

Research, development and demonstration (RD&D) approval



Environment
Protection
Authority Victoria

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Introduction

Works approval is required pursuant to Section 19A of the *Environment Protection Act 1970* (the EP Act or the Act) for works at scheduled premises which will, or will be likely to, alter or increase the discharge of wastes or emission of noise to the environment. This also applies to the treatment and storage of prescribed wastes.

More limited works at scheduled premises which are intended for the purposes of research, development and demonstration (RD&D) and would otherwise require a works approval can be assessed for an RD&D Approval pursuant to Section 19D of the Act.

Typically limited in their scale, duration and environmental impact, such works are the subject of this publication. This guideline provides further information on how to apply for, and get, RD&D approval.

If you would like to discuss a potential RD&D proposal prior to completing and submitting an RD&D application form, please contact EPA's Works Approval Team via approvals.applications@epa.vic.gov.au or 1300 372 842 or 1300 EPA VIC.

Works that pose a risk of environmental impact comparable to established commercial-scale industrial processes will have to undergo the usual works approval. Where it is ultimately proposed to develop a commercial operation in a staged manner, discussions should be held with EPA to determine the appropriate approval mechanism.

Small-scale research at recognised research institutions would not normally make the premises scheduled and these situations should be discussed with EPA.

RD&D benefits

- Streamlined approval procedure for temporary short-term works and a licence to operate for the duration of the RD&D approval.
- Approval assessments completed within 30 days.
- Less cost to industry.
- Lower application fee.
- Provides legal certainty.
- Facilitates research and innovation and demonstration of new technologies at a pilot scale and in Australian conditions.
- Enables the demonstration of commercially sensitive technologies and/or the generation of product samples for market testing.
- Assists in identifying and characterising potential environmental issues and possible controls at a pilot scale

to inform subsequent works approval applications for commercial scale facilities.

- Directly contributes to improved environment protection and industrial development.

Commercial sensitivity and consultation

To protect intellectual property, RD&D applicants may submit information on a 'commercial in confidence' basis, although EPA's preference is that sufficiently detailed non-sensitive information be provided within the application. If commercial in confidence information *must* be provided, please put it in hard copy, with the words 'COMMERCIAL IN CONFIDENCE' clearly marked on each page. This information will not be copied or retained by EPA and will be returned to you. Information that is in the public domain is not considered confidential. Similarly, environmental emission data is not considered confidential.

In contrast to our approach to other sorts of works approvals, EPA does not conduct any advertising or community engagement for RD&D projects which would require details of the proposed project to be disclosed. As securing planning permission involves notifying neighbouring landowners and engaging with the community, it is a pre-acceptance requirement of any RD&D application that the applicant has secured the necessary planning permission(s).

It is also important to note that referrals to agencies and bodies such as the Department of Health and Human Services (DHHS), local councils and catchment management authorities are not typically undertaken by EPA during the assessments of RD&D applications. (Waste-related projects are, however, referred to Sustainability Victoria and the relevant regional waste resource recovery group to confirm that the proposals are consistent with the relevant waste management policy. In such circumstances, EPA will agree with the applicant about which application materials should be shared.)

Where an RD&D application involves the use, storage, treatment or production of potential harmful or hazardous materials, or some activity that would typically be overseen by another agency or authority (i.e. WorkSafe, DHHS or the CFA), EPA expects applicants to have undertaken initial discussions with those bodies and to provide evidence of these discussions in their application.

If no such discussions have occurred, or EPA lacks sufficient in-house knowledge and experience in an area related to the application, an external referral may be required. EPA will discuss such referrals with the applicant prior to undertaking any consultation.



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Key criteria

An RD&D-approved project typically aims to test a proposed technology, demonstrate a product's quality, establish process optimisation and monitor environmental performance. It is often used to verify and validate international processes i.e. to confirm that plants will work in Australian conditions and meet the relevant Australian product and regulatory standards.

To be considered for, and receive, an RD&D approval, applicants should address the following criteria.

Objective(s)

RD&D applications require the applicant's objective(s) to be clearly presented with adequately defined criteria against which results will be assessed.

RD&Ds should not be considered as mini-commercial operations or as a chance to develop a commercial market. While contracts may need to be established to source raw material/waste feedstocks and to validate product quality, it is suggested that the limited scale and duration of any RD&D approval granted is recognised in any commercial commitments and contracts.

Proposed process

To identify potential environmental impacts, together with what controls and monitoring may be required, the proposed project needs to be adequately described. Accordingly, a detailed project description needs to be included in the RD&D application as per the instructions set out in this guideline.

Scale and dimension

The project will generally be small in relation to commercially established operations, particularly if it is taking place on a greenfield site. (For example, it may involve the installation of a smaller unit or a single unit of plant rather than the number required for full commercialisation.)

The scale and duration of the trial must also be consistent with the trial objective. Continuous operations over long periods may not be appropriate, for example, where the objective is to test a single process and to identify optimal efficiencies with different raw materials/waste feedstocks.

Duration

RD&D approvals require a defined operation (normally months rather than years) and are not for ongoing operations. Longer-term trials (i.e. 6-12 months) are only granted to applicants where they provide detailed RD&D programme information that specifically justifies the duration sought. (They might show, for example, that the requested duration is needed to test different plant configurations/waste streams; to optimise plant configurations; to conduct field trials of the material produced in the RD&D; to demonstrate a 'product' is being manufactured; to collect sufficient data; to establish product quality; or to satisfy the requirements of a funding grant.)

Please note that it is the applicant's responsibility to establish how much (and how many different combinations of) raw materials and feedstock will be needed to process the trial and obtain the data necessary to determine its success.

Potential environmental impact

Consideration needs to be given to the identification and assessment of environmental impacts during the trial, and the necessary design and operational controls to limit any environmental impacts arising from the trial.

Monitoring

Monitoring the RD&D trial is key to (1) determining the success of the proposed project and (2) establishing actual environmental impacts and/or the effectiveness of proposed controls.

The proposed monitoring should be undertaken by independent testers with the necessary capabilities and NATA accreditation. Within the monitoring, a Trial Monitoring and Sampling Plan is a critical tool to establish relationships between feedstock and operating parameters/performance. Effective sampling helps to validate hypotheses and reduces the chance of re-testing.

EPA will develop a Compliance Plan and may inspect the premises during the trial.

Risk assessment and contingency planning

As RD&D projects are typically of new technologies or plant and with different conditions, appropriate consideration needs to be given to the possibility of unplanned events and emergencies.

Accordingly, a risk assessment should be undertaken to identify and assess potential risks, and develop a contingency plan to protect human health and the environment.

How to apply

If you are, or would be, the occupier of a premises that is scheduled with the installation of the project and you meet the above key issues you may apply for RD&D approval.

The RD&D application form F1011 must be fully completed and signed by an authorised officer of the applicant company. Forms are available on the EPA website, www.epa.vic.gov.au

Relevant offence declaration

In the consideration of RD&D application section 20C(3) of the Act enables EPA to refuse to issue, transfer or amend an application if the applicant (or, in the case of a transfer, the person to whom the application is to be transferred):

- (i) has been found guilty of one or more 'relevant offences' (defined in the EP Act) in the 10 years immediately before the date EPA received the Application; and as a result
- (ii) as a result, the person is, in the opinion of EPA, not a fit and proper person to hold the approval (or the amended approval).

'Relevant offence' means:

- (a) an indictable offence
- (b) an offence that was committed outside Victoria that would have been an indictable offence if it had been committed in Victoria on the date it was committed
- (c) a summary offence under the EP Act, the *Dangerous Goods Act 1985*, the *Occupational Health and Safety Act 2004* or the *Equipment (Public Safety) Act 1994*.

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If the applicant is a corporation, EPA can refuse to issue, transfer or amend an approval if any director or person who is concerned in the management of the corporation has been found guilty of a relevant offence in the last 10 years and, as a result, that person is not, in the opinion of EPA, a fit and proper person to be involved in a corporation holding RD&D approval.

An additional relevant offence declaration must also be completed by corporate applicants in respect of directors/persons concerned in the management of the corporation in accordance with section 20C(3)(c) of the Act.

Applicants must:

- declare whether they have (or, in the case of corporate applicants, whether the corporation and/or additionally, whether any director or person concerned in management of the corporation has) have been found guilty of any 'relevant offences' in the last 10 years prior to the date of the application; and, if so
- attach a statutory declaration from that person(s) (or each of those persons) to the application setting out the specific circumstances of the offence and why those circumstances should not prevent the application from being approved (including why the applicant should be considered a fit and proper person to hold an RD&D approval, or to be involved in a corporation holding an RD&D approval).

EPA will consider any relevant offence disclosures in the assessment of RD&D applications.

Applicants should be aware that it is an offence under the Act to intentionally or negligently provide incorrect or misleading information to EPA or to conceal information from EPA. EPA may cancel a RD&D approval if it is satisfied that information in the application was false or misleading.

Vital information

It is vital that all relevant and appropriate information (as defined on the following pages) be provided in an application. Failure to provide such information may result in a delay in EPA accepting and considering an application, with the level of information that's missing being proportionate to the level of risk. For a simple RD&D application (e.g. an applicant seeking to test the efficiency of an existing treatment technology with a feedstock material), the level of detailed information required will be less than a completely novel technology, process or kit.

Description of the RD&D Project & Trial Plan

The first vital piece of information that all applications must include is a clear description of the applicant's plan to construct and operate during the RD&D. This description and accompanying Trial Plan should detail the:

- purpose and expected outcomes of the proposed project
- proposed location of the facility and the trial unit/plant within the facility (including where equipment would be installed)
- approximate dimensions of the project
- duration of the trial
- types, characteristics and approximate volumes of all raw materials/feedstocks that would be handled, and all products and by-products that would be generated, during the trial (where wastes are involved, include waste codes)

- proposed sources of raw materials/feedstocks
- proposed treatment and disposal methods for all by-products
- proposed process/technology/plant, including simple flow diagrams with a process description and P&ID with process controls (as well as raw material inputs and waste outputs)
- length of time raw materials/feedstocks would be present prior to processing (it is recommended that this be kept to a minimum and only that needed for each trial), along with the volume of material stored
- place where raw materials, feedstocks, products and by-products would be handled, treated and stored (i.e. inside a fully enclosed building, bunded areas)
- controls such as ventilation systems
- details of the proposed treatment (i.e. aerobic/anaerobic, temperature, residence time, oxygen, moisture etc.)
- contingency plans to protect human health and the environment during both routine operations and emergencies
- assessment against best practice design (as set out in *Demonstrating Best Practice* (EPA Publication 1517))
- appropriate comparisons with similar processes and plants
- scientific evidence from laboratory-scale testing that provides appropriate performance data and/or references to support underlining principles of the proposal and technology.

Trial monitoring and sampling

The second vital piece of information that all applicants must include is a clear methodology for the RD&D trial within a detailed Trial Monitoring and Sample Plan. The plan should cover:

- the purpose and details of any trial parameters
- the trial's commencement and end dates
- the duration of activities that will occur at different stages of the trial
- the trial programme (including details of the proposed number of batches and the proposed aims of each batch to be tested)
- the number of samples to be collected for each feedstock or mixture of various wastes for feed in, products and any emissions as required
- how much of the feedstock (and any different combinations of waste code feedstocks) will be needed to process to complete the trial and obtain the needed results to determine trial success
- how the proposed trial will provide the data needed, and any variations in the quality of the product.

RD&D environmental appraisal

The third vital piece of information that all applications must include concerns the potential environmental impacts of the project, and the measures they plan to take to combat them. This environmental appraisal must specifically address the proposed location. It must include:

- an assessment of the proposal against relevant separation distances (refer to *Recommended Separation Distances*

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for *Industrial Residual Air Emissions – Guideline* (EPA Publication 1518))

- identified environmental effects, including what (air, land, water or noise) emissions are anticipated according to scientific evidence or laboratory-scale testing which supports the underlining principles of both the proposal and the technology
- details of any anticipated point source emissions, (where they will be from and what they will be) and an assessment of their potential environmental impacts and the proposed measures to control them
- details of how any residual liquids will be temporarily stored and disposed of, together with an assessment of the potential environmental impacts and the proposed measures to control any discharges
- details of any offsite waste disposal
- an analysis demonstrating compliance with the relevant State Environment Protection Policies, waste management policies and EPA guidelines (as appropriate).

RD&D environmental monitoring

The fourth vital piece of information that all applications must include is an Environmental Monitoring Plan for the entire trial. The level of environmental monitoring to be undertaken should be commensurate with the identified risks, the actual environmental impacts and the need for/effectiveness of proposed controls.

Any proposed sampling and analysis should meet the minimum EPA requirements for the different segments and conform to relevant guidelines such as EPA Publications 440 and 596 and EPA's Industrial Waste Resource Guidelines (IWRG) 621, 631, 701 and 702.

The Environmental Monitoring Plan should specifically include:

- details of what will be sampled, where sampling points will be located, the frequency of the samples, an explanation of the purpose of the monitoring and reporting, plus what feedback mechanisms will be present, both internally and with EPA
- details of how energy and water usage will be monitored and reported
- details of who will independently monitor and analyse the samples collected during the RD&D trial.

Certificate of Incorporation

Attach a copy of your Certificate of Incorporation.

Fee

A fee equivalent to 60 fee units must accompany your application.

Submitting applications

Completed applications should be emailed to approvals.applications@epa.vic.gov.au or mailed to:

Development Assessments Unit
EPA Victoria
GPO Box 4395
Melbourne 3001

Granting approval

An approval will be issued or refused within 30 days of the application being accepted. The approval may include specific conditions that must be adhered to by the applicant. Such conditions typically relate to the size and duration of the trial, or its environmental monitoring or reporting.

Compliance plan

Following the granting of an RD&D approval, EPA will check that specific conditions are being followed and that the environmental performance monitoring is being conducted in accordance with the agreed protocols through implementation of a Compliance Plan.

Successful applicants must notify EPA of their intent to conduct the trial before commencing trial activities. This will then allow the EPA to visit the premise to inspect the activities and check that the monitoring is being conducted in accordance with the plan.

Other approvals

RD&D approval does not replace other legal requirements. For example, a planning permit may still be required by the local council. It is the applicant's responsibility to obtain all necessary permits and approvals, including engineering design certificates that accord with the relevant Australian Standard or an equivalent international standard.

If the RD&D trial proves successful and a commercial operation is proposed, a works approval and licence (as required) must be obtained.

Please additionally note that – following completion of the trial activities and during the subsequent RD&D reporting, review period and during any subsequent works approval and licence application periods – the project/process will at times not have the necessary approval(s) to operate. Accordingly, there will be stand-down periods which applicants should plan for.

The proposed purchase, construction and installation of the infrastructure and plant to conduct an RD&D trial is at the applicant's own financial risk. The issuing of an RD&D approval does not guarantee that a works approval and licences will be issued.

Penalties

Section 19G(1) of the Act provides for a maximum court penalty of up to 2400 penalty units for contravening conditions contained in RD&D approvals. The maximum penalty for every day the offence continues is 1200 penalty units.

Further information

Sections 19D to 19G inclusive are the relevant sections of the Act.