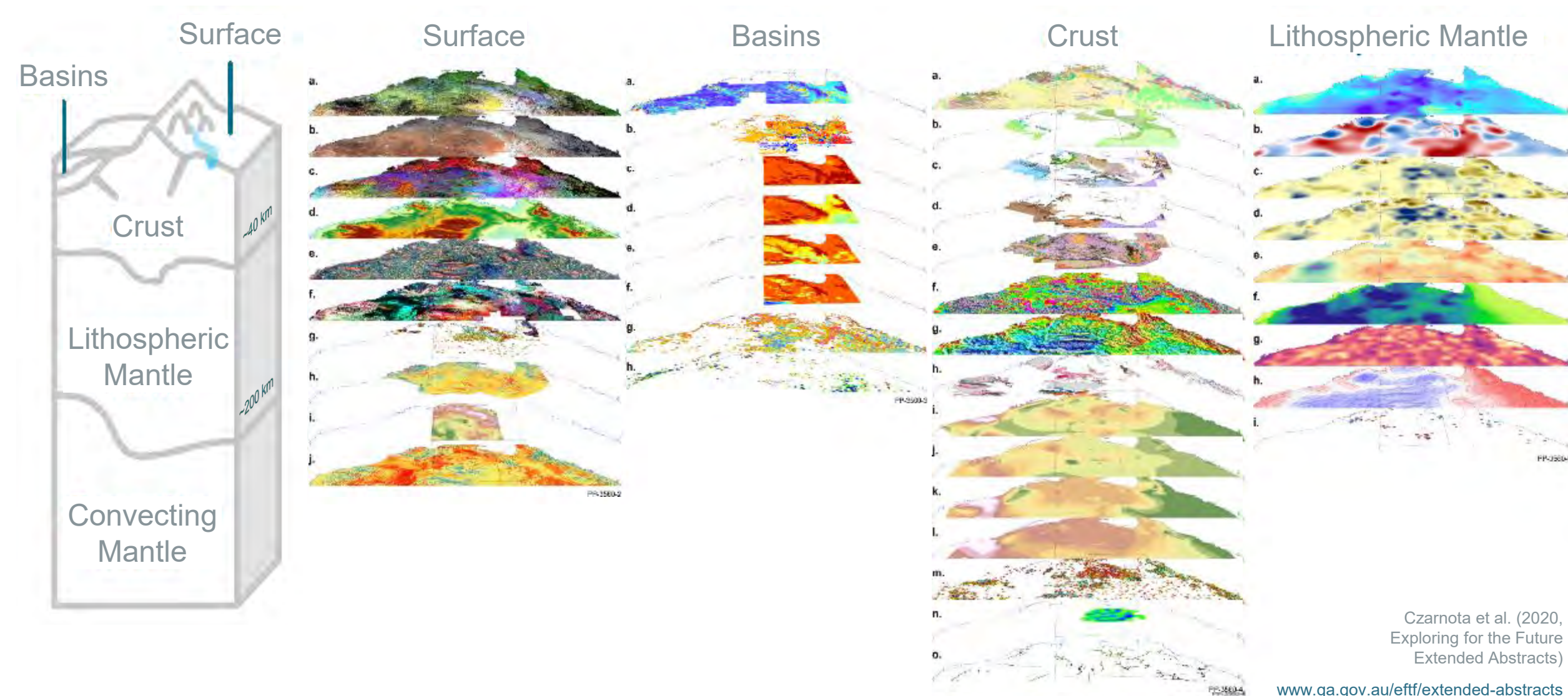
Supporting informed and responsible decision making

s22

s47E(d)

– Exploring for the Future

GA's national treasure — An expanding collection of datasets and knowledge

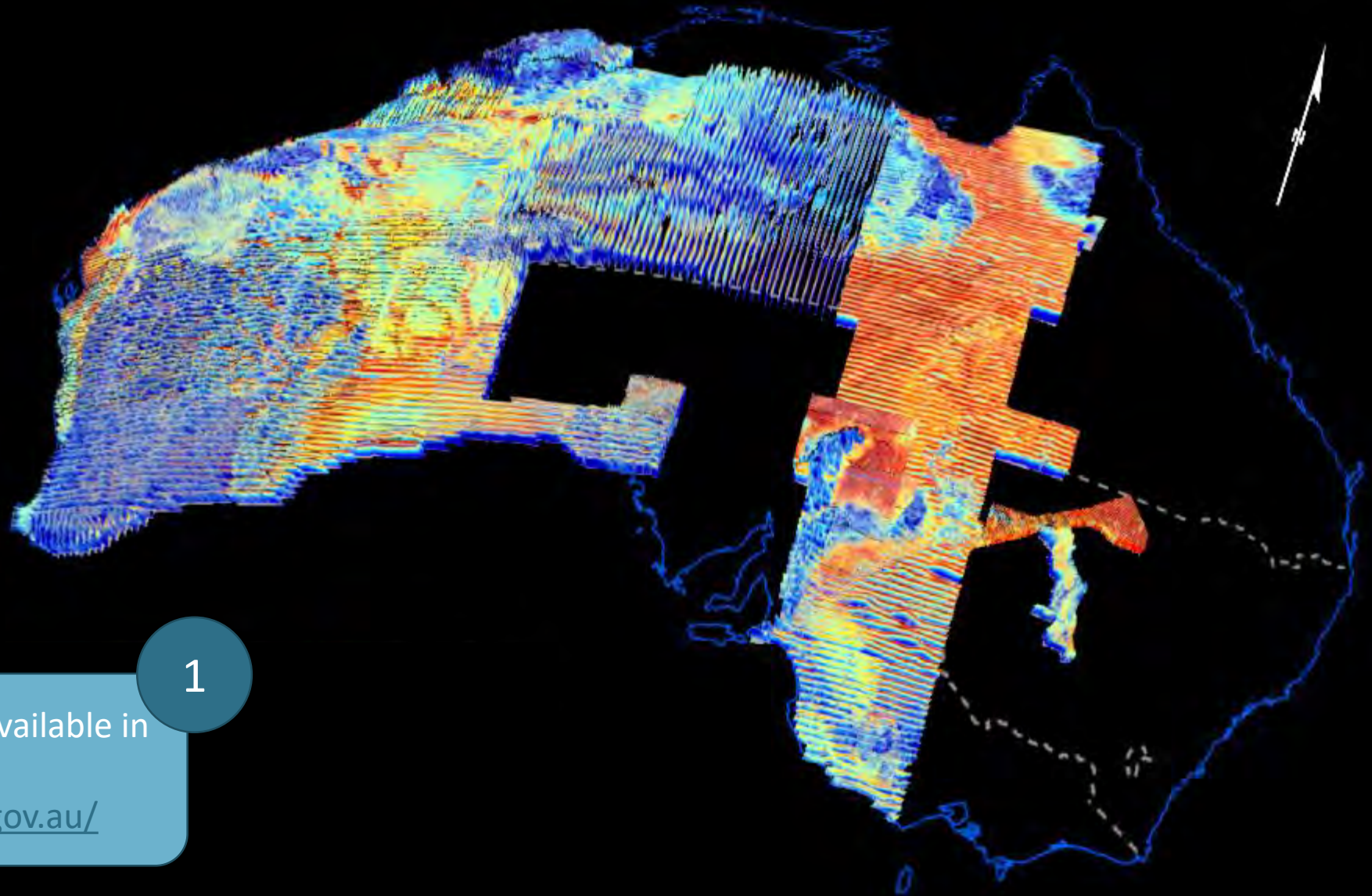
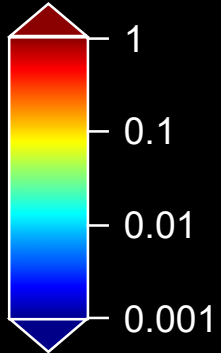


An example of world leading national geoscience data sets getting even better

FOI 74273 Doc 49 - 3

AusAEM

Conductivity (S/m)



1

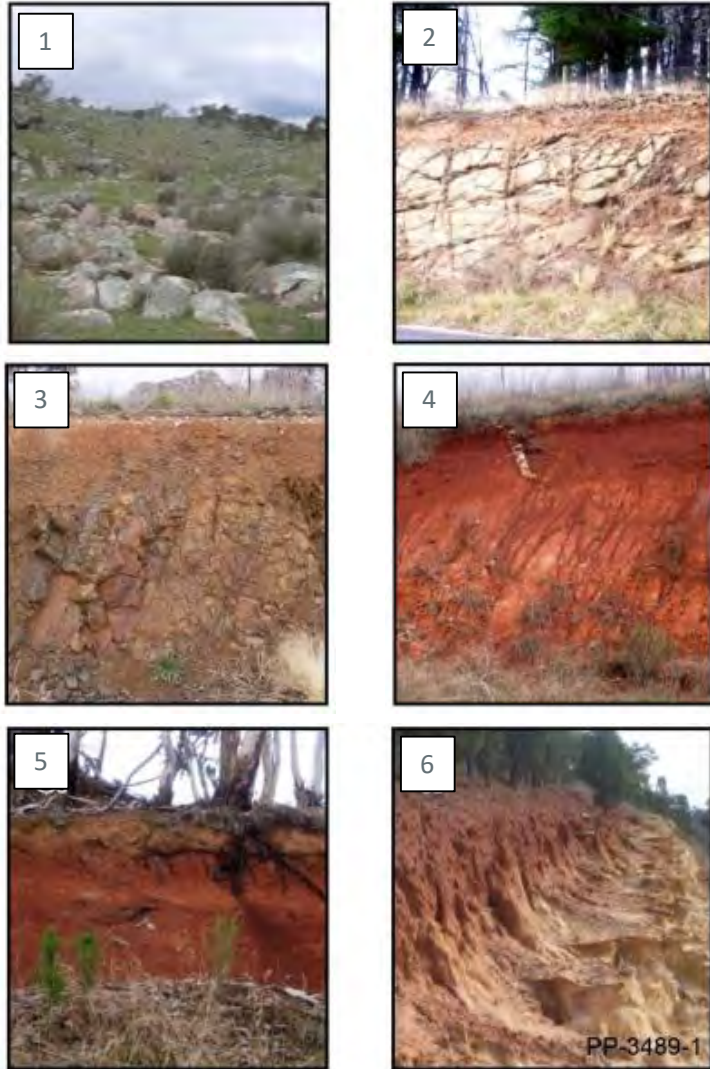
All data is publically available in
the portal

<https://portal.ga.gov.au/>

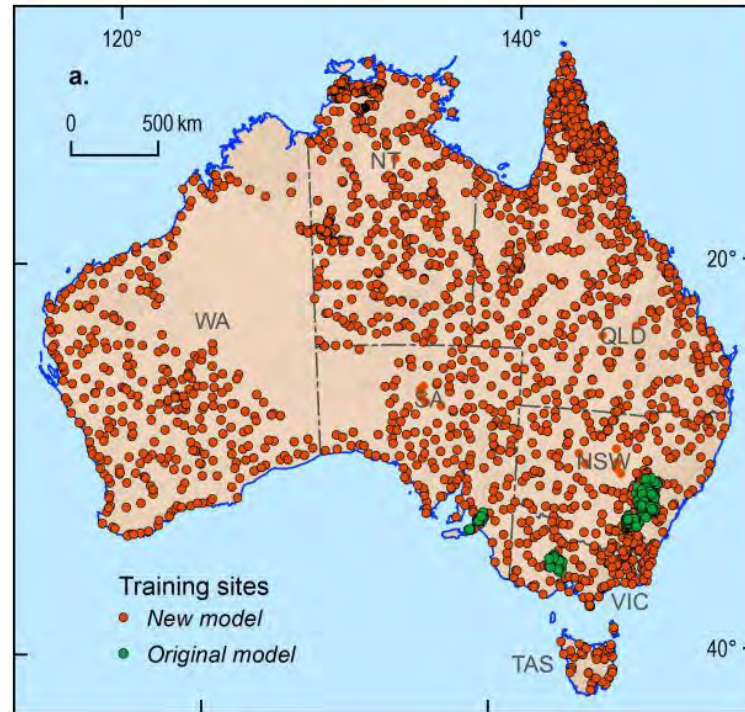
How to combine datasets for prediction, maybe machine learning?

FOI 74273 Doc 49 - 4

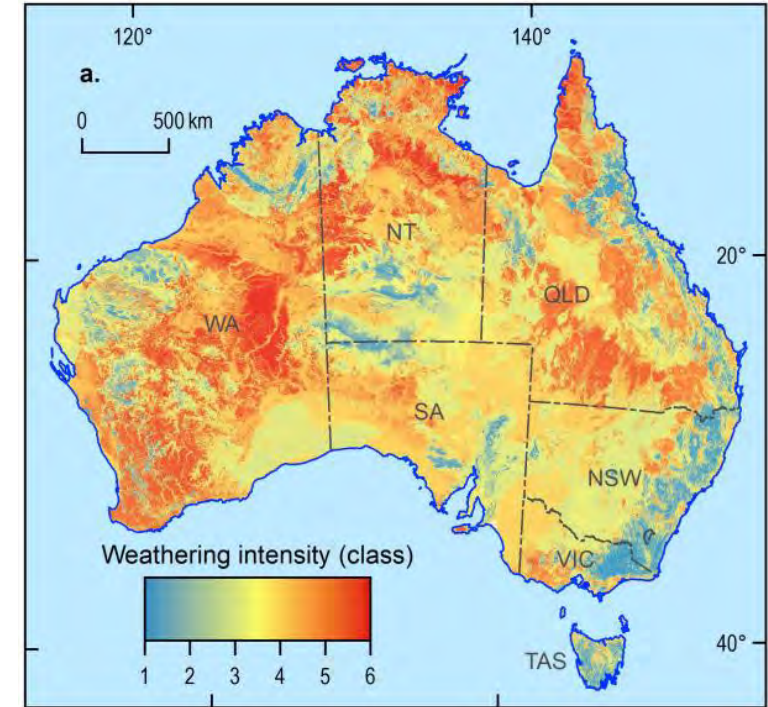
Observations of weathering intensity classes



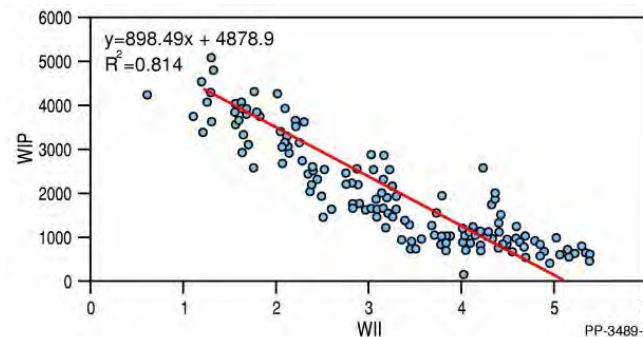
Observation sites



Prediction of weathering intensity



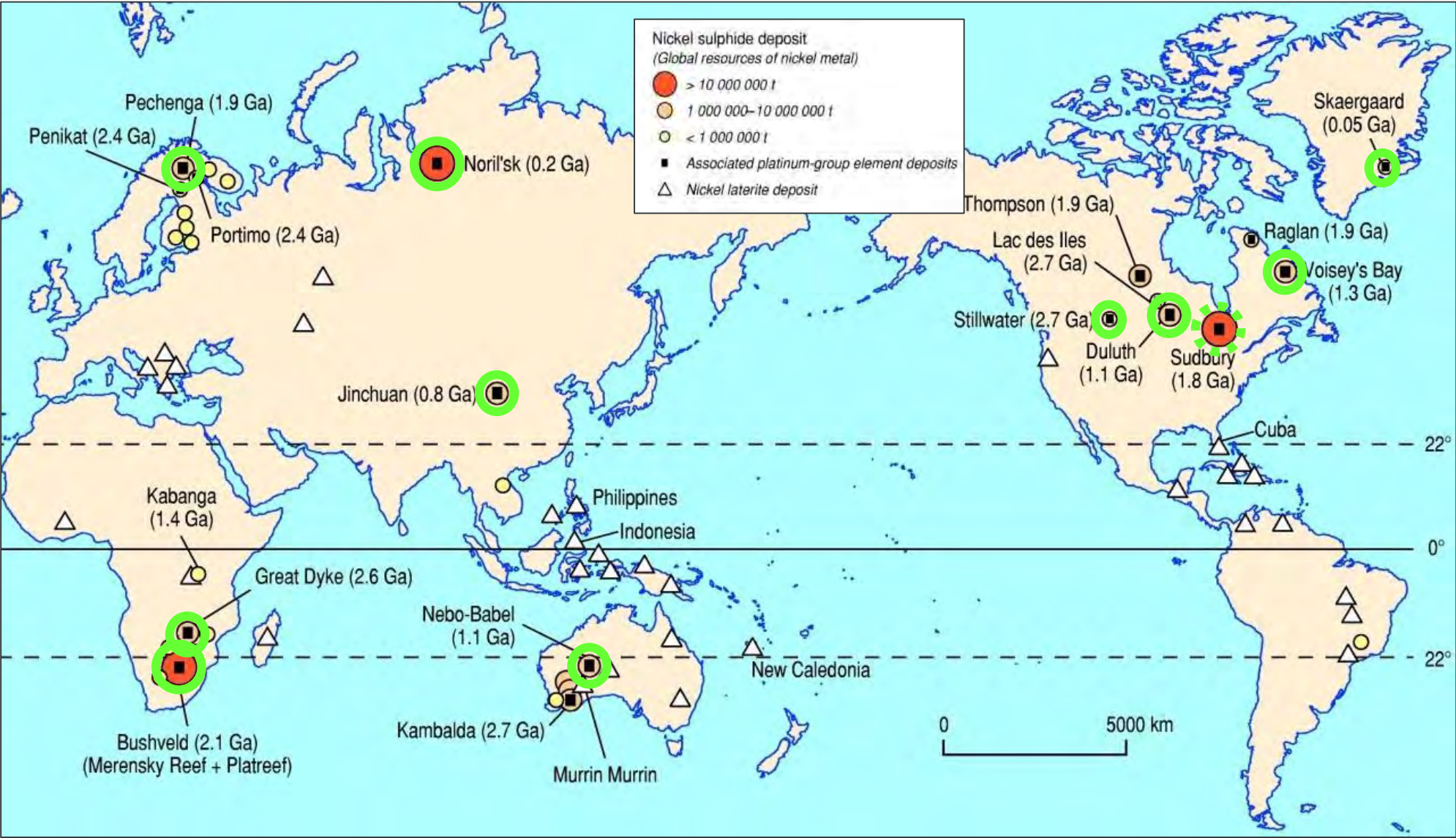
Validation



Given we don't have established good sites to use as training data ML is most likely not the best option for this problem.

How to focus exploration for a mineral deposit type Australia does not mine?

FOI 14378 Doc 49 - 2



**Mafic±ultramaf.
intrusion-hosted
Ni-Cu-PGE**

This is a
problem similar
to selecting
suitable
locations.

Hoatson and Lewis
(2014, GA Record)

A knowledge driven example – focusing exploration for nickel, copper & critical minerals

Conceptual understanding of mineral deposit formation

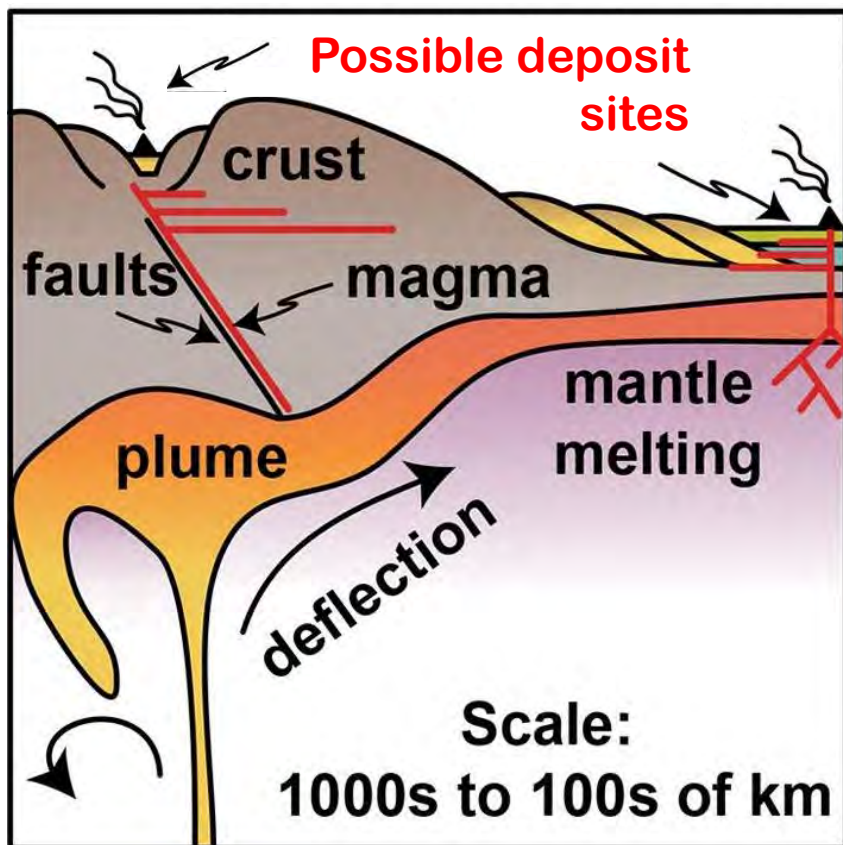
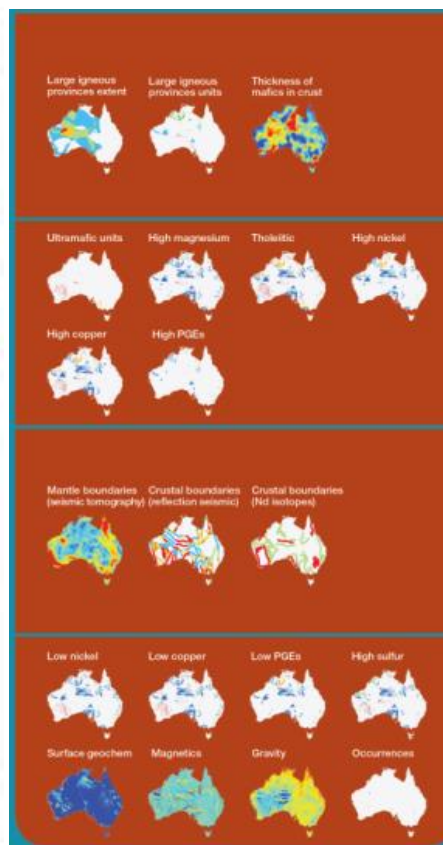


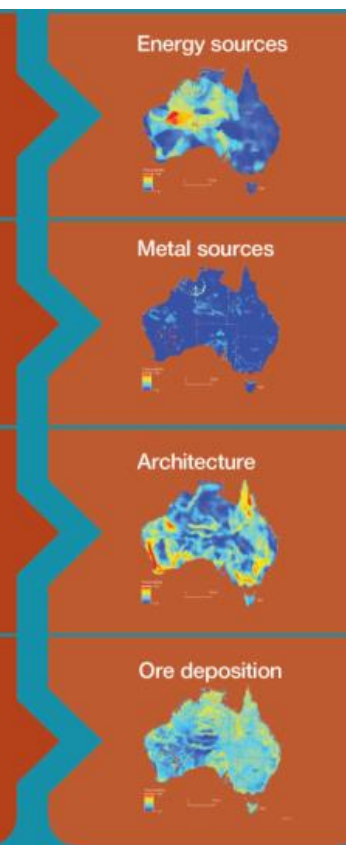
Illustration after Lawley et al. (2021)

Datasets into proxies

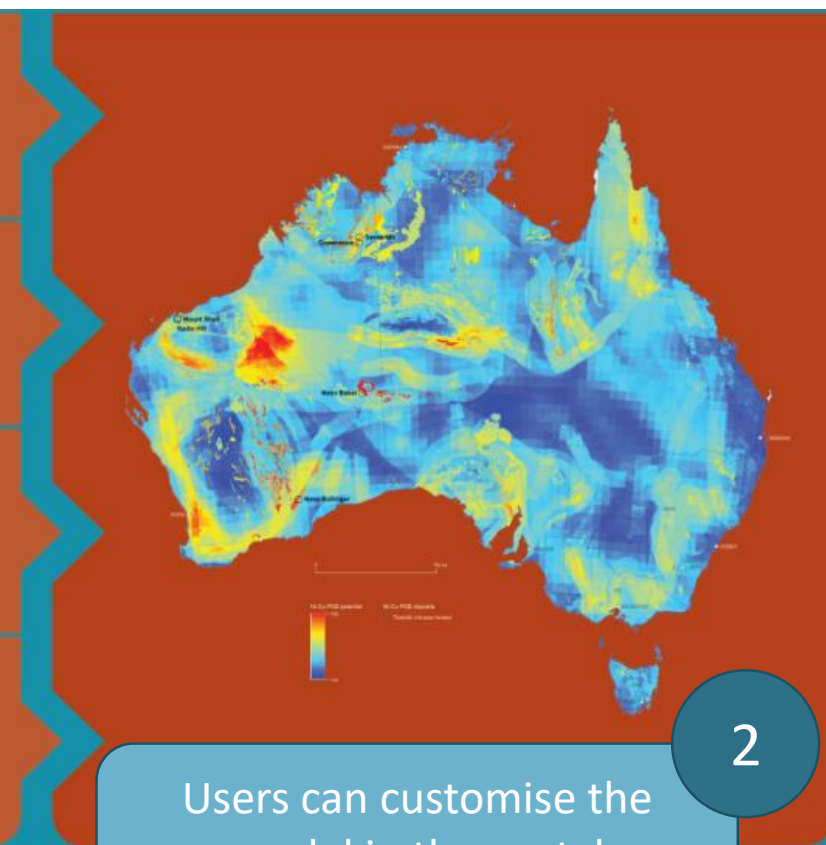


Dulfer et al. (2016; GA Record)

Combined into ingredients



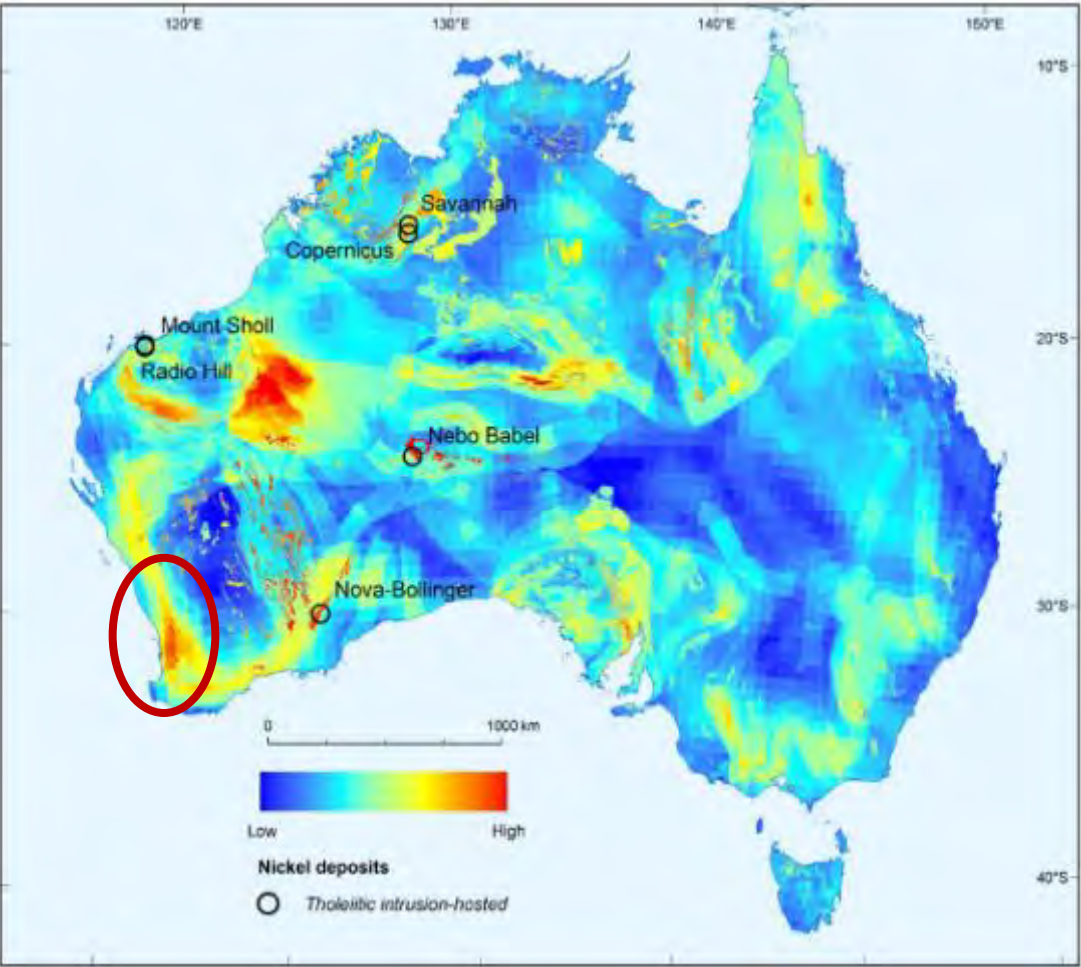
Final mineral potential map



Users can customise the model in the portal
<https://portal.ga.gov.au/>

Validated by exploration - it works!

GA National Ni-Cu-PGE mineral potential model

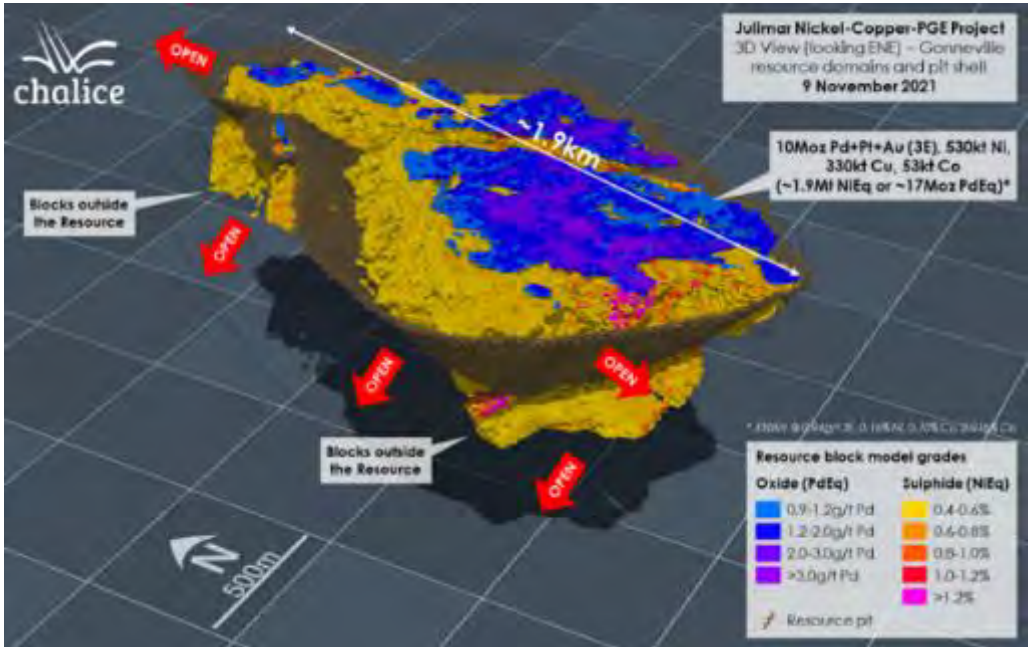


Dulfer et al. (2016)

Pre-competitive data a **catalyst** for exploring in a new region



In 2020 new world-class discovery



Congratulations Chalice for discovering the world's largest Palladium, Platinum, Nickel, Copper, Cobalt and Gold deposit in the last 20 years!

Quantify the value and impact of precompetitive geoscience

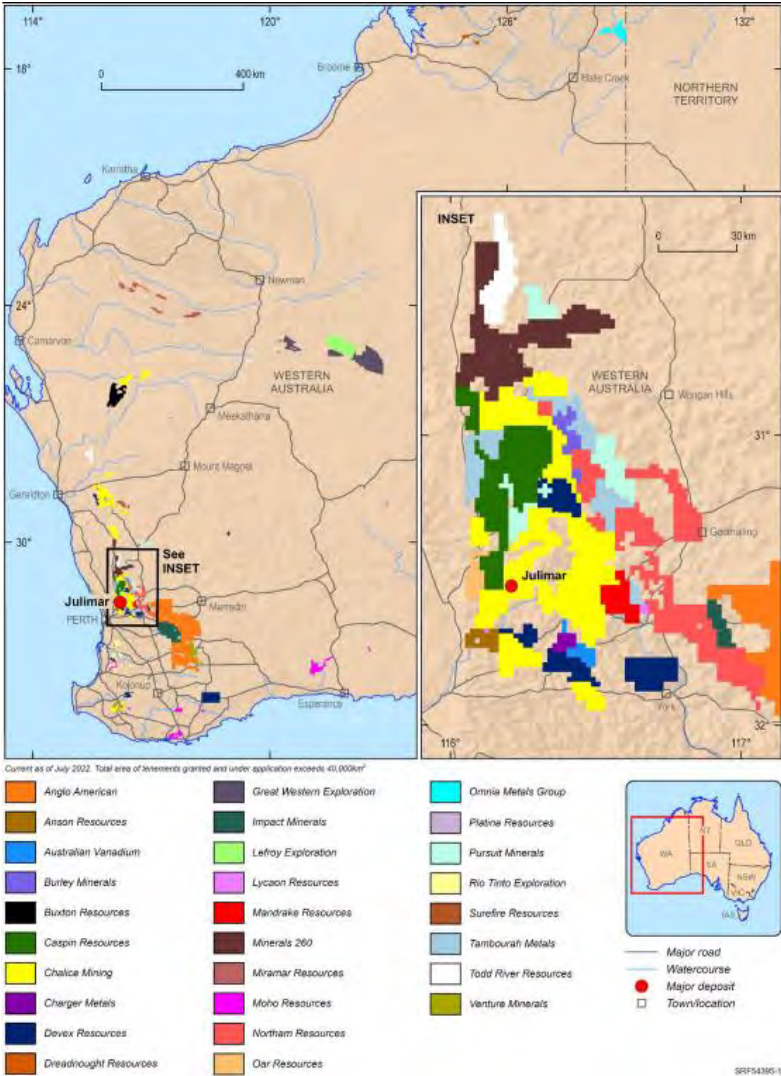
Assessing return on investment



Expenditure (4 years) (2022 \$)	Net benefit for every \$ spent by GA (assuming Gonneville becomes a mine)	
Geoscience Australia (GA)	Australia	Commonwealth Government
\$3.0 M	\$1176 – \$1546	\$409 – \$526

ACIL Allen, 2022. Mineral potential mapper: A Geoscience Australia case study, <https://dx.doi.org/10.26186/147074>

New exploration rush



In exploration geology is not the only consideration – economic fairways mapper

FOI 74273 Doc 49 - 9

3

So many variables so
instead providing an
answer we provided a
decision support tool:
<https://portal.ga.gov.au/>



Mining costs



Depth



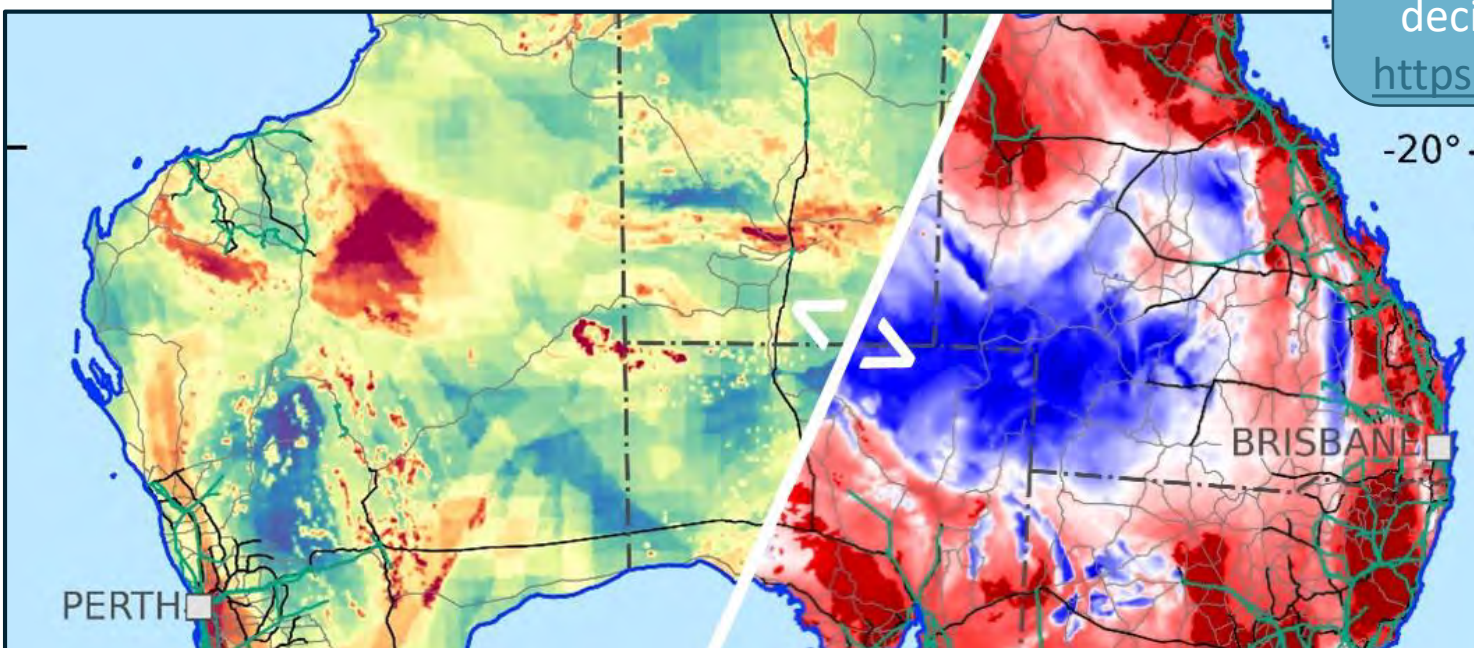
Energy



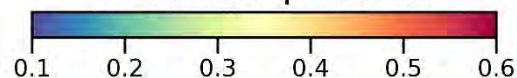
Royalties



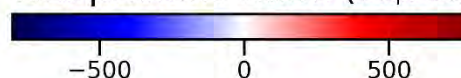
Transport



Ni mineral potential



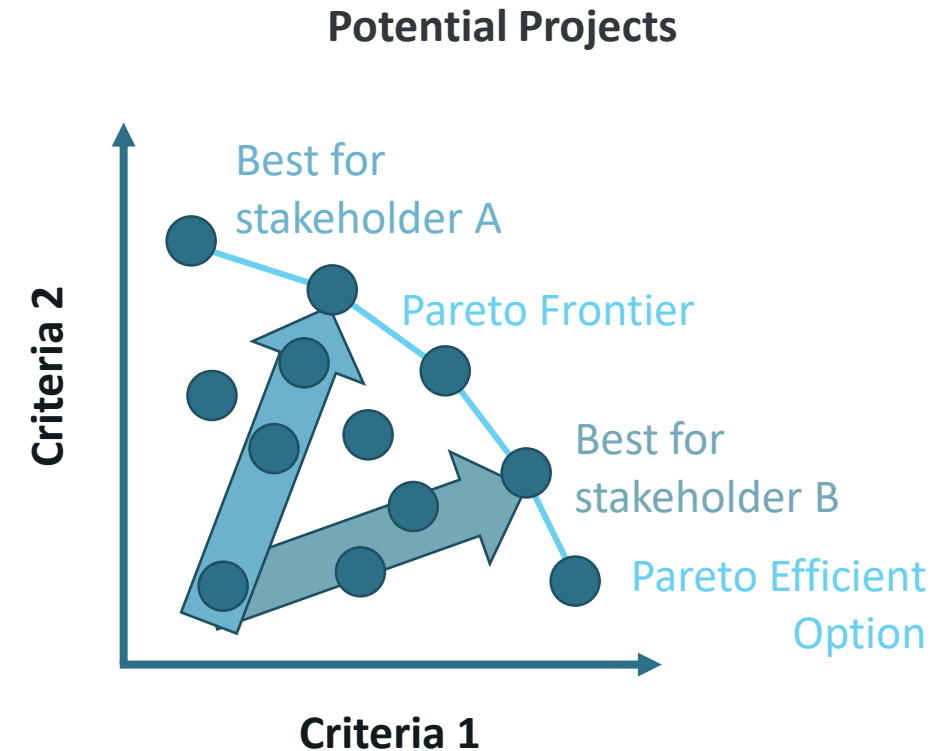
Net present value (M\$AU)



Walsh et al., 2020; Haynes et al., 2020

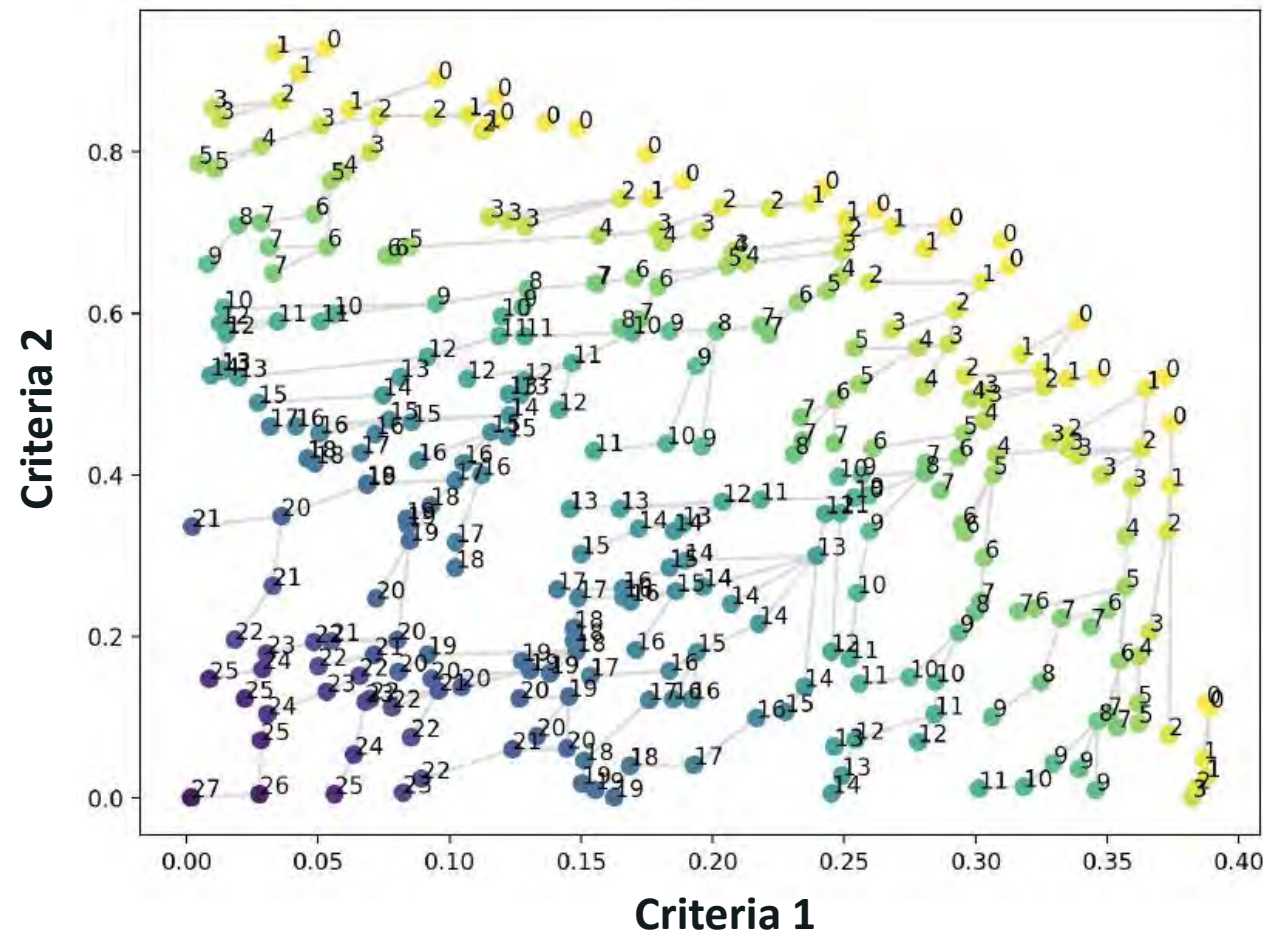
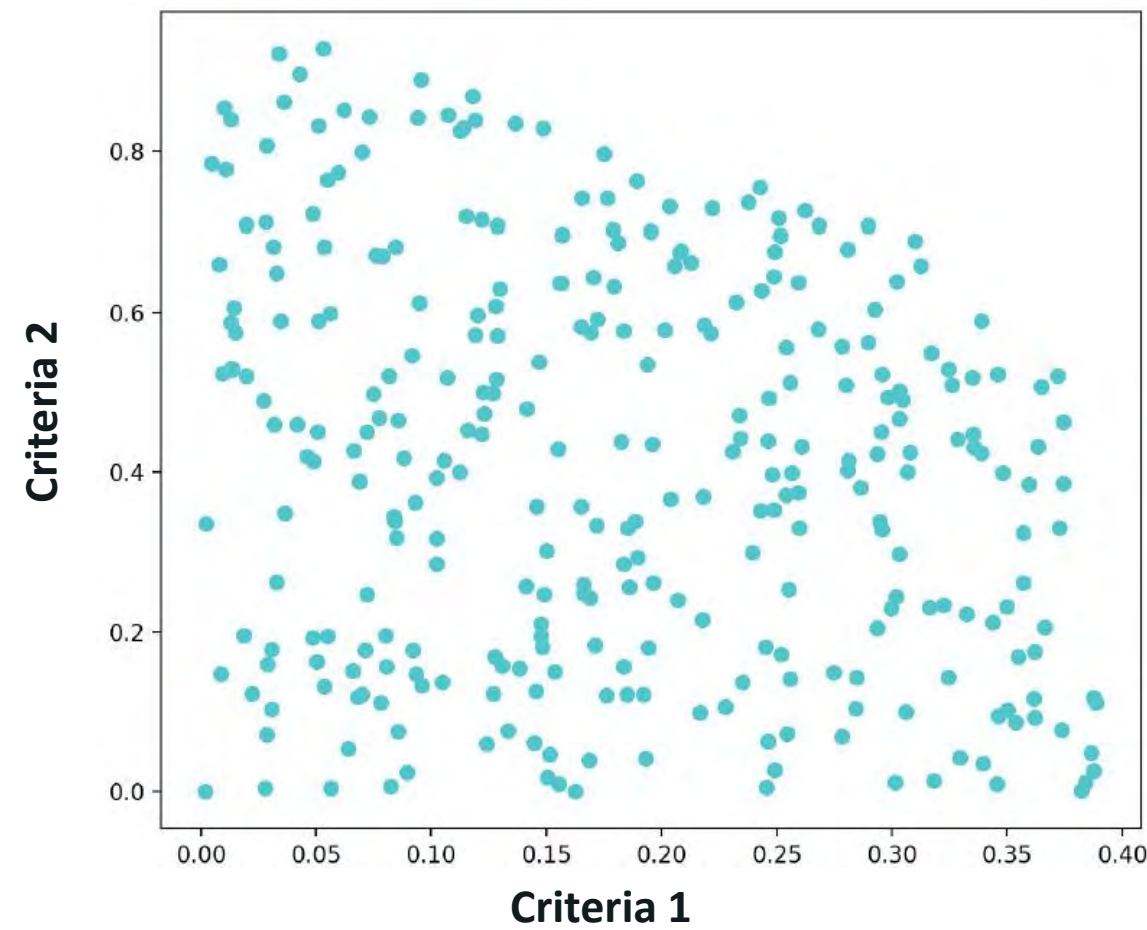
How to combine distinct sources of information? – Pareto-ranking

- As we combine geological, economic, environmental, social and governance considerations their distinct metrics are difficult to reconcile
- Our stakeholders have different goals and views of what is a priority
- However, this does **not** mean that there is no such thing as a “bad project”, some projects/locations will **always** be selected ahead of others
 - E.g. No reasonable stakeholder would select projects that have worse environmental impacts, create fewer jobs and generate less value
- The challenge is how to effectively evaluate and communicate these competing criteria, and identify potential projects/locations that perform best under a range of competing metrics?
- These options are “Pareto efficient” and make up the border of the Pareto frontier
- The Pareto ranking indicates the “distance” from the frontier
 - i.e. Rank 0 projects are on the frontier
 - Rank 1 projects would be on the frontier if Rank 0 were removed
 - And so on...



Source: Stuart Walsh

Simple Pareto Ranking Example

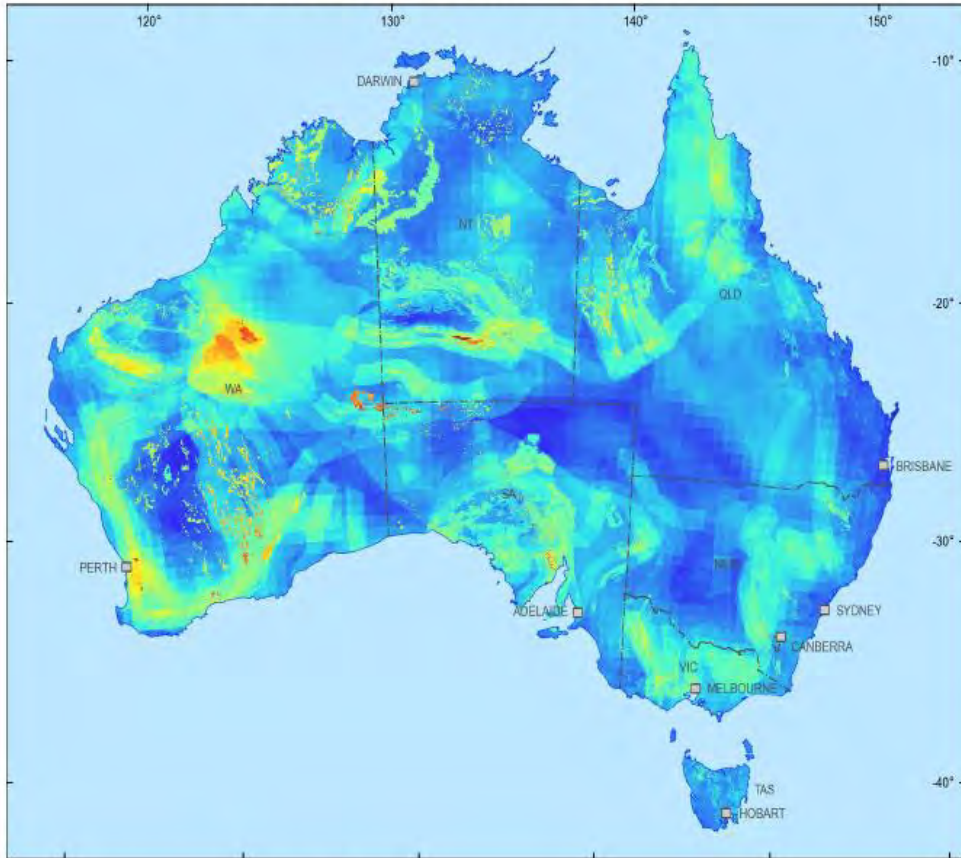


Source: Stuart Walsh

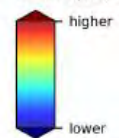
Using Pareto Ranking to identify potential exploration targets

FOI 74273 Doc 49 - 12

Mineral Potential NiCuPGE



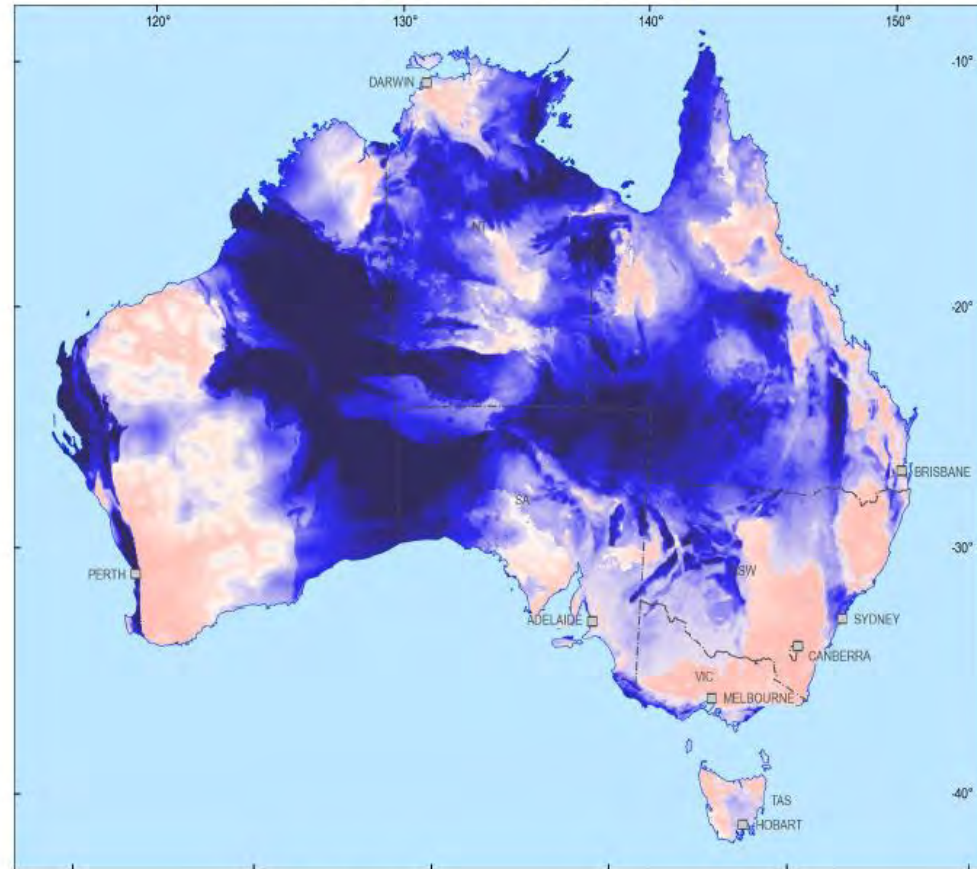
Mineral potential



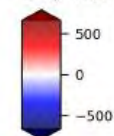
□ Town/location --- State/territory

0 750 km

Economic Fairways



Net present value (M\$AU)

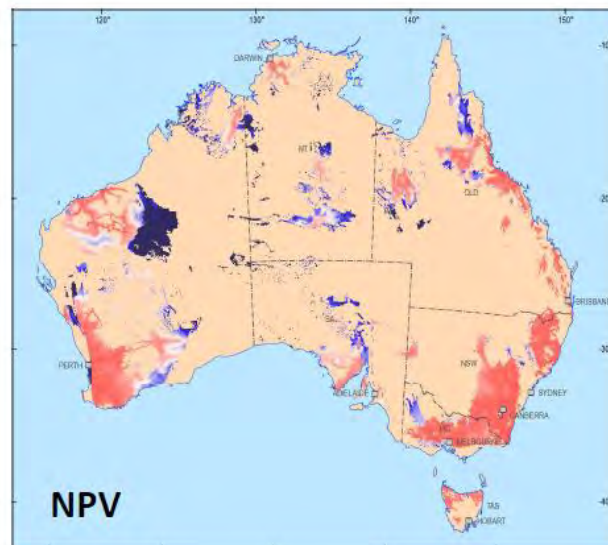
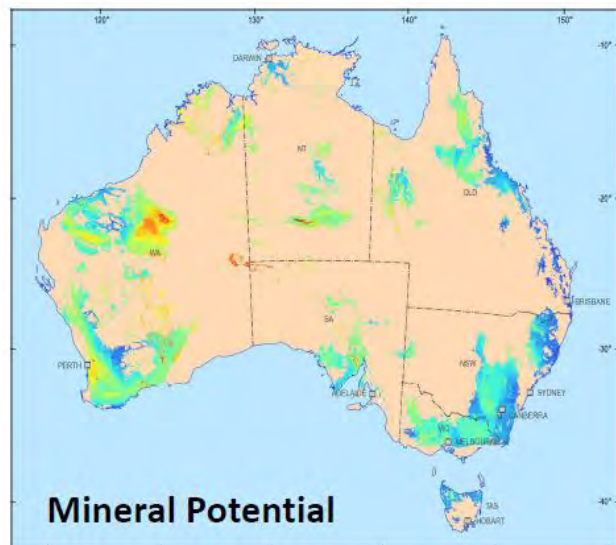
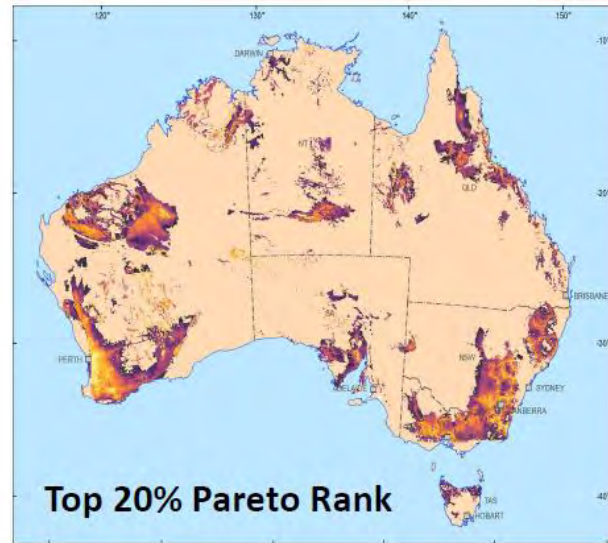
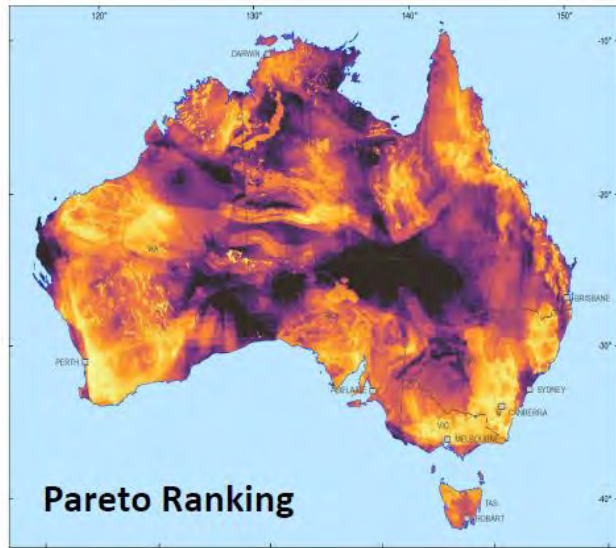


□ Town/location --- State/territory

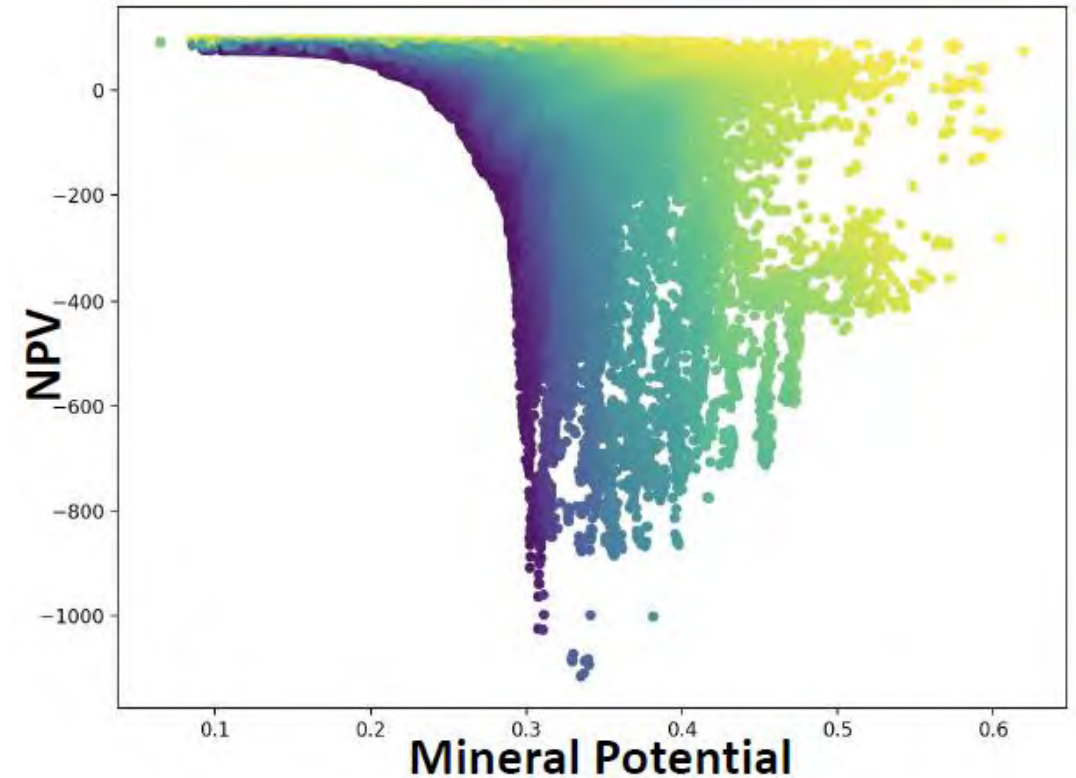
0 750 km

Using Pareto Ranking to identify potential exploration targets

FOI 74273 Doc 49 - 13



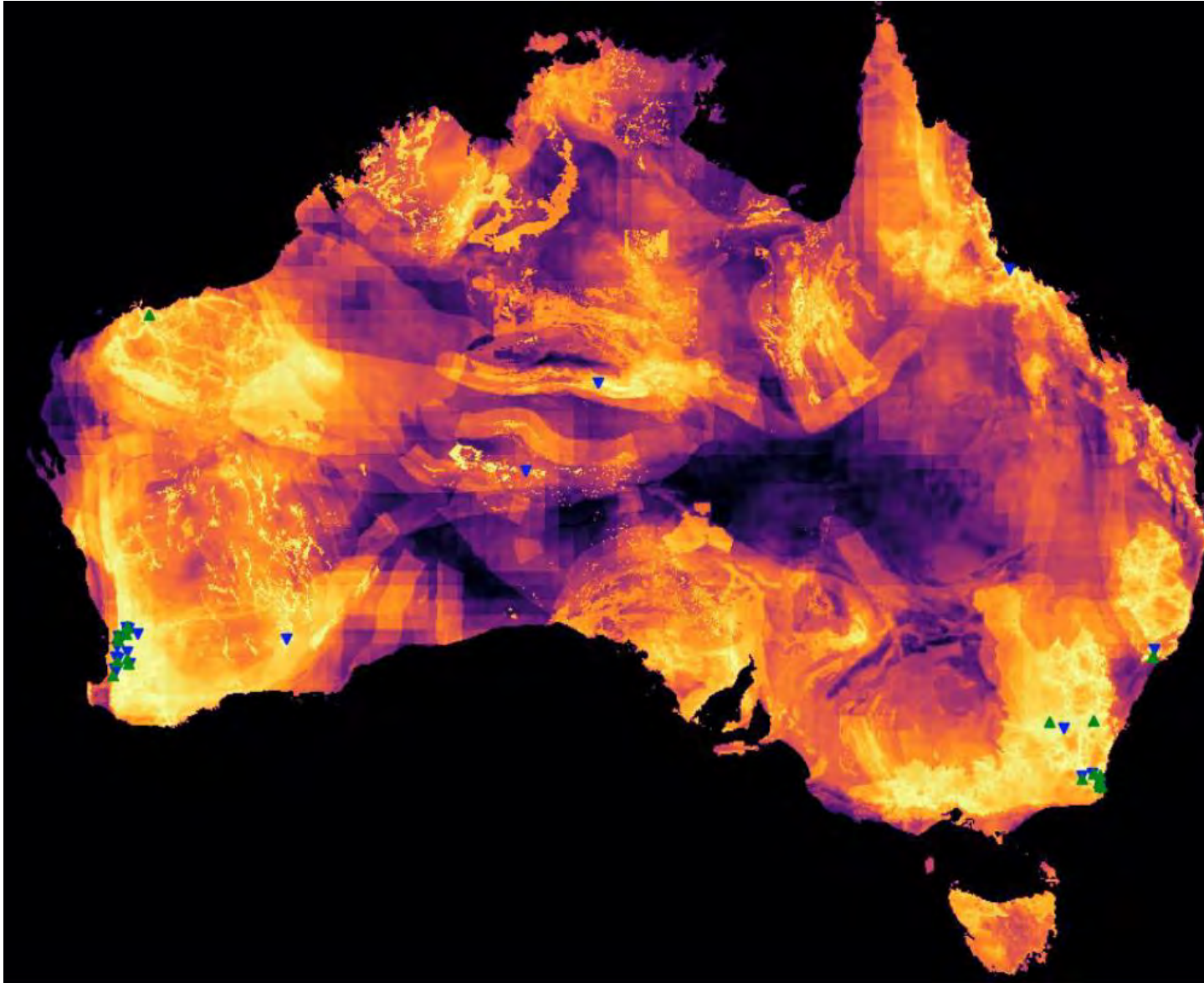
Coloured by the Pareto Front



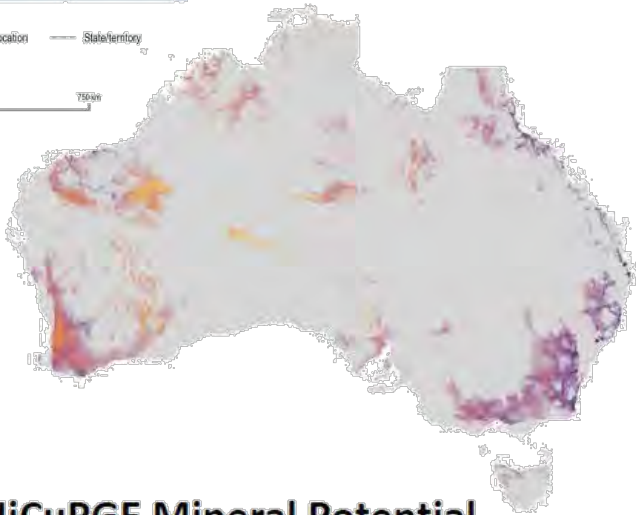
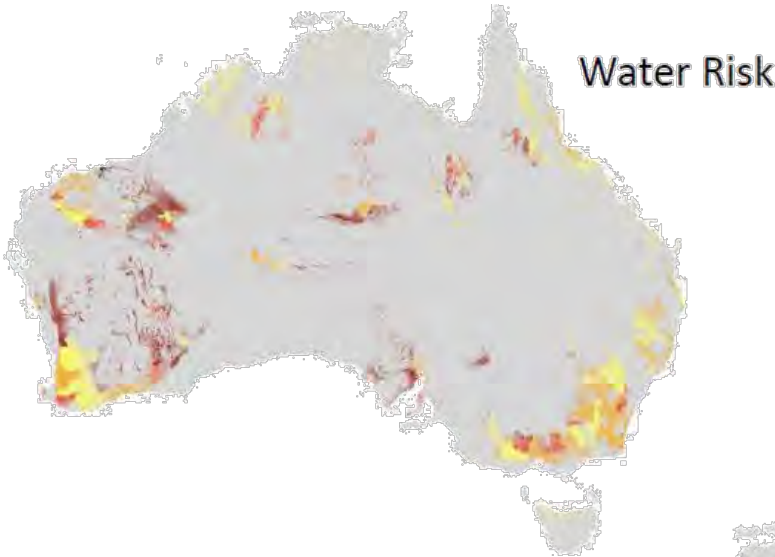
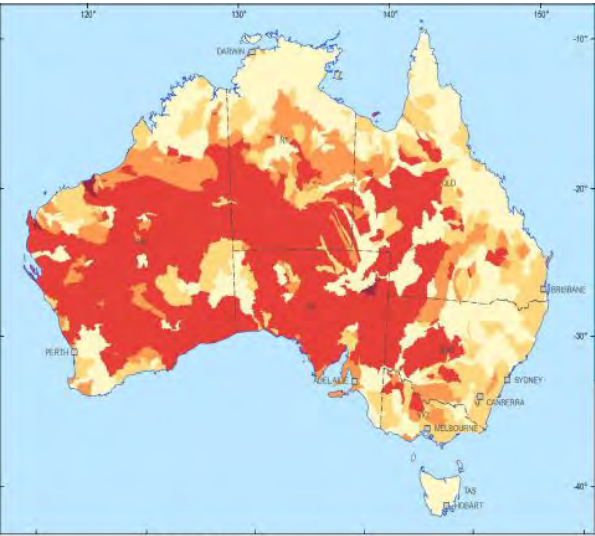
Source: Stuart Walsh

Pin pointing the pareto frontier

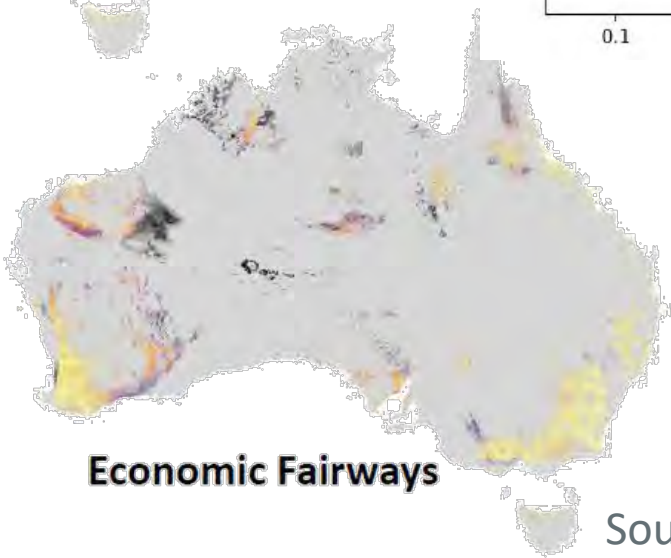
FOI 74273 Doc 49 - 14



One can keep adding distinct considerations (or dimensions)

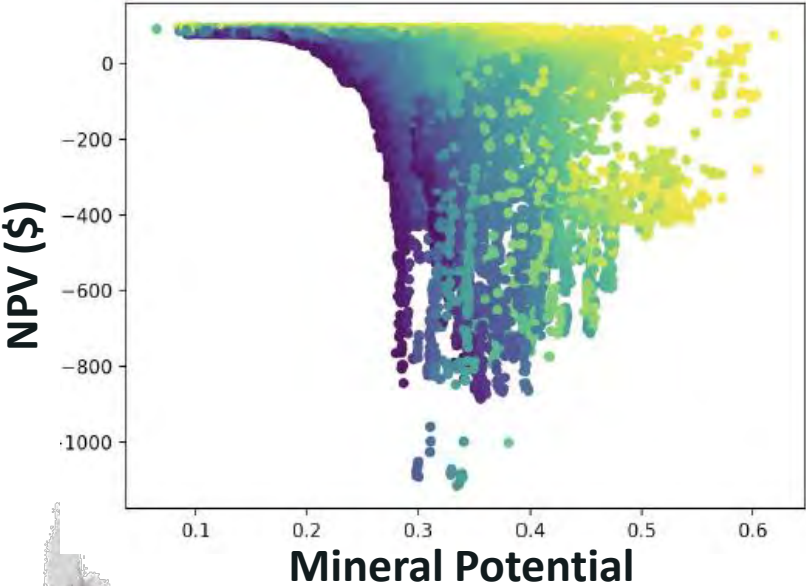


NiCuPGE Mineral Potential



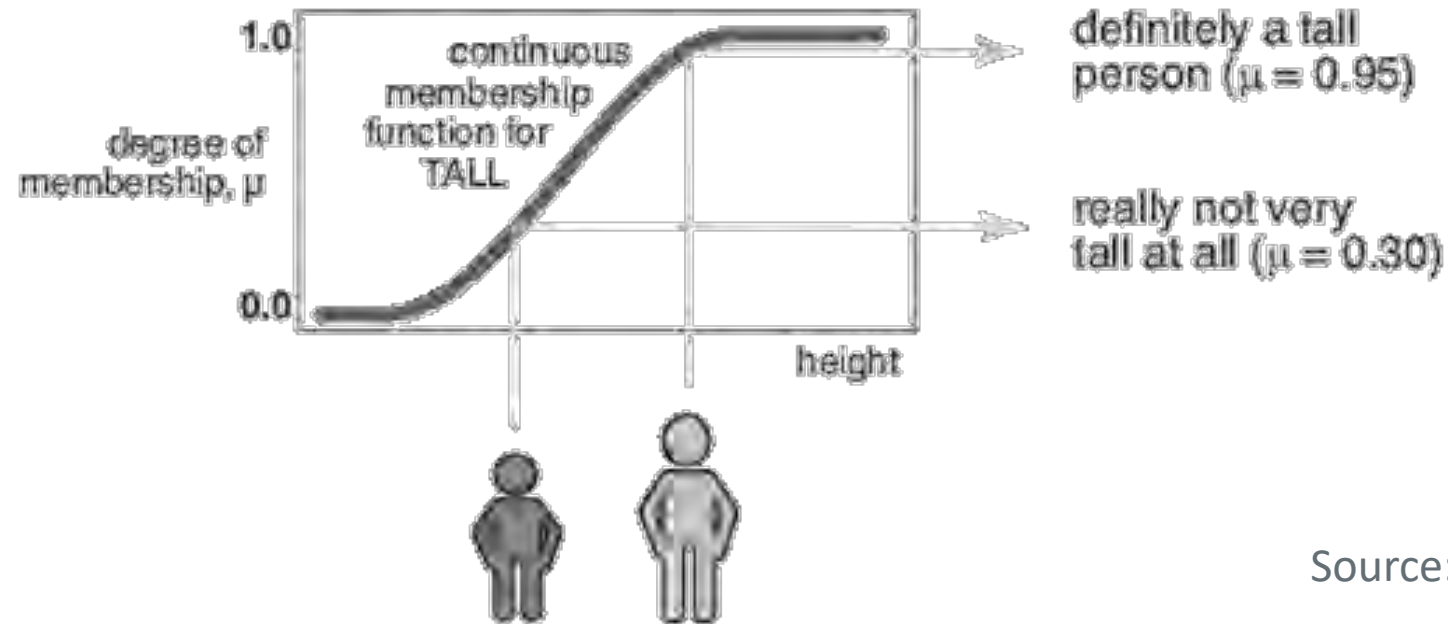
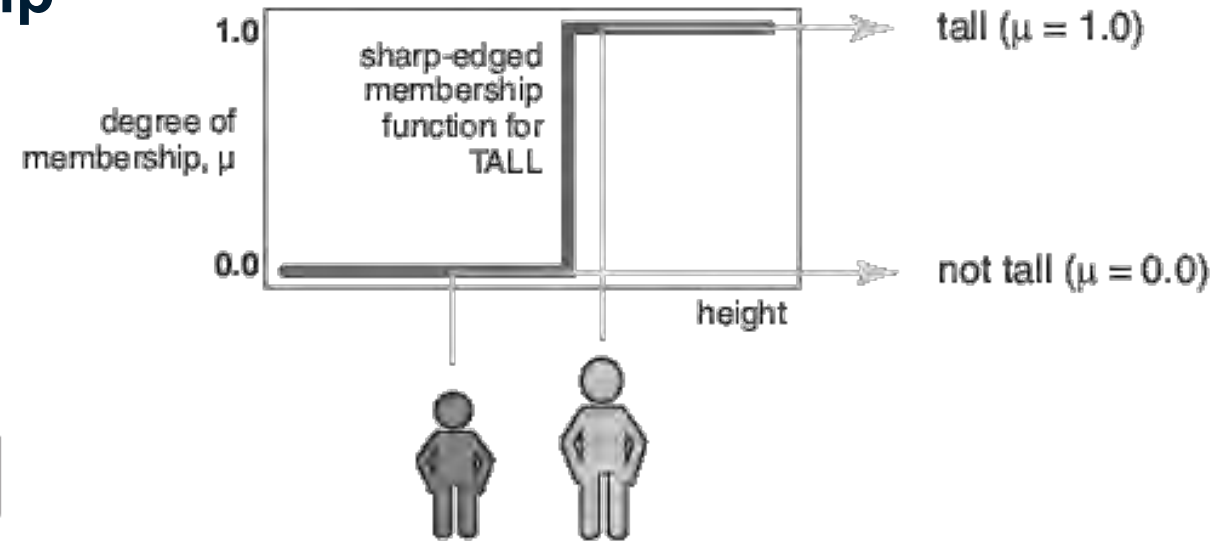
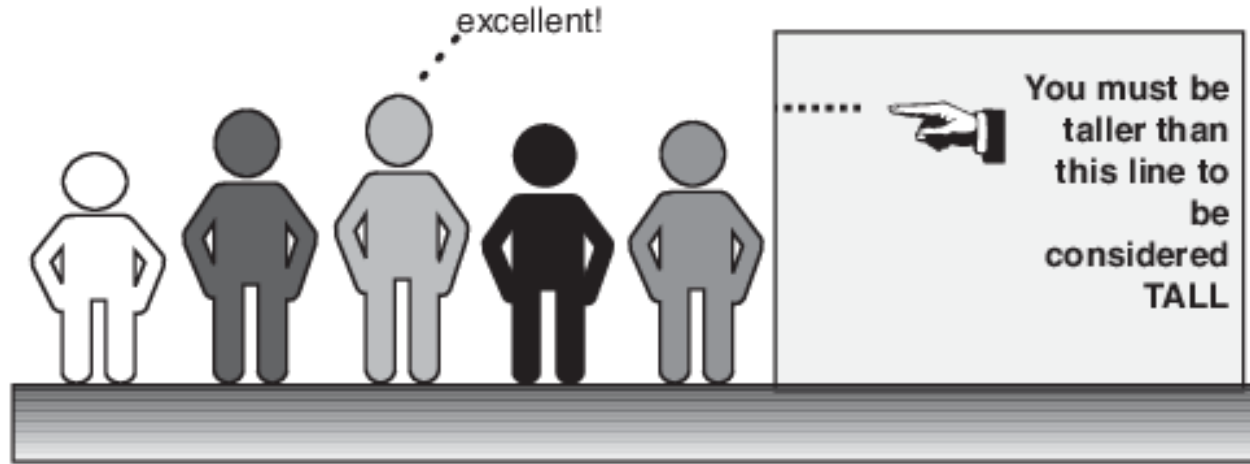
Economic Fairways

Coloured by Pareto Front



Source: Stuart Walsh

The crux in this style of assessment is transforming the datasets we have into proxies – an example of crisp membership



Source: Josh Coyan

Some key points

- We have a lot of datasets to address your questions

s47E(d)



Australian Government
Geoscience Australia

FOI 74273 Doc 49 - 18

Exploring for the Future 2023 Showcase

Online, 15-17 August

Register for free
ga.gov.au/showcase



Draft for final review by members of the group –

thanks all for your valuable contributions, I trust I have incorporated everyone's inputs but please let me know if I have missed anything.

26 July 23

The Nuclear Communications Group – Terms of Reference

Context

The Australian Government is broadening its investment in nuclear technologies to better serve Australia's national interests, with touchpoints across multiple policy, technology and regulatory agencies.

Most significantly, this includes the nuclear-powered submarine program to support Defence and ANSTO's upgrades to nuclear security science, nuclear research capabilities and through securing our sovereign supply of potentially life-saving nuclear medicines.

The Australian Government will also provide long term support for ARWA to establish Australia's National Radioactive Waste Management Facility to safely and responsibly manage the radioactive waste by-products. Also support to strengthen and broaden Australia's nuclear regulatory environment through ARPANSA and ASNO and the development of a new Defence regulator for nuclear-powered submarines.

Effective and strategic communications is critical to the ongoing success of Australia's nuclear agencies.

Managing public perception of nuclear science and technologies (NST) remains challenging. Nuclear technologies are complex and due to historical incidents, there can be fear surrounding the safety and security of nuclear materials and the longer-term risks of safely managing radioactive waste.

These issues of safety and radioactive waste management cut across all nuclear programs – civil and military – and are not exclusive to any single nuclear agency.

With this broader range of nuclear activity, there is an opportunity to work collaboratively across the nuclear agencies, employing a whole of Government approach, to ensure there is greater co-ordination of effort and consistency in public messaging across communications and stakeholder engagement activities to support and develop Australia's nuclear social licence.

Through effective strategic communications, particularly in the past 10 years, ANSTO has turned-around public perception of its operations, and developed the basis for Australia's nuclear social licence. In the December 2022 sentiment survey, the vast majority of the community surveyed have either favourable or neutral feelings and impressions, with only 3% having unfavourable views. ANSTO has worked collaboratively with the Department and more recently ARWA to leverage ANSTO's social licence to support progress with the establishment of the National Radioactive Waste Management Facility (NRWMF). Progress made towards the establishment of a NRWMF and this has mutually benefited both ANSTO and ARWA.

More broadly however, polling by Essential in 2019 found that a majority of the sample (63%) thought a nuclear industry in Australia would create skilled jobs, and while some 44% of Australians support nuclear power plants, 60% said they would not be comfortable living close to nuclear energy facilities. There is a clear disconnect between the benefits that can be delivered by the nuclear

industry and the level of public awareness and acceptance around the industry and its known challenges.

The newly-announced submarine program is expected to create 20,000 jobs, many of which will require specialist nuclear expertise that Australia currently does not have. This is in addition to the 1,200 already employed at ANSTO, and growing numbers across ARWA, ASNO and ARPANSA.

There is a significant workforce requirement that does not currently exist on the scale the country needs to support the planned industry growth, and establishing stable social licence, a good reputation and a sense of excitement and momentum is key to developing and retaining that workforce.

Australia's nuclear agencies working collaboratively across our public engagement activities particularly, will result in a co-ordinated and consistent voice on nuclear related matters, and lead to an increase in our shared social licence that is fundamental to the progress of nuclear programs and the development of the nuclear workforce of the future.

The Nuclear Communications Group Terms of Reference

The Nuclear Communications Group is an informal inter-departmental committee of the Australian Government which meets fortnightly . The Nuclear Communications Group is not a decision or policy-making body, and meetings are held at the Official: Sensitive level. One meeting per quarter is to be held in person and the location of this meeting will rotate across the nuclear agencies.

The purpose of the Nuclear Communications Group is to:

- Ensure a clear and consistent narrative for internal and external communication activities produced by members and targeted at domestic and international audiences Achieve greater co-ordination of effort through sharing information on activities being undertaken which are of relevance or interest to the other participants to provide visibility on planned activities and emerging communications risks.
- Ensure credibility of messages being shared with the public across all nuclear agencies, to help ensure that decisions made, policy developed, and advice given by its participants is fact-based, informed, and cognisant of other participating agencies' public information, actions, and mandates.
- Set a common approach or posture for how we engage with the wider Australian public and the region on nuclear matters.
- Seek peer level advice on operational communications matters and suggest matters to be taken up by participants agencies outside the meeting.
- Assist in the management of resources across government by combining activities, resources and expertise where possible, identify efficiencies in sharing resources including photography/video, misinformation and disinformation analysis and other communications resources.

Governance

Meet fortnightly via Govt. Teams or similar platform

The meeting will be chaired by ANSTO, with a view that this position rotates around the agencies annually.

Attendance and agreed actions from each meeting are documented and shared amongst participants.

The Nuclear Communications Group will seek to provide updates to the Heads of Agencies meeting and the Nuclear Agencies Consultative Committee as opportunities arise.

Membership

Membership of the Nuclear Agencies Communications Meeting will comprise of nominated communications experts from:

The Australian Nuclear Science and Technology Organisation (ANSTO)

The Australian Radioactive Waste Agency (ARWA)

The Australian Safeguards and Non-Proliferation Office (ASNO)

Australian Submarine Agency (ASA)

The Australian Radiation Protection and Nuclear Safety Agency (ARPANSA)

Soon to be established nuclear regulator for Defence.

Other participants include communications experts from the member agencies and other guests as invited by the group.

Deliverables

The development, implementation, and evaluation of a shared national communications strategy to support public engagement and the development and maintenance of Australia's nuclear social licence. A shared strategy to be developed by Dec 2023.

Background

History

The Nuclear Agencies Communications Committee commenced in January 2023 to support public engagement towards the announcement of the AUKUS pathway for nuclear powered submarines (NPS).

The group met regularly and worked collaboratively to ensure that all nuclear agencies were co-ordinated in our public engagement activities in the lead up to and surrounding the NPS announcements.

In March 2023 it was agreed to define terms of reference of the committee and set a way forward for ongoing regular engagement and to broaden the scope of support across all nuclear programs from Government.

To avoid confusion with already established Nuclear Agencies Consultative Committee (NACC) a name change was proposed.

Excerpts from IAEA SSG-35 Site Survey and Site Selection for Nuclear Installations

Summary Comments (from ANSTO)

s47E(d)

From SSG 35:

The fundamental safety objective is to protect people and the environment from harmful effects of ionising radiation. Adequate site selection and the incorporation of good design and engineering features providing safety margins, diversity and redundancy is required.

Need to evaluate a site with regard to:

- “(a) The effects of external events occurring in the region of the particular site (these events could be of natural origin or human induced);
- “(b) The characteristics of the site and its environment that could influence the transfer to persons and the environment of radioactive material that has been released; 2
- “(c) The population density and population distribution and other characteristics of the external zone in so far as they may affect the possibility of implementing emergency

measures and the need to evaluate the risks to individuals and the population.” (Ref: NS-R-3 para.2.1; NOTE NS-R-3 does not cover the initial stage of site survey when studies and investigations are performed at the regional level to identify potential sites.)

Siting is intended to:

- prevent accidents arising from external hazards associated with external events (comprehensive process to screen out sites for which external hazards are significant or could become significant)
- Screen out sites for which for which additional safety measures in design would be excessively demanding
- Reduce possible impacts on people and the environment (selection of a site with favourable dispersion characteristics for radionuclides in the air, surface water, subsurface water)
- Have a terrain, population distribution and infrastructure that facilitates implementation of an emergency plan

Siting process needs clearly established set of criteria which are balanced between characteristics of a site and specific design features, site protection measures and administrative procedures.

s47E(d)

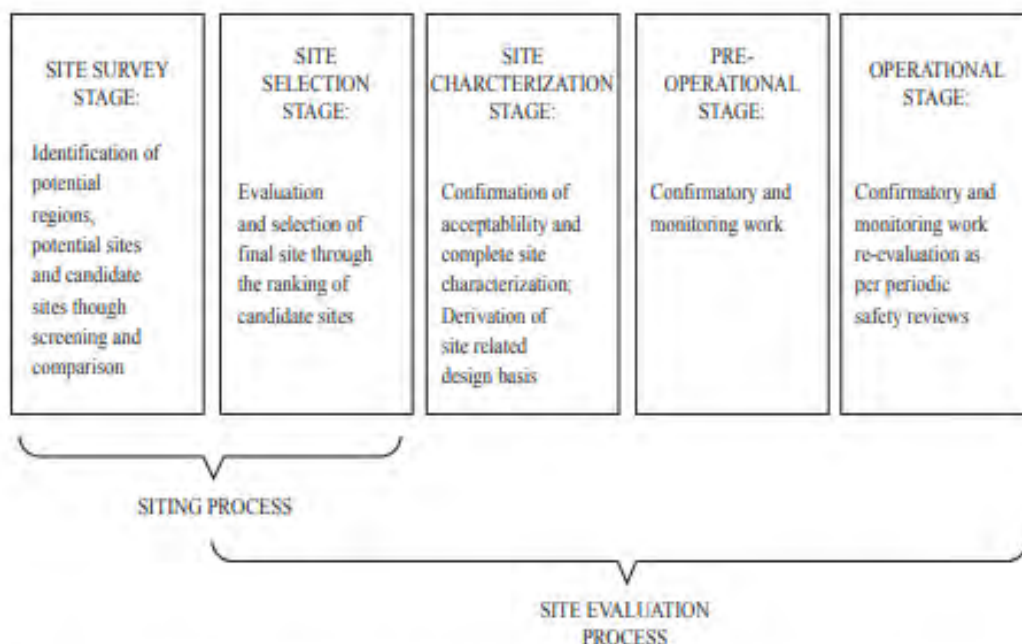


FIG. 1. Stages in the siting process and site evaluation process in the operating lifetime of a nuclear installation.

In the site survey stage, large regions are investigated to find potential sites and to identify one or more candidate sites. The second stage of the siting process is site selection in which unsuitable sites

are rejected and remaining candidate sites are assessed by screening and comparing them on the basis of safety and other considerations to arrive at preferred candidate sites.

s47C

Chapter 3 – General recommendations for the siting process

3.1. The siting process is intended to select suitable locations for the envisaged nuclear installation such that its characteristics are compatible with available engineering protective measures for all natural and human induced hazards arising from external events, so that the necessary level of safety can be achieved. Furthermore, the surrounding demographic setting and dispersion characteristics should be such as to limit the exposure of the population for any plant state to as low as reasonably achievable, and to allow the implementation of measures for mitigating the consequences of any accidental release of radionuclides over the operating lifetime of the installation.

3.2. The siting process consists of a series of related activities with the objective of selecting suitable sites for a new nuclear installation. The process should systematically and successively apply a number of screening criteria to screen out those sites with attributes which contribute unfavourably to the safety of the installation. A flow chart of the siting process for a nuclear installation is given in Fig. 3.

3.3. The siting process has three distinct steps starting with the region(s) of interest as given.

(1) Regional analysis: This is the first step, in which region(s) of interest are analysed to identify potential sites. All potential sites in a region should be taken to the next step (screening) unless their exclusion can be appropriately justified.

(2) Screening: In the second step, the potential sites are screened to choose the candidate sites. The principal objective of this step is to exclude unfavourable sites on the basis of both safety related considerations and non-safety-related considerations

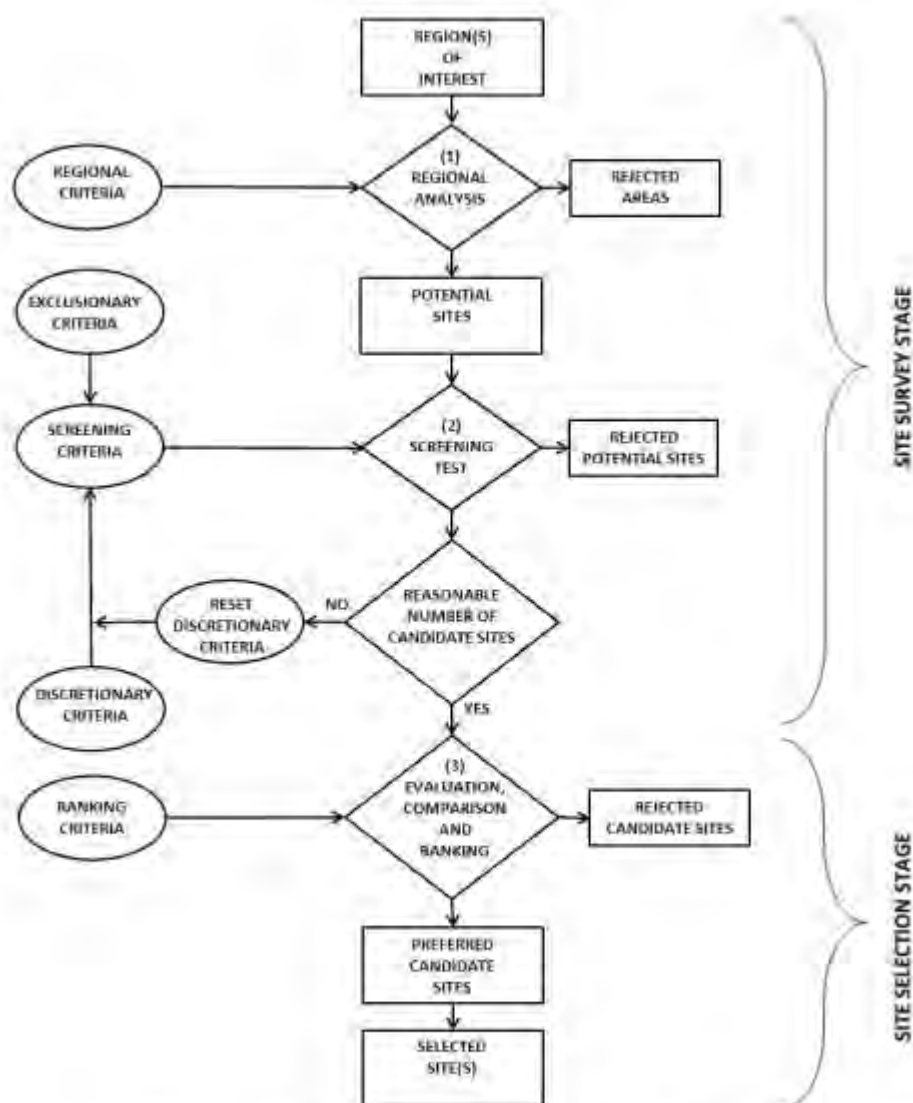


FIG. 3 Flow chart for the siting process for a nuclear installation.

SITING CRITERIA

3.6. Siting criteria provide the basis on which decisions are made in consideration of the site attributes in the different steps of the siting process. Siting criteria are used to evaluate specific site related issues, events, phenomena, hazards and other considerations after the site has been investigated and analysed. As is shown in Fig. 3, there should be three categories of siting criteria: regional criteria, screening criteria and ranking criteria.

3.7. The regional analysis should be carried out to identify potential sites using well established regional criteria. Regional criteria are generally related to national domestic policy, national economic policy, national and international environmental protection or other related policies of the State. Technical constraints and the availability of resources (e.g. infrastructural constraints, availability of water) on a regional basis should also be important considerations for regional

analysis. The regional criteria should identify all possible potential sites and no site should be discarded without appropriate justification.

3.8. The screening of potential sites should be conducted using screening criteria of two types:

- *Exclusion criteria*: The exclusion criteria are used to discard sites that are unacceptable on the basis of attributes relating to issues, events, phenomena or hazards for which there are no generally practicable engineering solutions.
- *Discretionary criteria*: The discretionary criteria are associated with those attributes relating to issues, events, phenomena, hazards, or other considerations, for which protective engineering solutions are available. These criteria, listed in Table I-1 of Annex I, are used to facilitate the selection process through iterative screening to eliminate less favourable sites when there are a large number of possible candidate sites

GENERAL BASIS FOR SCREENING CRITERIA

3.11. Exclusion criteria should be established and used as part of the screening at the site survey stage. Screening by exclusion criteria enables sites with unfavourable characteristics to be excluded from further consideration.

3.12. Exclusion criteria should be selected for the negative attribute of a site characteristic, or for any site related issue, event, phenomenon or hazard for which engineering, site protection or administrative measures are not available or are excessively demanding.

3.13. Exclusion criteria encompass not only inherent weaknesses in a site's characteristics, but also the feasibility of engineering solutions to compensate for such weaknesses, either through design or through site protection measures. Therefore, the existence of a certain hazard or even the high likelihood of its occurrence should not constitute the sole basis upon which an exclusion criterion is based. Screening out on the basis of an arbitrary criterion may lead to the discarding of a site with otherwise favourable qualities for safety and may finally result in the choice of a site that is less safe than the site that has been discarded.

3.14. Discretionary criteria should be established: — To decrease the number of possible candidate sites if their number is too large to conduct the exercise of comparison and ranking

See also pp 13-17 for Specific Screening criteria

Chapter 4 – Classification of siting Criteria p20

Criteria used in the siting process for a nuclear installation are classified as follows:

- Safety related criteria;
- Criteria relating to nuclear security;
- Non-safety-related criteria. Such criteria may be screening criteria (i.e. exclusionary or discretionary criteria) or ranking criteria

Safety related criteria:

- (a) Capable faults (i.e. faults that may cause surface displacement near the nuclear installation);
- (b) Vibratory ground motion due to earthquakes;
- (c) Volcanic hazards;
- (d) Coastal flooding or low water intake level (including inundation as well as receding water levels due to wave action, storm surges, seiches or tsunamis);
- (e) River flooding (overtopping of banks due to failure of water retaining structures such as dykes or dams) or low water intake level due to low river flow or drought;
- (f) Blockage of intake channels (e.g. due to marine organisms, ice, debris, ship collisions, oil spills or fires);
- (g) Combinations of coastal and river flooding (e.g. in estuaries), and flash floods due to intense precipitation or downbursts;
- (h) High winds — both straight winds such as hurricanes and tropical storms and rotational winds such as tornadoes;
- (i) Local phenomena such as sand storms and dust storms;
- (j) Other extreme meteorological events such as droughts, extreme precipitation, including snow pack, extreme hail, lightning and extreme temperatures, including the temperature of the source of cooling water;
- (k) Geotechnical hazards such as slope instability, soil liquefaction, landslides, rock fall, avalanche, permafrost, erosion processes, subsidence, uplift and collapse;
- (l) Forest fires;
- (m) Credible combinations of events (i.e. combinations of both dependent and independent events that potentially could lead to more severe consequences than for a single hazard, such as a seismic event together with flooding, or wind together with snow).

4.4. The second set of criteria is related to the potential impacts of human induced events and nuclear security events on the safety of the nuclear installation. In this context and in accordance with the recommendations of NS-G-3.1 [4], the following origins of potential human induced hazards should be considered:

- (a) Stationary sources:
 - (i) Other nuclear installations, oil and gas operations, chemical plants, processing of hazardous materials such as commercial facilities for manufacturing or storing munitions, broadcasting and communication networks, mining or quarrying operations, high energy rotating equipment and hydraulic engineering structures;
 - (ii) Military facilities (permanent or temporary), especially shooting ranges and arsenals.
- (b) Mobile sources:
 - (i) Surface transportation (e.g. railways and roads, and oil, gas and other pipelines);
 - (ii) Airport zones and harbour zones (military and civilian);
 - (iii) Air traffic corridors and flight path zones (military and civilian).
- (c) Electromagnetic interference.

4.5. The third set of criteria is related to the characteristics of the site and its environment that could influence the transfer of radioactive material released from the nuclear installation to people and the environment. In this context and in accordance with the recommendations of NS-G-3.2 [5], the following phenomena should be considered:

- a) Atmospheric dispersion of radioactive material;
- b) Dispersion of radioactive material in surface water;
- c) Dispersion of radioactive material in groundwater;
- d) Population density and population distribution and distance to centres of population, including projections for the operating lifetime of the nuclear installation.

4.6. The fourth set of criteria is linked to the third set but it relates mainly to the demonstration of the feasibility of implementation of the emergency plan for the nuclear installation. In this context, the following phenomena should be considered:

- a) Physical characteristics of the site that could hinder implementation of the emergency plan (in particular, geographical features such as islands, mountains and rivers);
- b) Infrastructural characteristics relating to the implementation of the emergency plan (especially local transport infrastructure and communications networks)
- c) Considerations of populations (e.g. special population groups with regard to protective actions in the event of a nuclear or radiological emergency, such as elderly and disabled persons and hospital patients and prisoners), and land and water use considerations;]
- d) Specific requirements of the regulatory body for special zones, such as emergency planning zones and distances;
- e) Industrial facilities that could involve potentially hazardous activities;
- f) Impacts of concurrent external hazards on infrastructure

Other considerations

- a) Nuclear security considerations
- b) Technology
- c) Economics
- d) Land use planning
- e) Non-radiological environmental impacts
- f) Socioeconomic impacts
- g) Opinion of interested parties including the public

Recommend reading

Chapter 5– ***Data necessary at different stages of the siting process.***

Appendix pp 33-44 which looks at data required for Site survey stage and site selection stage.

Annex I – examples of tables used for siting and further evaluation of candidate sites.

