National Remediation Framework
– harmonisation and common ground
– finalisation

Bruce Kennedy
CRC CARE

CleanUp 2019
Adelaide SA: September 2019
PRESENTATION
National Remediation Framework
for the remediation and management of contaminated sites

(1) why harmonisation?

(2) NRF
- genesis/purpose
- development
- finalisation
- some aspects
- where to …
A NATIONAL APPROACH TO REMEDIATION
– WHY?

Land management and environmental protection
  – a state responsibility, each with their own approach
  – >30 state regulatory/guidance instruments (6 States)

Assessment of contamination
  – harmonised approach: *National Environment Protection Measure*

Why harmonise nationally?
  – a national economy
  – nationally consistent approaches
  – enhance understanding, implementation and compliance across jurisdictions
  – transfer of best practice
  – mutual recognition

Remediation and management of contaminated sites
  – ASC NEPM cannot legally be extended to remediation
A NATIONAL APPROACH TO REMEDIATION
– SOME ANCIENT HISTORY

2007 – 2009 reviews
– review of the ASC NEPM by NEPC
  • NEPC also asked for comments regarding a complementary remediation framework which could be developed under EPHC
  • supported by industry submissions
– review of the NEPC Acts
  • potential for a general NEPM making power

Another option
– State regulators suggested
  • a national remediation framework
  • NRF to complement the NEPM
  • CRC CARE to develop
NATIONAL REMEDIATION FRAMEWORK

Purpose

– a nationally consistent approach to contaminated site remediation and management
– with the NEPM, a complete set of national guidance for assessment, remediation and management of contaminated sites

Expected outcomes – facilitation of

– protection of human health and the environment
– effective and efficient remediation
– net community benefit

across jurisdictions
– transfer of best practice

Audience

– practitioners and regulators
NATIONAL REMEDIATION FRAMEWORK

BASIS

Guidance

- **practical outcomes based** – “how to …, when to…”
- **modular/flexible** - individual elements may be updated over time
- **compatibility**
  - NRF principles
  - related requirements in the NEPM
  - will not impinge on the decision-making prerogatives of jurisdictions
- **not contaminant specific**
  - refer ‘toolbox’

Construction

- builds on current guidance and practice [cf original version of the NEPM]
NATIONAL REMEDIATION FRAMEWORK
NRF STEERING GROUP

Site owners
- petroleum (AIP)
- mining
- Defence

Industry (remediation)
- Australasian Land and Groundwater Association ALGA
- Australian Contaminated Land Consultants Association ACLCA

Government
- States and Territories
- Commonwealth (Finance, Infrastructure, Defence)
- planning, health

Community

Related sectors
- construction
NATIONAL REMEDIATION FRAMEWORK

FOUNDATION WORK

Foundations - prior to guideline development 2012 - 2013

- frameworks review
- context and philosophy
- guidance mapping

https://www.crccare.com/publications/technical-reports
## National Remediation Framework Schematic - Principles

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NATIONAL REMEDIATION FRAMEWORK

PRINCIPLES

Precautionary
  – careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment
  – an assessment of the risk-weighted consequences of various options

Prevention
  – avoid future contamination

Risk based
  – human health and/or environmental risks commensurate with site use
  – underpins environmental management

Options hierarchy
  – treatment on-site, then off-site
  – containment on-site, then off-site (landfill)
PRINCIPLES (CONTINUED)

Sustainability
  – “... an integrated assessment of the environmental, economic, and social impacts of remedial activities, which meets the needs of the present without compromising the ability of future generations to meet their own needs”
  – [NB SuRF sustainable remediation and ISO 18504:2017]

  – Integration/balancing of environmental, economic and social
    • application at the project scale
    • optimise footprint [environmental, economic, social]

  – NB Australian uptake since 1992

[Proportionality]
  – Proposed by EPA Victoria (2019) – described in NRF
# National Remediation Framework Schematic – Principles and Guidelines

## Philosophy

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## Principles

- Precautionary
- Prevention
- Risk management
- Options hierarchy
- Sustainability
- National / international obligations
- Polluter pays
- Inter-generational equity
- Waste minimisation

## Practice

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Guidelines – initial drafts

- 24 draft guidelines
- prepared by consultants
- as resources permitted

Consideration by NRFSG

- NRFSG considered each draft guideline for release
- prior to release, most required some revision based on NRFSG comments
- approved specific draft guidelines for release for consultation

Consultation

- with governments, industry, practitioners and public
NATIONAL REMEDIATION FRAMEWORK
‘COHERENCY’ AND UPDATING

‘Coherency’ of draft guidelines

- in relation to other draft guidelines
  - to ensure appropriate links between them
  - that each provides a complete approach
  - consistent terminology

- in relation to the NEPM
  - ensure compatibility and consistency with NEPM

- refine draft guidelines using feedback from previous consultation

Updated draft guidelines considered by NRFSG    October 2018
# National Remediation Framework

**Complete Package - Consultation and Finalisation**

Following ‘coherency’ exercise
- draft guidelines further modified with NRFSG comments  
  - Oct 2018

- complete package uploaded to CRC CARE website  
  - Nov 2018

- **national roadshow** – all capital cities  
  - Feb 2019

- submissions deadline  
  - 31 March 2019

- consideration of submissions
  - comments ~1,100: all taken into account  
  - April-June 2019

- complete edit  
  - June-July 2019

- consideration by NRFSG
  - **finalised project, agreed to refer to HEPA**  
  - 29 August 2019
# National Remediation Framework Schematic

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[www.crccare.com]
Stage 1: Define

- Regulatory considerations
- Remediation objectives
- Role of auditing

Stage 2: Design and implement

Stage 3: Finalise
Stage 1: Define

Stage 2: Design and implement

- Regulatory considerations
- Remediation options assessment
- Technology guides
- Cost-benefit analysis

Stage 3: Finalise...
Stage 1: Define
Stage 2: Design and implement
Stage 3: Finalise

- Validation and closure
- Institutional controls
- Long-term monitoring
- Role of auditing
# National Remediation Framework

## Specific Draft Guidelines

### Guidelines on Development of Remediation Action Plans (Stage 1: Define)

1. **Regulatory Considerations**
2. **Establishing Remediation Objectives**
3. **Remediation Options Assessment**
4. **Technology Guides (13)**
5. **Cost-Benefit and Sustainability Assessment**

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NATIONAL REMEDIATION FRAMEWORK
SPECIFIC DRAFT GUIDELINES

GUIDELINES ON IMPLEMENTATION OF REMEDIATION ACTION PLANS (STAGES 1, 2 & 3)

1. HEALTH & SAFETY
2. STAKEHOLDER ENGAGEMENT
3. DOCUMENT AND RECORD-KEEPING
NATIONAL REMEDIATION FRAMEWORK
SPECIFIC DRAFT GUIDELINES

GUIDELINES ON POST – REMEDIATION CONSIDERATIONS (STAGE 3: FINALISE):

1. VALIDATION AND CLOSURE
2. ROLE OF AUDITING
3. INSTITUTIONAL CONTROLS
4. LONG TERM MONITORING
NATIONAL REMEDIATION FRAMEWORK
FINALISATION

Resource toolbox – eg CRC CARE Technical Reports
  – flux
  – MNA
  – emerging contaminants – PFAS, BaP, MTBE
  – LNAPL

Publication
  – stand-alone website (under development)

Timing of publication – factors
  – HEPA meeting (October 2019)
  – website development
  – expect before end-2019
NATIONAL REMEDIATION FRAMEWORK
SOME CAVEATS

– Jurisdictional/legislative considerations
  • Guidelines are not prescriptive
  • NRF does not supersede jurisdictional requirements

– The NRF does not include guidance on:
  • Unexploded ordnance
  • Radioactive substances
  • Biologically pathogenic materials and waste
  • Contaminated sediments
  • Abandoned minesites

– The NRF is not contaminant specific
The “path to adoption”
- credible expertise in development and oversight
- involvement of stakeholders
  • directly (via Steering Group)
  • consultation input on draft guidelines
  • consultation on final package
- intersection with Governments
  • via jurisdictional representation on Steering Group
  • Heads of EPAs (HEPA)

Consideration of acceptance/adoPTION
- will be considered by HEPA in October 2019
- HEPA will seek advice from NCEN
NATIONAL REMEDIATION FRAMEWORK

MAINTENANCE

Maintenance of NRF and constituent guidelines
- this is the first version of the NRF
- “...the best feedback will happen after the NRF is implemented...”
- future updates on an as-needs basis
  - NRF is not a legal instrument
  - modular construction
- triggers for review – to be confirmed by future oversight committee eg
  - changes to legislation
  - changes in technology/techniques
  - ...

Future carriage
- future iteration of CRC CARE
- “oversight” committee
NATIONAL REMEDIATION FRAMEWORK

- initiated by regulators, supported by industry
- extensive development process, included regulators and industry
- will be a practical and useful resource for practitioners and regulators
- will sit alongside state requirements
- does not intrude on state requirements
The NRF will

- provide a **structure** for thinking through remedial strategies
- provide more **rigorous approach** for considering issues
- **systematise practices** being applied to sites
- provide a **sustainable approach** to remediation and management
- provide **seamless linkages with the NEPM**

The **NRF and the NEPM together** will provide comprehensive guidance for assessment, remediation and management of contaminated sites in Australia.
National Remediation Framework
CRC CARE team

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- CRC CARE partner organisations
- NRF Steering Group members
- consultants
- all jurisdictions
- submitters - for feedback
Thank you

CRC CARE

A safer, cleaner environmental future

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