Adjustment to alignment of product services corridor near the Dampier public wharf

Landcorp and Department of Mineral and Petroleum Resources

Report and recommendations of the Environmental Protection Authority

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Perth, Western Australia
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Contents

1. Introduction and background

This report provides the advice and recommendations of the Environmental Protection Authority (EPA) to the Minister for the Environment and Heritage on the environmental factors relevant to the proposal by Landcorp and the Department of Mineral and Petroleum Resources to re-align the route of the East-west product services corridor near the Dampier public wharf.

The route change is needed to site the corridor for optimum access to both the existing public wharf and the proposed new loading wharf to be built south of the Dampier Public Wharf. Formerly the corridor continued parallel to the MOF Road in a west to north-west direction to the coast. The proposed new route is shown on Figure 1.

In December 1999 the Department of Resources Development submitted documents to the EPA seeking assessment of a service corridor linking the industrial areas on the Burrup Peninsula to the Dampier Public Wharf. In giving its advice on the proposal the Department of Environmental Protection stated that it would require any change in the proposal which altered its environmental impacts to be referred to the EPA for further consideration and possible assessment.

Based on the information provided in the modified route the EPA considered that, while the proposal has the potential to effect the environment, it could be readily managed to meet the EPA's environmental objectives. Consequently, it was notified in the *West Australian* newspaper on August 19th 2002 that the EPA intended to assess the proposal at the level of Assessment on Referral Information (ARI).

The proponent has submitted a referral document setting out the details of the proposal, potential environmental impacts and appropriate commitments to manage those impacts. The EPA considers that the proposal as described can be managed in an acceptable manner, subject to these commitments and the EPA's recommended conditions being made legally binding.

The EPA has therefore determined under Section 40(1) of the Environmental Protection Act that the level of assessment for the proposal is Assessment on Referral Information, and this report provides the EPA advice and recommendations in accordance with Section 44(1).

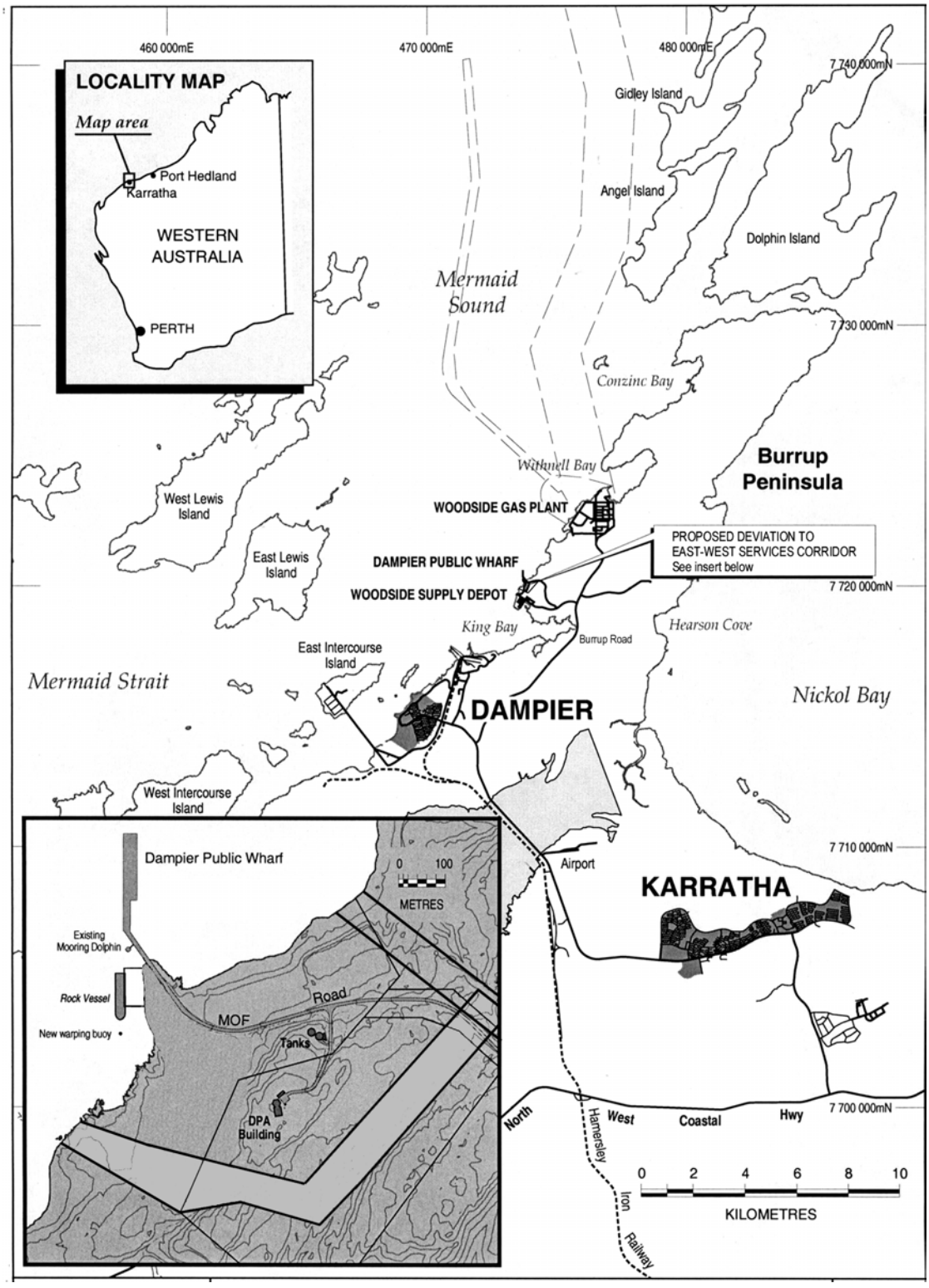

Figure 1: Location Plan

2. The proposal

This proposal relates to the establishment, by undertaking clearing and earthworks, of a section of the western portion of the Burrup East-West Corridor west of Burrup Road, for the installation of anticipated infrastructure services within it. Services to be potentially located in the proposed corridor include sealed conveyors, an inspection and maintenance track, pipelines, transmission lines and cables, and communications.

Pipelines using this corridor are anticipated to carry liquid hydrocarbons, urea, methanol, refrigerated ammonia, seawater and potable water, with the ammonia pipeline for Burrup Fertilisers' plant likely to be the first installed. There will also need to be provision for access tracks for construction and subsequent inspections during all phases of the corridor's life.

The main characteristics of the proposal are summarised in the table below.

Table 1: Summary of key proposal characteristics

Element	Description
Length of corridor deviation to link with proposed liquid export jetty	1100 metres
Width of corridor	Up to 60 metres (nominal)
Area of permanent vegetation clearance (excluding degraded area and that which has previously been approved for clearance by Western Stevedores)	2.83 hectares (nett)
Products / services contained in corridor	Pipelines: (liquid hydrocarbons, methanol, refrigerated ammonia, seawater, potable water); conveyor, inspection track, transmission lines, communications

A comparison of vegetation types in the former and current corridor areas is found in Table 2.

The potential impacts of the proposal are discussed by the proponent in the referral (Welker Environmental Consultancy, for MPR, 2002).

3. Consultations

The proponent has advised that consultation has occurred on the amended corridor route with the Dampier Port Authority, Landcorp and Woodside. The land is under the control of the Dampier Port Authority and is zoned for industry in the Shire of Roebourne Town Planning Scheme No 8. While consultations for survey work have occurred previously with the Department of Indigenous Affairs, the proponent has committed to several extra components for the current proposal (see Section 4.3 below).

4. Relevant environmental factors

Section 44 of the *Environmental Protection Act 1986* requires the EPA to report to the Minister for the Environment and Heritage on the environmental factors relevant to the proposal and the conditions and procedures, if any, to which the proposal should be subject. In addition, the EPA may make recommendations as it sees fit.

It is the EPA's opinion that the following environmental factors relevant to the proposal require evaluation in this report:

(a) vegetation communities, including declared rare and priority flora;

(b) introduced flora;

(c) terrestrial fauna;

(d) Aboriginal heritage; and

(e) cumulative risks from the products to be transported in the corridor.

Details on the relevant environmental factors and their assessment are contained in Sections 4.1 - 4.4. The description of each factor shows why it is relevant to the proposal and how it will be affected by the proposal. The assessment of each factor is where the EPA decides whether or not a proposal meets the environmental objective set for that factor.

4.1 Vegetation communities, including declared rare and priority flora, and introduced flora

Description

This proposal seeks to clear the corridor of vegetation progressively, as the terrain permits, as pipelines or conveyor belts from various industries in the industrial area further to the east connect to the coast.

The area has been the subject of two recent flora and vegetation studies, these being:

- Astron Environmental in 2002, as part of the preparation of the environmental protection statement for the Western Stevedores P/L proposed loading facility and laydown area (Astron, 2002); and
- M E Trudgen and Associates survey of the Burrup Peninsula (Trudgen, 2002).

It is understood that there was an earlier survey carried out in this vicinity by Astron Environmental, in 1998.

The EPA sought advice from the Policy and Coordination Division in the EPA Service Unit on the conclusions presented by consultant Welker Environmental Consultancy in the proponent's referral document. Opinions from this Division included:

- the timing of both botanic surveys was not optimal due to poor rains and it is therefore unlikely that all the area's biodiversity has been revealed for documentation;
- there is concern over mapping discrepancies between the recent Astron and the Trudgen surveys (see comments below) which may however be resolved with further work.

The proponent recognises that survey conditions were not ideal and has committed to ensuring that a detailed survey for Declared Rare and Priority Flora is carried out prior to ground disturbance on all service routes within the corridor.

The re-alignment will result in a change in the size of the area to be disturbed. Whilst an area of 2.9ha which was to have been affected will not now be disturbed, the new route occupies about 5.7ha, resulting in an increase in disturbed area of 2.8ha.

The Priority 1 species *Terminalia supranitifolia* (a large shrub) is one of the most significant to be affected by the clearing. The new alignment abuts one of the larger populations of this shrub, which grows preferentially on rocky terraces, slopes and rockpiles (adjacent to or within unit R on Figure 2 depicting Trudgen's mapping). The corridor avoids the majority of this unit and follows the valley between the rockpiles, resulting in the need to remove a relatively small number of these shrubs.

As well, there are two vegetation types identified in the Astron 2002 survey which are regarded as being of high conservation value:

- *Tephrosia rosea var. clementii, Indigofera monophylla* (Burrup form) low shrubland over *Triodia epactia* (Burrup form) hummock grassland; and
- *Terminalia supranitifolia* in abundance with *Ficus opposita*.

These types were identified after preliminary advice from Trudgen during the preparation of the Burrup Flora, Vegetation and Floristic Survey (Trudgen, 2002). These were, however, not mapped by Trudgen, although the first unit appears to almost fit the description and location of Trudgen's unit **ImTrTe (**see vegetation units legend following Figure 2). Trudgen's mapping showed it to be of fairly widespread occurrence (between 25 and 49 times) on the Burrup Peninsula in contrast to the similar type described in Astron (2002) which was indicated to occur in only 2-3 other areas on the Burrup Peninsula.

The second of the Astron units was not individually described or mapped by Trudgen because his survey did not differentiate vegetation units in rockpiles because of the difficulty in representing the patchiness of growth and diversity of vegetation within them.

Welker Environmental's analysis of Trudgen's mapping (Welker, 2002-Attachment to the proposal referral) concluded that, given the extent of rockpiles protected within the nominated conservation zone across the Burrup Peninsula, and the preference to re-align the corridor away from the rocky areas, the proposal would not significantly affect this vegetation type.

A unit mapped by Trudgen (**SgTeTa**) which is restricted to drainage lines and has a relatively low occurrence (10-24 times) across the Burrup Peninsula, coincides with part of the corridor. This unit will be at the centre of the proposal because the corridor follows the valley rather than the rocky areas.

An environmental benefit from the re-alignment is that two vegetation units (**PtTe** and **TsAcTe**) which occur infrequently (2-4 times as mapped by Trudgen) in the Burrup and which would have been cleared by the former corridor route near the shoreline and in drainage lines, will be avoided.

Wherever there is clearing there is a risk that introduced flora (weeds) may become established. This is recognised by the proponent, resulting in a commitment to prepare and implement a Vegetation Protection Plan incorporating a weed control strategy, in consultation with CALM. As well, prior to ground disturbance, the location of weed populations inside and adjoining the corridor will be established via a weed survey.

Assessment

The area considered for assessment of this factor is the entire corridor re-alignment proposal. The EPA's environmental objectives are to maintain the abundance, species diversity, geographic distribution and productivity of vegetation communities, for rare and priority flora, to protect them consistent with the provisions of the *Wildlife Conservation Act 1950,* and to prevent weeds from spreading.

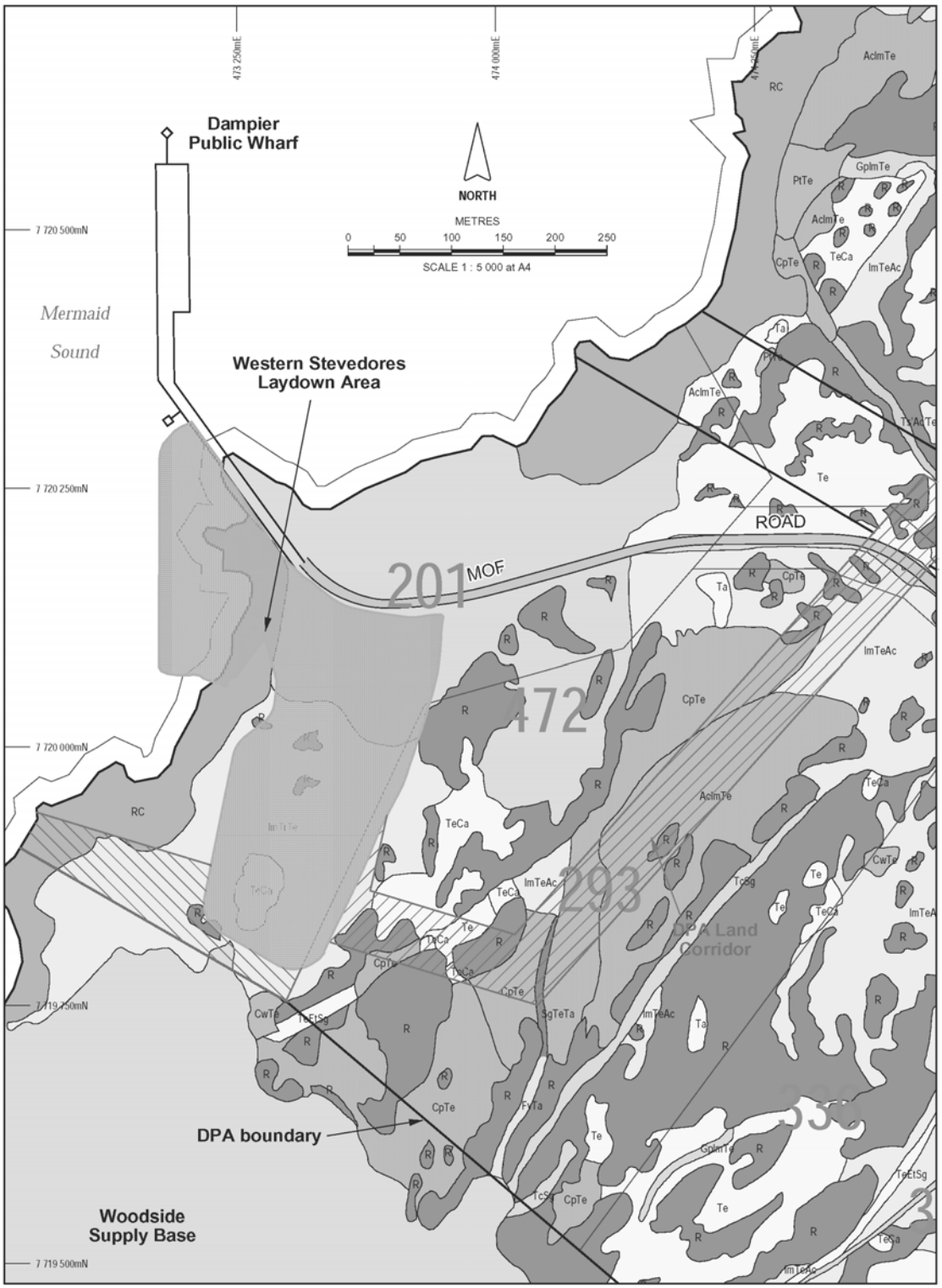

Figure 2: ***Vegetation units in corridor re-alignment as mapped by Trudgen (2002) by courtesy of Welker Environmental Consultancy***

KEY to VEGETATION UNITS IN FIGURE 2

AcImTe	*Acacia colei, Acacia elacantha* high open shrubland over *Grevillea pyramidalis* subsp. *pyramidalis* scattered shrubs over *Indigofera monophylla* (Burrup form) scattered low shrubs to open shrubland over *Triodia epactia* (Burrup form), *Triodia wiseana* (Burrup form) hummock grassland
CpTe	*Cullen pustulatum* scattered tall shrubs over Te
ImTeAc	I*ndigofera monophylla* (Burrup form) scattered shrubs to low open heath over Te.. to closed hummock grassland
ImTrTe	*Indigofera monophylla* (Burrup form) *Tephrosea rosea* var *clementii* low shrubland over *Triodia epactia* (Burrup form) *Triodia angusta* (Burrup form) hummock grassland
PtTe	*Pluchea tetranthera* low open shrubland over Te hummock grassland
R	Rockpiles
SgTeTa	*Stemodia grossa* low open shrubland to open scrub over Te, to closed hummock grassland
Te	*Triodia epactia* (Burrup form) hummock grassland
TeCa	*Triodia epactia* (Burrup form), *Cymbopogon ambiguous* hummock / grassland
TsAcTe	*Terminalia supranitifolia, Acacia coriacea* subsp. *coriacea, Stylobasium spathulatum* shrubland (high shrubland) over *Cyperus vaginatus, Triodia epactia* (Burrup form) sedgeland grassland with *Rhynchosia* sp Burrup (82-1C) low vineland corridor follows the valley rather than the rocky areas, but the proportion affected is less than 3% of its extent on the Peninsula.

Table 2 shows the areal changes to the vegetation units resulting from the re-alignment, as mapped by Trudgen, (2002) and interpreted by Welker Environmental Consultancy.

Table 2: Changes to area disturbed

Vegetation unit	Occurrence on Burrup	Areas no longer required (ha)	Areas now to be disturbed	Nett areas of vegetation to be disturbed / saved (-)
ImTeAc	>100		0.67	0.67
CpTe	25-49		1.09	1.09
AcImTe	>100		1.42	1.42
SgTeTa	10-24		0.06	0.06
TeCa	50-99		0.23	0.23
Te	50-99	1.56	0.13	-1.43
ImTrTe	25-49		1.2	1.2
PtTe	2-4	0.02		-0.02
TsAcTe	2-4	0.03		-0.03
Rockpiles	NA	0.64	0.72	0.08
Rocky coast	NA	0.68	0.27	-0.41
Total		**2.93**	**5.76**	**2.83**

Calculations exclude areas already degraded (0.16ha) and vegetation in Western Stevedores' area, where clearing has been approved

The table establishes that an extra 2.83 hectares of vegetation will be required to be cleared to accommodate the corridor re-alignment. The Priority 1 shrub species *Terminalia supranitifolia* will be largely protected because of its preference for the rocky parts of the landscape, although there will be a nett disturbance increase of 0.08ha to the 'Rockpiles' unit. Of the two restricted types described by Astron, the latter (*Terminalia supranitifolia* in abundance with *Ficus opposita*) falls within Trudgen's 'Rockpiles' unit in the above table.

Correlating Astron's first vegetation type (*Tephrosia rosea var. clementii, Indigofera monophylla* (Burrup form) low shrubland over *Triodia epactia* (Burrup form) hummock grassland) with Trudgen's ImTrTe, the table shows that the latter occurs moderately frequently (25-49 times) on the Burrup Peninsula and that an extra 1.2ha will be cleared as a consequence of this proposal's implementation. The EPA believes that this impact is not environmentally significant, and notes that 0.05ha of two much less common units (PtTe and TsAcTe-occurring 2-4 times each) will now not be cleared. The latter unit contains the abovementioned Priority 1 *Terminalia supranitifolia* as a dominant species.

Summary

Having particular regard to the:

(a) small amount of extra vegetation clearance required by the re-alignment;

(b) the saving from clearance of two much less common vegetation units;

(c) the proponent's commitment that a detailed survey for Declared Rare and Priority Flora is carried out prior to ground disturbance on all service routes within the corridor; and

(d) the proponent's commitments to carry out a weed survey prior to ground disturbance adjacent to and within the corridor and to implement a weed control strategy;

it is the EPA's opinion that the proposal can be managed to meet the EPA's environmental objective for this factor.

4.2 Terrestrial fauna

Description

Ground clearance will reduce the amount of feed available for herbivores and may impact on habitats. However, the habitats being disturbed are similar to ones in the original alignment. These are well represented throughout the nearby area and the peninsula in general. The proponent has listed the following habitat types found in the corridor:

- rocky outcrops, rockpiles and scree slopes;
- valleys and drainage gullies;
- grassland steppes;
- coastal fringe; and
- disturbed habitat.

The majority of the new alignment will traverse valleys, drainage gullies and grassland steppe. No fauna species are restricted to this area, nor are they thought to be at increased risk of impact from the proposed re-alignment of the corridor.

The proponent has committed to prepare and implement a fauna protection plan to provide the framework for the subsequent installation of services.

Assessment

The EPA's environmental objective for fauna is to maintain their abundance, species diversity and geographic distribution. Whilst the entire corridor is included for assessment of this factor, it is considered that the significant fauna likely to be found in this area would use the rockpiles for secure habitat, although they may venture into the open for feed.

The Pilbara Olive Rock Python prefers areas of rockpiles and forages after dark. It is listed on CALM's Declared Threatened Fauna list. Similarly, the species of snails which inhabit the general area of the corridor are known to live in rockpiles. The conclusion reached in the survey for the Plenty River Ammonia / Urea Plant Supplementary Document to the CER (URS, 2002) was that the species found were widespread in the area.

Summary

Having particular regard to the:

(a) similarity of habitats traversed by the original and realigned corridors;

(b) proponent's commitment to prepare and implement a fauna protection plan;

(c) co-operation with Woodside and CALM with regard to their implementation of feral baiting programmes by allowing access to the corridor;

(d) preference for fauna of the Burrup Peninsula to utilise the rockpiles for habitats; and

(e) the proposal to avoid the rockpiles to the maximum extent practicable in the re-location of the corridor;

it is the EPA's opinion that the proposal can be managed to meet the EPA's environmental objective for this factor.

4.3 Aboriginal heritage

Description

Clearing and use of the corridor may potentially result in the disturbance of a number of Aboriginal sites, the significance of which is not currently understood. Re-aligning the corridor does not change this situation.

The proponent recognises that surveys are required and has made several commitments to address the issue:

- undertake preliminary site investigations at the Department of Indigenous Affairs and identify local Aboriginal stakeholders;
- locate and confirm sites identified in the corridor in 1997 and undertake additional survey work in the corridor as necessary;
- evaluate the importance of sites with local Aboriginal representatives;
- consult with the Aboriginal community before submitting an application to disturb Aboriginal sites under s18 of the Aboriginal Heritage Act 1972; and
- seek approval for disturbance of any Aboriginal sites pursuant to s18 of the Aboriginal Heritage Act 1972;

all to be done as soon as possible, but prior to ground clearing activities.

The proponent has already commenced preliminary site investigations with the Department of Indigenous Affairs and by identifying local Aboriginal stakeholders. The additional survey works will involve cooperation with specialists and Burrup claimant group representatives to verify and record heritage sites found within the corridor. Both ethnographic and archaeological sites will be included and the proponent will organise, attend meetings, and liaise with informants as part of the overall survey requirements.

Assessment

The entire corridor area was considered for assessment of this factor, although sites of archaeological significance are likely to be concentrated in the rockpiles. The corridor, which will use the valley to the maximum extent practicable, has a good chance of avoiding sites.

The EPA's environmental objectives are to (1) ensure that the biological and physical changes to the environment resulting from the corridor do not unduly affect cultural associations with the area; and (2) ensure that the proposal complies with the *Aboriginal Heritage Act 1972*.

The surveys need to be effected before it is known exactly what heritage exists in the proposed corridor and should be carried out in good time before ground disturbing activities begin. To that end a consultant has already been contracted to do the work.

Summary

Having particular regard to:

(a) the proponent's commitments to meet and consult with local Aboriginals and the Department of Indigenous Affairs;

(b) the commitment to carry out ethnographic and archaeological survey work;

(c) the need to abide by the requirements of s18 of the Aboriginal Heritage Act; and

(d) the proposal to avoid the rockpiles to the maximum extent in the re-location of the corridor;

it is the EPA's opinion that the proposal can be managed to meet the EPA's environmental objective for this factor.

4.4 Risks of management of a multi-user service corridor

Description

The proposed corridor is not near to residences and sensitive premises. The nearest residential area (Dampier) is 6km from the proposed Burrup East-West Corridor.

There are, however, several industrial complexes located in and around the proposed service corridor. Identified potential sources of threat include access to the corridor, pipeline leakage, malfunctions leading to the creation of an ignition source, spillage and runoff.

Pipelines to be located in this corridor are anticipated to carry liquid hydrocarbons, urea, methanol, refrigerated ammonia, seawater and potable water, with the ammonia pipeline for Burrup Fertilisers' plant likely to be the first installed. There will also need to be provision for access tracks for construction and subsequent inspections during all phases of the corridor's life.

There is a need to manage the cumulative risks associated with the multi-user service corridors, during the construction of the individual pipelines as well as in the operational phase. With several pipes carrying different substances, including hazardous materials, damage and knock-on effects which could lead to a release of hazardous materials should be avoided or minimised.

The proponent is committed to carrying out a cumulative risk and hazard assessment for the combined Burrup service corridor. As part of this assessment, it will prepare a Construction Safety Management Plan and an Integrated Emergency Response Management Plan, relating to the construction, routine operational and maintenance phases. This plan will list procedures to be followed in the event of an accident, to minimise risks to public safety and environmental impacts. Particular attention will be given to entry and exit routes in the event of an emergency. This plan will be integrated with the detailed design phases of the projects and ensure correct clearance distances between pipes are provided for adequate safety margins, in consultation with the Safety, Health and Environment Division of the Department of Mineral and Petroleum Resources.

Spillage management is also an important issue. Pipeline proponents will be required to address the issue of individual risk in detail as their proposals arise. Similarly, these proponents would also have to address contingency measures and emergency/spills response in the event of pipeline leakage or failure.

The Department of Mineral and Petroleum Resources will prepare and implement a Spill Management Plan for activities associated with the development of the corridor.

The damage to existing pipelines during construction of a new pipeline would be higher than the risk during the operations phase and for this reason a Construction Safety Management Plan should be developed prior to the pipeline construction work and subsequently implemented as part of the Safety Management Plan process. Proponents should participate with other industries in the development of a Burrup Industrial Integrated Emergency Management Plan. Recognition should be given to the intermittent nature of the movements of products through pipelines and along conveyors.

Assessment

There are differing levels of risks and hazards associated with spillages or breakages of transport systems likely to be using the corridor. These will change as the corridor becomes progressively more utilised and carries more products. The Integrated Emergency Response Management Plan is to be prepared to deal with this issue.

The Safety, Health and Environment Division of the Department of Mineral and Petroleum Resources will be consulted on the preparation of the Safety Management Plan and the Integrated Emergency Response Management Plan, the Spill Management Plan and the Safety Management Plans which should incorporate a Construction Management Plan and a Spill Management Plan.

Summary

Having particular regard to:

(a) the variety of substances, some of a hazardous nature, which are expected to be transported in the corridor; and

(b) the proponent's commitments to conduct a cumulative risk and hazard assessment and to develop and implement a Construction Safety Management Plan, a Spill Management Plan and an Integrated Emergency Response Management Plan;

it is the EPA's opinion that the proposal can be managed to meet the EPA's environmental objective for this factor.

5. Conditions and Commitments

Section 44 of the *Environmental Protection Act 1986* requires the EPA to report to the Minister for the Environment and Heritage on the environmental factors relevant to the proposal and on the conditions and procedures to which the proposal should be subject, if implemented. In addition, the EPA may make recommendations as it sees fit.

In developing recommended conditions for each project, the EPA's preferred course of action is to have the proponent provide an array of commitments to ameliorate the impacts of the proposal on the environment. The commitments are considered by the EPA as part of its assessment of the proposal and, following discussion with the proponent, the EPA may seek additional commitments.

The EPA recognises that not all of the commitments are written in a form which makes them readily enforceable, but they do provide a clear statement of the action to be taken as part of the proponent's responsibility for, and commitment to, continuous improvement in environmental performance. The commitments, modified if necessary to ensure enforceability, then form part of the conditions to which the proposal should be subject, if it is to be implemented.

5.1 Proponent's commitments

The proponent's commitments as set out in the Referral document and subsequently modified, as shown in Appendix 2, should be made enforceable.

6. Other Advice

The EPA, in its advice on the Dampier Public Wharf Expansion-load-out facility and lay-down area (Bulletin 1042, February 2002) drew attention to a presumption against future proposals to clear in an area to the east of the Dampier Port Authority building. This was so as to maintain an adequate level of representation of flora, vegetation and fauna. While accepting the need for the re-alignment of this corridor and noting that some vegetation communities which occur very infrequently on the Burrup Peninsula will not now be affected, the EPA believes that, if further development is to be facilitated, the establishment of a comprehensive and adequate reserve system for the peninsula needs to be established.

The EPA's position on risk management is that where there are hazards and risks associated with industrial developments, the plant and associated infrastructure (such as pipelines) should be designed using best practicable engineering design and operated using best industry practice management systems. Risks should be reduced to as low as reasonably practicable. Risks associated with the spillage or leakage of products carried in the Burrup service corridors need to be evaluated cumulatively and carefully managed by proponents as product pipelines are added progressively to the corridors.

7. Conclusions

The EPA has considered the proposal by Landcorp and the Department of Mineral and Petroleum Resources to realign the product services corridor near the Dampier Public Wharf.

The EPA notes that pipelines expected to be laid in this corridor are anticipated to carry liquid hydrocarbons, urea, methanol, refrigerated ammonia, seawater and potable water, with the urea conveyor transport system for Burrup Fertilisers' plant likely to be the first installed. There will also need to be provision for access tracks for construction and subsequent inspections during all phases of the corridor's life.

The re-alignment will result in a change in the size of the area to be disturbed. Whilst an area of 2.9ha which was to have been affected will not now be disturbed, the new route occupies about 5.7ha, resulting in an increase in disturbed area of 2.8ha.

The EPA considers that the main environmental factors relevant to this proposal are vegetation communities, fauna, Aboriginal heritage and cumulative risks from the products to be transported in the corridor.

Progressive clearing of the corridor for the services it will carry will result in the loss of some Priority 1 and other vegetation of conservation significance. The nett area to be disturbed is relatively small and some uncommon vegetation units that would have been cleared under the original alignment will now be unaffected. The proponent's commitment to undertake a detailed survey for Rare and Priority Flora prior to ground disturbance of all service routes within the corridor recognises the value of some flora species in the area although there is little to be done ultimately to preserve them because the pipelines have only a small degree of flexibility in their placement.

The EPA expects that weeds will be managed effectively under the proponent's commitment to carry out a weed survey prior to ground disturbance and to implement a weed control strategy.

Fauna in the area prefer the rockpiles in which to live, although they may forage on adjacent vegetation which is to be preferentially cleared in the valley floors. Thus the rockpile habitats of species such as the Pilbara Olive Rock Python (which is listed on CALM's Declared Threatened Fauna list), and the snail species, should not be affected by the proposal.

Aboriginal heritage, if found, will be subject to several commitments made by the proponent. Appropriate ethnographic and archaeological surveys have still to be completed in the area. The EPA believes that the proposed strategies for consultation with local Aboriginal groups should ensure that any discoveries will be properly managed.

A Safety Management Plan and an Integrated Emergency Response Management Plan are to be prepared to recognise and determine responses to the differing levels of risks and hazards associated with spillages or breakages of transport systems likely to be using the corridor. The Risk and Hazard Management Branch of the Department of Mineral and Petroleum Resources will be consulted on its preparation.

The EPA has concluded that the proposal is capable of being managed in an environmentally acceptable manner such that it is most unlikely that the EPA's objectives would be compromised, provided there is satisfactory implementation of the recommended conditions and proponent's commitments set out in Section 5.

8. Recommendations

The EPA submits the following recommendations to the Minister for the Environment and Heritage:

1. That the Minister notes that the proposal being assessed is for a variation to the alignment of the East-West product services corridor near the Dampier Public Wharf;
2. That the Minister considers the report on the relevant environmental factors as set out in Section 4;
3. That the Minister notes that the EPA has concluded that it is unlikely that the EPA's objectives would be compromised, provided there is satisfactory implementation by the proponent of the recommended conditions set out in Appendix 2, including the proponent's commitments.
4. That the Minister imposes the conditions and procedures recommended in Appendix 2 of this report.

Appendix 1

References

Astron Environmental (1998). *Ammonia Urea Plant Service Corridor Vegetation and Flora Survey*. (Unpubl). Karratha, WA.

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URS (2002). *Plenty River Ammonia/Urea Project Burrup Peninsula, WA. Supplement to 1998 Consultative Environmental Review*. Prepared for Plenty River Corporation Ltd. May 2002.

Welker Environmental Consultancy (2002). *Environmental assessment of key environmental factors associated with re-alignment of Burrup West Corridor*. July 2002, Perth, WA.

Appendix 2

Recommended Environmental Conditions and Proponent's Consolidated Commitments

Statement No.

RECOMMENDED ENVIRONMENTAL CONDITIONS and PROCEDURES

STATEMENT THAT A PROPOSAL MAY BE IMPLEMENTED (PURSUANT TO THE PROVISIONS OF THE ENVIRONMENTAL PROTECTION ACT 1986)

ADJUSTMENT TO ALIGNMENT OF PRODUCT SERVICES CORRIDOR

NEAR THE DAMPIER PUBLIC WHARF

Proposal: The establishment, by undertaking clearing and earthworks, of a section of the western portion of the Burrup East-west Corridor west of Burrup Road, for the installation of anticipated infrastructure services within it, as documented in schedule 1 of this statement.

Proponent: Landcorp and the Department of Mineral and Petroleum Resources

Proponent Address: Level 7, 168-170 St George's Terrace, PERTH WA 6000

Assessment Number: 1446

Report of the Environmental Protection Authority: Bulletin 1064

The proposal referred to above may be implemented subject to the following conditions and procedures:

Procedural conditions

1 Implementation and Changes

1-1 The proponent shall implement the proposal as documented in schedule 1 of this statement subject to the conditions of this statement.

1-2 Where the proponent seeks to change any aspect of the proposal as documented in schedule 1 of this statement in any way that the Minister for the Environment and Heritage determines, on advice of the Environmental Protection Authority, is substantial, the proponent shall refer the matter to the Environmental Protection Authority.

1-3 Where the proponent seeks to change any aspect of the proposal as documented in schedule 1 of this statement in any way that the Minister for the Environment and Heritage determines, on advice of the Environmental Protection Authority, is not substantial, the proponent may implement those changes upon receipt of written advice.

2 Proponent Commitments

2-1 The proponent shall implement the consolidated environmental management commitments documented in schedule 2 of this statement.

2-2 The proponent shall implement subsequent environmental management commitments which the proponent makes as part of the fulfilment of the conditions in this statement.

3 Proponent Nomination and Contact Details

3-1 The proponent for the time being nominated by the Minister for the Environment and Heritage under section 38(6) or (7) of the *Environmental Protection Act 1986* is responsible for the implementation of the proposal until such time as the Minister for the Environment and Heritage has exercised the Minister's power under section 38(7) of the Act to revoke the nomination of that proponent and nominate another person as the proponent for the proposal.

3-2 If the proponent wishes to relinquish the nomination, the proponent shall apply for the transfer of proponent and provide a letter with a copy of this statement endorsed by the proposed replacement proponent that the proposal will be carried out in accordance with this statement. Contact details and appropriate documentation on the capability of the proposed replacement proponent to carry out the proposal shall also be provided.

3-3 The nominated proponent shall notify the Department of Environmental Protection of any change of contact name and address within 60 days of such change.

4 Commencement and Time Limit of Approval

4-1 The proponent shall provide evidence to the Minister for the Environment and Heritage within five years of the date of this statement that the proposal has been substantially commenced or the approval granted in this statement shall lapse and be void.

Note: The Minister for the Environment and Heritage will determine any dispute as to whether the proposal has been substantially commenced.

4-2 The proponent shall make application for any extension of approval for the substantial commencement of the proposal beyond five years from the date of this statement to the Minister for the Environment and Heritage, prior to the expiration of the five-year period referred to in condition 4-1.

The application shall demonstrate that:

- the environmental factors of the proposal have not changed significantly;
- new, significant, environmental issues have not arisen; and
- all relevant government authorities have been consulted.

Note: The Minister for the Environment and Heritage may consider the grant of an extension of the time limit of approval not exceeding five years for the substantial commencement of the proposal.

Environmental conditions

5 Compliance Audit

The proponent shall prepare an audit program in consultation with and submit compliance reports to the Department of Environmental Protection which address:

- the implementation of the proposal as defined in schedule 1 of this statement;
- evidence of compliance with the conditions and commitments; and
- the performance of the environmental management plans and programmes.

Note: Under sections 48(1) and 47(2) of the *Environmental Protection Act 1986*, the Chief Executive Officer of the Department of Environmental Protection is empowered to audit the compliance of the proponent with the statement and should directly receive the compliance documentation, including environmental management plans, related to the conditions, procedures and commitments contained in this statement.

Usually, the Department of Environmental Protection prepares an audit table which can be utilised by the proponent, if required, to prepare an audit program to ensure that the proposal is implemented as required. The Chief Executive Officer is responsible for the preparation of written advice to the proponent, which is signed off by either the Minister or, under an endorsed condition clearance process, a delegate within the Environmental Protection Authority or the Department of Environmental Protection that the requirements have been met.

6 Decommissioning and Closure Plans

6-1 Prior to construction, the proponent shall prepare, and subsequently implement, a Preliminary Decommissioning and Closure Plan, which provides the framework to ensure that the project area is left in an environmentally acceptable condition to the requirements of the Minister for the Environment and Heritage on advice of the Environmental Protection Authority.

The Preliminary Decommissioning and Closure Plan shall address:

1) conceptual plans for the removal or, if appropriate, retention of infrastructure;
2) a conceptual rehabilitation plan for all disturbed areas and a description of a process to agree on the end land use(s) with all stakeholders;
3) a conceptual plan for a care and maintenance phase; and
4) management of noxious materials to avoid the creation of contaminated areas.

6-2 At least one year prior to the anticipated date of closure, or at a time agreed with the Environmental Protection Authority, the proponent shall prepare a Final Decommissioning and Closure Plan designed to ensure that the site is left in an environmentally acceptable condition to the requirements of the Minister for the Environment and Heritage on advice of the Environmental Protection Authority.

The Final Decommissioning and Closure Plan shall address:

1) removal or, if appropriate, retention of infrastructure in consultation with relevant stakeholders;
2) rehabilitation of all disturbed areas to a standard suitable for the agreed new land use(s); and
3) identification of contaminated areas, including provision of evidence of notification and proposed management measures to relevant statutory authorities.

6-3 The proponent shall implement the Final Decommissioning and Closure Plan required by condition 6-2 until such time as the Minister for the Environment and Heritage determines, on advice of the Environmental Protection Authority, that the proponent's closure responsibilities are complete.

6-4 The proponent shall make the Final Decommissioning and Closure Plan required by condition 6-2 publicly available, to the requirements of the Minister for the Environment and Heritage on advice of the Environmental Protection Authority.

Procedures

1 Where a condition states "to the requirements of the Minister for the Environment and Heritage on advice of the Environmental Protection Authority", the Chief Executive Officer of the Department of Environmental Protection will obtain that advice for the preparation of written advice to the proponent.

2 The Environmental Protection Authority may seek advice from other agencies, as required, in order to provide its advice to the Chief Executive Officer of the Department of Environmental Protection.

Notes

1 The Minister for the Environment and Heritage will determine any dispute between the proponent and the Environmental Protection Authority or the Department of Environmental Protection over the fulfilment of the requirements of the conditions.

Schedule 1

The Proposal

The proposal is to adjust the alignment of the East-West product services corridor near the Dampier Public Wharf as specified in the key characteristics table below. It requires the establishment, by undertaking clearing and earthworks, of a section of the western portion of the Burrup East-West Corridor west of Burrup Road, for the installation of anticipated infrastructure services within it.

The location of the Proposal is shown in Figures 1 (attached).

Table 1: Summary of key proposal characteristics

Element	Description
Length of corridor deviation to link with proposed liquid export jetty	About 1100 metres (total length of new alignment)
Width of corridor	Up to 60 metres (nominal)
Net area of permanent vegetation clearance (excluding degraded area and that which has previously been approved for clearance by Western Stevedores)	2.83 hectares (after removal of portion of original corridor alignment on the coast immediately north of Dampier Port Authority)
Products / services contained in corridor	Pipelines (liquid hydrocarbons, methanol, refrigerated ammonia, seawater, potable water), conveyor, inspection track, transmission lines, communications

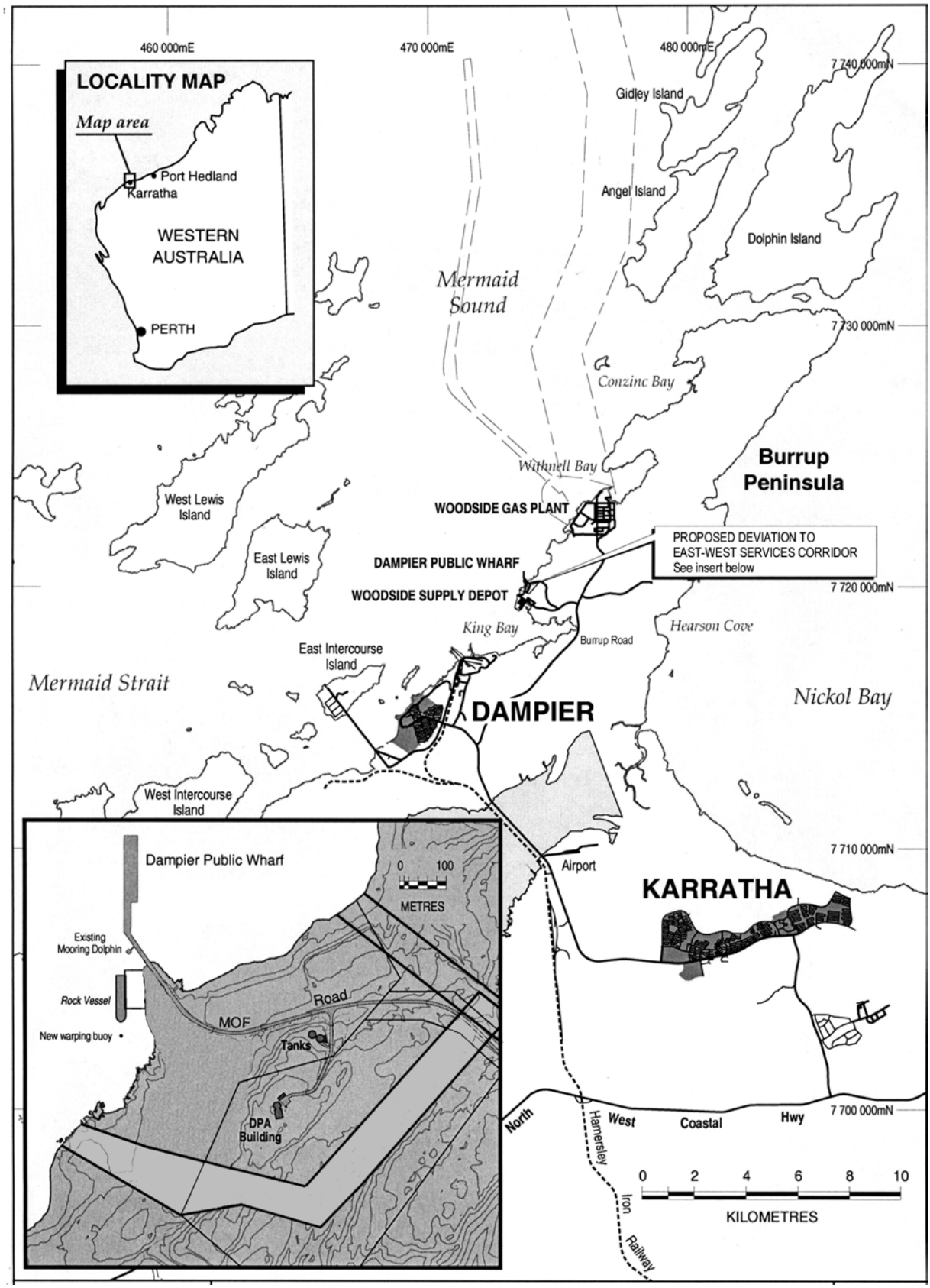

Figure 1: Location Plan

Schedule 2

Proponent's Consolidated Environmental Management Commitments

19 August 2002

ADJUSTMENT TO ALIGNMENT OF PRODUCT SERVICES CORRIDOR NEAR THE DAMPIER PUBLIC WHARF (Assessment No. 1446)

Landcorp and the Department of Mineral and Petroleum Resources

Adjustment to alignment of product services corridor near the Dampier Public Wharf
Proponent's environmental management commitments

No	Commitment	Objective)	Action	Timing	Advice
1	Prepare Environmental Management Plan	Minimise the impact of the proposal	Includes the following: • develop framework for detailed services procedures by proponents; • a vegetation management plan; • a fauna protection plan; • a weed control plan; • a rehabilitation plan; and • spills management plan	Before construction	CALM
2	Environmental Management Plan	Achieve the objective of Commitment 1 above	Implement the Environmental Management Plan	During and following construction	CALM
3	Declared Rare and Priority Flora	To establish the location of these species	Conduct a detailed survey and report the results to CALM	Before construction	CALM
4	Weeds	To establish the location of weed populations	(a) Conduct a weed survey;	Before construction	CALM
5	Feral animals	To control the presence of feral animals	Cooperate with CALM animal baiting programs	During and following construction	CALM
6	Aboriginal heritage	To determine importance of heritage sites	Consult with the Aboriginal community prior to submitting an application to disturb any Aboriginal sites	Before and during construction	DIA
7	Aboriginal heritage	To ensure disturbance is in accordance with the Aboriginal Heritage Act	Seek approval for the disturbance of any Aboriginal sites	Before disturbance of site	DIA
8	Cumulative Risk Assessment and Management Plan	To manage cumulative risk in accordance with accepted criteria	Prepare a Cumulative Risk Assessment and Management Plan to include an Integrated Emergency Response Plan Implement the Plan if required	Before construction of pipelines As required	MPR