

Refuse Derived Fuel—your questions answered

Issued October 2008

EPA 827/08: The Environment Protection Authority (EPA) is currently consulting on the draft Protocol for Refuse Derived Fuel (RDF). During the development of that document a number of questions were asked of the EPA relating to its position on key parameters of RDF. This information sheet is designed to provide stakeholders with the answers to enable them to clearly understand the issues surrounding RDF.

RESPONSES TO QUESTIONS

Is it necessary to include a list of wastes prohibited for use in RDF? This may preclude future RDF opportunities when technology improves.

The EPA has included a list of prohibited wastes to provide clear guidance to proponents on what will not be considered as a RDF. The EPA feels this provides clarity to proponents. The prohibited wastes list is not designed to place unrealistic restrictions on industry but is designed to manage the risk of particular unsuitable waste types proposed as components of RDF. The wastes deemed to be unsuitable for use as RDF are based on:

- risk to the environment or human health, for example scheduled wastes
- supporting the waste hierarchy—wastes with a higher-end use and market according to the accepted waste hierarchy are unsuitable for use within a waste-derived product.

The EPA may review the prohibited wastes list if the need arises.

Is there a need for the EPA to be prescriptive in defining what wastes are suitable for use in RDF?

It was not considered necessary to specifically list which types of waste are suitable for use in RDF as the EPA is prescriptive in the process for assessment and the criteria, including the potential benefits, that must be met for any RDF.

How does the EPA distinguish between incineration and burning of RDF?

For a waste to be deemed an RDF, it needs to meet the requirements of the protocol including being produced to a consistent specification and being a replacement for a fossil fuel.

Alternatively, incineration occurs when waste is burnt for the primary purpose of disposal. In this scenario, the waste will be unprocessed and not produced to a consistent specification, and also requires energy input to maintain the process. While heat or energy recovery from incineration processes is supported by the EPA as good environmental practice, it does not qualify as a RDF.

How does dilution differ from mixing? Why does the EPA support mixing and not dilution?

The EPA proposes that, specifically for RDF:

- dilution is the combining of materials for the purpose of reducing contamination levels
- mixing is the combining of two or more specified materials that have each met the requisite criteria for the purpose of creating a product suitable for beneficial recovery of energy prior to mixing.

The protocol states that each waste stream proposed for mixing must be assessed individually to determine its suitability for use within a RDF. These waste streams can not be diluted to meet the requirements or specified criteria.

Once each waste is deemed as suitable, the waste streams can be mixed to produce an RDF to an agreed and consistent specification.

Why does the protocol focus on both inputs and outputs rather than only outputs from the RDF burning process?

The protocol focuses on both the inputs and outputs as there is a need to understand the inputs to ensure production of RDF is from suitable wastes only and to a certain specification. This enables the proponent and the EPA to better understand the potential risks posed such as emissions from those inputs that require monitoring and control. For example, it is known that chlorine gas can be generated from combustion of some wastes. To minimise the potential for this occurring, these types of waste should be excluded from use in the production of RDF.

As proponents are not expert in assessing the potential of emissions to cause health and environmental harm, can the EPA define acceptable emission limits to assist proponents in the design of their processes?

The EPA requires proponents to assess the potential impacts of the emissions from their proposed RDF. However, this will need to be done by an independent and suitably qualified expert who can undertake a risk assessment. This risk assessment should include aspects such as a literature review; assessment and understanding of the RDF and industry combustion processes; comparisons of emission between the fossil fuel and proposed RDF; and emissions modelling. In addition, emissions can be further assessed by appropriate laboratory testing, and a pilot trial, also to be monitored and assessed by a suitably qualified, experienced and independent individual.

The EPA does not define emission limits in the protocol. Existing legislation such as the *Environment Protection (Air Quality) Policy 1994*, contains mandatory air quality criteria. Proponents should not use these criteria as targets nor design their RDF to meet the emission

levels but instead should endeavour to minimise emissions as far as possible from any proposed RDF.

Who will assess and determine whether emissions and their impacts are acceptable? For example, replacing natural gas with an RDF may result in reduced oxides of nitrogen emissions but increased heavy metal emissions.

The EPA will be responsible for approving any proposals for RDF and may consult with other agencies, including the Department of Health, in making any decisions. To assist with this process, proponents will need to supply a risk assessment and emissions assessment on their proposal. The EPA will then consider each proposal on a case-by-case basis.

The overall environmental performance of a facility should not decrease as a result of the inclusion of RDF in the process. In a situation where some emissions decrease and others increase, the impact of the increased emissions and the overall risk will need to be considered to assess suitability.

Does an RDF production facility and/or an RDF burning/receiving facility require an EPA licence?

As the inputs of RDF are wastes, facilities undertaking RDF production currently need to be licensed as a waste or recycling depot (under Schedule 1 of the *Environment Protection Act 1993*). Since the burning of a RDF will occur as part of an industrial process, these facilities will require an EPA licence for their main activity and specific consideration and approval by the EPA for the use of RDF will need to occur through that licence. In addition, depending on the amount of energy produced, users of RDF may require the activity of fuel burning (under Schedule 1 of the *Environment Protection Act 1993*) to be included on their licence.

The EPA is currently undertaking a review of waste-related activities that require an EPA licence. Through this review, the possibility of creating specific licensed activities¹ for RDF production and RDF combustion will be considered.

How does the EPA plan to deal with brand-new facilities? For example, a power station totally fuelled by RDF?

Proposals for a brand-new facility to be fuelled by RDF will be considered in the same way as an existing facility looking to change to RDF use. Proponents would need to demonstrate the suitability of the RDF for use in their industrial process according to the protocol.

How does the protocol impact on proponents currently using RDF?

For proponents currently using RDF, the EPA will need to determine if equivalent assessment, in line with the protocol has previously been undertaken. If such assessment has not occurred, the EPA will assess the use of RDF at the facility and if necessary, may negotiate an Environment Improvement Program to require equivalent assessment and/or install necessary controls to ensure the protection of the environment and human health.

¹ Under Schedule 1 of the *Environment Protection Act 1993*.

Are there ongoing requirements on proponents once RDF proposals are approved?

An EPA licence, including conditions relating to the operation and monitoring of the facility, will be required once RDF proposals are approved. In addition, the protocol states that reassessment of the RDF is needed at each EPA licence renewal to ensure that the continued use of the RDF is appropriate (eg no higher-end use and market has been developed for the RDF components).

FURTHER INFORMATION

Legislation

Legislation may be viewed on the internet at: <www.legislation.sa.gov.au>

Copies of legislation are available for purchase from:

Service SA Government Legislation Outlet 101 Grenfell Street Adelaide SA 5000	Telephone: Facsimile: Internet: Email:	13 23 24 (08) 8204 1909 < shop.service.sa.gov.au > < servicesa@saugov.sa.gov.au >
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For general information please contact:

Environment Protection Authority GPO Box 2607 Adelaide SA 5001	Telephone: Facsimile: Freecall (country): Internet: Email:	(08) 8204 2004 (08) 8124 4670 1800 623 445 < www.epa.sa.gov.au > < epainfo@epa.sa.gov.au >
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