

CRC CARE Webinar

The National Remediation Framework



CRC CARE

*A safer, cleaner
environmental future*

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16 April 2014

Presentation outline

- CRC CARE
- Contaminated sites – drivers for clean-up
- National policy context
- National Remediation Framework
- Sustainability
- NRF construction, consultation and adoption

CRC CARE

CRC Contamination Assessment and Remediation of the Environment

- **Goals** - include:
 - cost effective and sustainable remediation without compromising human and environmental health
 - facilitation of urban renewal
- **Partnership** - science-based partnership of:
 - industry [site owners, site remediators]
 - research organisations [universities]
 - state/territory environmental agencies
- **‘Halfway house’** between industry and government:
 - collaborative processes for guidance development
 - outcomes acceptable to industry and government

Drivers

for sustainable development and remediation

- **Urban infill development/urban renewal/urbanisation**
 - increasing population pressures in cities
 - 60-80% of sites in cities
 - economic, social and environmental benefits - legacy sites, eg
 - petroleum / manufacturing / landfill
 - railway infrastructure / decommissioned defence sites
- **De-industrialisation – future sites**
 - eg oil refineries, manufacturing plants
- **Community awareness**
 - increasing **accountability** for industry and regulators
 - higher **operating standards**
- Improved **efficiency and effectiveness**

National policy context

Drivers for national approaches - remediation

- **Land management and environmental protection** - a state responsibility
 - diversity of climates, soil types and groundwater conditions
- **States have their own approaches to remediation**
 - 32 state regulatory/guidance documents
 - different approaches and ‘remediation languages’
 - eg CUTEP (Victoria), RTEN (South Australia)
 - **quality** of state guidance is **not an issue**
 - **fractured nature** of state guidance is **an issue**
- **State regulators suggested**
 - a *national remediation framework* to complement the NEPM
 - CRC CARE to manage development
 - supported by industry, consultants and auditors

National policy context

Environmental protection law and policy

Land management and environmental protection

- a state responsibility

National policy mechanisms include

- Commonwealth law
- Ministerial councils

National Environment Protection Council (NEPC)

- purpose: to provide equivalent environmental protection for all Australians
- develops legal instruments (National Environment Protection Measures)

National Environment Protection Measures (NEPMs)

- provide nationally harmonised standards and/or guidance
- adopted into the legal framework of every jurisdiction

NEPM for Assessment of Site Contamination

- nationally harmonised framework for *assessment*
- *NEPC legislation precludes a NEPM for remediation*

National Remediation Framework

Purpose

- establish a **nationally consistent approach** to managing contaminated sites
- provide **practical procedural guidance** to people managing sites
- **educate and inform** government, industry and the community

Desired outcomes

- to provide **protection of human health and the environment**
- to facilitate **effective and efficient remediation**
- to facilitate **net community benefit** – consideration of broader economic context

Intended audience

- **owners/managers** of contaminated sites
- **government** agencies (eg environment, health and planning)
- contaminated sites **professionals**
- **other persons** affected by contaminated sites

National Approach to Remediation

Expected practical outcomes

A national approach to remediation will facilitate

- **harmonisation** of approaches to remediation across Australia
 - ready transfer of best practices between jurisdictions
- **cost efficiencies** for remediation
 - transportability of remedial solutions
- **training efficiencies**
 - ability to bring all practitioners up to a nominated standard
 - enhance workforce mobility and mutual recognition of skills
 - assist consultants to keep up with (state) requirements
 - accreditation of professionals
 - enhancement of contaminated sites profession
- common '**remediation language**' across jurisdictions

National Remediation Framework Construction

Framework development

- **link with NEPM**
- use and build on **existing documentation and experience**
- provide **practical outcomes based guidance** – “how to ..., when to...” (eg “how clean is clean enough?”)
- **modular /flexible** - individual elements may be modified, added or deleted over time
- **NRF Steering Group**
 - provides strategic direction
 - oversees framework development
 - organisational/professional links
 - meets twice per year

National Remediation Framework Construction - NRF Steering Group

Membership

- ***Industry (site owners)***
 - Petroleum
 - Mining
 - Defence
- ***Industry (professionals)***
 - Australasian Land and Groundwater Association (SuRF ANZ)
 - Australian Contaminated Land Consultants Association (practitioners and auditors)
- ***Government***
 - States and Territories, Commonwealth (Finance)
 - planning (Victoria)
 - [health]
- ***Community***
- Provision for 'corresponding' members from related sectors

National Remediation Framework

Construction - Exclusions

As with the NEPM, some contaminants will not be covered

- unexploded ordnance
- radioactive substances
- biologically pathogenic materials and waste
- contaminated sediments
- acid sulfate soils

**These materials require specialised remediation and management
Specific legislation/guidelines are in place**

National Remediation Framework

Draft schematic – remediation and management

PHILOSOPHY	CONTEXT				
	Background	Jurisdictional arrangements	Legislative powers	Purpose of framework	Intended audience
	PRINCIPLES				
	Precautionary principle		Prevention		Risk management
	Options hierarchy		Sustainability		National / international obligations
PRACTICE	GUIDANCE				
	Development of remediation plan		Implementation of remediation plan		Post remediation considerations
	Site-specific remediation objectives		Health and safety		Remediation validation and closure
	Identifying remedial options		Stakeholder engagement		Long-term monitoring
	Selection of remedial technologies		Documentation and record-keeping		Auditing/third party review
	Treatability studies				Institutional controls
	Cost-benefit analysis				
	Regulator submission requirements				

National Remediation Framework

Background/context - completed

- Frameworks review [\[www.crccare.com\]](http://www.crccare.com)
- Context and philosophy [\[www.crccare.com\]](http://www.crccare.com) *in April*
- Guidance mapping [\[www.crccare.com\]](http://www.crccare.com)

National Remediation Framework Development

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National Remediation Framework Principles

Precautionary principle

Remediation and management decisions should be guided by:

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

Prevention

- contamination, or further contamination, of site(s) should be prevented

Risk management

- remediation and management plans ... to reduce human health and/or environmental risks to acceptable levels for the proposed site use
- AS/NZS ISO 31000: 2009 - *risk management* outlines 'risk architecture' – principles, framework, process

National Remediation Framework Principles

Options hierarchy

- ***on-site/off-site treatment*** - contaminated material preferably be treated or managed on site or treated off site and returned for re-use
- ***disposal/cap and contain***

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”

Towards Sustainability

Sustainable development

‘...“the environment” is where we live; and “development” is what we all do’

‘**Sustainable development** is development that meets the needs of the present without compromising the ability of future generations to meet their own needs’

Our Common Future [Brundtland Report] 1987

Towards Sustainability Approaches

Integration of environmental, economic and social aspects

- how to ‘operationalise’
- how to integrate them
- application at the project scale
- to determine net benefit - minimise footprint/maximise benefits [net, ...]

Approaches

- sustainable remediation [SuRF]
- green remediation [USEPA]
- green and sustainable remediation [ITRC]
- sustainability [NRF]

Sustainability

- objects clauses of all state and territory environmental protection legislation
- consistent with IGAE principles

National Remediation Framework

Draft schematic – remediation and management

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National Remediation Framework

Construction – guideline and module development

- **Harmonisation** – guidelines will
 - harmonise existing guidance
 - document existing Australian practice
 - provide new guidance if appropriate
- **Compatibility** - each guideline is to be compatible with
 - the principles adopted for the Framework
 - any related requirements in the NEPM
- **Terminology**
 - “*Module*” - sub-headings in the framework schematic
 - “*Guideline*” - discrete guidance developed for a module. A given module may comprise one or more guidelines

National Remediation Framework Development

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National Remediation Framework

Specific draft guidelines

Site-specific remediation objectives

- review national and state approaches to identify
 - consistency in approaches across the jurisdictions
 - divergences
 - any gaps
- review international approaches

Process

- preliminary consultation with jurisdictions
- prepare discussion paper for Regulator Network workshop
- prepare draft guideline for
 - comment by members of the Regulators Network
 - consideration by NRFSG
- draft due end 2014, NRFSG early 2015

National Remediation Framework

Specific draft guidelines

Identifying remedial options

Selection of remedial technologies

Treatability studies

Soils	Groundwater	Vapour
Cover and cap	Air sparging/injection	Extraction
Containment	Oxygen release compounds	Carbon canisters
Stabilisation	CISCO	Venting
Fixation	Vapour extraction	
Bio-remediation	Skimmers	
Phytoremediation	Monitored natural attenuation	
Washing	Permeable reactive barriers	
Thermal desorption	Funnel gate	
Physical separation	Cut-off wall	
	Pump and treat	

– draft due late 2014, NRFSG early 2015

National Remediation Framework

Specific draft guidelines

Cost-benefit and sustainability analysis

- methodology and user guidelines tailored specifically for site remediation work
- help identify the best option for remediation/management
- standardised approach, taking into account:
 - *A Guide for Ministerial Councils and National Standards Setting Bodies, October 2007 [COAG, Commonwealth]*
 - Commonwealth discount rate and median rate
 - methodologies adopted by the states and territories
 - variation in the magnitude and duration of remediation projects
 - *Cost-benefit Analysis for Remediation of Land Contamination [UK]*
- draft due end 2014, NRFSG early 2015

National Remediation Framework

Specific draft guidelines

Health and safety

- previous NEPM included information on WHS during assessment
- current NEPM does not
- This draft guideline
 - based on harmonised model work health and safety laws
 - utilises information from previous NEPM
 - ‘one stop shop’
- draft considered by NRFSG April 2014

National Remediation Framework

Specific draft guidelines

Stakeholder engagement

- NEPM includes information on stakeholder engagement during assessment
- the remediation consultant may not be same consultant who assessed the site
- this draft guideline
 - organised around the development of a stakeholder engagement plan
- draft considered by NRFSG April 2014

Documentation, record keeping and reporting

- focuses on the **types** of information required by jurisdictions, not processes
- draft considered by NRFSG April 2014

National Remediation Framework

Construction timetable

To date

Background/foundation work

- frameworks review [\[www.crccare.com\]](http://www.crccare.com)
- context and philosophy [\[www.crccare.com\]](http://www.crccare.com) in April]
- guidance mapping [\[www.crccare.com\]](http://www.crccare.com)

2013 – 2015

Draft guideline development as at April 2014

- Health and safety NRFSG October 2013
- Stakeholder engagement NRFSG April 2014
- Documentation and record keeping NRFSG April 2014
- Identifying remedial options NRFSG February 2015
- Selection of remedial technologies NRFSG February 2015
- Treatability studies NRFSG February 2015
- Cost benefit and sustainability analysis NRFSG February 2015

National Remediation Framework

Consultation on draft guidelines

Draft guidelines

- to be approved by NRFSG for release for consultation

Consultation

with Government

- with advice of NRFSG government members

with Industry/Practitioners

- with advice of NRFSG industry members
- *Remediation Australasia*
- www.crccare.com

with Community

- with advice of NRFSG community member
- www.crccare.com
- *Remediation Australasia*

National Remediation Framework

Consultation on draft guidelines

Draft guidelines approved for release for consultation

- Health and Safety
- Stakeholder engagement *[subject to editing]*
- Documentation and record keeping *[subject to editing]*

Process

- upload to www.crccare.com
- alert stakeholders to their availability and closing date(s) for comment
- information sessions can be provided

Timing

- commence June 2014
- details of consultation period to be finalised
- ***“watch this space”***

National Remediation Framework

Acceptance and adoption

The “path to adoption” of the framework depends on

- credible expertise
- intersection with Government
- involvement of stakeholders
 - directly (through membership of Steering Group)
 - through consultation on draft documentation

Acceptance and adoption

- not impinge on the policy and decision-making prerogatives of the states and territories
- not be legally binding
- under the umbrella of any successor to the Ministerial Council

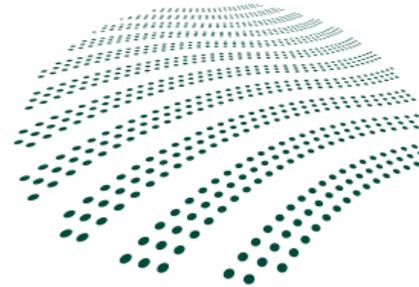
National Remediation Framework

Information on progress

Information on the development of the Framework

- information paper for Heads of EPAs
- information paper for industry and other stakeholders
- conferences – eg EcoForum 2014
- Technical Papers on www.crccare.com
- stakeholder representatives on the NRF Steering Group
- future webinars
- www.crccare.com

Thank you



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