



CORE CONSULTATIVE COMMITTEE
ON WASTE

ADVICE TO CABINET

ON

**THE SITING OF
HAZARDOUS/INDUSTRIAL WASTE
TREATMENT PRECINCTS**

AND

**THE LEGISLATIVE AND REGULATORY
MODEL TO BE APPLIED TO
HAZARDOUS/INDUSTRIAL WASTE
TREATMENT PRECINCTS**

4 October 2006



The Honourable Mark McGowan MLA
20th Floor
Governor Stirling Tower
197 St Georges Terrace
PERTH WA 6000

Dear Minister

THE CORE CONSULTATIVE COMMITTEE ON WASTE (3C) ADVICE FOR CABINET CONSIDERATION

The Core Consultative Committee on Waste (3C) is pleased to submit to you our fourth set of recommendations on the establishment of new and better hazardous/industrial waste treatment facilities in Western Australia. This advice has been developed following the stakeholder involvement program which was previously endorsed by Cabinet.

This advice represents a consensus view of all members of the 3C, except for Mr Ged Styles – an Industry Representative.

We look forward to discussing our advice in more detail with you at our meeting on 6 October 2006.

Yours sincerely

Mary Askey
Co Chair

Lee Bell
Co Chair

4 October 2006

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FINDINGS AND RECOMMENDATIONS

Findings

1. Both publicly-exhibited sites in the Goldfields meet all of the essential site selection criteria and thus meet the minimum requirements for siting of a hazardous/industrial waste treatment precinct.
2. Both publicly-exhibited sites in the Goldfields meet most of the desirable site selection criteria. In terms of conformance with the site selection criteria alone, the 3C ranks the sites as follows:
 1. Mungari Industrial Estate
 2. KAL024/025.
3. Both publicly-exhibited sites in the Pilbara meet all of the essential site selection criteria and thus meet the minimum requirements for siting of a hazardous/industrial waste treatment precinct.
4. Both publicly-exhibited sites in the Pilbara meet most of the desirable site selection criteria. In terms of conformance with the site selection criteria alone, the 3C ranks the sites as follows:
 1. NW074
 2. Boodarie Industrial Estate.
5. All four publicly-exhibited sites in the South-West Region meet all of the essential site selection criteria and thus meet the minimum requirements for siting of a hazardous/industrial waste treatment precinct.
6. All four publicly-exhibited sites in the South-West Region meet most of the desirable site selection criteria. In terms of conformance with the site selection criteria alone, the 3C ranks the sites as follows:
 1. Avon Industrial Park
 2. (equal) Mount Marshall site and Kemerton Industrial Estate
 4. Bruce Rock site.

Recommendations

1. The Mungari Industrial Estate be selected as the site for the Goldfields hazardous/industrial waste treatment precinct.
2. The NW074 site be selected as the site for the Pilbara hazardous/industrial waste treatment precinct.
3. Either the Avon Industrial Park or the Mount Marshall site be selected as the site for the South-West hazardous/industrial waste treatment precinct.
4. Hazardous/Industrial Waste Treatment Precincts be established and regulated under new stand-alone legislation, which includes specific provision for the following:
 - protecting the essential three kilometre public acceptability buffer from sensitive land uses;
 - prohibiting incineration and landfilling in precincts and their buffers;
 - defining hazardous wastes in accordance with the European Union Hazardous Waste Directive and Hazardous Waste Catalogue;

- directing hazardous waste to be treated in precincts within the framework of the 3C's "Decision Tree for Waste Treatment Options in Western Australia";
 - the Technology Suitability Criteria to apply to all facilities treating hazardous waste;
 - the Site Selection Criteria to apply to any future hazardous/industrial waste treatment precincts;
 - the requirement for a monitoring committee for each precinct with the capacity to consider facilities establishing, operating and decommissioning in precincts. The terms of reference and membership of the Committees should be determined on a precinct-specific basis; and
 - mechanisms to direct all hazardous waste treatment proposals to the appropriate Decision-Making Authority.
5. Additional non-legislative mechanisms, including a Code of Practice and resourcing, be implemented to provide guidance to ensure:
 - facilities within precincts are operating in accordance with the Technology Suitability Criteria, and
 - training and staff development within the relevant government agencies is undertaken to enhance Government regulation of waste treatment facilities.
 6. A maximum of three years from the enactment of legislation be allowed for existing industry adjustment to the new hazardous/industrial waste management framework.
 7. The principles to guide the development of criteria for exempting a particular hazardous waste stream from being treated in a hazardous/industrial waste precinct be that the exemption:
 - be demonstrated to achieve a better public health and environmental protection outcome;
 - not be granted on the basis of minimising costs to the generator; and
 - be based on an open and transparent process.
 8. The Department of Environment and Conservation be the lead agency for any approvals in an exemption process, based upon criteria developed through consultation with industry and community stakeholders.
 9. All exemptions of specific hazardous wastes from treatment in a hazardous/industrial waste treatment precinct be reviewed every two years.
 10. Exemption applications and the reasons for granting exemptions be published, and be subject to stakeholder consultation and to a statutory appeals process.
 11. Precinct Monitoring Committees be Ministerially-appointed committees, and of a general composition consistent with that outlined in Attachment H. Committee members should be entitled to receive sitting fees and additional resources should be available for providing executive support and independent technical assistance.

1. INTRODUCTION

The Core Consultative Committee on Waste's (3C's) primary role has been to facilitate a stakeholder involvement program to establish new and better hazardous/industrial waste treatment facilities in WA, within a broader framework of minimising hazardous waste generation and regulating hazardous waste more effectively.

The 3C commends the Government for establishing and supporting the 3C process and endorsing all recommendations we have made to Cabinet to date.

We submit the following advice for Cabinet endorsement in accordance with the agreed decision-making arrangements for the Stakeholder Involvement Program for Siting Hazardous/Industrial Waste Precincts. This advice is broken into two parts:

1. Recommended sites for locating hazardous/industrial waste treatment precincts in the Pilbara, Goldfields and South-West Regions, following the public exhibition of potential sites between October 2005 and March 2006; and
2. Recommendations on the legislative and regulatory framework for establishing, controlling and managing hazardous/industrial waste treatment precincts in Western Australia, following consultation with stakeholders in June/July 2006. This consultation was based on the Hazardous/Industrial Waste Precinct Coordinating Group's *Discussion Paper on A Precinct Management Model (May 2006)* and the 3C's initial views on that Paper.

2. PREVIOUS 3C ADVICE TO CABINET

In October 2003, Cabinet endorsed 3C recommendations on:

- establishing criteria to identify suitable technologies for future hazardous/industrial waste treatment facilities in Western Australia;
- locating suitable sites for establishing hazardous/industrial waste treatment precincts;
- forming a Co-ordinating Group with senior membership from relevant Government Agencies; and
- an extensive stakeholder involvement program.

In August 2004, Cabinet endorsed 3C recommendations on:

- Technology Suitability Criteria (Attachment A);
- Site Selection Criteria (Attachment B); and
- incineration¹ and landfilling of hazardous wastes being unacceptable technologies for any hazardous/industrial waste treatment precincts established by this process.

In April 2005, Cabinet gave in-principle endorsement for 3C recommendations on:

- adopting the European Union's (EU's) classification of hazardous waste, including both the absolute and mirror entries; and
- the Decision Tree (Attachment C), which details the 3C recommendations on how the classification should be adopted within the existing waste management framework in WA.

The in-principle endorsement was given on the understanding that Government would consult with industry and the 3C on a precinct model that included:

- legislation to create designated precincts, protect buffers and ensure that hazardous wastes must be treated in precincts;
- a preference for Government to own and develop precincts, with land provided on long-term leases to private operators; and
- possible Government provision of some incentives to facilitate the relocation of hazardous waste treatment companies to precincts.

In April 2005 Cabinet also endorsed a revision to the 3C process, which allowed the 3C to seek stakeholder comments on the Government precinct model. A paper titled "Hazardous/Industrial Waste Precinct Coordinating Group Discussion Paper on a Precinct Regulatory Model" was prepared by the Coordinating Group in response to the April 2005 decision.

The 3C's consultation processes included a five month public comment period on the exhibited sites and a six week comment period on the precinct regulatory model. The 3C held stakeholder information sessions and workshops in all areas which had exhibited sites and in the metropolitan area.

¹ As defined under the European Union's Incineration Directive, which defines incineration as the "thermal treatment of wastes with or without recovery of the combustion heat generated and includes incineration by oxidation of waste as well as other thermal treatment processes such as pyrolysis, gasification or plasma processes in so-far as the substances resulting from the treatment are subsequently incinerated.

3. THE NEED FOR PRECINCTS

The 3C process was born out of escalating community pressure on hazardous waste treatment operators. This pressure was in response to the Waste Control fire at Bellevue in 2001, where emissions blew over residential areas. The facility had not been tightly regulated and had been permitted to operate in close proximity of residents. Issues surrounding the Government's regulation of the facility and planning problems that permitted residents to live close by were identified in the Bellevue Hazardous Waste Fire Parliamentary Inquiry.

In 2002-2003, community pressures were again brought to bear around the Brookdale Liquid Waste Treatment Facility, resulting in the closure of this facility. Areas defined as 'sensitive land uses' were within 1km of the site.

The key reason industry members on the 3C chose to enter the 3C program was because they wanted to see mechanisms put in place to avert the community pressures resulting in Brookdale-style closures. This closure had caused industries generating hazardous wastes to question where their wastes could be treated once the Brookdale facility had been closed, and raised more general concerns about sovereign risk.

The key reason that community/environment members chose to enter the process was to ensure issues affecting communities around sites such as Bellevue and Brookdale were not repeated.

Identifying sites that complied with siting criteria developed by consensus between community/environment, industry, unions and local government stakeholders was seen as offering the best opportunity to secure waste treatment sites and practices acceptable to the community.

It was clear that any sites identified through the 3C process would need to have protected buffers to avert incompatible buffer uses similar to those at Brookdale, Bellevue, Yarloop, Wattleup and Hope Valley.

For a strategic outcome to be reached from the 3C process, including identifying suitable sites for hazardous/industrial waste treatment facilities with protected buffers, the waste treatment needs of industry need to be met in a way that is acceptable to other stakeholders. In this regard, the model of waste precincts is the preferred model of the 3C.

Changes have occurred to the hazardous/industrial waste treatment industry and in the regulatory framework for these facilities since the 3C program began in 2003. The waste treatment sector has expanded or modified activities to incorporate waste previously treated at Brookdale. However, there is still insufficient hazardous waste treatment capacity in the South-West Region and some waste streams are being transported long distances to Kalgoorlie, Port Hedland and the Eastern States for treatment. Community concerns are still being expressed over existing hazardous waste treatment facilities in WA. The fundamental reasons for adopting a hazardous/industrial waste treatment precinct model remain and can be expected to exist for the foreseeable future as population pressures increase in Western Australia.

The waste treatment market in WA is small on both the national and international scale. In this context, it is unlikely that many hazardous waste streams could support multiple treatment operators in WA. It is also very unlikely that any treatment companies operating in precincts in accordance with the Cabinet-endorsed Technology Suitability Criteria could compete on an equal financial footing with any companies operating outside waste precincts to lesser technology standards. Therefore, in order to achieve the outcome of new and better hazardous/industrial waste treatment facilities in WA it will be essential that within a defined period existing waste treaters cease to operate outside precincts.

Despite changes following the Robinson and Welker Reviews concerns about the content and enforceability of Licences and Ministerial Conditions remain. Feedback from the consultation process indicates that there is a widespread view that enforcement and compliance verification by the Department of Environment and Conservation (DEC) is inadequate. Ministerial Conditions and Licence conditions for precinct operations need to be legally enforceable and actively enforced.

4. RECOMMENDATIONS ON SITES FOR HAZARDOUS/INDUSTRIAL WASTE TREATMENT PRECINCTS

4.1 Basis for Decision Making

In 2003 and 2004, the 3C worked with stakeholders to devise a set of site selection criteria for identifying possible sites suitable for hazardous/industrial waste treatment precincts. The siting criteria developed through this process were presented to, and endorsed in full, by Cabinet in August 2004.

Between 1 September and 31 December 2004, stakeholders were invited to nominate sites considered to meet the site selection criteria. Of the 936 sites that were nominated, 920 were nominated by the State Government and 16 by non-government stakeholders. This list of sites was reduced through a series of steps in which they were evaluated against the site selection criteria. In the early stages, this was based entirely upon a computer-based Geographic Information System (GIS) process; in the latter stages this was supplemented with a range of other information sources. The nominated sites were reduced to eight potential hazardous/industrial waste treatment precinct sites, two in each of the Pilbara and Goldfields Regions and four in the South-West Region. The 3C publicly exhibited the eight sites from 1 November 2005 to 31 March 2006 and sought information from stakeholders on the conformance of the sites against the site selection criteria. The 3C ranked the sites in each of the three Regions based on an assessment of the sites against these criteria. These 3C rankings form the primary basis for recommendations to Cabinet of sites to select for establishing hazardous/industrial waste treatment precincts in each Region.

A range of additional ‘non-site-selection-criteria’ factors have also been raised directly during the public consultation process, including via written submissions.

While these factors were not used by the 3C in arriving at site rankings, they are summarised in the attached summary of submissions on siting (Attachment D). The key issues raised in submissions are brought to Cabinet’s attention for its consideration in deciding preferred sites to establish hazardous/industrial waste treatment precincts.

4.2 Goldfields Exhibited Sites

Both of the publicly-exhibited sites in the Goldfields are assessed as meeting all of the essential site selection criteria (see Table 1).

Finding 1

Both publicly-exhibited sites in the Goldfields meet all of the essential site selection criteria and thus meet the minimum requirements for siting of a hazardous/industrial waste treatment precinct.

Both Goldfields sites are considered to fail Desirable Site Selection Criterion 24: *Climate/Landform* because of the frequency of temperature inversions in the Goldfields, particularly during winter.

The 3C has more confidence in the conformance of the Mungari site with the site selection criteria compared to KAL024/025. There is a relatively large amount of information available for the Mungari site as a consequence of Environment Impact Assessment (EIA) approvals having been obtained for the site. Apart from Criterion 24, Mungari is assessed as meeting all of desirable site selection criteria.

Table.1 Conformance of Goldfields and Pilbara sites with the site selection criteria.

(✓ meets criterion; ✗ does not meet criterion; - unable to be assessed against criterion)

| Essential Criteria | GOLDFIELDS | | PILBARA | |
|------------------------------------|------------|----------------|----------|-------------------------------|
| | Mungari | KAL024/ 025 | Boodarie | NW072/074/ 075 |
| Floodplains | ✓ | ✓ | ✓ | ✓ |
| Waterways | ✓ | ✓ | ✓ | ✓ |
| Public Drinking Water Supply Areas | ✓ | ✓ | ✓ | ✓ |
| Hydraulic Conductivity of Soil | ✓ | ✓ | ✓ | ✓ |
| Hydrogeology | ✓ | ✓ | ✓ | ✓ (074/075) ✗ (072) |
| Geological Stability | ✓ | ✓ | ✓ | ✓ (074) ✗ (075) ✗ (072) |
| Threatened Species | ✓ | ✓ | ✓ | ✓ |
| Conservation Value | ✓ | ✓ | ✓ | ✓ |
| Bush Forever | ✓ | ✓ | ✓ | ✓ |
| Public Acceptability | ✓ | ✓ | ✓ | ✓ |
| Heritage Value | ✓ | ✓ | ✓ | ✓ |
| Local Traffic | ✓ | ✓ | ✓ | ✓ |
| Legislative Jurisdiction | ✓ | ✓ | ✓ | ✓ |
| Service Access | ✓ | ✓ | ✓ | ✓ |
| Desirable Criteria | | | | |
| Waterways | ✓ | ✓ | ✓ | ✓ |
| Groundwater Level | ✓ | - | ✓ | ✓ |
| Constructed Drainage | ✓ | ✓ | ✓ | ✓ |
| Acid Sulfate Soils | ✓ | - | - | - |
| Topography | ✓ | ✓ | ✓ | ✓ |
| Threatened Species | ✓ | ✓ | ✓ | ✓ |
| Public Acceptability | ✓ | ✓ | ✓ | ✓ |
| Major Transport Routes | ✓ | ✓ | ✓ | ✓ |
| Emergency Services | ✓ | ✓ | ✓ | ✓ |
| Proximity to Waste | ✓ | ✓ | ✓ | ✓ |
| Land Ownership | ✓ | ✓ | ✓ | ✓ |
| Employment | ✓ | ✓ | ✓ | ✓ |
| Climate/Landform ² | ✗ | ✗ | - | - |

²No confident data-based assessment can be made of exhibited sites against Desirable Criterion 24: *Climate/Landform* due to insufficient information being available regarding the frequency, duration and location of temperature inversions in Western Australia. Temperature inversions occur throughout WA particularly in many inland southern areas, but little hard data are available regarding their frequency, severity and duration. For this reason, until more complete scientific data regarding temperature inversions is available for the whole of Western Australia, the 3C recommends that temperature inversions are not included as a criterion to assess site suitability in the future, if similar processes to that undertaken by the 3C are used.

There was insufficient information to establish the conformance of KAL024/025 with Desirable Criterion 4: *Groundwater Level* and Desirable Criterion 9: *Acid Sulfate Soils*.

Finding 2

Both publicly-exhibited sites in the Goldfields meet most of the desirable site selection criteria. In terms of conformance with the site selection criteria alone, the 3C ranks the sites as follows:

- 1. Mungari Industrial Estate**
- 2. KAL024/025**

Recommendation 1

The Mungari Industrial Estate be selected as the site for the Goldfields hazardous/ industrial waste treatment precinct.

4.2.1 Stakeholder Views

Stakeholders have raised a number of factors that are additional to the site selection criteria. Some are related to the site selection criteria, others are factors unrelated to the criteria but which may be seen as enhancing or diminishing the case for, and the practicality of selecting particular sites for a hazardous/industrial waste treatment precinct. Of these, the 3C brings the following key issues to Cabinet's attention for consideration in selecting a site in the Goldfields:

4.2.1.1 Mungari Industrial Estate

- There is support for establishing a hazardous/industrial waste treatment precinct at the site from the Shire of Coolgardie and the Mungari Industrial Park Coordinating Committee.
- The Mungari site is the only one of the eight exhibited sites that has had a native title determination made. The site was the subject of one of the state's first compulsory acquisitions of native title (Application No:WF97/04). The judgement laid down certain conditions relating to the development and operation of the Industrial Estate and for the involvement of Aboriginal people, including employment, which will have relevance to any enterprises established in the Estate. While the judgement found that the evidence for native title rights and interests was weak and generally limited to hunting and gathering activities undertaken on an infrequent basis, it concluded "that the act of compulsory acquisition does not preclude the exercise of native title rights over the land until a subsequent extinguishing or inconsistent act occurs³."
- The native title decision over the Mungari site sets out conditions to facilitate the participation of the native title parties in employment and training opportunities in the development and maintenance of the Mungari Industrial Estate and in the establishment and operation of industries within the Estate.
- The site is covered by native vegetation, which would require clearing.

³The application of the non-extinguishment principle means that native title rights may be fully exercised until such time as the Government party takes steps which are inconsistent with the existence of native title. Condition 1 in the judgement expressly permits "the exercise of some native title rights until the Government party develops the site and disposes of the land to third parties". In this vein the judgement also states that "compensation is better left to determination once native title has been determined and the full impact of the Park proposal is known".

4.2.1.2 KAL024/025

- The site falls within land subject to the Nickel Refinery (Western Mining Corporation Limited) Agreement Act 1968. Under this agreement, Nickel West is entitled to purchase additional land adjacent to the smelter site if it can demonstrate the need. Nickel West also has first right of refusal if the State intends to sell it to another party, provided it can demonstrate need. Land adjacent to the smelter boundary apparently has an important role to play in future operations. While Nickel West does not require land adjacent to the smelter immediately, it is highly likely that it will in the future. The submission from Nickel West argues that if the KAL024/KAL025 site is selected as the location for future waste treatment facilities, the smelter's future operations would be constrained, with significant economic and social impacts on the local community
- The City of Kalgoorlie-Boulder opposes the establishment of a hazardous/industrial waste treatment precinct at the site.
- Mineral tenements are currently held over the entire site, and it is an active exploration and prospecting area.
- The site is located within the buffer zone of the smelter. SO₂ emissions from the smelter would raise OH&S issues for potential precinct workers.
- The site is covered by native vegetation, which would require clearing.

4.3 Pilbara Exhibited Sites

Parts of both of the publicly-exhibited sites in the Pilbara meet all of the essential site selection criteria (see Table 1). Three contiguous parcels of land near Karratha (NW072/074/075) were placed on public exhibition as a single site. After further analysis and consultation, only one site (NW074) is assessed as meeting all the essential site selection criteria. NW075 is generally underlain by gilgaied clay (crab hole country) which is prone to swelling and sinking and is assessed as failing this essential criterion. The complex hydrogeology of fractured bedrock and the radial nature of the groundwater flow on NW072 resulted in this site failing this essential criterion in the GIS analysis. However, NW074 (and probably some adjoining parts of NW072) is underlain by more stable geology and contains sufficient area assessed as meeting this criterion.

Finding 3

Both publicly-exhibited sites in the Pilbara meet all of the essential site selection criteria and thus meet the minimum requirements for siting of a hazardous/industrial waste treatment precinct.

Both the Boodarie Industrial Estate and NW074 meet all desirable site selection criteria able to be assessed. Desirable Criterion 9: *Acid Sulfate Soils* and Desirable Criterion 24: *Climate/Landform* were unable to be assessed due to insufficient information being available.

On the basis of the site selection criteria, there is little to separate the two sites. However, the Karratha site is closer to where the majority of future hazardous/industrial waste generation in the Pilbara is projected to occur.

Finding 4

Both publicly-exhibited sites in the Pilbara meet most of the desirable site selection criteria. In terms of conformance with the site selection criteria alone, the 3C ranks the sites as follows:

1. **NW074**
2. **Boodarie Industrial Estate**

Recommendation 2

The NW074 site be selected as the site for the Pilbara hazardous/industrial waste treatment precinct.

4.3.1 Stakeholder Views

Stakeholders have raised a number of factors that are additional to the site selection criteria. Some are related to the site selection criteria, others are factors unrelated to the criteria but which may be seen as enhancing or diminishing the case for, and practicality of selecting particular sites for a hazardous/industrial waste treatment precinct. Of these, the 3C brings the following key issues to Cabinet's attention for consideration in selecting a site in the Pilbara:

4.3.1.1 NW074

- The site is located close to where the majority of future Pilbara hazardous/industrial waste is expected to be generated.
- This is an undeveloped "greenfields" site, for which no detailed environmental studies have been undertaken but it would be subject to an EIA process at the end of the 3C process, as would any selected site.
- The Shire of Roebourne supports the selection of the site as a hazardous/industrial waste treatment precinct.
- The site is covered by native vegetation, which would require clearing.

4.3.1.2 Boodarie Industrial Estate

- There is local opposition to the establishment of a precinct in the Boodarie Estate and many stakeholders and the Town of Port Hedland have argued for a more remote site.
- The Estate is already zoned for industrial use.
- Boodarie has undergone Environmental Impact Assessments and obtained Ministerial approvals for use as an industrial estate.
- The site is covered by native vegetation, which would require clearing.
- Areas of the Boodarie Estate around the exhibited site (but not the site itself) are subject to tidal surge and flooding.
- Concern has been expressed over the possible level of regulatory oversight, given that the Department of Environment and Conservation regional office is in Karratha.

4.4 South-West Region Exhibited Sites

All four publicly-exhibited sites in the South-West Region are assessed as meeting all of the essential site selection criteria.

Finding 5

All four publicly-exhibited sites in the South-West Region meet all of the essential site selection criteria and thus meet the minimum requirements for siting of a hazardous/industrial waste treatment precinct.

A comparative assessment of the desirable site selection criteria to rank the sites against the criteria is provided below. A summary of the conformance of the four south-west sites with the site selection criteria is presented in Table 2.

The Avon Industrial Park meets all desirable criteria with the exception of Desirable Criterion 2: *Waterways* and Desirable Criterion 4: *Groundwater Level*. While the desirable waterways criterion is not complied with, the natural drainage systems within the Avon Industrial Park are considered to be highly degraded.

The other desirable criterion not met at the Avon site is the requirement for groundwater to be greater than 5m below the surface. Groundwater within the site is intersected approximately 2m below ground level. Groundwater also flows to the surface at some places between 230-240m above sea level, although a large portion of the site is above the 240m contour level.

It would be preferable for this criterion to be met; however, the site meets the essential groundwater criterion allowing for engineering controls and monitoring to provide groundwater protection.

Two areas within the Kemerton Industrial Estate (referred to here as 'KIE East' and 'KIE West') are of sufficient size to accommodate a hazardous/industrial waste treatment precinct. These sites are shown in Figure 7, following the Attachments to this Advice. KIE East does not meet the desirable site selection criterion for waterways because it is within 1000m of ephemeral Conservation Category wetlands and within 250m of degraded ephemeral wetlands. KIE East is further assessed as not meeting the desirable site selection criteria for constructed drainage systems and depth to groundwater. KIE West does not meet the desirable criterion for topography. These constraints, together with the inability of both KIE East and KIE West to meet the 6km public acceptability buffer leads the 3C to rank Avon higher than Kemerton against the site selection criteria.

Of all the South-West sites, Kemerton best meets Essential Criterion 22: *Equity/Employment*.

In comparing the Avon and Mount Marshall sites for ranking purposes, the main desirable site selection criteria not met by the Mount Marshall site are proximity to waste-generating areas and access to off-site emergency services. The site is approximately 180km, as the crow flies, from the edge of the Metropolitan Region Scheme and is 273km by road from the Perth CBD.

While the Mount Marshall site is privately-owned the owners have indicated to the 3C that they are willing to sell it to the State. This is not assessed as being a significant constraint.

The Mount Marshall site is more than 25 minutes from offsite emergency services. While all hazardous/industrial waste treatment precincts should have adequate on-site emergency response capabilities, the current state of off-site emergency response in the Shire of Mount Marshall is seen as a more significant constraint than those applying to the Avon site.

Like the Mount Marshall site, the Bruce Rock site does not meet the desirable site selection criteria related to proximity to waste-generating areas and access to offsite emergency services. However, both the Bruce Rock and the Mount Marshall sites have the benefit of complying with the desirable 6km public acceptability buffer.

The Bruce Rock site is not within 25 minutes of adequate offsite emergency services. It is approximately 170km, as the crow flies, from the edge of the Metropolitan Region Scheme and approximately 250km by road from the Perth CBD.

Mount Marshall is ranked ahead of Bruce Rock because the latter does not meet the desirable waterways criterion. Applying the desirable 250m to an ephemeral waterway on the Bruce Rock site would leave insufficient land remaining on the site for a hazardous/industrial waste treatment precinct. In addition at the Mount Marshall site, unlike the Bruce Rock site, there are no houses

within the essential 3km public acceptability buffer. The Mount Marshall site is the only one of the four south-west sites with no houses within the essential 3km public acceptability buffer⁴.

The 3C considers minimum conformance with Desirable Criterion 22: *Equity/Employment* as being within 50km of a government school providing education to Year 12. At the time of writing this Cabinet advice, the Mount Marshall site is not within 50km of a government school providing education to Year 12. However, the Mukinbudin District High School, located 28km from the site, will commence classes for year 11 and 12 students in 2007, improving the site's conformance with the equity/employment criterion from next year.

Kemerton and Mount Marshall are ranked in equal second place against the site selection because the sites were judged as equally competitive against different desirable criteria. While Kemerton ranks higher against the criteria relating to proximity to waste, emergency services and equity and employment, Mount Marshall ranks higher against the criteria relating to natural waterways and public acceptability.

⁴ This buffer allows for the isolated individual houses to occur within 3km of a precinct, provided that none of the following occur within the buffer: areas zoned residential, hotels, motels and hostels, caravan parks, hospitals and nursing homes, schools and other educational establishments, shopping centres, some public buildings, and indigenous communities.

Table.2 Conformance of the four south-west sites with the site selection criteria.

(✓ meets criterion; ✗ does not meet criterion; - unable to be assessed against criterion)

| Essential Criteria | Avon | Kemerton | Mt Marshall | Bruce Rock |
|------------------------------------|------------------------------------|----------------------|--------------------|-------------------|
| Floodplains | ✓ | ✓ | ✓ | ✓ |
| Waterways | ✓ | ✓ | ✓ | ✓ |
| Public Drinking Water Supply Areas | ✓ | ✓ | ✓ | ✓ |
| Hydraulic Conductivity of Soil | ✓ | ✓ | ✓ | ✓ |
| Hydrogeology | ✓ | ✓ | ✓ | ✓ |
| Geological Stability | ✓ | ✓ | ✓ | ✓ |
| Threatened Species | ✓ | ✓ | ✓ | ✓ |
| Conservation Value | ✓ | ✓ | ✓ | ✓ |
| Bush Forever | ✓ | ✓ | ✓ | ✓ |
| Public acceptability | ✓ | ✓ | ✓ | ✓ |
| Heritage Value | ✓ | ✓ | ✓ | ✓ |
| Local Traffic | ✓ | ✓ | ✓ | ✓ |
| Legislative Jurisdiction | ✓ | ✓ | ✓ | ✓ |
| Service Access | ✓ | ✓ | ✓ | ✓ |
| Desirable criteria | | | | |
| Waterways | ✗ | ✓ (West) ✗ (East) | ✓ | ✗ |
| Groundwater Level | ✗ | ✓ (West) ✗ (East) | ✓ | ✓ |
| Constructed drainage | ✓ | ✓ (West) ✗ (East) | ✓ | ✓ |
| Acid Sulfate Soils | ✓ | ✓ | ✓ | ✓ |
| Topography | ✓ | ✓ (East) ✗ (West) | ✓ | ✓ |
| Threatened Species | ✓ | ✓ | ✓ | ✓ |
| Public Acceptability | ✓ (21 ha in the eastern part only) | ✗ | ✓ | ✓ |
| Major Transport Routes | ✓ | ✓ | ✓ | ✓ |
| Emergency Services | ✓ | ✓ | ✗ | ✗ |
| Proximity to Waste | ✓ | ✓ | ✗ | ✗ |
| Land Ownership | ✓ | ✓ | ✗ ⁵ | ✓ |
| Equity/Employment | ✓ | ✓ | ✓ ⁶ | ✓ |
| Climate/Landform ² | - | - | - | - |

⁵The owners have indicated that they are willing to sell the land to the State Government.

⁶ The 3C has considered minimum conformance with this criterion as being within 50km of a government school providing education to Year 12.

Finding 6

All four publicly-exhibited sites in the South-West Region meet most of the desirable site selection criteria. In terms of conformance with the site selection criteria alone, the 3C ranks the sites as follows:

- 1. Avon Industrial Park**
- 2. (equal) Mt Marshall site and Kemerton Industrial Estate**
- 4 Bruce Rock site**

4.4.1 Additional Criteria-Related Factors

The 3C wishes to draw Cabinet's attention to several additional criteria-related factors for the south-west sites. Overall, the 3C believes these additional factors strengthen the case for the Mount Marshall site to be more highly considered as a site for a hazardous/industrial waste precinct than from the outcome of ranking against the site selection criteria alone. Similarly, there are also additional factors that weaken the case for Kemerton being considered as a precinct site. The factors align very closely to objectives sought from siting criteria, specifically the protection of human health and the environment, and publicly acceptability.

With respect to the Mount Marshall site the additional factors are:

1. Mt Marshall is the only exhibited site in the South-West Region that has no houses within the 3km essential public acceptability buffer. In the Pilbara and Goldfields region none of the publicly-exhibited sites have anyone living within the essential 3km buffer⁷. In terms of public acceptability it would be advantageous if Cabinet were able to select three hazardous/industrial waste treatment precinct sites without any houses in their buffer zones.
2. Of the publicly-exhibited South-West sites only the Mt Marshall and Bruce Rock sites entirely meet the 6km desirable buffer distance to sensitive land uses. At the Avon Industrial Park 21ha of land to the east of the site is compliant.
3. The Mount Marshall site is the only one of the eight publicly-exhibited sites across the three regions containing no natural or remnant vegetation which could require clearing to establish a precinct.
4. While the Mount Marshall site is currently privately owned, the owners have indicated their preparedness to sell it to the Government at market price.
5. We are aware of suggestions that Mt Marshall is too remote from the metropolitan area as it is approximately 270km by road to the Perth CBD. The major likely change from establishing three regional waste treatment precincts is to have more waste from the South-West Region (much of which is currently being treated in Kalgoorlie and Port Hedland) treated in the South West. Kalgoorlie is twice as far from Perth (570km) as the Mount Marshall site while Port Hedland is six times as far away.
6. The Mount Marshall site is the only one of the eight publicly-exhibited sites with strong support for its use as a hazardous/industrial treatment waste precinct from the community surrounding it⁸.

⁷ The most common concern expressed to the 3C during the past three years has been the failure of Government Agencies to regulate the waste treatment industry effectively. The lack of detail in the Coordinating Group's discussion paper on a precinct management model has heightened this concern and led to expressed desires of increased separation of hazardous waste treatment from houses.

⁸ We note that local community acceptance was not a siting criterion for the 3C process. While there have been numerous attempts to site hazardous waste treatment plants by public involvement processes in Australia, we do not know of any previous occasion when a local community has supported providing a site for such a plant. In the early stages of the stakeholder involvement

With respect to the Kemerton Industrial Estate the additional factors are:

1. The portion of the estate that ranked equal second with Mount Marshall exists as an 'island' of land that conforms with most of the siting criteria that is surrounded by a much larger area of high conservation and ecological values, including protected wetlands.
2. The site contains dense natural vegetation which would require clearing.
3. Kemerton is close to areas of relatively fast-growing high-density population. Kemerton meets this community expectation of separation between precincts and residential areas less well than all other publicly-exhibited sites.
4. The balance of rainfall and evaporation rates is likely to render evaporation ponds impractical as a means of removing wastewater at Kemerton. The means of dealing with wastewater at a possible Kemerton precinct has not been resolved.

On the basis of the above analysis and the stakeholder views on the South-West Region exhibited sites summarised below it is the 3C's view that no further consideration should be given to the Bruce Rock site or the Kemerton Industrial Estate as potential hazardous/industrial waste treatment precincts. It is recommended that the Government select either the Avon Industrial Park or the Mount Marshall site for the South-West hazardous/industrial waste treatment precinct.

Recommendation 3

Either the Avon Industrial Park or the Mount Marshall site be selected as the site for the South-West hazardous/industrial waste treatment precinct.

4.4.2 Stakeholder Views

Stakeholders have raised a number of factors that are additional to the site selection criteria. Some are related to the site selection criteria, others are factors additional to the criteria but which may be seen as enhancing or diminishing the case for, and practicality of, selecting particular sites for a hazardous/industrial waste treatment precinct. Of these, the 3C brings the following key issues to Cabinet's attention for consideration in selecting a site in the South-West Region:

4.4.2.1 Avon Industrial Park (AIP)

- This is the closest site to major waste generating-areas as site is approximately 50km from the edge of the Metropolitan Region Scheme.
- The AIP has undergone Environmental Impact Assessments and obtained Ministerial Approvals for use as an industrial estate.
- A Ministerial condition applying to AIP requires the AIP Community Management Committee to ensure development of the Park remains compatible with community aims and objectives. Submissions to the 3C suggest that a precinct is unlikely to be considered compatible with community aims and objectives.
- There is strong opposition from the local community, including the Shire of Northam and the Town of Northam.
- The potential site within the AIP is mainly cleared of native vegetation.
- The AIP, outside the potential site, contains some high conservation value vegetation.

program the 3C discussed for some time whether local community acceptance should be included in the siting criteria but decided against it as history suggested no sites would be likely to emerge from this process; if that were so, the public need for new and better hazardous waste treatment facilities within a broader framework of hazardous waste minimisation and better regulation of hazardous would be thwarted. The fact that, as a result of a public consultation process, for the first time in Australia there is a local community willing to support the establishment of a hazardous/industrial waste treatment precinct is a significant accomplishment of the 3C process.

- There is local concern regarding seismic activity with the Avon Valley and the proximity of the AIP to Meckering. However, following assessment of the seismic hazard and advice from Geoscience Australia, this concern is not shared by the 3C.

4.4.2.2 Mount Marshall

- A precinct at this location has the support of the local community and Shire.
- The local population is unlikely to be able to provide adequate workforce for a precinct.
- This is an undeveloped “greenfields” site, for which no detailed environmental studies have been undertaken but would be subject to an EIA process at the end of the 3C process, as would any selected site.
- The site is fully cleared of native vegetation.
- The site best meets the public acceptability criterion (buffer zone distance) of all the exhibited south-west sites.
- The site is not adjacent to any conservation value land.
- The site is approximately half the distance of Kalgoorlie (where most of the State’s liquid waste is currently treated) from the metropolitan area.

4.4.2.3 Kemerton Industrial Estate (KIE)

- There is strong opposition from local community and the Shire of Harvey.
- The site is within 150km of the majority of waste-generating areas in the south-west.
- The KIE has undergone Environmental Impact Assessments and obtained Ministerial Approvals for use as an industrial estate.
- Population density around the site is high and continues to grow at a rapid rate. Stakeholders have expressed strong concerns that any precinct should be sited well away from any population centres.
- The portion of the KIE that best meets the site selection criteria is covered by native vegetation, which would require clearing.
- The ability to dispose of wastewater from treatment facilities within a precinct at this site has not been resolved. However, the presence of industry in the KIE may allow for the reuse of this wastewater as industrial process water subject to negotiation.
- Many areas of the KIE around the criteria-compliant portion of the exhibited site (but not the site itself) are subject to inundation.
- While KIE West meets the criteria for environmental factors, there are high conservation values in the ecosystems surrounding the criteria-compliant portion of the site. These include Environmental Protection Policy wetlands and migratory birds subject to International Agreements.
- The KIE is underlain by Spearwood and Bassendean sands with high permeability and any spills close to precincts or in unbunded sections of a precinct could potentially contaminate the local superficial aquifer. Some interconnection between the superficial aquifer and the Leederville aquifer beneath has been identified.

4.4.2.4 Bruce Rock

- There is strong local opposition to a precinct at the site.
- The site is located in an area of the State with very limited intact remnant vegetation. 10-20 hectares of this 25 hectare site would require clearing of native vegetation.
- The site is adjacent to Jura Nature Reserve and part of a wildlife corridor.
- The local population is unlikely to be able to provide workforce for a precinct.
- This is an undeveloped “greenfields” site, for which no detailed environmental studies have been undertaken but would be subject to an EIA process at the end of the 3C process, as would any selected site.

5. RECOMMENDATIONS ON THE PRECINCT REGULATORY MODEL

This Section outlines the 3C's position on the Coordinating Group's Discussion Paper and more generally presents the 3C's view on how hazardous/industrial wastes should be regulated and managed. These comments take into account comments received through our stakeholder involvement program and are related to the broader framework of minimising hazardous waste generation and regulating hazardous waste more effectively.

The 3C has considered the Discussion Paper and consulted over six weeks (26 May to 7 July 2006) with stakeholders through regional workshops and receipt of written submissions. Workshops were held in Kalgoorlie, Karratha, Port Hedland, Bencubbin, Bruce Rock, Northam, Bunbury and Perth. Attachment E provides a summary of the 29 written submissions received, along with a summary of comments made at each workshop.

The 3C was concerned about a lack of specificity and detail in the Discussion Paper. Because of the widely-expressed and continuing community concerns over the regulation of hazardous waste which had been expressed throughout the stakeholder involvement program over the past three years, the 3C believed that a lack of detail in the Discussion Paper would be likely to reinforce those concerns. We advised the Coordinating Group that presenting the Discussion Paper forwarded to us as a basis for public consultation could be damaging to the Government's credibility. However, the Coordinating Group decided to proceed with the release of the paper with minor amendment.

The concerns of the 3C were widely reiterated by stakeholders at the workshops and in written submissions. In general, stakeholders supported the objectives for legislation outlined in the Discussion Paper but felt that they lacked necessary detail and did not include some key elements which had already been agreed through the 3C process, including significant matters that had already been agreed by Cabinet.

The 3C generally supports the objectives presented in the Discussion Paper on a Precinct Regulatory Model (Attachment F), provided they are amended to ensure the following outcomes are incorporated explicitly in legislation:

1. protecting the essential three kilometre public acceptability buffer from sensitive land uses;
2. prohibiting incineration and landfilling in precincts and their buffers;
3. defining hazardous wastes in accordance with the European Union Hazardous Waste Directive and Hazardous Waste Catalogue;
4. directing hazardous waste to be treated in precincts within the framework of the 3C's "Decision Tree for Waste Treatment Options in Western Australia" (Attachment C);
5. the Technology Suitability Criteria to apply to all facilities treating hazardous waste (Attachment A);
6. the Site Selection Criteria to apply to any future waste treatment precincts (Attachment B);
7. the requirement for a monitoring committee for each precinct with the capacity to consider facilities establishing, operating and decommissioning in precincts. The terms of reference and membership of the Committees should be determined on a precinct-specific basis; and
8. mechanisms to direct all hazardous waste treatment proposals to the appropriate Decision-Making Authority.

Stakeholder views were sought on whether the above mechanisms should be implemented through new, stand-alone legislation, or through amendments to existing Acts. The 3C's primary concern is that the above factors are enforceable, regardless of the form of legislative instrument. The 3C believes that the above mechanisms are likely to be best implemented enforceably through a piece of new, stand-alone legislation as this will allow for a:

- clearer and simpler regulatory environment, rather than spreading these objectives through a number of different Acts and Regulations; and
- quicker implementation of the outcomes rather than making multiple amendments to various Acts.

Creating new legislation is also consistent with the April 2005 Cabinet endorsement of the following the following key factors, which formed the basis for consultation on a precinct model:

- legislation to create designated precincts, protect buffers and ensure that hazardous wastes must be treated in precincts;
- a preference for government to own and develop precincts with land provided on long-term leases to private operators; and
- that Government may provide some incentives to facilitate the relocation of industrial waste treatment companies to precincts.

Recommendation 4

Hazardous/Industrial Waste Treatment Precincts be established and regulated under new stand-alone legislation, which includes specific provision for the following:

- **protecting the essential three kilometre public acceptability buffer from sensitive land uses;**
- **prohibiting incineration and landfilling in precincts and their buffers;**
- **defining hazardous wastes in accordance with the European Union Hazardous Waste Directive and Hazardous Waste Catalogue;**
- **directing hazardous waste to be treated in precincts within the framework of the 3C's "Decision Tree for Waste Treatment Options in Western Australia";**
- **the Technology Suitability Criteria to apply to all facilities treating hazardous waste;**
- **the Site Selection Criteria to apply to any future hazardous/industrial waste treatment precincts;**
- **the requirement for a monitoring committee for each precinct with the capacity to consider facilities establishing, operating and decommissioning in precincts. The Terms of reference and membership of the Committees should be determined on a precinct-specific basis; and**
- **mechanisms to direct all hazardous waste treatment proposals to the appropriate Decision Making Authority.**

In addition to a new Act, the 3C recommends that non-legislative mechanisms, including a Code of Practice and resourcing, be implemented to provide guidance to ensure that:

- facilities within precincts are operating in accordance with the Technology Suitability Criteria, and
- training and staff development within the relevant government agencies is undertaken to enhance Government regulation of waste treatment facilities.

Recommendation 5

Additional non-legislative mechanisms, including a Code of Practice and resourcing, be implemented to provide guidance to ensure:

- **facilities within precincts are operating in accordance with the Technology Suitability Criteria, and**
- **training and staff development within the relevant government agencies is undertaken to enhance Government regulation of waste treatment facilities.**

Each of the dot points in Recommendation 4 is elaborated upon in Sections 5.1-5.8 below.

5.1 Protection of the Essential Three Kilometre Public Acceptability Buffer Distance From Sensitive Land Uses

In accordance with the Cabinet decision of August 2004, which endorsed the Site Selection Criteria, an essential three kilometre buffer distance from sensitive land uses is required for all hazardous/ industrial waste treatment precincts.

Sensitive land uses are defined as areas zoned residential, hotels, motels and hostels, caravan parks, hospitals and nursing homes, schools and other educational establishments, shopping centres, some public buildings, and indigenous communities.

A three kilometre buffer zone around each precinct and the protection of the buffers from encroachment by any future essential land uses is essential for the security and viability of the precincts. This is to remove the potential for land use conflicts resulting from incompatible planning decisions, an issue which is of concern to all stakeholder groups.

The buffer zones need to be protected by Legislation in an Act that has precedence over other Planning Acts. This is likely to require consequential amendment to other legislation. Other aspects that require incorporation into Legislation include:

- a defined area/distance around precincts;
- definitions of incineration and landfilling and allowing for the prohibition of these activities from precincts and the buffer zone;
- definition of sensitive land uses;
- a legal mechanism for future and ongoing protection of the defined buffer zones from encroachment from sensitive land uses; and
- a requirement for local government to refer to this process, all development applications for treatment of waste identified as hazardous through the decision tree.

It should be noted that there remains a robust debate surrounding buffer distances. The application of the three kilometre distance as the minimum publicly-acceptable buffer from sensitive land uses has been negotiated heavily with industry and community groups and must be

protected through legislation. In general, industry argued for a smaller essential buffer distance and community/environment groups argued for a larger distance than that endorsed by Cabinet. The essential three kilometre buffer distance is based on public acceptability assessment and not on environmental or health risk assessments which usually result in smaller buffer distances. It is an essential outcome of the 3C process.

5.2 Prohibiting Incineration and Landfilling in Precincts and Their Buffers.

Cabinet has decided that both incineration and landfilling of hazardous wastes are unacceptable technologies for any hazardous/industrial waste treatment precincts established by this process. As it had been a matter of some continuing debate, during consultation on the precinct model the 3C specifically sought stakeholder views on whether landfilling and incineration should be considered acceptable within the buffer zones of precincts. There was strong stakeholder support for these technologies to be prohibited from precinct buffer zones.

The legislation should impose no further development restrictions within precincts and their buffer zones beyond the exclusion of landfilling, incineration and sensitive land uses. The potential use of precinct buffers for industrial purposes to maximise synergies from the close siting of waste generators or recycling facilities to waste treatment facilities should be available.

5.3 Defining Hazardous Wastes in Accordance with the European Union Hazardous Waste Directive and Hazardous Waste Catalogue

Defining ‘hazardous waste’ is a fundamental precursor to developing a precinct model. The 3C reviewed a number of waste definitions from around the world and agreed that the definition that provides the greatest technical rigour is the European Union’s (EU’s) Hazardous Waste Directive and associated Hazardous Waste Catalogue.

There was strong stakeholder support for the implementation of this definition in Western Australia.

5.4 Directing Hazardous Waste to be Treated in Precincts Within the Framework of the 3C’s “Decision Tree for Waste Treatment Options in Western Australia”

The EU Hazardous Waste Directive and Catalogue were created to define a waste’s characteristics, and whether the waste has the potential to be hazardous. The Catalogue and Directive were not created to direct these wastes to any particular treatment technologies or precincts. However, as discussed earlier in this Cabinet advice, the 3C believes that a precinct model is essential to achieving support for establishing new and better waste treatment facilities in Western Australia. To allow this model to be adopted, a mechanism is required to identify which activities must occur within precincts.

For this purpose, the 3C created a Decision Tree for determining which wastes must be treated within precincts. A draft of the Decision Tree was presented to Cabinet in April 2005. A final Decision Tree, to be used as a framework in developing new waste precinct legislation is provided as Attachment C.

Applying the Decision Tree would compel any hazardous waste treatment operators not compliant with it to cease those operations outside designated precincts. This could lead to claims for compensation.

The 3C recommends there should be a planning horizon of no more than three years from the enactment of legislation to allow for existing industry adjustment to the new hazardous/industrial waste management framework.

Recommendation 6

A maximum of three years from the enactment of legislation be allowed for existing industry adjustment to the new hazardous/industrial waste management framework.

The Decision Tree provides for an exemption process to be initiated in unusual circumstances. This will be required when it is not in the interest of public health or environmental protection to send a specific hazardous waste to a precinct for treatment. The 3C recommends that the principles to guide the development of criteria for exempting a particular hazardous waste stream from being treated in a hazardous/industrial waste precinct be that the exemption:

- be demonstrated to achieve a better public health and environmental protection outcome;
- not be granted on the basis of minimising costs to the generator; and
- be based on an open and transparent process.

The 3C further recommends that the DEC be the lead agency for any approvals in an exemption process, based upon criteria developed through consultation with industry and community stakeholders.

Recommendation 7

The principles to guide the development of criteria for exempting a particular hazardous waste stream from being treated in a hazardous/industrial waste precinct be that the exemption:

- be demonstrated to achieve a better public health and environmental protection outcome;
- not be granted on the basis of minimising costs to the generator; and
- be based on an open and transparent process.

Recommendation 8

The Department of Environment and Conservation be the lead agency for any approvals in an exemption process, based upon criteria developed through consultation with industry and community stakeholders.

An example of the application of the Decision Tree is provided for biomedical wastes. While the EU Catalogue defines most biomedical wastes as hazardous, the Decision Tree recognises that there is a requirement for a small fraction of these wastes, particularly cytotoxics and pharmaceuticals, to be incinerated until non-incineration technology is established and the treatment process meets the requirements of the Department of Health. This does not change the definition of cytotoxic and pharmaceutical wastes, which remain hazardous, but allows for alternative management options to directing them to a precinct. This arrangement would apply to any waste type that is granted an exemption.

The exemption process is intended for use only in unusual circumstances and must not be used as a means to avoid sending waste for treatment in precincts just for the financial benefit of the waste generator or handler.

Some additional hazardous waste streams, such as soils contaminated with heavy metals, have been identified in the Decision Tree as being unlikely to be able to be treated in a precinct, as no or limited treatment technologies are currently available. Any exemption of a given hazardous waste stream from treatment in a precinct should be subject to review every two years, as new information and treatment technologies may remove the need for an ongoing exemption.

Stakeholder feedback has made clear that transparency and openness are critical to the success of hazardous waste treatment in Western Australia. In keeping with this view, it is very important that the exemption process be open and accountable. The 3C recommends that applications and the reasons for granting exemptions be published, and be subject to stakeholder consultation and to a statutory appeals process.

Recommendation 9

All exemptions of specific hazardous wastes from treatment in a hazardous/industrial waste treatment precinct be reviewed every two years.

Recommendation 10

Exemption applications and the reasons for granting exemptions be published, and be subject to stakeholder consultation and to a statutory appeals process.

5.5 The Technology Suitability Criteria to Apply to all Facilities Treating Hazardous Waste

The Cabinet-endorsed Technology Suitability Criteria should be placed in legislation to define treatment principles and criteria to be met by hazardous waste treatment facilities. The legislation should allow for review of the criteria and for amendment in response to new information or technological change.

The 3C supports the onsite treatment of wastes, in line with the principles of cleaner production. The technology suitability criteria should be applied to the regulation of any licensed premises treating hazardous wastes generated onsite.

To assist in the practical interpretation of the Technology Suitability Criteria, the 3C developed “Proposed Draft Operating Guidelines for Hazardous/Industrial Waste Treatment Precincts in Western Australia” (Attachment G).

These draft guidelines have been forwarded to the Hazardous/Industrial Waste Precinct Coordinating Group requesting that the DEC consider their application to hazardous/industrial waste treatment.

5.6 The Site Selection Criteria to Apply to any Future Hazardous/Industrial Waste Treatment Precincts

The precinct legislation should allow for the creation of future precincts complying with the site selection criteria in addition to the three recommended in this advice that. Cabinet endorsed the Site Selection Criteria to allow the 3C to identify sites for Cabinet consideration as hazardous/industrial waste treatment precincts. These criteria were developed through detailed stakeholder consultation and are a heavily-negotiated compromise consensus view of industry, community/environment, local government and union representatives on the 3C.

The 3C considers the application of the criteria through consultation to be a robust and equitable method to locate any future hazardous/industrial waste treatment precincts. The criteria should be applied in the context of active stakeholder consultation similar to the 3C process. We recommend that the legislation provide the capacity to review and, if necessary, amend the criteria in light of new information.

For example, no publicly-exhibited site could be shown to meet Desirable Criterion 24: *Climate/Landform* due to insufficient information being available regarding the frequency, duration and location of temperature inversions in Western Australia. Temperature inversions

occur throughout WA, but there is a paucity of coordinated hard data regarding their frequency, severity and duration. Until more comprehensive scientific data on temperature inversions is available throughout Western Australia, the 3C's view is that temperature inversions should be excluded as a criterion to assess site suitability.

The 3C considered non-statutory methods of adopting site selection criteria. However, any non-statutory instrument would not provide the assurances necessary to prevent the *ad hoc* creation of precincts.

5.7 The Requirement for a Monitoring Committee for each Precinct with the Capacity to Consider Facilities Establishing, Operating and Decommissioning in Precincts.

The terms of reference and membership of the Committees should be determined on a precinct-specific basis.

The Cabinet-endorsed technology suitability criteria include the requirement that technologies within the precinct be able to be monitored under all operating conditions to maintain public transparency and accountability. These require “technologies that can incorporate public participation in the monitoring of their performance – and, in particular are not subject to commercial-in-confidence, terrorist risk factors or other constraints on the public’s right to know”.

The 3C recommends that a separate monitoring committee be established for each precinct to maximise local stakeholder knowledge and input. These committees have the potential to foster transparency and positive relationships between stakeholders. Their main function would be to consider facilities being constructed in, operating within and being decommissioned in precincts by:

- discussing issues arising from precinct operations, including monitoring and regulatory data;
- hearing and discussing community views and concerns;
- providing feedback to local communities on the operation of the precinct; and
- providing advice as necessary to relevant government authorities and Ministers.

The membership of the committee should be determined on stakeholder requirements and the terms of reference should be determined by the committee members, with final approval by the Minister for the Environment.

The main objective of the committee should be to ensure that the precinct operates according to regulatory requirements and operating guidelines, and eliminates (as the first preference, where possible) or minimises negative impact on surrounding areas.

The 3C submits its Discussion Paper: *Opportunities for Communities to have a Greater Role in the Ongoing Monitoring of Hazardous/Industrial Waste Treatment Precincts* (Attachment H) as a basis for the creation of these committees.

The 3C recommends that these be Ministerially-appointed committees, and of a general composition consistent with that outlined in Attachment H. Committee members should be entitled to receive sitting fees and additional resources should be available for providing of executive support and independent technical assistance. A Memorandum of Understanding between the committee and the State Government should be considered to ensure that the provision of resources is clear and accountable.

Recommendation 11

Precinct Monitoring Committees be Ministerially-appointed committees, and of a general composition consistent with that outlined in Attachment H. Committee members should be entitled to receive sitting fees and additional resources should be available for providing executive support and independent technical assistance.

5.8 Mechanisms to Direct all Hazardous Waste Treatment Proposals to the Appropriate Decision-Making Authority

Mechanisms should be put in place to ensure that applications to develop hazardous waste treatment facilities, whether on the site of the waste generator, or elsewhere, are brought to the attention of the appropriate Decision-Making Authority.

It is important that treatment facilities be prevented from establishing inadvertently through incremental changes leading to inappropriately-located facilities (e.g. dangerous goods storage depots gradually changing into treatment facilities, or solvent production facilities becoming solvent treatment facilities). This should be implemented in a manner that does not hinder Extended Producer Responsibility (EPR) and similar cleaner production initiatives but should be used to ensure the objectives of the Technology Suitability Criteria are applied equitably across industry.

This recommendation is consistent with the outcomes of the Bellevue Parliamentary Inquiry of 2002.

LIST OF ATTACHMENTS AND FIGURES

Attachment A - Technology Suitability Criteria.

Attachment B - Site Selection Criteria.

Attachment C - Decision Tree for Waste Treatment Options in Western Australia.

Attachment D - Summary of Submissions on Siting.

Attachment E - Summary of Submissions on the Precinct Model.

Attachment F - Discussion paper on a precinct Regulatory Model.

Attachment G - Proposed Draft Operating Guidelines for Hazardous/Industrial Waste Treatment Precincts in Western Australia.

Attachment H - Opportunities for Communities to have a Greater Role in the Ongoing Monitoring of Hazardous/Industrial Waste Treatment Precincts.

Figure 1 – Mungari Industrial Estate

Figure 2 – KAL024/025 (Kalgoorlie site)

Figure 3 – NW072/074/075 (Karratha site)

Figure 4 – Boodarie Industrial Estate

Figure 5 – Avon Industrial Park

Figure 6 – Mt Marshall site

Figure 7 – Kemerton Industrial Estate

Figure 8 – MSW039 (Bruce Rock site)