Kwinana Export Facility, Kwinana

Koolyanobbing Iron Pty Ltd, Fremantle Port Authority & Westrail

Report and recommendations
of the Environmental Protection Authority

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Summary and recommendations

Koolyanobbing Iron Pty Ltd, Fremantle Port Authority and Westrail have referred a proposal to the Environmental Protection Authority (EPA) to build and operate a facility at Kwinana to export iron ore from the Koolyanobbing mine. Koolyanobbing Iron currently exports its iron ore through Esperance, however, it is undertaking an evaluation of alternative export facilities to cater for expansion of mining operations and to reduce export costs.

The EPA understands that the company has not made a firm decision to proceed with the Kwinana export facility and that its current preference is to continue its exports through Esperance. However, this is still subject to certain decisions regarding upgrading of the rail link to Esperance and the capacity of the Esperance port. Koolyanobbing Iron has therefore requested the EPA to report on its assessment of the Kwinana facility.

The EPA has also been advised by the Fremantle Port Authority that regardless of Koolyanobbing Iron's decision, it is still seeking approval to allow export of other commodities.

This report provides the Environmental Protection Authority's (EPA's) advice and recommendations to the Minister for the Environment on the environmental factors relevant to the Kwinana export facility proposal. Section 44 of the *Environmental Protection Act 1986* requires the EPA to report to the Minister for the Environment 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.

Relevant environmental factors

Although a number of environmental factors were considered by the EPA in the assessment, it is the EPA's opinion that the following are the environmental factors relevant to the proposal, which require detailed evaluation in the report:

(a) Dust - management of emissions;

(b) Noise - levels in residential areas; and

(c) Social Surroundings including Visual Amenity.

Conclusion

The EPA has considered the proposal by the Koolyanobbing Iron Pty Ltd, Fremantle Port Authority and Westrail to build and operate a facility to export iron ore at Kwinana.

The EPA notes that the proposal would affect the visual amenity for the users of Kwinana Beach. However, the visual impact would be localised and is not so great as to prevent the proposal from being implemented. Visual impact would not be significant at Wells Park, Rockingham Beach or areas further away.

The EPA considers that the factors of dust and noise can be managed so as not to cause unacceptable environmental impacts. Koolyanobbing Iron has demonstrated through its environmental performance at Esperance that these factors can be managed through appropriate design and operation of the facilities.

The EPA has concluded that the proposal can be managed in an environmentally acceptable manner, provided there is satisfactory implementation by the proponents of the recommended conditions set out in Appendix 3, including the proponents' commitments.

Further, the EPA advises that regardless of whether Koolyanobbing Iron decides to relocate its export operations to Kwinana, the design of the wharf and loading facilities, and the management commitments, are such that the marine component of the proposal could proceed and be used not only for iron ore, but possibly also other non-noxious, non-hazardous cargoes, without unacceptable environmental impacts. Operations utilising the wharf and loading

facilities would be subject to licensing under Part V of the *Environmental Protection Act 1986* and this would enable consideration of specific management requirements, and the setting of conditions for use of the facility for other non-noxious, non-hazardous cargoes.

Use of the facility for noxious or hazardous cargoes would require referral to the EPA pursuant to Section 38 of the *Environmental Protection Act, 1986*, for a decision on the need for formal environmental impact assessment.

Recommendations

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

1. That the Minister notes that the project being assessed is a facility for the export of iron ore at Kwinana;
2. That the Minister considers the report on the relevant environmental factors as set out in Section 3;
3. That the Minister notes that the EPA has concluded that the proposal can be managed to meet the EPA's environmental objectives, provided there is satisfactory implementation by the proponent of the recommended conditions set out in Appendix 3, including the proponents' commitments;
4. That the Minister notes that in Section 5, Other Advice, the EPA has expressed the view that although the proposal is for the export of iron ore, it could possibly also be used for the export of other non-noxious, non-hazardous cargoes without there being an unacceptable environmental impact.
5. That the Minister imposes the conditions and procedures recommended in Appendix 3 of this report; and
6. That the Minister notes the EPA's other advice in Section 5 of this report.

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1. Introduction

This report provides Environmental Protection Authority (EPA) advice to the Minister for the Environment on the environmental factors relevant to the proposal by the Koolyanobbing Iron Pty Ltd (KIPL), Fremantle Port Authority (FPA) and Westrail to build and operate a facility for the export of iron ore at Kwinana, approximately 34 kilometres south of the Perth CBD (Figure 1).

The EPA previously assessed a proposal for the export of Koolyanobbing iron ore through the Port of Esperance, in 1993 (EPA, 1993). The EPA made that assessment on the basis that the clean air, ocean and beaches of Esperance must be protected. At the same time the EPA recognised that due to its particular topography, Esperance had functioned as a port since very early in the history of the settlement and the EPA considered that the port was a beneficial use of the environmental characteristics of the site. In order to protect both these aspects, the EPA required stringent conditions to be placed on the project, particularly in regard to dust emissions, so that it would not impact on the amenity values of the town's environment.

The proposal for the export facility at Kwinana was referred to the EPA in May 1998 and the Level of Assessment (LOA) was originally set at "Not Assessed - Managed under Part -V of the EP Act" in June 1998. There were 21 appeals against the LOA and the Minister for the Environment subsequently upheld the appeals and the LOA was upgraded to Consultative Environmental Review (CER) in October 1998.

The CER report "Kwinana Export Facility", hereafter referred to as the CER (Dames & Moore, 1999), was made available for public review for 4 weeks from 15 February 1999 to 15 March 1999. Twenty six submissions were received by the DEP.

Further details of the proposal are presented in Section 2 of this Report. Section 3 discusses environmental factors relevant to the proposal. The Conditions and procedures to which the proposal should be subject, if the Minister determines that it may be implemented, are set out in Section 4. Section 5 provides other advice to the Minister for the Environment. Section 6 presents the EPA's Conclusions and Section 7, the EPA's Recommendations.

A list of people and organisations that made submissions is included in Appendix 1. References are listed in Appendix 2, and recommended conditions and procedures and proponents' commitments are provided in Appendix 3.

Appendix 4 contains a summary of the public submissions and the proponents' response. The summary of public submissions and the proponents' response is included as a matter of information only and do not form part of the EPA's report and recommendations. The EPA has considered issues arising from this process relating to identifying and assessing relevant environmental factors.

2. The proposal

The proposal is for the construction and operation of a facility for the export of iron ore. The facility would consist of three separate parts; a marine component, a terrestrial component and a rail component. These would be constructed and operated by the FPA, KIPL and Westrail respectively.

The proposed rail and terrestrial components are located in the area bounded by Kwinana Beach Road, the Bulk Cargo Jetty (BCJ) access road, Wells Road and the shoreline at Kwinana Beach. The marine component is located in the ocean immediately south of the existing BCJ.

The nearest residence is approximately 1750 metres to the south of the site (Figure 2).

The proponents have stated that the facility proposed at Kwinana would be of an equal or better standard to that which is in operation at the Esperance Port.

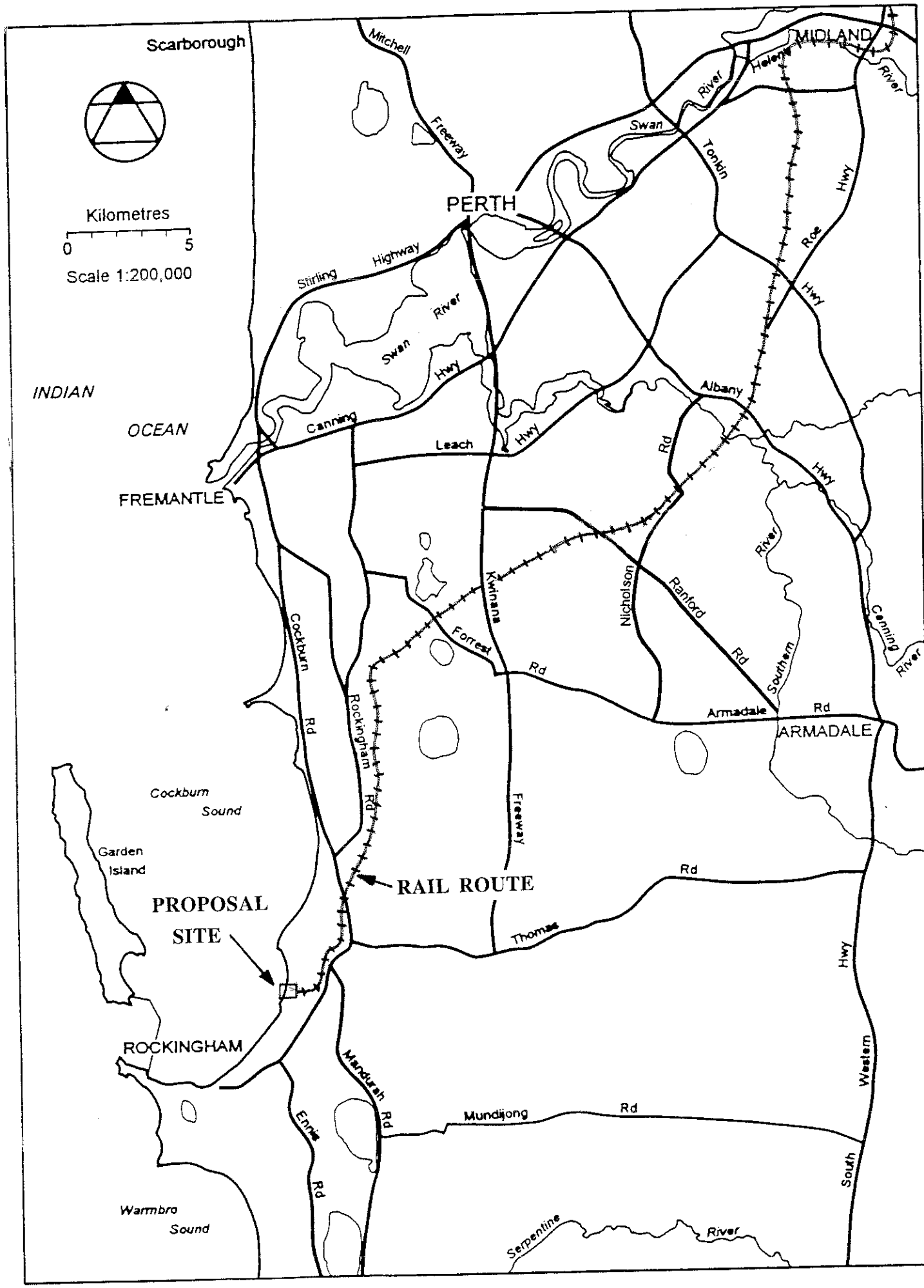

Figure 1. Regional location.

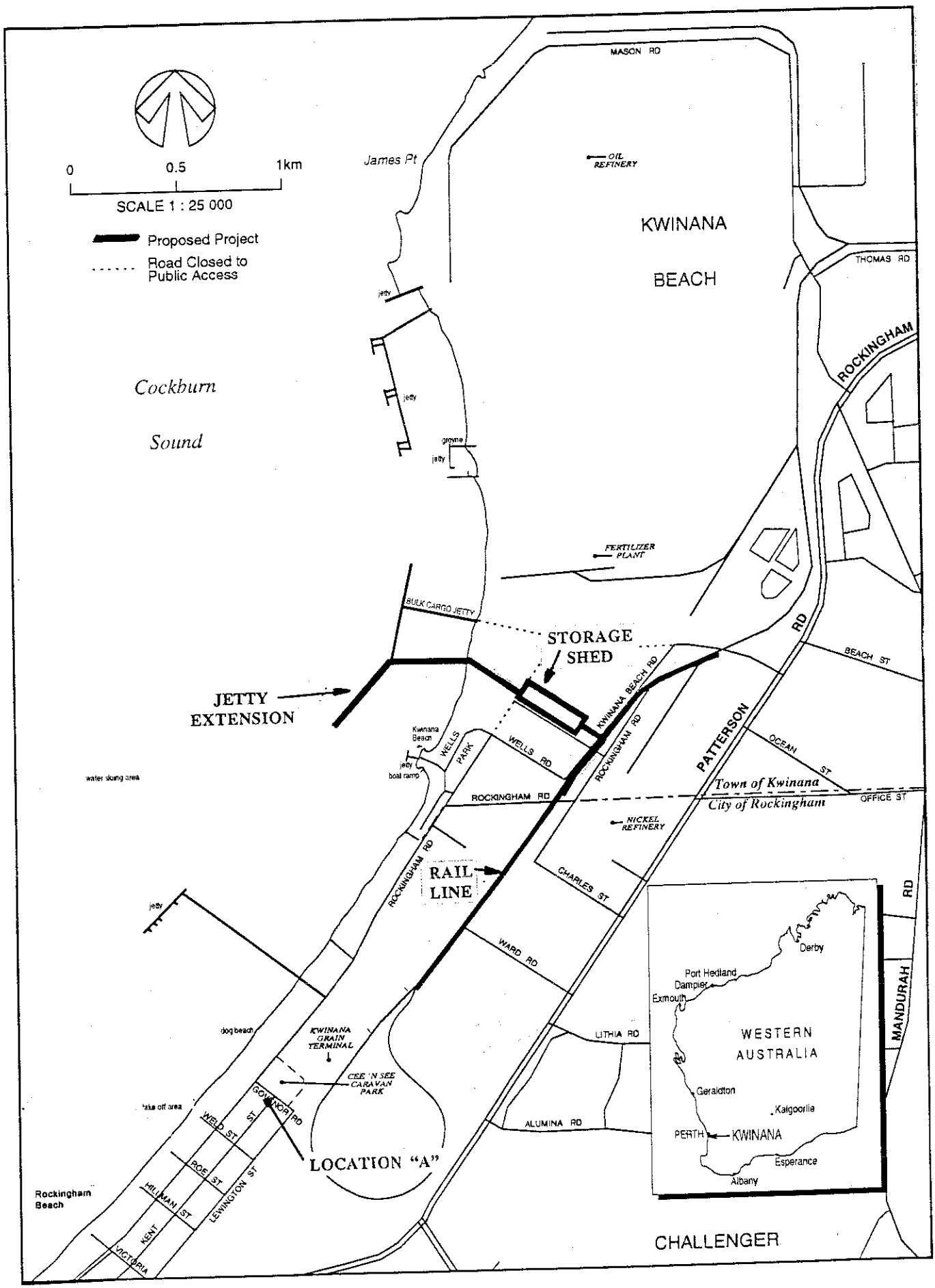

Figure 2. Proposed site.

The marine component would be constructed and operated by the FPA, the terrestrial component by KIPL and the rail component by Westrail. The proposed components are shown on Figure 3 and described below:

Marine component

The FPA proposes to construct a southern extension to the existing BCJ. The existing BCJ consists of an open pile structure and concrete decks. It is currently used for the import of commodities and Berth 1 is equipped with two rail mounted unloaders which may also be used on Berth 2 in the future. The proposed southern extension to the BCJ would be constructed south west of Berth 2 at an angle of 150 degrees to the BCJ.

The proposed jetty would be approximately 410 metres long and 5 metres above mean sea level. The jetty would be constructed in an open pile manner and the deck is likely to be made from precast concrete.

A wharf gallery would sit at 18 metres above the jetty deck and would contain a tripper conveyor. The ship loader would rise approximately 36 metres above the deck and consist of a travelling portal, and a belt tripper inside the wharf gallery. The ship loader would be fitted with a telescopic loading chute.

An access bridge approximately 410 metres long would be constructed from the shore to the jetty to allow independent operation of the import and export facilities.

A fully enclosed conveyor would travel from the KIPL storage shed across the foreshore to a transfer station then along the access bridge to meet the tripper conveyor in the wharf gallery.

No dredging is required for the proposed jetty.

While it is proposed that the new berth will initially be used for export of iron ore, other commodities/ raw material could be exported over this berth in the future.

Terrestrial Component

KIPL proposes to construct a rail car dumper, storage shed and conveyor system. The car dumper would be in an enclosed shed which is maintained under negative pressure. The car dumper would unload the iron ore by rotating the rail wagons, thus tipping the ore into an underground storage bin.

The incoming iron ore would be transported by an enclosed conveyor to a transfer station and then to the storage shed. All transfer stations would be fitted with dust extraction systems.

The storage shed would be 60 metres wide by 330 metres long and 27 metres high. The shed would be maintained under negative pressure (by air extraction through dust collectors) at all times when the iron ore is being handled. The shed would also be fitted with an automatic reclaimer to place ore from the stockpile onto the conveyor.

The out-going iron ore would be transported by an enclosed conveyor to the jetty.

Rail Component

Westrail proposes to construct approximately 3000 metres of track, east of the existing rail line in the cleared service corridor just north of the existing rail loop in Rockingham. Two "Q" class locomotives would be used to haul up to 83 wagons of iron ore between the minesite and Kwinana. These trains would be about 935 metres long and there would be two trains per day.

A summary of the key characteristics of the proposal is presented in Table 1. A detailed description of the proposal is provided in Section 3 of the CER (Dames & Moore, 1999).

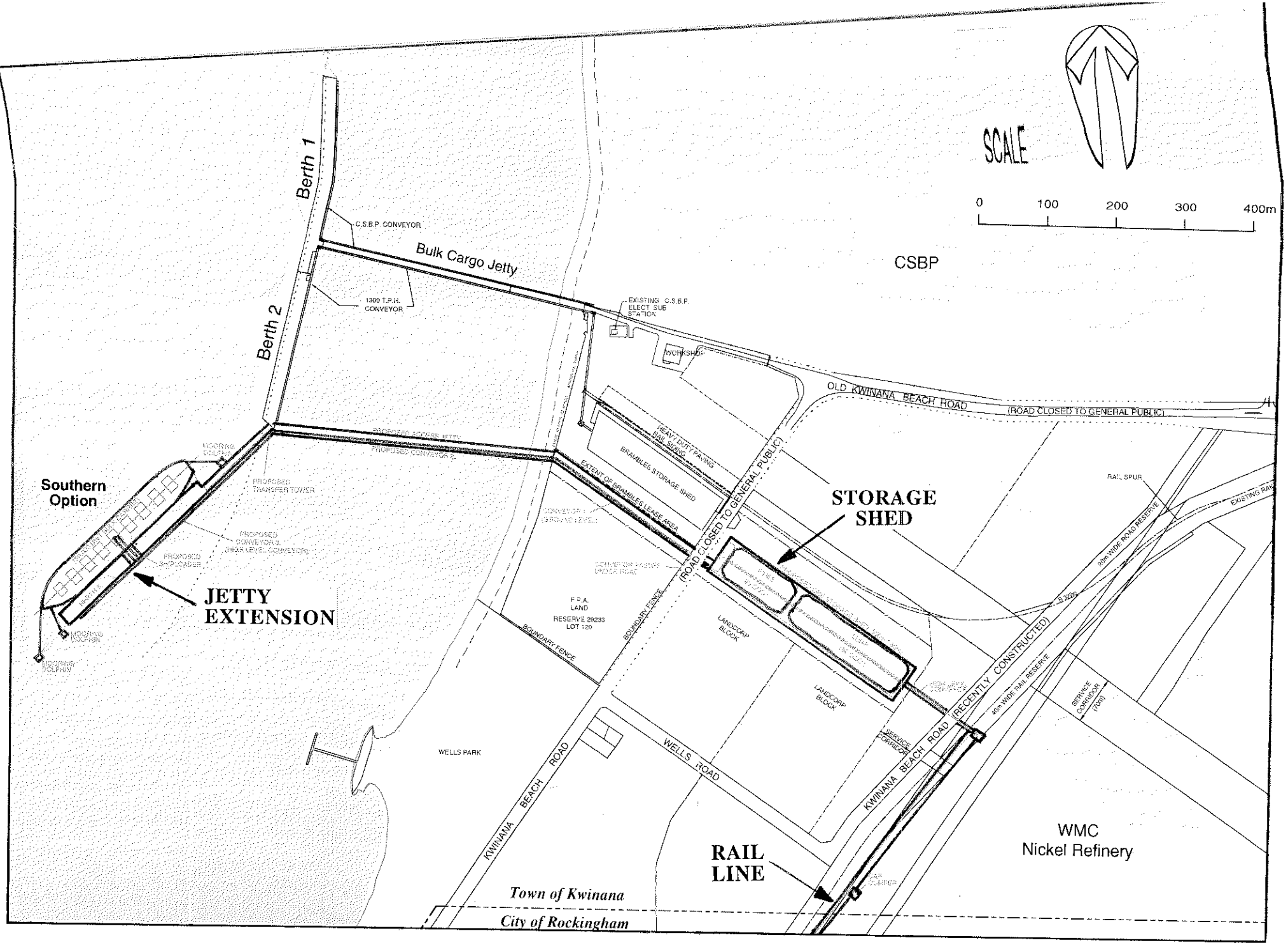

Figure 3. Plant layout.

Table 1. Summary of key proposal characteristics

Element	Quantities/Description
Location	Kwinana.
Nature of operation	The transport, receival, storage and export of iron ore.
Inputs	• approximately 2 trains per day, each carrying 6100 tonnes of iron ore.
Quantity of ore to be exported	• up to 4 million tonnes per annum. • approximately one ship per week.
Marine Component List of major items	• an open pile southern extension (approximately 410 metre long) to the existing Bulk Cargo Jetty (BCJ); • a wharf gallery approximately 18 metres above the jetty deck; • an access bridge (approximately 410 metres long) from the shore to the BCJ extension; • a fully enclosed conveyor operating at up to 4000 tonnes per hour; and • a bulk material ship loader operating at up to 4000 tonnes per hour (approximately 36 metres above the jetty deck).
Terrestrial Component List of major items Other infrastructure	• an enclosed automated rail car dumper operated under negative pressure; • a fully enclosed conveyor operating at up to 4000 tonnes per hour, and associated transfer stations; • a storage shed operating under a negative pressure (approximately 60 metres wide by 330 metres long and 27 metres high); • an automated reclaiming system to reclaim ore from the stockpiles onto the conveyors; and • a screening facility located inside the shed. • workshop • administration building; and • sealed access roads.
Rail Component Major item	• an additional 3000 metres of rail line adjacent to the existing rail line and within the existing service corridor.

NOTE: KIPL has not yet made a firm decision to relocate to Kwinana, but the FPA is seeking environmental approval for the proposal regardless of whether KIPL or Westrail decide to proceed with the project.

3. Environmental factors

3.1 Relevant environmental factors

Section 44 of the *Environmental Protection Act 1986* requires the EPA to report to the Minister for the Environment 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 are the environmental factors relevant to the proposal which require detailed evaluation in this report:

(a) Dust - management of emissions;

(b) Noise - levels in residential areas; and

(c) Social Surroundings including Visual amenity.

The above relevant factors were identified from the EPA's consideration and review of all environmental factors (preliminary factors) generated from the CER document and the submissions received, in conjunction with the proposal characteristics (including significance of the potential impacts), the adequacy of the proponents' response and commitments, the effectiveness of current management and alternative approval processes which ensure that the factors will be appropriately managed. On this basis, the EPA considers that the factors vegetation, fauna, vibration, marine impacts, public safety and risk and other issues raised in the submissions do not require further evaluation by the EPA because it has been demonstrated that they can be adequately managed. The identification process is summarised in Table 2.

Details on the relevant environmental factors and their assessment is contained in Sections 3.2 to 3.4. 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.

A summary of the assessment of the environmental factors is presented in Table 3.

3.2 Dust

Description

Particulate matter may result from activities undertaken during land clearing and construction of the facility, and as a consequence of ongoing operations. In particular the transport and handling of iron ore has the potential to generate dust emissions.

Storage and Loading Facility

The nearest residence to the proposed Kwinana export facility is approximately 1750 metres away in East Rockingham.

KIPL intends to monitor visually for dust during construction activities and implement management measures such as the spraying of water to suppress dust if required.

KIPL currently exports its iron ore through the Port of Esperance and proposes to employ at least the same standard of dust control measures at Kwinana as it does at Esperance. The nearest residence to the existing Esperance export facility is approximately 150 metres away.

The storage and loading facility incorporates design measures to minimise dust emissions. These are outlined in the CER and include:

- an enclosed dumper to unload iron ore from the trains;
- the transport of iron ore in fully enclosed conveyors and transfer stations;

Table 2. Identification of relevant Environmental Factors

FACTOR	RELEVANT AREA	PROPOSAL CHARACTERISTICS	GOVERNMENT AGENCY AND PUBLIC COMMENTS	IDENTIFICATION OF RELEVANT FACTORS
BIOPHYSICAL				
Vegetation/ Dunes	Proposal site and conveyor route across dunes.	Vegetation on the site is highly disturbed with little native vegetation remaining. The proposal would result in the clearing of trees around the proposed shed location. These trees are mostly exotic species remaining from past residential use. Some dune vegetation would be cleared for the conveyor and access tracks. The proponent originally committed to stabilising and landscaping the dune area and to preparing a Landscape Management Plan (LMP) to address the areas to be landscaped and the type of landscaping.	**Government:** The DRD supports the planting of ground covers to minimise erosion, but notes that this should be extended to maintaining the vegetation. The Town of Kwinana believes the LMP should have increased focus on rehabilitation of the dunes. The Town of Kwinana suggested the conveyor should be perpendicular to the prevailing wind direction. The Town of Kwinana suggested that vegetation removed during construction should be used to temporarily stabilise the affected dunes rather than be buried on site. **Public:** No comments received from the public.	Proponent has made a revised commitment to prepare and implement a Landscape Management Plan (LMP) which addresses: • dune rehabilitation; • maintenance of the rehabilitated area; • consideration of erosion (wrt wind direction) in detailed design; • planting of screening vegetation on site and in Wells Park; and • painting of the infrastructure to minimise impact. Much of the vegetation to be removed during construction is unsuitable for this purpose due the large quantity of weeds present. **Factor does not require further EPA evaluation.**
Fauna	Proposal site.	Site contains little native habitat.	**Government:** No comment received. **Public:** No comments received.	**Factor does not require further EPA evaluation.**

FACTOR	RELEVANT AREA	PROPOSAL CHARACTERISTICS	GOVERNMENT AGENCY AND PUBLIC COMMENTS	IDENTIFICATION OF RELEVANT FACTORS
POLLUTION				
Dust	Proposal area and surrounding properties including nearby residences and residences along the rail route.	**Storage and Loading facilities** The iron ore storage shed and conveyors would be fully enclosed and maintained under negative pressure. The storage shed and conveyor enclosures would be fitted with dust extraction fans ducted to dust filters. **Rail Transport** Iron ore would be transported in uncovered wagons as is already occurring in transport to the Esperance facility. There would be approximately two trains (four train movements) per day. The proponent has made a commitment to investigate the use of a crusting agent if dust is considered to be an issue.	**Government:** The DEP considered dust to be manageable, but sought clarification and further information relating to dust emissions and dust management. The DEP notes that the existing facility at Esperance incorporates best practice dust management. The City of Rockingham asked about comparative wind strengths at Esperance and Kwinana. **Public:** Submitters were concerned about the effect of dust on park users, local residences and businesses. They were concerned about the effectiveness of dust control measures. They were also concerned about the effects of iron ore dust on health particularly the health of asthma sufferers **Government:** The DEP notes that in a recent EPA assessment, the proponent had committed to the use of covered rail wagons or a crusting agent for the transport of iron ore. The DEP does not consider the transport of iron ore through the metropolitan area in uncovered wagons to be best practice. The DEP and LGA's suggested that dust monitoring along the rail route should be considered. **Public:** Submitters were concerned about iron ore dust blowing out of uncovered wagons and impacting on residential areas and on the proposed south west metropolitan passenger rail service.	**Considered to be a relevant Factor.**

FACTOR	RELEVANT AREA	PROPOSAL CHARACTERISTICS	GOVERNMENT AGENCY AND PUBLIC COMMENTS	IDENTIFICATION OF RELEVANT FACTORS
POLLUTION				
Noise	Proposal area and surrounding properties including nearby residences and residences along the rail route.	**Storage and Loading facility** The facility has numerous operational noise sources which include idling locomotives, wagon indexer, wagon dumper, conveyors, dust extraction fans and ship loader. Construction noise would also be present. **Rail Transport** There would be approximately two trains (four train movements) per day. The trains would operate at different times each day. The proposal would use "Q" class locomotives, which are significantly quieter than other trains currently using the rail line.	**Government:** The DEP notes that the modelling has been performed in accordance with the Draft "Guidance for EIA No. 8 - Environmental Noise". The DEP accepts that the modelling shows that the proposal can comply with the noise regulations at all times by meeting noise levels 5 dB(A) below the assigned levels. The City of Rockingham asked for clarification on some aspects of the noise modelling. **Public:** Submitters noted that the allowable noise level in nearby residential areas was already being exceeded by existing industry and thought additional noise was totally unacceptable. **Government** The DEP notes that rail noise has been examined in accordance with the Draft "Guidance for EIA No. 14 - Road and Rail Transportation Noise". The DEP notes the use of the quiet "Q" class locomotives will minimise noise. The LGA's had various comments on noise aspects. **Public:** Submitters were concerned about the effect of pass-by and shunting noise on residences adjacent to the rail line.	**Considered to be a relevant Factor.**
Vibr-ation	Residences adjacent to the rail line.	.	**Government:** The City of Cockburn believe the proponent should commit to complying with DIN 4150. **Public:** A submitter believed the present axle load on the rail line was 19 t and thought the proposed trains at 24 t axle load may cause increased vibration and structural damage.	Westrail policy is to comply with AS2670. The DEP accepts this approach and considers the appropriate table in this standard to be an acceptable criterion. It is not likely the existing vibration levels will increase with the introduction of iron ore trains for the proposal. The rail line is currently rated at 24 t and has been carrying trains at that load for many years. **Factor does not require further EPA evaluation**

FACTOR	RELEVANT AREA	PROPOSAL CHARACTERISTICS	GOVERNMENT AGENCY AND PUBLIC COMMENTS	IDENTIFICATION OF RELEVANT FACTORS
POLLUTION				
Marine impacts	Cockburn Sound.	The jetty extension would be an open pile structure which would have minimal impact on hydrodynamic processes. The proposed southern option does not require dredging. There would be approximately one additional ship per week which represents a 3% increase. The proponent has committed to undertaking a sediment monitoring programme.	**Government:** The DEP considers the marine impacts to be manageable but sought more information and clarification on some matters: • iron limitation of phytoplankton growth; • sediment resuspension during jetty construction; and • lubricant loss from the conveyors. The City of Rockingham asked about Tributyltin (TBT) and additional control measures and spill management. **Public:** The Conservation Council of WA note Cockburn sound is already under pressure and do not believe further development should be allowed until there is significant improvement in the environment of the sound. Submitters were concerned with issues such as TBT and ballast water from the additional shipping	The proponent advised that there was no evidence that phytoplankton was iron limited and there was minimal potential for iron spillage, sediment resuspension would be minimal since dredging was not required and conveyors would be enclosed and sit on concrete floors so potential for lubricant loss was minimal. The DEP considers the matters of TBT and ballast water are international issues which are being addressed at that level. Discharge of ballast water in Cockburn Sound requires approval by the Harbour Master who takes into account the AQIS guidelines on ballast water. This proposal represents only a minimal increase in shipping. See also proponent's response to public submissions. **Factor does not require further EPA evaluation.**

FACTOR	RELEVANT AREA	PROPOSAL CHARACTERISTICS	GOVERNMENT AGENCY AND PUBLIC COMMENTS	IDENTIFICATION OF RELEVANT FACTORS
SOCIAL SURROUNDINGS				
Social Issues and Visual Amenity	Proposal site, Kwinana Beach, Wells Park and surrounding areas from which facility is visible.	The jetty extension would be approximately 410 m long and the associated ship loader would be 36 m above the jetty. This would be clearly visible from Kwinana Beach and Wells Park as well as other locations. The proponent has committed to painting the facility and planting native vegetation (to provide screening) in order to minimise visual impact.	**Government:** The DEP and LGA's had questions about what the interviewees in the social impact study were told. The City of Rockingham thought the economic aspects of the study were treated superficially. **Public:** Submitters had concerns about the numbers and location of people interviewed in the social impact study. Submitters were concerned about the visual impact of the facility on Kwinana Beach, Wells Park and Rockingham Beach. They noted the computer generated images did not illustrate the true impact. They thought the jetty would be an eyesore and impact on recreational enjoyment and tourism. One submitter supported the proposal and suggested additional ships would attract tourists.	**Considered to be a relevant Factor.**
Public Safety and risk	Proposal area and surrounding areas including nearby roads and residences.		**Government:** The DEP and Town of Kwinana note that one emergency crossing could be blocked for up to 5 hours during train unloading. **Public:** CSBP believed the CER should have recognised the safety and emergency plans associated with ammonia transfer operations. .	Proponent has made a commitment to discuss alternative emergency access/egress in consultation with the Kwinana Industries Council and the fire and rescue services and construct alternative if required. KIPL personnel would be trained in the relevant emergency plans and actions required of them. **Factor does not require further EPA evaluation.**

FACTOR	RELEVANT AREA	PROPOSAL CHARACTERISTICS	GOVERNMENT AGENCY AND PUBLIC COMMENTS	IDENTIFICATION OF RELEVANT FACTORS
OTHER ISSUES				
Other Issues	Proposal area and surrounding areas.		**Government:** The Town of Kwinana asked for further information on the northern and western jetty extension options.	The proponent advised these options were unacceptable due to risk.
			Public: Submitters suggested the continued use of Esperance could be viable if the port was dredged and the rail upgraded.	See Section 5 - "Other Advice"
			Submitters suggested the viability of using the old BHP facilities should be re-examined.	The proponent advised that the amount of dredging required increases the environmental impact and the cost of dredging and removing the existing infrastructure makes this financially unviable.
			Submitters were concerned about the potential export of other commodities such as noxious or hazardous materials or live sheep.	See Section 5 - "Other Advice"
			Submitters were concerned about the disruption to traffic at level crossings.	Trains would only cause delays of about 2.2 minutes at most crossings and only 4 trains per week would cross during peak traffic times. **Factor does not require further EPA evaluation.**

(1243rs) October 6, 1999

Table 3. Summary of assessment of relevant factors

FACTOR	RELEVANT AREA	EPA OBJECTIVE	EPA's ASSESSMENT	EPA's ADVICE
Dust	Proposal area and surrounding properties including nearby residences and residences along the rail route.	To ensure that dust emissions do not cause nuisance to surrounding land users.	**Storage and Loading Facility** The EPA notes the design measures incorporated in the facility to minimise dust emissions particularly the enclosed nature of the storage shed and conveyors, the negative pressure applied to the shed and conveyors through the dust extraction system and the "fogging system" included at the ship loader. The EPA notes the advice from DEP officers who inspected the dust control measures in place at the Esperance storage and loading facility and found dust to be well managed. Since the proponent proposes at least the same dust control technology (which is recognised by the DEP as world's best practice) for the Kwinana facility, the EPA is confident that dust can be managed effectively at the proposed Kwinana facility. Proponent's commitments; • KIPL will undertake dust deposition monitoring programme and should dust deposition levels exceed 4g/m2/month, additional dust management measures will be incorporated. • KIPL will undertake a short term high volume dust sampling programme to confirm compliance with the Kwinana Environmental Protection (Atmospheric Wastes) Policy 1992. **Rail Transport** The EPA notes that DEP officers observed a KIPL iron ore train from several vantage points as it left the Koolyanobbing minesite and found that there were no visible dust emissions. Additionally no iron ore dust was noticeable on the rail infrastructure and surrounding vegetation. Since any dust would be expected to blow off in the first few kilometres and none was visible at five to ten km, the EPA considers it is unlikely that dust would be a problem after the train has travelled the 400 km to the Perth metropolitan area. The Koolyanobbing iron ore train currently passes through the Town of Esperance without dust problems on its way to the Esperance Port. Proponent's commitment; • KIPL will investigate the use of crusting agents or other management measures if dust from its operations along the rail line results in complaints.	Having particular regard to: • the design features of the storage and loading facilities; • the DEP's advice on the current dust management at the Esperance facility; • the DEP's advice on the dust emissions from the current Koolyanobbing iron ore train; • the proponent's commitments; and • Part V of the *Environmental Protection Act 1986*, it is the EPA's opinion that the proposal can be managed to meet the EPA's objective provided that the proponent's commitments are made legally enforceable.

FACTOR	RELEVANT AREA	EPA OBJECTIVE	EPA's ASSESSMENT	EPA's ADVICE
Noise	Proposal area and surrounding properties including nearby residences and residences along the rail route.	To protect the amenity of nearby residences from noise impacts by ensuring noise levels meet the *Environmental Protection (Noise) Regulations 1997* and train noise meets reasonable criteria.	**Storage and Loading Facility** The EPA notes the DEP's advice that the noise modelling is consistent with the Draft "Guidance for EIA No. 8 - Environmental Noise" and that use of the default meteorological values gives a worst case prediction. The modelling predicts the facility would meet noise levels which are 5 dB less than the assigned levels. Proponent's commitments: • The plant purchased will have a sound power level rating equal to or less than the values provided in the CER, unless additional modelling shows compliance using plant with higher sound power levels; and • Noise levels will be monitored during construction and operation. **Rail Transport** The EPA notes that the DEP's advice that the rail noise has been examined in accordance with the Draft "Guidance for EIA No. 14 - Road and Rail Transportation Noise".The LAeq from the line would increase by less than 0.3 dB and the LAmax from the proposed trains would be 5 dB less than existing trains. Proponent's commitment: • To use the quietest available locomotives ("Q" class).	Having particular regard to: • the criteria in the *Environmental Protection (Noise) Regulations 1997*; • the advice from the DEP on the acceptability of the noise modelling; • the proponent's commitments; and • Part V of the *Environmental Protection Act 1986*, it is the EPA's opinion that the proposal can be managed to meet the EPA's objective provided that the proponent's commitments are made legally enforceable.
Social Surroundings including Visual Amenity	Proposal site, Kwinana Beach, Wells Park and surrounding areas from which facility is visible.	Recreational use including visual amenity should not be unreasonably affected by the proposal.	The main social issue is the effect that the proposal would have on recreational use of Kwinana Beach, Wells Park and the surrounding area. The EPA notes that since the proposal would not prevent any of the existing recreational uses, the impact is due to loss of recreational enjoyment due to the visual impact of the jetty extension, conveyors and storage shed. The EPA visited the proposal site and surrounding area to compare the computer generated images from the CER with the existing landscape in order to gain a fair understanding of the visual impact. Having made this comparison, the EPA considers the visual impact of the jetty extension, conveyor and storage shed to be: • "substantial" from Kwinana Beach; • "minimal" from Wells Park; and • "negligible" from Rockingham Beach and further afield. It is the EPA's opinion that the visual impact of the proposed infrastructure is clearly acceptable at Wells Park and Rockingham Beach. The EPA believes that the visual impact on Kwinana Beach would be substantial. Swimmers for example may have the impression of swimming in an enclosed harbour rather than in the open ocean. However after considering the industrial nature of the area, the low number of people using Kwinana Beach and the availability of Rockingham Beach a few kilometres away, the EPA believes the overall impact on Kwinana Beach users would not be unreasonable. Proponent's commitments: • To paint the facility in suitable colours which minimise visual impact; • To plant screening vegetation on-site and in Wells Park; and • To investigate contributing toward the amenities at Wells Park.	Having particular regard to: • the low numbers of users of Kwinana Beach; • the availability of Rockingham Beach a few kilometres away; • the industrial nature of the area; and • the proponent's commitments, it is the EPA's opinion that the proposal can be managed to meet the EPA's objective provided that the proponent's commitments are made legally enforceable.

- storage of iron ore in an enclosed shed which is kept under negative pressure (when the conveyors are operating) by air extraction through dust collectors;
- the use of dust extractors at all loading, discharge and transfer points;
- automatic iron ore reclaiming system in the storage shed;
- a wharf gallery containing fully enclosed conveyors;
- loading of iron ore into ships with a telescopic chute which can be lowered to minimise dust generation;
- the use of a water fogging dust suppression systems at the ship loader;
- regular housekeeping to remove dust from areas where it accumulates;
- training employees to ensure effective dust control measures are implemented; and
- automatic control including pressure detection on the dust collection system which would sound an alarm and stop the activity until the dust collector is repaired.

Rail Transport

The proposal would require approximately two trains (four train movements) per day. There are currently 32 to 44 train movements per day on the rail line depending on the season. The iron ore would be transported by rail in uncovered wagons as is already occurring to the Esperance facility. The CER states that any fine iron ore dust would be expected to blow off in the first few kilometres of the journey which is an unpopulated area. The Koolyanobbing iron ore train currently passes through the Town of Esperance on its way to the Esperance Port.

Submissions

The DEP considered dust to be manageable, but sought clarification and further information relating to dust emissions and dust management. The City of Rockingham questioned whether the severity of the winds at Kwinana could generate more dust than at Esperance. Public submitters were concerned that iron ore dust from the storage and loading facility would cause a nuisance to surrounding land users and cause unsightly staining of infrastructure such as the white grain silos and adjacent residences.

The DEP noted that in a recent assessment, that proponent had committed to using covered wagons or a crusting agent for the transport of iron ore by rail. Submitters were concerned about iron ore dust blowing out of uncovered wagons and impacting on residences and on the stations and patronage of the proposed south west metropolitan passenger rail service.

Assessment

The area considered for assessment of this factor is the proposal area and surrounding properties including nearby residences and residences along the rail route.

The EPA's environmental objective for this factor is to ensure that dust levels generated by the proposal do not cause nuisance to surrounding land users.

In its assessment of the Esperance iron ore export facility (EPA, 1993), the EPA concluded that the potential impacts of either airborne iron ore dust or waterborne iron ore particles are not considered to be a health hazard and are confined to "nuisance" effects on people, surrounding land uses and the environment.

Storage and Loading Facility

The proponent advised that the wind speed at Kwinana is typically 10 kilometres per hour less than it is at Esperance, so the potential for dust generation is not likely to be greater than at Esperance.

The EPA notes the design measures incorporated in the facility to control dust emissions particularly the enclosed nature of the storage shed and conveyors, the negative pressure applied to the shed and conveyors through the dust extraction system and the "fogging system" included at the ship loader.

The EPA notes the advice from DEP officers who inspected the dust control measures in place at the Esperance storage and loading facility and found dust to be well managed. The DEP officers noted that the grain silos at Esperance are only about 100 metres from the export infrastructure and show no signs of iron ore staining. The grain silos at Kwinana are approximately 1.7 kilometres from the proposed export site. The DEP considers the iron ore dust management at the Esperance export facility to be world's best practice.

The EPA notes that in assessing this factor, in addition to the information provided in the CER and advice by experts, it also took into account the proven performance of iron ore dust management measures at the Esperance export facility.

Since the proposed Kwinana site is located further from residential areas than the Esperance site and the proponent proposes at least the same dust control technology, the EPA is confident that dust could be managed effectively at the proposed Kwinana facility.

The proponent has committed to:

- prepare and implement a dust monitoring programme and, should dust deposition levels be greater than 4g/m^2/month, employ additional dust management measures;
- undertake a short term high volume dust sampling programme to determine compliance with the National Environmental Protection Measure (NEPM) criteria for PM10; and
- establish a community complaints register.

The EPA notes that the proponent must apply for an operating licence from the DEP under Part V of the *Environmental Protection Act 1986* and that this licence would include conditions for dust control measures that are similar to those incorporated in the Esperance facility's licence.

Rail Transport

To gain a better understanding of dust emission from the rail wagons, DEP officers observed a KIPL iron ore train from several vantage points as it left the Koolyanobbing minesite. They found that there was no visible dust emission and additionally no iron ore dust was noticeable on the rail infrastructure or surrounding vegetation.

The EPA notes the DEP's advice and considers that since any dust would be expected to blow off in the first few kilometres and none was visible at five to ten kilometres, it is unlikely that dust would be a problem after the train has travelled the 400 kilometres to the Perth metropolitan area.

The EPA further notes that the Koolyanobbing iron ore train currently passes through the Town of Esperance, without dust problems, on its way to the Esperance Port.

The proponent has made a commitment to investigate the use of crusting agents or other management measures if dust from its operations along the rail line results in complaints.

Summary

Having particular regard to:

(a) the design features of the storage and loading facilities;

(b) the DEP's advice on the proven performance of the current dust management at the Esperance facility;

(c) the DEP's advice on the dust emissions from the current Koolyanobbing iron ore train;

(d) the proponents' commitments to prepare a dust monitoring programme, establish a complaints register and to investigate crusting agents and other management measures if dust from the trains causes complaints; and

(e) the ability to regulate operations under Part V of the *Environmental Protection Act 1986*,

it is the EPA's opinion that the proposal can be managed to meet the EPA's environmental objective for dust, provided that the proponents' commitments are made legally enforceable.

3.3 Noise

Description

The proposed export facility has the potential to produce noise during construction, operation (storage and loading facility) and through the transport of iron ore by rail.

Construction

Some construction noise would be present, most notably due to the pile driving associated with construction of the jetty.

Storage and Loading Facility

Noise levels for projects within Western Australia are subject to the *Environmental Protection (Noise) Regulations 1997.*

The facility has numerous noise sources which include idling locomotives, wagon indexer, wagon dumper, conveyors, extraction fans and ship loader.

The assigned noise levels at some East Rockingham residences are already being exceeded by existing industry and hence the noise regulations require that this proposal must meet levels which are 5 dB less than the assigned level in order to not "significantly contribute" to the existing exceedance.

The CER included noise modelling which predicts that the facility can meet noise levels which are 5 dB below the assigned noise levels at all times.

Figure 13 in the CER shows the relevant noise contours. Table 4 below gives the noise levels predicted at the nearest residence.

Table 4. Assigned levels and predicted noise levels at the nearest residence (214 Kent St, location "A" in Figure 2).

Time of Day	LA10 assigned level *	LA10 predicted level
0700 - 1900 Monday - Saturday	51 dB(A)	28 dB(A)
0900 - 1900 Sunday & public holidays	51 dB(A)	28 dB(A)
1900 - 2200 all days	46 dB(A)	28 dB(A)
2200 - 0700 Monday - Saturday	41 dB(A)	28 dB(A)
2200 - 0900 Sunday & public holidays	41 dB(A)	28 dB(A)

* predicted level must be at least 5 dB less than the assigned level.

Rail Transport

The proposal would require approximately two trains (four train movements) per day. There are currently 32 to 44 train movements per day on the rail line depending on the season. The proposed trains would operate at different times each day. The proposal would use the "Q" class locomotives which are the quietest available to Westrail and significantly quieter than other trains currently using the rail line.

While noise levels for projects within Western Australia are subject to the *Environmental Protection (Noise) Regulations 1997*, these regulations specifically exclude noise from passing trains, aircraft and vehicles on roads. Therefore the EPA needs to assess proposals involving transport noise on their individual merits.

To provide greater certainty to proponents and the public on the outcome of the environmental assessment process, the EPA has in conjunction with the DEP been preparing guidance on the assessment of a variety of environmental factors. As part of the process the DEP has produced Draft "Guidance for EIA No. 14 - Road and Rail Transportation Noise" (DEP, 1998). This draft is currently with the Department of Transport, Westrail and the Main Roads Department for 12 months peer review.

For an increase in traffic (such as the proposed additional trains on the existing rail line) the draft has two objectives:

(i) that the noise emissions of the vehicles associated with the proposal should comply with "best practice"; and.

(ii) that the noise levels inside noise-sensitive premises associated with the proposed traffic should meet acceptable levels.

The CER states that the proposed increase in rail traffic meets the criteria in the draft guideline.

Submissions

Submitters noted that the assigned noise levels were already being exceeded and believed that additional noise was totally unacceptable. They were also concerned that shunting noise was not considered in the CER.

Several Local Government Authorities (LGAs), along with other submitters had questions about the rail noise.

Assessment

The area considered for assessment of this factor is the proposal site and surrounding properties including nearby residences and residences adjacent to the rail route.

The EPA's environmental objective for this factor is to protect the amenity of nearby residences from noise impacts by ensuring noise levels from the export facility meet the *Environmental Protection (Noise) Regulations 1997* and noise levels from the rail transport meet reasonable criteria.

Construction

Noting the relevant provisions of the *Environmental Protection(Noise) Regulations 1997* which permits noise levels from construction activities to be above the assigned levels provided they are carried out between 0700 and 1900 hours (Monday to Saturday) and use the quietest reasonably available equipment, the EPA considers that the proponent commitments to:

- notify noise sensitive premises prior to pile driving activities being undertaken; and
- periodically monitor noise levels during pile driving activities,

are adequate to address the matter of construction noise.

Storage and Loading Facility

The EPA notes the DEP's advice that the modelling undertaken by the proponent has been carried out in accordance with the Draft "Guidance for the Assessment of Environmental Factors No. 8 - Environmental Noise" and that the use of default meteorological conditions gives a worst case prediction.

The EPA notes that by meeting levels at least 5 dB below the assigned levels, the proposal would not add to the existing noise level exceedance or further complicate its solution.

In the "Proponents' Response to Submissions" (Appendix 4), the proponent has provided a prediction of the shunting noise and demonstrated that this would be present for only 4% of the time and would meet a level 5 dB below the relevant LA1 assigned level in the regulations.

The EPA notes the proponents' commitment to:

- use equipment with sound power levels equal to or less than that used in the CER modelling unless further noise modelling shows the predicted levels in the CER can be met with a different mix of equipment sound power levels;

Rail Transport

The DEP undertook noise measurements of the existing Koolyanobbing iron ore train being hauled by "Q" class locomotives and found good agreement with the noise levels predicted in the CER.

The EPA notes the DEP's advice that the rail noise is considered acceptable since the LAeq from the rail line would increase by less than 0.3 dB and the LAmax from the proposed trains would be 5 dB less than existing trains using the rail line.

The EPA further notes the proponents' commitment to use "Q" Class locomotives (or quieter) to haul wagons between the minesite and Kwinana and the DEP's advice that these locomotives represent best practice.

Summary

Having particular regard to:

(a) the criteria in the *Environmental Protection (Noise) Regulations 1997*;

(b) the advice from the DEP on the acceptability of the noise modelling;

(d) the proponents' commitment to use plant with sound power levels equal to or less than the levels described in the CER, and to use "Q" class locomotives; and

(e) the ability to regulate the operations under Part V of the *Environmental Protection Act 1986*,

it is the EPA's opinion that the proposal can be managed to meet the EPA's environmental objective for noise, provided that the proponents' commitments are made legally enforceable.

3.4 Social Surroundings including Visual Amenity

Description

The jetty extension would be approximately 410 metres long and the associated ship loader would extend 36 metres above the jetty. The jetty extension and conveyor system would be visible from Kwinana Beach, Wells Park and the beach front south of the proposal site (see plates 4, 5 and 6 of the CER). The site is presently designated as "Precinct 1 - Port Related Industry" under the IP14 Structure Plan (Dames & Moore 1990) which is endorsed by the Western Australian Planning Commission (WAPC).

Once construction was completed, there would be rehabilitation of the disturbed dunes and some revegetation and landscaping of the site to provide screening. The planting would use native species indigenous to the area. Additionally the facility would be painted in suitable colours to minimise visual impact.

The CER states that the proposal would not prevent any of the existing recreational uses. There could however be some loss of recreational enjoyment due to the visibility of the jetty extension, conveyors and storage shed.

The proponents undertook a Social Impact Assessment (SIA) (see Appendix-E of the CER) which included visual impact. The key findings of the SIA suggested the social impacts were acceptable.

The FPA indicated a willingness in the CER to investigate contributing to the amenities at Wells Park. However State Government agencies have previously recommended that facilities at Wells Park should not be upgraded in order to avoid attracting large numbers of people to the area (which is exposed to risk from the surrounding industry). The proponents have thus made a commitment to report on the aptness of contributing to the amenities at Wells Park. As an example, the existing jetty is in poor condition and effecting repair may be able to be considered as maintenance rather than an upgrade.

Submissions

The DEP, LGA's and public submitters had questions about the SIA, including economic aspects and the location and number of interviewees and what they were told.

Concerns were raised in submissions about the visual impact of the facility on Kwinana Beach, Wells Park and Rockingham Beach. Submitters noted the computer generated images did not illustrate the true impact and thought the jetty would be an eyesore and impact on recreational enjoyment and tourism. One submitter supported the proposal and suggested additional ships would attract tourists.

Assessment

The area considered for assessment of this factor is the proposal site, Kwinana Beach, Wells Park and surrounding areas from which the facility is visible.

The EPA's environmental objective for this factor is to ensure that recreational use including visual amenity is not unreasonably affected by the proposal.

The EPA notes that the land is designated for the intended port related use.

The EPA engaged an independent consultant to evaluate the adequacy of the proponents' SIA (PPK, 1999). The consultant believed the process and methodology were acceptable, although they could be improved, and generally supported the SIA's findings. Other questions raised regarding the SIA are addressed in the Proponents' Response to Public submissions included at Appendix 4.

The main social issue is the effect that the proposal would have on recreational use of Kwinana Beach, Wells Park and the surrounding area.

Since the proposal would not prevent any of the existing recreational uses, the EPA considers the impact would be mainly due to the loss of recreational enjoyment from the visibility of the jetty extension, conveyors and storage shed.

The DEP was aware that the computer generated images in the CER may not adequately represent the actual view and hence required the following qualifier to be included in the CER;

> "This image is produced to show the comparative size of the existing and proposed facilities. It may not represent the view as seen by the naked eye and hence the reader is encouraged to visit Wells Park to assess the visual impact themselves."

Several visits were made to the proposal site and surrounding area to compare the computer generated images from the CER with the existing landscape in order to gain a fair understanding of the visual impact. Having made this comparison, the EPA considers the visual impact of the jetty extension, conveyor and storage shed to be:

- "substantial "from Kwinana Beach;
- "minimal" from Wells Park
- "negligible" from Rockingham Beach and further afield.

The rationale behind this comparison is described further in Table 5 below.

Table 5. Summary of Visual Impact at the three locations

	IMPACT DUE TO:			
LOCATION	VIEW OBSTRUCTION	DOMINANCE	CONTRAST WITH IMMEDIATE BACKGROUND	OVERALL VISUAL IMPACT
KWINANA BEACH	the view of Garden Island would be almost totally obscured	the jetty would be the dominant object in the field of view	the jetty would contrast with views of the ocean, Garden Island and the sunset	SUBSTANTIAL
WELLS PARK	the jetty would be visible but would not obstruct view	the jetty would be noticeable in the background	the visible parts of the facility would be similar to the surrounding industrial infrastructure	MINIMAL
ROCKINGHAM BEACH	the jetty would not block any views	the jetty would not be readily noticeable	the facility would be largely screened by the Kwinana Grain Terminal and would not be out of place with the surrounding industrial infrastructure	NEGLIGIBLE

The EPA considers that the visual impact of the proposed infrastructure is clearly acceptable at Wells Park and Rockingham Beach.

The EPA accepts that the visual impact on Kwinana Beach would be substantial. Swimmers for example may have the impression of swimming in an enclosed harbour rather than in the open ocean. However after considering the industrial nature of the area, the low number of people using Kwinana Beach and the availability of Rockingham Beach a few kilometres away, the EPA believes the overall impact on Kwinana Beach users would not be unreasonable.

The EPA notes the proponents' commitments to prepare a Landscape Management Plan which would address visual impact by:

- painting the storage shed, conveyor, jetty and associated infrastructure (with appropriate public input on colours);
- planting of screening vegetation on-site and around the northern boundary of Wells Park; and
- landscaping of the site.

The EPA further notes the proponents' additional commitment to consult the Local Government Authority and relevant State Government Agencies and report on the aptness of contributing to the amenities at Wells Park.

Summary

Having particular regard to the:

(a) low numbers of users of Kwinana Beach;

(b) the localised nature of the visual impact which is confined to users of Kwinana Beach;

(c) availability of Rockingham Beach a few kilometres away;

(d) industrial nature of the area; and

(e) proponents' commitments to paint the facility and plant screening vegetation to minimise visual impact,

it is the EPA's opinion that the proposal is capable of being managed to meet the EPA's environmental objective for social surroundings including visual amenity, provided that the proponents' commitments are made legally enforceable.

4. Conditions and commitments

Section 44 of the *Environmental Protection Act 1986* requires the EPA to report to the Minister for the Environment 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 proponents' responsibility for, and commitment to, continuous improvement in environmental performance. The commitments, modified if necessary to ensure they are enforceable, then form part of the conditions to which the proposal should be subject if it is to be implemented.

The EPA may, of course, also recommend conditions additional to those relating to the proponents' commitments.

4.1 Proponents' commitments

The proponents' commitments as set in the CER and subsequently modified, as shown in Appendix 3, should be made enforceable conditions.

4.2 Recommended conditions

Having considered the proponents' commitments and the information provided in this report, the EPA has developed a set of conditions which the EPA recommends be imposed if the proposal by KIPL, the FPA and Westrail to build and operate a facility for the export of iron ore at Kwinana, is approved for implementation. These conditions are presented in Appendix 3.

5. Other advice

KIPL have not made a firm decision on whether to relocate to Kwinana or to continue their current operation at Esperance. The EPA understands that if the rail line to Esperance was upgraded and the Port of Esperance was dredged to allow larger ships, then KIPL would likely choose to keep its operation at Esperance.

The EPA recognises that regardless of KIPL's decision the FPA is still seeking environmental approval for the proposal to allow for the export of other commodities. Any proposal for the export of alternative commodities which could make use of the proposed loading facility would be likely to require stringent dust and noise management measures similar to those for the export of iron ore.

The EPA considers that the design of the wharf and loading facilities, and the proponents' management commitments, are such that the proposal could be used not only for iron ore, but possibly also for other non-noxious, non-hazardous cargoes without unacceptable environmental impacts. The EPA understands that operations utilising the wharf and loading facilities would be subject to licensing under Part V of the *Environmental Protection Act 1986* and this would enable consideration of specific management requirements, and the setting of conditions for use of the facility for other non-noxious, non-hazardous cargoes. Therefore it

would be appropriate for FPA to notify the DEP, through the Part V process, of materials other than iron ore going to be exported.

6. Conclusions

The EPA has considered the proposal by the Koolyanobbing Iron Pty Ltd, Fremantle Port Authority and Westrail to build and operate a facility to export iron ore at Kwinana.

The EPA notes that the proposal would affect the visual amenity for the users of Kwinana Beach. However, the visual impact would be localised and is not so great as to prevent the proposal from being implemented. Visual impact would not be significant at Wells Park, Rockingham Beach or areas further away.

The EPA considers that the factors of dust and noise can be managed so as not to cause unacceptable environmental impacts. KIPL has demonstrated through its environmental performance at Esperance that these factors can be managed through appropriate design and operation of the facilities.

The EPA has concluded that the proposal can be managed in an environmentally acceptable manner, provided there is satisfactory implementation by the proponent of the recommended conditions set out in Appendix 3, including the proponents' commitments.

Further, the EPA advises that regardless of whether Koolyanobbing Iron decides to relocate its export operations to Kwinana, the design of the wharf and loading facilities, and the management commitments, are such that the marine component of the proposal could proceed and be used not only for iron ore, but possibly also other non-noxious, non-hazardous cargoes, without unacceptable environmental impacts. Operations utilising the wharf and loading facilities would be subject to licensing under Part V of the *Environmental Protection Act 1986* and this would enable consideration of specific management requirements, and the setting of conditions for use of the facility for other non-noxious, non-hazardous cargoes.

Use of the facility for noxious or hazardous cargoes would require referral to the EPA pursuant to Section 38 of the *Environmental Protection Act, 1986*, for a decision on the need for formal environmental impact assessment.

7. Recommendations

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

1. That the Minister notes that the project being assessed is a facility for the export of iron ore at Kwinana;
2. That the Minister considers the report on the relevant environmental factors as set out in Section 3;
3. That the Minister notes that the EPA has concluded that the proposal can be managed to meet the EPA's environmental objectives, provided there is satisfactory implementation by the proponent of the recommended conditions set out in Appendix 3, including the proponents' commitments;
4. That the Minister notes that in Section 5, Other Advice, the EPA has expressed the view that although the proposal is for the export of iron ore, it could possibly also be used for the export of other non-noxious, non-hazardous cargoes without there being an unacceptable environmental impact.
5. That the Minister imposes the conditions and procedures recommended in Appendix 3 of this report; and
6. That the Minister notes the EPA's other advice in Section 5 of this report.

Appendix 1

List of submitters

Government Agencies:

Department of Resources Development
Town of Kwinana
City of Rockingham
City of Cockburn

Organisations:

Conservation Council Of Western Australia
Rockingham Beach Traders and Owners Association
Kwinana Chamber of Commerce Inc
Kwinana Watchdog Group
Wesfarmers CSBP
Com-Net

Individual:

Captain and Mrs D. H. Wilmott
Mr Peter Frith
Ms June Parker
Mrs Jean O'Connor
Mrs Susan Almen
J. P. Vogel
Mr William P Corser
Mr Rick Williams
Ms Val Williams
Mrs E. Quinn
J. A. Stables
Ms Lynette Junghans
Mr & Mrs A. Kelly
Mr & Mrs I. Low
Ms W. Low
Ms S. Low
Ms L. Barrett
Ms C. Parker
J. Leary
Ms Jodie Blunt
Mr Roger Plush
Mr Haydn Nichohs
Ms Betty Nichohs
Mr John Chitty
Mr Ray Thomson
Mr Steve Hesse
Mrs E Zumbo
Ms Emma Rogers
Mr Thomas Rogers
Mr Mark McGowan MP
Revd Dr Alan Stubbs

Appendix 2

References

Dames & Moore (1990) *East Rockingham Industrial Park Regional Environmental and Development Study: Improvement Plan No. 14: Draft Strategic Plan for Public Comment.*. Prepared for Kwinana Industries Co-ordinating Committee, Dames and Moore, Perth.

Dames & Moore (1999a) *Kwinana Export Facility, Consultative Environmental Review - Fremantle Port Authority, Koolyanobbing Iron Pty Ltd and Westrail.* Dames and Moore, Perth.

Dames & Moore (1999b) *Kwinana Export Facility, Proponents' Response to Public Submissions - Fremantle Port Authority, Koolyanobbing Iron Pty Ltd and Westrail.* Dames and Moore, Perth.

Department of Environmental Protection (1998) *Draft Guidance for the Assessment of Environmental Factors No. 14 - Road and Rail Transportation Noise.* Department of Environmental Protection, Perth.

Environmental Protection Authority (1993) *Iron ore export through Esperance.* Environmental Protection Authority, Bulletin 701, Perth.

Environmental Protection Authority (1998) *Draft Guidance for the Assessment of Environmental Factors No. 8 - Environmental Noise.* Environmental Protection Authority, Perth.

Government of Western Australia (1997) *Environmental Protection (Noise) Regulations.* Department of Environmental Protection, Government of Western Australia, Perth.

PPK Environment and Infrastructure Pty Ltd (1999) *Review of Documentation - Kwinana Export Facility.* PPK Environment and Infrastructure Pty Ltd, Perth.

Western Australian Planning Commission (1999) *Goldfield - Esperance, Regional Planning Strategy.* Western Australian Planning Commission, Perth.

Appendix 3

Recommended Environmental Conditions and Proponents' Consolidated Commitments

RECOMMENDED CONDITIONS

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

KWINANA EXPORT FACILITY, KWINANA

Proposal: The construction and operation of an export facility. The facility would consist of three components:

1) Marine Component - a southern extension of the Bulk Cargo Jetty (BCJ), an access jetty, an enclosed conveyor and a bulk material ship loader;
2) Terrestrial Component - an automated rail car dumper, an enclosed conveyor, a storage shed and other infrastructure;
3) Rail Component - a rail line within the existing service corridor.

The rail and terrestrial components are located in the area bounded by Kwinana Beach Road, the BCJ access road, Wells Road and the shoreline at Kwinana Beach. The marine component is located in the ocean immediately south of the existing BCJ, as documented in schedule 1 of this statement.

Proponent: Koolyanobbing Iron Pty Ltd, Fremantle Port Authority, and Westrail

Postal Address: Fremantle Port Authority,
Victoria Quay
1 Cliff St
FREMANTLE 6160

Assessment Number: 1243

Report of the Environmental Protection Authority: Bulletin 953

The proposal to which the above report of the Environmental Protection Authority relates may be implemented subject to the following conditions and procedures:

1 Implementation

1-1 Subject to these conditions and procedures, the proponent shall implement the proposal as documented in schedule 1 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 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 determines, on advice of the Environmental Protection Authority, is not substantial, those changes may be effected.

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 conditions and procedures in this statement.

3 Environmental Management System

3-1 In order to manage the environmental impacts of the project, and to fulfil the requirements of the conditions and procedures in this statement, prior to commissioning, the proponent shall demonstrate to the requirements of the Environmental Protection Authority on advice of the Department of Environmental Protection that there is in place an environmental management system which includes the following elements:

1 An environmental policy and corporate commitment to it;

2 Mechanisms and processes to ensure:

1 planning to meet environmental requirements;

2 implementation and operation of actions to meet environmental requirements;

3 measurement and evaluation of environmental performance; and

3 Review and improvement of environmental outcomes.

3-2 The proponent shall implement the environmental management system referred to in condition 3-1.

4 Decommissioning and Rehabilitation Management Plan

4-1 At least six months prior to decommissioning, the proponent shall prepare a Decommissioning and Rehabilitation Management Plan to the requirements of the Environmental Protection Authority on advice of the Department of Environmental Protection.

This Plan shall address:

1 removal or, if appropriate, retention of plant and infrastructure;

2 rehabilitation of all disturbed areas to a standard suitable for agreed new land use/s; and

3 identification of contaminated areas, including provision of evidence of notification to relevant statutory authorities.

4-2 The proponent shall implement the Decommissioning and Rehabilitation Management Plan required by condition 4-1 until such time as the Minister for the Environment determines that decommissioning and rehabilitation are complete.

4-3 The proponent shall make the Decommissioning and Rehabilitation Management Plan required by condition 4-1 publicly available, to the requirements of the Environmental Protection Authority.

5 Performance Review

5-1 Each five years following the commencement of construction, the proponent shall submit a Performance Review to the Department of Environmental Protection:

- to document the outcomes, beneficial or otherwise;
- to review the success of goals, objectives and targets; and
- to evaluate the environmental performance over the five years;

relevant to the following:

1 environmental objectives reported on in Environmental Protection Authority Bulletin 953;

2 proponent's consolidated environmental management commitments documented in schedule 2 of this statement and those arising from the fulfilment of conditions and procedures in this statement;

3 environmental management system environmental performance targets;

4 environmental management programs and plans; and/or

5 environmental performance indicators;

to the requirements of the Environmental Protection Authority on advice of the Department of Environmental Protection.

Note: The Environmental Protection Authority may recommend changes and actions to the Minister for the Environment following consideration of the Performance Review.

6 Proponent

6-1 The proponent for the time being nominated by the Minister for the Environment 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 has exercised the Minister's power under section 38(7) of the Act to revoke the nomination of that proponent and nominate another person in respect of the proposal.

6-2 Any request for the exercise of that power of the Minister referred to in condition 6-1 shall be accompanied by a copy of this statement endorsed with an undertaking by the proposed replacement proponent to carry out the proposal in accordance with the conditions and procedures set out in the statement.

6-3 The proponent shall notify the Department of Environmental Protection of any change of proponent contact name and address within 30 days of such change.

7 Commencement

7-1 The proponent shall provide evidence to the Minister for the Environment within five years of the date of this statement that the proposal has been substantially commenced.

7-2 Where the proposal has not been substantially commenced within five years of the date of this statement, the approval to implement the proposal as granted in this statement shall lapse and be void. The Minister for the Environment will determine any question as to whether the proposal has been substantially commenced.

7-3 The proponent shall make application to the Minister for the Environment for any extension of approval for the substantial commencement of the proposal beyond five years from the date of this statement at least six months prior to the expiration of the five year period referred to in conditions 7-1 and 7-2.

7-4 Where the proponent demonstrates to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority that the environmental parameters of the proposal have not changed significantly, then the Minister may grant an extension not exceeding five years for the substantial commencement of the proposal.

8 Compliance Auditing

8-1 The proponent shall submit periodic Performance and Compliance Reports, in accordance with an audit program prepared in consultation between the proponent and the Department of Environmental Protection.

8-2 Unless otherwise specified, the Chief Executive Officer of the Department of Environmental Protection is responsible for assessing compliance with the conditions, procedures and commitments contained in this statement and for issuing formal, written advice that the requirements have been met.

8-3 Where compliance with any condition, procedure or commitment is in dispute, the matter will be determined by the Minister for the Environment.

Note

1 The proponent is required to apply for a Works Approval and Licence for this project under the provisions of Part V of the Environmental Protection Act.

Schedule 1

The Proposal

The proposal is for the construction and operation of an export facility. The facility will consist of three separate parts; a marine component, a terrestrial component and a rail component. These will be constructed and operated by the FPA, KIPL and Westrail respectively.

The proposed rail and terrestrial components are located in the area bounded by Kwinana Beach Road, the Bulk Cargo Jetty (BCJ) access road, Wells Road and the shoreline at Kwinana Beach. The marine component is located in the ocean immediately south of the existing BCJ.

The components are shown on Figure 1 and described below:

Marine component

This will consist of a southern extension to the existing BCJ. The existing BCJ is an open pile structure with concrete decks. The proposed southern extension to the BCJ will be constructed south west of Berth 2 at an angle of 150 degrees to the BCJ.

The jetty will be approximately 410 metres long and 5 metres above mean sea level. The jetty will be constructed in an open pile manner and the deck is likely to be made from precast concrete.

A wharf gallery will sit at 18 metres above the jetty deck and will contain a tripper conveyor. A ship loader will rise approximately 36 metres above the deck and consist of a travelling portal, with a belt tripper inside the wharf gallery. The ship loader will be fitted with a telescopic loading chute.

An access bridge approximately 410 metres long will be constructed from the shore to the jetty to allow independent operation of the import and export facilities.

A fully enclosed conveyor will be constructed from the storage shed across the foreshore to a transfer station then along the access bridge to meet the tripper conveyor in the wharf gallery.

No dredging will take place for the construction or operation of the jetty.

Terrestrial Component

This will consist of a car dumper, storage shed and conveyor system. The car dumper will be in an enclosed shed which is maintained under negative pressure. The car dumper will unload iron ore by rotating the rail wagons, thus tipping the ore into an underground storage bin.

The incoming iron ore will be transported by an enclosed conveyor to a transfer station and then to the storage shed. All transfer stations will be fitted with dust extraction systems.

The storage shed will be 60 metres wide by 330 metres long and 27 metres high. It will be maintained under negative pressure at all times when the iron ore is being handled (by air extraction through dust collectors). The shed will also be fitted with an automatic reclaimer to place ore from the stockpile onto the conveyor.

The out going iron ore will be transported by an enclosed conveyor to the jetty.

Other infrastructure will include a workshop, an administration building and sealed roads.

Rail Component

This will consist of approximately 3000 metres of new rail track, located east of the existing rail line in the cleared service corridor. Two "Q" class locomotives will be used to haul up to 83 wagons of iron ore between the Koolyanobbing minesite and Kwinana. These trains will be up to 940 metres long and there will be up to two trains per day.

The main characteristics of the proposal are summarised below:.

Key Characteristics Table

Element	Quantities/Description
Nature of operation	The transport, receival, storage and export of iron ore.
Inputs	• approximately 2 trains per day, each carrying 6100 tonnes of iron ore.
Quantity of ore to be exported	• up to 4 million tonnes per annum. • approximately one ship per week.
Marine Component List of major items	• an open pile southern extension (approximately 410 metre long) to the existing Bulk Cargo Jetty (BCJ); • a wharf gallery approximately 18 metres above the jetty deck; • an access bridge (approximately 410 metres long) from the shore to the BCJ extension; • a fully enclosed conveyor operating at up to 4000 tonnes per hour; and • a bulk material ship loader operating at up to 4000 tonnes per hour (approximately 36 metres above the jetty deck).
Terrestrial Component List of major items	• an enclosed automated rail car dumper operated under negative pressure; • a fully enclosed conveyor operating at up to 4000 tonnes per hour, and associated transfer stations; • a storage shed operating under a negative pressure (approximately 60 metres wide by 330 metres long and 27 metres high); • an automated reclaiming system to reclaim ore from the stockpiles onto the conveyors; and • a screening facility located inside the shed.
Other infrastructure	• workshop; • administration building; and • sealed access roads.
Rail Component List of major item	• an additional 3000 metres of rail line adjacent to the existing rail line and within the existing service corridor.

Figure 1 shows the facility layout.

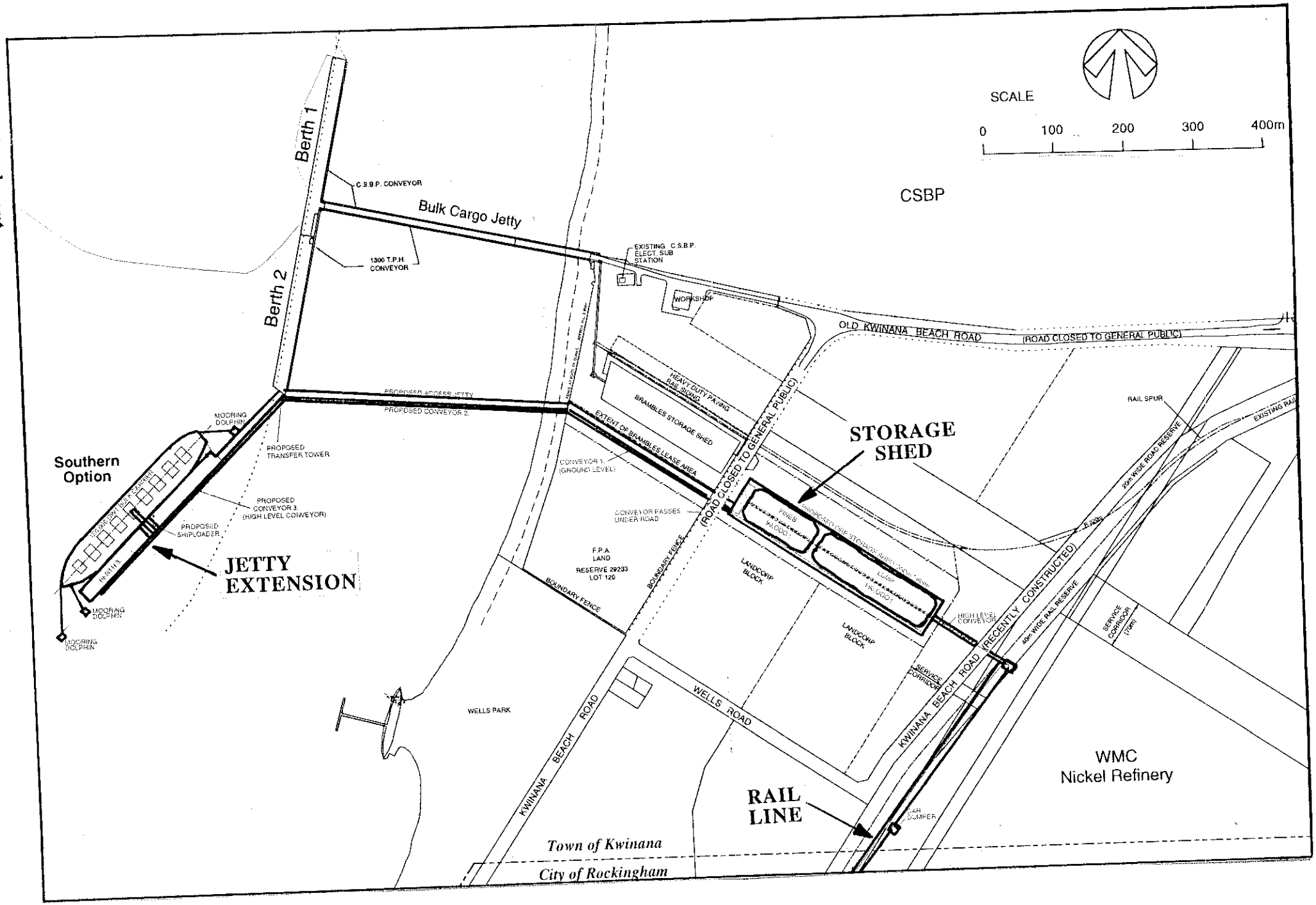

Figure 1. Plant layout.

Schedule 2

Proponents' Consolidated Environmental Management Commitments

July 1999

KWINANA EXPORT FACILITY, KWINANA (1243)

Koolyanobbing Iron Pty Ltd, Fremantle Port Authority and Westrail

Table 1

Commitment No.	Commitment	Timing	Objective	Action	To Whose Satisfaction	Completion Criteria
Marine Component						
1	The proponent will operate the Outer Harbour Liaison Group to enable local community, industry and Government representatives to discuss Port related issues.	Ongoing.	• To provide a regular two way channel of communication between the proponent and community groups on matters of mutual interest. • To provide a more proactive approach to issues management. • Enhance community understanding, acceptance and support for the needs of the working port. • Enhance the proponent's understanding, acceptance and support for the needs of the broader community.	Continue meetings with the community.	DEP	• Ongoing consultation during operation of Port. • Minutes available on request.
2	An Environmental Management System will be prepared and implemented during the operation of the Kwinana Export Facility.	Developed during the construction phase. Ongoing implementation and review.	To ensure sound environmental management of the operations.	Continue to develop the EMS.	DEP	Meet the requirements of ISO 14001.
3	A rehabilitation and landscape management plan will be prepared and implemented. This plan will address: • Rehabilitation (including stabilisation, revegetation and maintenance) of the dunes within the Project Area; • Painting of the jetty and associated infrastructure with public input; and • Screening vegetation around northern boundary of Well's Park; and • Consideration of the wind direction in the final design of the conveyor.	Post Construction.	To minimise the impact to flora and vegetation in the Project Area.	• Dune area stabilised using brush or mulch • Seeding of dune area undertaken if required. • Landscaping along the northern boundary of Wells Park. • Area fenced.	DEP	Area stable and revegetation successful.

Table 1 (*contd*)

Commitment No.	Commitment	Timing	Objective	Action	To Whose Satisfaction	Completion Criteria
4	Prior to pile driving being undertaken, the proponent will notify: • all noise sensitive premises within the area bounded by Lewington St, Victoria St, Rockingham Road and Govenor Road; • the residents of the Cee & See Caravan Park; and • commercial premises in the immediate vicinity (within a 1 km radius) of the Project.	Pre-construction.	To ensure that residents are aware of potential noise emissions.	Communicate times, dates and proposed construction activities to nearby residents and businesses.	DEP	Written indication of activities provided to all nearby residents and businesses.
5	Noise levels will be periodically monitored at Wells Park and the nearest residence during pile driving activities. If the noise levels attributable to the Project are above those modelled in the CER, additional noise control measures would be implemented.	Construction.	To ensure that noise levels are below acceptable criteria.	Undertake noise monitoring.	DEP	Noise levels within acceptable criteria.
6	A sediment monitoring programme will be developed and implemented to monitor for the presence of iron ore and other metals around BCJ. If iron ore attributable to the Project is found additional management measures will be implemented.	Operations.	To monitor the impact of the Export Facility on the marine habitats in the Project Area.	Implement a sediment monitoring programme.	DEP	Submit annual report to the DEP.
7	A hazard and risk assessment of the construction and operation of the marine component of the Project will be undertaken and a risk management plan will be developed specifically for this Project.	Pre-construction.	To identify hazards and risks associated with construction and operation of the export facility.	Undertake hazards and risk assessment.	DEP	Comply with statutory requirements.
8	In consultation with the Local Government Authority and State Government agencies a report on the aptness of contributing to the amenities at Wells Park will be prepared.	Pre-construction	To determine the suitability of contributing to the amenities of Wells Park.	Meet with local councils and appropriate State Government Agencies	DEP	Minutes of meetings available on request.
Terrestrial Component						
9	An Environmental Management Plan (EMP) will be prepared and implemented for the iron ore component of the facility.	Pre-construction.	To ensure sound environmental management of the iron ore component of the export facility.	Prepare EMP.	Developed in consultation with the DEP.	Acceptance of EMP.

Table 1 (*contd*)

Commitment No.	Commitment	Timing	Objective	Action	To Whose Satisfaction	Completion Criteria
10	Dust levels on the construction site will be visually monitored and dust control measures will be implemented during the construction of the Kwinana Export facility in the event that: • Unacceptable levels of dust are observed; • Strong winds and dry conditions make dust generation likely; or • Reasonable complaints about dust are received. Provisions will be made for a water cart to be onsite, if required, to control dust levels.	During construction.	To control any dust generated as a result of construction activities.	• Apply water sprays where required.	DEP	• Compliance with Works Approval conditions. • Register of complaints and actions taken.
11	A dust monitoring programme will be prepared and implemented in the vicinity of the Project, and should dust deposition levels attributable to the Project be greater than 4g/m^2/month, additional dust management measures will be incorporated into the Project.	Pre-construction, construction, and operations.	To minimise dust generation during operation of the Project.	Continue monitoring dust deposition at Kwinana.	DEP	Compliance with licence conditions and NSW EPA dust deposition standards.
12	A short term high volume sampling programme will be prepared and implemented to determine compliance with the national Environment Protection Criteria for PM_{10} at the closest residents or the existing DEP North Rockingham monitoring station.	Operation.	To minimise dust generation during operation of the Project.	Undertake high volume sampling near the Project Area.	DEP	• Acceptance of monitoring programme. • Results supplied to DEP
13	A community complaints register will be established.	Pre-construction.	To provide the general community with a means of registering complaints.	• Establish a telephone number and advertise it locally. • Register all complaints and investigate within 48 hours.	DEP	• Telephone number established and advertised. • Log available on request.

Table 1 (*contd*)

Commitment No.	Commitment	Timing	Objective	Action	To Whose Satisfaction	Completion Criteria
14	If dust complaints attributable to the Project are received from residents along the rail line through the Metropolitan area, a short term dust deposition monitoring programme will be instigated to assess the dust deposition levels. A report will be prepared on the suitability of the use of crusting agents or other management measures if dust along the rail line is attributable to the Project.	Operation.	To minimise the impact of dust on residents along the rail line.	Investigate complaints related to dust along the rail line.	DEP	Management measures implemented, if required.
15	The plant equipment used in the operation of the Project will have a sound power level rating equal to or less than the levels in the CER unless additional modelling shows compliance with the predicted levels in the CER.	Construction.	To minimise the impact of noise from construction on nearby residents.	Undertake noise modelling, if equipment had sound power levels greater than in the CER.	DEP	Noise levels comply with noise modelling sound power levels.
16	A landscape management plan will be prepared and implemented which will address • Painting of the shed and conveyor; • areas to be landscaped; and • the types of landscaping that will be undertaken in these areas. Public input will be sought during the preparation of the plan.	Pre-construction.	To minimise the visual impact of the Project.	• Consult the public. • Prepare Landscape Plan.	Town of Kwinana and DEP	Acceptance of Landscape Plan
17	The proponent will meet with the Kwinana Industries Council (KIC) and the Fire and Rescue Service to discuss the Emergency Response scheme and to identify alternative emergency routes to the Bulk Cargo Jetty and the Kwinana Industrial Area. The proponent will respond to reasonable requests of KIC and the Fire and Rescue Service to establish alternative emergency access routes.	Pre-construction.	To ensure the safety of workers and general public in the Kwinana Industrial Area.	Meet with KIC and Fire and Rescue Services.	KIC, Fire and Rescue Services and DEP	Comply with the requirements of the KIC and Fire and Rescue Services.
Rail Component						
18	Q Class locomotives (or quieter) will be used to haul the wagons between the mine site and Kwinana.	Operation	To minimise noise generated from train movements.	Use Q Class locomotives.	DEP	Q Class (or quieter) locomotives in use.

Appendix 4

Summary of Submissions

and Proponents' Response to Submissions

REPORT

Proponent's Response To Submissions Consultative Environmental Review Kwinana Export Facility

for
Fremantle Port Authority
Koolyanobbing Iron Pty Ltd and
Westrail

DAMES & MOORE
Ref: KAC/12700-004-071/DK:505-F1120.2/DOC/PER
27 July 1999

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PROPONENT'S RESPONSE TO SUBMISSIONS
CONSULTATIVE ENVIRONMENTAL REVIEW
KWINANA EXPORT FACILITY
for
Fremantle Port Authority, Koolyanobbing Iron Pty Ltd and Westrail

1. INTRODUCTION

This report presents a summary of the issues raised by Decision Making Authorities (DMA's), members of the public and other interested parties during the four week public review of the Consultative Environmental Review (CER) for the Proposed Kwinana Export Facility Project. The CER was prepared for the Proponents, Fremantle Port Authority (FPA), Koolyanobbing Iron Pty Ltd (KIPL) and Westrail, by Dames & Moore (1999).

The submissions have been summarised by the Department of Environmental Protection (DEP) and included issues related to:

- visual amenity;
- social impact;
- air quality and dust issues;
- noise;
- vibration;
- other project alternatives;
- public safety and risk; and
- vegetation and dunes.

These issues and the Proponent's responses are presented in this report. The DEP's summary of the issues as outlined in the submissions received is provided in italics.

2. VISUAL AMENITY

2.1 TOWN OF KWINANA AND KWINANA WATCH DOG GROUP

The Town of Kwinana and the Kwinana Watchdog Group notes that the conveyor and the southern extension of the Bulk Cargo Jetty constitutes the greatest visual impact of the proposal. The proposed building and jetty extensions will be clearly visible from Kwinana Beach, and to a lesser extent, Wells Park. The jetty extension will particularly inhibit views of the Cockburn Sound and Garden Island from this recreation area. Council's Town Planning Scheme No. 2 Policy Area 15 - 'Kwinana Industrial Strip' requires that, (f) industrial developments be designed to minimise their visual impact on the locality, and (g) industrial developments shall ensure access and recreational use to Wells Park. The CER has not adequately addressed the issue of visual impact on Kwinana Beach, especially in relation to the jetty options. The visual impact would be reduced by the alternative Western or Northern Alignments as recommended in the social impact assessment. Could the Proponent comment on this?

The proposed Kwinana Export Facility is located in an area which has been designated Precinct 1 – Port Related Industry (i.e. an area for industries requiring port access and port related facilities or requiring land for stockpiling of imported materials or materials distributed for export). Under this definition the proposed facility is considered to be suitable for the area. It is surrounded by other industrial facilities and the surrounding vistas are dominated by other industrial activities. The proposed facility is not considered to be out of context with its surrounding environment.

The Proponents note the comment that the visual impact of the facility would be reduced by aligning the facility to the west or the north. However, as indicated in the CER there are operational and technical risk issues associated with alignment of the facility in these directions (see further comments in Section 9). The facility has been designed as an open pile structure to minimise its visual impact. The facility will be painted with colours that are harmonious with the surrounding environment.

The Social Impact Assessment (SIA) undertaken for the CER interviewed 65 users of Wells Park. Of the people interviewed only two raised the issue of visual impact of the facility. The SIA noted that people may not have identified visual impact as a major issue because:

- the users of the beach and park interviewed may not have thought of the visual impact at the time of the interview;
- the interviewees did not comprehend the extent of the visual impact; or
- they did not see the visibility of the facility as an issue.

During the survey, interviewees were also asked if there was anything that could be done to minimise the impact of the proposed facility on their usage of the area. The interviewees comments were considered and where possible, included in the management measures that are proposed for the Project.

Although the visual impact of the facility was not identified as an issue by the majority of the users of the beach and Park, the Proponents are aware of the importance of Kwinana Beach to the wider community and have designed the proposed facilities to minimise the potential environmental impact.

It should also be noted that the proposed facility will not prevent or minimise access to Wells Park or Kwinana Beach.

2.2

CONSERVATION COUNCIL OF WA

The Conservation Council of Western Australia (CCWA) is particularly concerned about the visual amenity of this proposal. They believe the proposal will be an eyesore and impact on people's recreational enjoyment of the area. Could the Proponents comment on this?

See comments in Section 2.1.

2.3 GENERAL PUBLIC – COMMENT 1

Members of the public state that the range of computer generated images provided in the CER cannot possibly illustrate the visual impact the proposal will have on Wells Park and surrounding beaches. Could the Proponent comment on this?

The Proponents acknowledge that the computer generated images cannot fully illustrate the visual impact of the proposal, as a two dimensional photograph cannot capture the full three dimensional image as seen by eye. However, it should be noted that several professional photographers were consulted on the most appropriate lens to use to capture an image as "true" to the eye as possible. The photographs presented in the CER were taken using this advice, and are as true to scale and perspective as possible. The images provided in the CER are intended as guides only from limited view points.

2.4 GENERAL PUBLIC – COMMENT 2

Members of the public state that they use Kwinana Beach, Kwinana Jetty and Wells Park as a recreational area for picnics, tennis, swimming, fishing and entertaining relatives and friends from overseas and overeast. The jetty extensions will be clearly visible from Kwinana Beach and Wells Park and will inhibit views of Cockburn Sound and Garden Island. They believe the CER has not adequately addressed the issue of visual impact on the recreational use of the area. Could the Proponent comment on this?

The Proponents believe that the issue of visual impact has been adequately addressed in the CER. It should be noted that only a small area of the facility would be visible from Wells Park as the foredunes and the vegetation around the edge of the park result would screen the facility from view. It is acknowledged that the facility will be highly visible from Kwinana Beach. Also see comments made in Section 2.1.

2.5 GENERAL PUBLIC – COMMENT 3

Members of the public note the City of Rockingham is trying to encourage tourists to use the foreshore fronting the sound and anticipate local business redevelopment to promote this. Foreshore restaurants and business have an unsurpassed view of the Kwinana Industrial strip, already not a pleasing site, but it could become unbearable with yet another rather large facility entering the Sound. This opinion was voiced by the relevant proprietors at a meeting to discuss the proposal last year. The impact on tourism may be significant. Could the Proponent comment on this?

The proposed facility is not likely to be highly visible from Rockingham Beach and the cafes around this area. The proposed facility is marked in a light blue colour on Plate 6 of the CER which gives an indication of the visual impact of the proposed facility from Rockingham Beach. Only a small portion of the facility will be visible beneath the existing Kwinana Grain Terminal Conveyor System. The Kwinana Grain Terminal screens the majority of the proposed facility from view.

Tourism in Esperance has continued to increase after the introduction of the iron ore export facilities in the Port. Given the limited visibility from the Rockingham Beach area, the open piled structure, the potential to use appropriate colours and the experience at Esperance, the Proponents do not believe that the facility will have a significant impact on tourism in the Rockingham area.

2.6 LOCAL RESIDENTS

Nearby residents state that the proposed extension and conveyors will be highly visible to North Rockingham residents, beaches and town site, adding to the already degraded visual impact of the area, and this was not adequately covered in the CER. Could the Proponent comment on this?

The proposed facility is located approximately 1.5 km from Governor Road Reserve, 3 km from Bell Park and 3.5 km from Churchill Park. The Proponents suggest that the facility would not be "highly visible" from North Rockingham beaches and town site due to these distances and the degree of screening provided by the Kwinana Grain Terminal (see Plate 6 of the CER). The Proponents believe that the visual impact of the facility was adequately assessed in the CER, which discussed the impacts of the facility at Rockingham, Wells Park and Kwinana Beach. See comments in Sections 2.1, 2.4 and 2.5.

3. SOCIAL IMPACT

3.1 DEP

The DEP notes that many of the people surveyed did not know about the proposal and had to be shown pictures of the proposal and have it described to them. Were the people given a standard description?, and if so could the Proponent provide the text of that description? Could the Proponent confirm which pictures the people were shown?

People surveyed at Wells Park/Kwinana Beach were given a brief description of the proposed export facility based on notes prepared for the interviewer (Appendix A). These notes were with the interviewers for all of the surveys and addressed the following questions:

- What is the proposal?
- Who are the Proponents?
- What will comprise the export facility?
- Why is the Project needed?
- Will the Project be subject to environmental assessment?
- Where can people get more information about the Project?

People were therefore given relatively standardised information, even though they were not given information sheets.

The photographs shown to the persons surveyed were coloured A3 photographs provided by the FPA to the SIA consultant in November 1998. There were four photographs, all showing the existing facility with details of the proposed berthing jetty, ship loader and access jetty transposed onto the photographs. These photographs were:

- an aerial view looking westwards out to sea from a location to the east of the Brambles Bulk Terminal;
- an aerial view taken from above the facility;
- an aerial view taken south of the facility from the position of the CBH facility; and
- a view from Rockingham Beach (Plate 6 in the CER).

The other photographs provided in the CER were not available at the time of the SIA survey. Surveyed persons were also shown a Location Map (similar to Figure 1 in the CER) and a photocopy of an aerial photograph showing the proposed project layout (similar to Figure 2a in the CER). In addition, the surveys were carried out on the beach and at Wells Park. Therefore people had an opportunity to compare the photographs and the maps shown to the actual existing facility and determine the potential impact the proposed facility would have.

As indicated in Section 6.4.2 and Appendix E of the CER, 46% of the people interviewed at random for the survey were not local people from Kwinana, Rockingham or Cockburn. This may explain the interviewees lack of knowledge about the proposal. (See Appendix E of the CER for further details of the origins of the survey respondents).

3.2 CITY OF ROCKINGHAM – COMMENT 1

The City of Rockingham believes the consideration of economic impacts in the SIA is largely superficial and focuses primarily on employment potential. The SIA claims that it has not been able to reach a conclusive view but impacts on the Esperance economy of relocating the iron ore export trade are unlikely to be significant. This claim has not been substantiated in any way in the SIA. Could the proponent provide further substantiation?

EIA process in WA does not consider economic impacts of the proposal on the region's economy. Therefore detailed economic impacts have not been considered in the SIA. The SIA only included this issue to indicate that socio-economic impacts would not be confined to Kwinana/Rockingham. An

emphasis was placed on employment because this is a 'social' aspect of the economic effects of a proposal.

3.3 CITY OF ROCKINGHAM – COMMENT 2

The City of Rockingham notes the SIA claims that the Project will have spin-off effects for the local economy but no attempt has been made to quantify these effects through the use of multipliers or other methods. Could the proponent expand on this?

The FPA is not aware of economic impact assessments being conducted for specific projects of this scale. Where studies have been conducted, the multipliers that have been developed relate to economic impacts at a State level and not at a local level. Typical indicators for port related business suggest a total impact to economy of approximately two times the direct economic impact (i.e. operational value added) and an employment multiplier of approximately 2.5 times the direct employment. Direct employment would include KIPL employees and contractors, a component for stevedoring employees, staff to operate and maintain the facilities and equipment and Westrail staff and contractors.

3.4 TOWN OF KWINANA AND KWINANA WATCHDOG GROUP

The Town of Kwinana and the Kwinana Watchdog Group notes that 77% of the participants were not aware of the proposal and had to have it explained to them. Therefore what each participant was actually told could be relevant. Public comment on visual impact was very strong prior to the SIA and yet only a few people raised this in the survey. Could the Proponent comment on this?

See comments in Section 3.1.

Public comment on the visual impact may have been stronger prior to the SIA being conducted as a result of people viewing only photographs of the area. Most of the people viewing the photographs at meetings attended by the Proponents may not have had an opportunity to visit Wells Park with photographs and maps and determine the impact of the proposed facility for themselves. Alternatively, people interviewed as part of the SIA may not have identified visual impact as a major issue due to the reasons outlined in Section 2.1.

3.5

CITY OF COCKBURN

The City of Cockburn states that the SIA fails to assess social impact on communities living adjacent to the rail line. Currently the SIA focuses solely on communities and users in the vicinity of the loading facilities. The City believes that the SIA should be expanded to carry out an assessment of social impacts on residential communities near the rail route. Could the Proponent address this issue?

The issue of noise along the rail line was addressed in the SIA. The issues associated with the use of the rail line are largely associated with noise and vibration which are considered to be environmental issues. These issues are dealt with elsewhere in the CER. Furthermore the potential volume of rail traffic (approximately 2 trains per day) was considered to represent a relatively small increase on current train volumes (approximately 22 trains per day) on the railway line in question.

It should also be noted that discussion were held with the DEP, City of Rockingham, Town of Kwinana to determine the appropriate approach to the SIA. It was agreed that the SIA should primarily focus on Wells Park and Kwinana Beach.

3.6 COM-NET

Com-Net believe the Proponent has understated the social impact on Wells Park. This is a major recreation facility for the community and the visual and physical amenity is not negotiable. The Kwinana people have been reassured of the safe tenure of this facility repeatedly in the past. This proposal will impact negatively on Wells Park, and for that reason the proposal should be refused. Regardless of the comments collected by the Proponent, the broader community rejects any intrusion on the area. Could the Proponent comment on this?

The assessment of the social impacts on Wells Park has been derived from site visits, the park/beach survey, other consultation and consideration of noise, dust, visibility, access and planning issues. It should be noted that only 28% of those people interviewed indicated that the proposal would affect the usage of Wells Park and Kwinana Beach. The Proponents recognise that Wells Park and Kwinana Beach are important to the local community. Access to these areas will not be affected by this Project.

In addition, the FPA has committed to upgrading landscaping within Wells Park, provide screening vegetation where appropriate and making a contribution to the amenities at Wells Park in consultation with Town of Kwinana.

3.7

ROCKINGHAM BEACH TRADERS AND OWNERS ASSOCIATION

The Rockingham Beach Traders and Owners Association (RBTOA) note that the majority of opposition has come from the Rockingham community. As there is an increasing tourist population with numerous accommodation developments directly on the foreshore, it is only natural that the RBTOA are concerned that unsightly industrial development will threaten their image. The SIA only interviewed people at Wells Park and Kwinana Beach and omitted the Rockingham foreshore area. A member of the public states that the CER merely assumes the facility will have no impact on tourism in Rockingham and therefore considers it unimportant to undertake a study to verify this. The SIA took place only on Wells Park and Kwinana Beach which do not attract many tourists due to the proximity of heavy industry. A rather different result would have been gathered had a survey been taken from Rockingham beach or cafe patrons as it would be obvious that the public will be able to view this facility as they clearly view the existing grain terminal jetty now. Could the Proponent comment on this?

Part of the SIA involved identification of key stakeholders. Over 30 stakeholders were identified and included the Rockingham Beach Traders and Owners Association, a café owner and local residents. These stakeholders were sent a letter which outlined the SIA study and invited their contributions. Appendix E of the CER lists the stakeholders contacted during the SIA and those organisations or individuals who responded and/or contributed to the SIA. In addition, a site visit was made to the Rockingham foreshore to evaluate the potential visual impacts of the proposed facility. Therefore the impact on the Rockingham foreshore area was considered as part of the SIA.

It is considered that the presence of the proposed export facility would not affect tourism in Rockingham as it is about 3 km away and largely concealed by the Kwinana Grain Terminal. The concern expressed in the RBTOA statement that the new facility will have the same visual impact as the existing grain terminal jetty is not correct. Plate 6 of the CER indicates the potential visual impact of the proposed facility from Rockingham Beach. This Plate shows that the facility is largely screened from view by the Kwinana Grain Terminal.

It is incorrect to assume that tourists do not use the Wells Park/Kwinana Beach area as a result of heavy industry. Thirty of the 65 people interviewed (i.e. 46%) were not local (i.e. were from areas other than Kwinana, Rockingham and Cockburn) and came from a wide range of suburbs and country locations. In addition, it should be noted that 72% of those people stated that the proposed facility would not affect their usage of the area.

3.8 GENERAL PUBLIC – COMMENT 1

Public submissions stated that it is unacceptable that the SIA did not include first hand opinions of the people most affected (i.e. those living in nearby residential areas and those who own shops and restaurants which rely on the tourist trade). Could the Proponent comment on this?

The people most likely to be affected by the proposal are the users of Wells Park. However, the SIA did also seek comment from people living in nearby areas and those involved in tourism (see comments in Section 3.7). Contact was made with 30 key stakeholders including councils,

organisations, residents and those involved in tourism. All the councils responded to the SIA process as did three organisations, a proprietor of a restaurant and three residents (see Section 3.3 of the SIA in Appendix E of the CER).

Prior to the SIA, a number of people in the Kwinana/Rockingham area made comments on the proposal in meetings and in submissions to the Minister for the Environment and Town of Kwinana. Comments raised in a City of Rockingham Special Council Meeting (June 1998) and the City of Rockingham Electors Meeting (July 1998), and comments made in the submissions to the Minister and Town of Kwinana, were taken into account in the SIA.

3.9 GENERAL PUBLIC – COMMENT 2

A member of the public states that the research on the social impact is inadequate as it was conducted during October - November 1998. The Wells Park area and surrounding beaches that will be affected by the proposal are used regularly during the summer months of December to March. Could the proponent comment on the likely differences of conducting the survey during the period specified?

The survey of Wells Park/Kwinana Beach took place in November/December 1998. It involved visits at different times of the day on different days of the week and the conditions at the time of the survey were generally warm to hot. A total of 286 persons were observed during seven 2-hour visits to the site.

People interviewed were asked about their usage of the Park and beach (e.g. how often they use the park) and if they intended to use the park over the Christmas period which was identified by the Town of Kwinana as one of the busiest times around the park and beach. Counts were also made by Alison Day and Associates over the Christmas/New Year period (26 December, 27 December 1998 and 29 December 1999) and these indicated that a greater number of people used the park during this period. (Appendix B). However, the five most frequently observed activities were the same as those identified during the survey undertaken earlier in November/December.

Due to the timing of the Project, it was considered necessary and appropriate to undertake the SIA in November and December. The Proponent did not consider it appropriate to delay the CER preparation process to permit a Christmas survey prior to the CER being released. It is not possible within the time frame of the Project, or practicable, to undertake a survey of the usage rate of Wells Park during every month of the year.

3.10

GENERAL PUBLIC – COMMENT 3

A public submission suggested that the impact of the proposal could be reduced by beautifying Wells Park and repairing the jetty for recreational users. Could the Proponent comment on this?

As stated within the CER, the FPA will make a contribution to the amenities of Wells Park. This will include investigating the repair of the jetty and undertaking additional landscaping around the Park.

3.11 GENERAL PUBLIC – COMMENT 4

Several members of the public stated that they and their friends use the area often, yet they know of no one who was surveyed as part of the SIA. Could the Proponent comment on this?

The survey took place at different times and on different days (Table 1). If people were not in Wells Park or at Kwinana Beach on those occasions then they would not have been counted or interviewed. It should also be noted that not everyone present at the park or beach was surveyed and if these people were at the beach at these times they may not have realised they were included in the counts.

Table 1

Site Visits to Wells Park/Kwinana Beach

Survey	Date	Time
1	Wednesday 18 November, 1999	5 pm - 7 pm
2	Saturday 21 November, 1999	4.30 pm - 6.30 pm
3	Tuesday 24 November, 1999	12.45 pm – 2.30 pm
4	Saturday 28 November, 1999	10.15 am – 12.15 pm
5	Sunday 29 November, 1999	1.30 pm - 3.30 pm
6	Thursday 3 December, 1999	1.15 pm - 3 pm
7	Saturday 5 December, 1999	1.15 pm – 3.15 pm

3.12 GENERAL PUBLIC – COMMENT 5

A public submitter gave support for the proposal and suggested that through a random survey (conducted by the submitter), that the majority of the community also supported further industry in Kwinana. Additional ships would enhance the panoramic views, attracting more tourists and creating jobs in the ship maintenance sectors. Could the Proponent comment on this?

Some members of the public find shipping movements of interest and others consider jetties and breakwaters to be attractive, as indicated by this submitter's comments.

4. AIR QUALITY-DUST

4.1 DEP – COMMENT 1

While the DEP accepts that the unloading operations may well represent the state of the art, the DEP does not consider open railcars to be best practice, since the proponent of an iron ore project has previously committed to covered wagons or the use of a crusting agent in an EPA assessment. However the DEP notes that Commitment 8 requires the Proponent to investigate the use of a crusting agent if dust is considered to be an issue. Could the Proponent comment further on this?

Best Practice represents the best way of doing things for a given site (Geraghty, 1999). The parameters that constitute best practice at one site may be totally inappropriate at a different site (Geraghty, 1999). Best Practice does not necessarily equate to best available technology. It encompasses a performance range where the top performer is "best in class" (DEP 1998).

A proponent may have previously committed to covering iron ore wagons in a recent development proposal, however the Proponents for the Kwinana Export Facility Project are unaware of any operating iron ore Projects in the world that cover their wagons to transport iron ore. The Proponent is currently transporting iron ore from Koolyanobbing to Esperance in open wagons and there has only been one complaint made in relation to dust generated from the rail line during the four years that the facility has been operating.

The Proponent has committed to consideration of the use of crusting agents and other management measures that may be considered appropriate at the time, in the event that dust becomes a significant issue.

4.2 DEP – COMMENT 2

The DEP notes that with regard to the use of a pressure detection system on the baghouses to detect problems, the DEP is unsure of how appropriate this may be. Experience with baghouses with relatively fine material (e.g. maximum particle size of 0.1 mm - which is much finer than this export project) suggests the change in the pressure drop across the unit as the filter cake developed (a layer of the dust to be removed which aids filtration) was such that the relatively small change in pressure associated with small holes in filter bags was not able to be detected before the baghouse started "dusting off". Given the difference in materials being filtered the system proposed may work adequately. Could the Proponent provide further details of where this control strategy has been effectively used in an application similar to that being described?

The same system described in the CER is currently in operation in Esperance. The system operates effectively at Esperance and it is not anticipated that any problems will be experienced in Kwinana. Should the system fail, Koolyanobbing will have operating procedures in place that will result in a shutdown of operations until the dust collection system can be repaired.

4.3 DEP – COMMENT 3

The DEP notes that commitments 6 and 8 would need to be refined to represent quantifiable limits. The way both commitments are currently worded is extremely subjective and does not guarantee

protection of the environment or the company. Could the Proponent suggest any suitable quantification?

The revised commitments are outlined below.

Commitment 6

KIPL will undertake a dust deposition monitoring programme in the vicinity of the Project, and should dust deposition levels attributable to the Project be greater than 4 g/m^2/month, additional dust management measures will be incorporated into the Project. This will be undertaken to the reasonable satisfaction of the DEP. A short term high volume sampling programme will be undertaken to determine compliance with the *Kwinana Environmental Protection (Atmospheric Wastes) Policy 1992* and *Kwinana Environmental Protection (Atmospheric Wastes) Regulations 1992.* This will also be undertaken to the reasonable satisfaction of the DEP.

Commitment 8

KIPL will investigate the use of crusting agents or other management measures if dust from its operations along the rail line through the Metropolitan Area results in complaints. In the event of dust complaints attributable to the Project, KIPL will instigate a short term dust deposition monitoring programme to assess the dust deposition levels. This will be undertaken to the reasonable satisfaction of the DEP.

4.4 DEPARTMENT OF RESOURCES DEVELOPMENT

The Department of Resources Development (DRD) note that dust control measures will need to be suitable to cope with sand-sized particles, not just dust particles. Could the Proponent comment on the suitability of the dust control measures to cope with larger particles?

The dust control measures proposed for the Kwinana Export Facility are the same as those being used to successfully control both dust and larger sized particles at the Esperance iron ore export facility. There is no reason why these same dust control measures will not be equally successful at Kwinana.

4.5 CITY OF ROCKINGHAM – COMMENT 1

The City of Rockingham is concerned that there may not be an appreciation of the severity of the winds at the Kwinana site and how this may affect dust generation, particularly as the BCJ is open to the full brunt of the winds, and not protected to any extent (as opposed to the existing situation at Esperance where the facility is on a land backed wharf). Could the Proponent address this issue?

The average wind speed at Esperance during the mornings is approximately 20 km/hr and in the afternoons is 25 km/hr (Bureau of Meteorology *Pers. Com.*). In Kwinana (Medina Station) the average wind speeds in the morning and afternoons are approximately 10 km/hr and 15 km/hr respectively (Bureau of Meteorology *Pers. Com.*). The iron ore export facility at Esperance operates effectively in windier conditions than those which are experienced by Kwinana.

The proposed export facility at Kwinana will be entirely enclosed. The conveyors along the access bridge will be fully enclosed to prevent any spillage and to ensure that dust generated during transport is contained. The conveyor in the high level gallery on the BCJ will also be fully enclosed. The ship loader which will be entirely enclosed from the transfer point to the chute where the ore will be transferred into the ship hold (Figure 1).

KIPL has extensive experience in operating a similar facility at Esperance. The dust management measures which have been implemented at Esperance are considered to represent "state of the art" technology and have been included as a case study in Environment Australia's "Best Practice Environmental Management in Mining Module" for Dust Management (Howard and Cameron, 1998)

4.6 CITY OF ROCKINGHAM AND CITY OF COCKBURN

The City of Rockingham notes that there is no commitment to monitoring dust along the rail line and believes this should be considered. The City of Cockburn believe the commitments relating to dust monitoring and management should be expanded to include the monitoring of dust levels along the rail route, and include pre-project dust monitoring along the route to establish base line conditions. Further, a commitment is sought from the Proponents to implement dust management measures if dust emissions associated with the rail transport becomes a problem for nearby communities. Is the Proponent prepared to make these commitments?

The Proponent has committed to investigate dust management measures if dust emissions associated with the rail transport become a problem for nearby communities (see revised Commitment 8 above). The appropriate dust management measures will be implemented, where necessary.

4.7

GENERAL PUBLIC – COMMENT 1

Several public submissions stated that at a public meeting held in Rockingham on 20 July 1998, Mr John Girdlestone, the General Manager of KIPL told the meeting that he could give no guarantee that iron ore dust would not reach residences and cafes on the beach front. The submitters saw this as nullifying the comments in para 6.2.4. Could the Proponent address this matter?

KIPL will undertake dust monitoring in the vicinity of the Project Area to ensure that dust emissions attributable to the Project do not significantly exceed background dust levels (Commitment 6). If dust generated by the Project does significantly exceed background levels KIPL will incorporate additional dust management measures into the Project design.

4.8 GENERAL PUBLIC – COMMENT 2

A member of the public asks for a description of the method of loading iron ore onto the ships. Could the Proponent explain how this will be done without creating dust?

Figure 1 illustrates the process of loading of the ship. The ore will be dropped from the chute which will be slightly above the ship hold opening. A number of water fogging sprays attached to the delivery chute will create a blanket of fog over the ship opening. This water effectively traps the dust and deposits it, with the water droplets, back into the ship hold. A water fogging system is currently being effectively used at Esperance to control dust from loading the ore onto the ships.

4.9 GENERAL PUBLIC – COMMENT 3

A public submission suggested dust control measures were fine, but they soon break down through lack of maintenance, too expensive to repair etc. The human element is also important with covers left off, maintenance jobs left in the too hard basket etc. How will the Proponent ensure that dust control measures operate at peak efficiency?

KIPL has committed to preparing an Environmental Management Plan (EMP) prior to commencing operations. The FPA is already in the process of preparing an Environmental Management System (EMS) which will be in operation prior to the commencement of operations at the Export Facility. The EMP and EMS will describe operational procedures to be undertaken on a regular basis, and in the event of a breakdown or emergency situation. Regular environmental audits will be undertaken by an independent auditor to ensure that the environmental procedures developed in the EMP and EMS are being implemented.

In addition, KIPL has proven experience at Esperance in the management of dust control measures. After implementing additional dust control measures at the commencement of operations at Esperance there has been no problems associated with the long term management of dust in the area.

4.10 GENERAL PUBLIC – COMMENT 4

Members of the public were concerned that iron ore dust would be a problem, creating unsightly staining of surrounding structures, residences and dunes. They also believe it would cover both the users of Wells Park and cafe patrons (along with their food). Could the Proponent address this issue?

The nearest resident at Kwinana is located approximately 1.8 km from the car dumper and the café strip at Rockingham is located more than 3 km from the facility. The dust control measures implemented at Esperance have been sufficient to control dust in an area where the nearest local resident is only 120 m from the export facility.

The community at Esperance also originally had concerns that the pristine white beaches around Esperance would be discoloured by iron ore. However, there has been no evidence of any discolouration of the white beaches occurring since the commencement of operations of the iron ore export facility at Esperance (C. Stewart *Pers com.*).

The Esperance facility has proven that dust can be successfully controlled. Therefore the Proponents believe that dust on café patrons and their food, and staining of the surrounding buildings and dunes is not likely to be an issue.

4.11 GENERAL PUBLIC – COMMENT 5

Members of the public were concerned that iron ore dust from the uncovered rail wagons would be blown out by the prevailing winds along the route through the metropolitan area creating dust problems for many communities, resulting in red stains on washing, houses, gardens and pets. Could the Proponent comment on this matter?

See Commitment 8 and comments in Section 4.3.

The iron ore is currently transported by open wagon from Koolyanobbing to Esperance. The majority of the dust blows off the wagons in the first few kilometres as the train gathers speed as it leaves the mine site. As noted in the CER, only one complaint has been received by the DEP regarding dust along the rail line from the mine site to Esperance. The Proponent has committed to investigating crusting agents or other dust management measures if dust is an issue through the Metropolitan Area (Commitment 8).

4.12 GENERAL PUBLIC – COMMENT 7

A public submission was concerned about the affects of the proposal on the proposed South West Metropolitan Railway (which would share some 19 km of track) and the new passenger railway stations of Thornlie, Nicholson Road, Canning Vale and Jandakot. Could the Proponent comment on the effect of iron ore dust on the stations and passenger patronage levels.

The freight trains will operate on a completely separate rail line to the passenger trains but will be located within the same easement. The passenger terminals will be separated from the freight line by the passenger train line. As discussed in Section 4.11, the majority of the dust on the load blows off in the first few kilometres from the mine site as the train gathers speed. However, the Proponent has committed to undertake monitoring and investigate dust control measures in the event that complaints are received and are attributable to the Project. Also see Commitment 8 and comments in Sections 4.3 and 4.11.

4.13 GENERAL PUBLIC – COMMENT 8

A public submission questioned what effect dust invasion would have on food distribution outlets such as Metropolitan Markets, FAL and Coles in Canning Vale.

See Commitment 8 and comments in Sections 4.3 and 4.11.

5. NOISE

5.1 CITY OF ROCKINGHAM – COMMENT 1

The City of Rockingham suggested that the four assessment locations in the CER do not appear to have been chosen as worst case scenarios. A combination of closest residence and lowest influencing factor could be significant should the noise prove to have tonal characteristics. They also suggest the non-compliance from existing industry should have been addressed. Could the proponent address these issues?

The noise levels at two additional residences have been modelled with the results shown below in Table 2. These locations have been chosen to take into consideration the closest residence and the

lowest influencing factor. These locations are 450 m from the Area B boundary so that there is no influencing factor. The assigned levels shown in Table 2 have been reduced by 5 dB(A) so that they do not "significantly contribute" to the overall level.

Table 2

Predicted Noise Levels (dB[A])

Location	Assigned Noise Levels		Predicted Noise Levels		
	Night time	Day Time	Calm Conditions	Night Time 3 m/s Winds and 2°C/100m	Day Time 4 m/s Winds
West End of Hillman Street	30	40	15	26	25
Corner of Victoria and Kent Streets	30	40	11	18	18

The additional noise modelling undertaken indicates that the predicted noise levels from the operation of the Project comply with the assigned levels. If the noise was considered to be tonal and the +5 dB(A) adjustment was made to the predicted levels the night time noise level would be 1 dB(A) above the allowable level under worst case conditions. This in not considered to be significant considering the low overall level and the minimal exceedance under worst case conditions.

Non compliance from existing industry is an issue that is currently being addressed by the DEP in conjunction with those industries in question. The proposed facility would comply with the DEP requirements. Non-compliance was addressed in the noise modelling undertaken for this study by reducing the allowable assigned level by 5 dB(A) so as to not "significantly contribute" (Regulation 7 [2]).

5.2 CITY OF ROCKINGHAM – COMMENT 2

The City of Rockingham suggests the internal noise levels from trains has not been calculated in accordance with the DEP draft Guidance, however the City of Rockingham agrees that their calculation shows that the internal noise levels would still comply. Does the Proponent want to comment on this?

The interpretation of the DEP *Draft Environmental Impact Policy for Road and Rail Transportation Noise* (the draft Policy) by Herring Storer Acoustics (the noise consultants for the Project) was initially the same as that indicated by the City of Rockingham. However, discussions with DEP (John Macpherson) indicated that the value of N (number of train movements per hour) for a modification to existing transport is defined as "the number of proposed traffic movements and excludes existing traffic".

5.3

CITY OF ROCKINGHAM – COMMENT 3

The City of Rockingham states that there has been no assessment of the possible impact from the shunting of rail wagons. If the end wagons are close to residences, such as when the locomotive arrives at the car dumper, there may be impulsive noise impact as the wagons stop or are positioned over the car dumper. Could the Proponent address this issue?

The Proponent has included, in the Project's design, a slight incline into the car dumper and a slight decline out of the car dumper to ensure that the wagons are kept at tension at all times. This should minimise any noise associated with the wagon couplings. This approach is not currently used at Esperance but has been developed for the Kwinana operation to minimise noise generated from shunting wagons.

However the following calculations were carried out by Herring Storer Acoustics to assess the impact of wagon shunting.

The assigned level applicable is outlined in Table 1 of the *Environmental Protection (Noise) Regulations* which states that the $L_{A\,10}$ level must not be exceeded for 10% of the time and the $L_{A\,1}$ level must not be exceed for more than 1% of the time. In this case, it is the $L_{A\,1}$ assigned level which is applicable as the percentage of occurrence of rail shunting is 4%. The following calculations were used to derive this percentage:

Wagons	-	83
Car dumper	-	1 per time
Unloading time	-	approximately 100 secs/wagon
Shunting event	-	4 secs
Shunting time per train	-	83 x 4 = 332 secs
Percentage of occurrence	-	332/(100x83) = 4%

Calculations were carried out for the assessment locations included in the CER using measured shunting noise levels (from Herring Storer Acoustics file data) for flat ground (Table 3). The predicted noise levels are presented in Table 4.

Table 3

Source Sound Power Levels

Source	No. Off	Octave Band Centre Frequency (Hz)									dB(A)
		31.5	63	125	250	500	1k	2k	4k	8k	
Shunting for 10 wagons	8	101	96	95	98	100	99	99	97	93	105

Table 4

Results of Single Point Calculations for Shunting Noise

Locations	Assigned Noise Level (L_{A1})	Sound Pressure Level dB(A)		
		Calm	4 m/s NW Winds	3 m/s NW Winds & 2°C/100 m
Caravan Park (Governor Road)	51	32	36	36
214 Kent Street (closest residence)	46	29	34	34
179 Kent Street (DEP Monitoring Location)	42	24	29	29
Wells Park and Commercial premises (crn of Well's Road and Rockingham Road)	65	42	45	45

Therefore, noise from shunting (along flat ground) would comply with the criteria. It should be noted that if the $L_{A\,10}$ criteria were used then the noise emitted from the shunting wagons would still comply. In addition, the actual noise levels generated from the facilities are likely to be lower than the levels provided here as a result of the incline/decline system which will be included into the Project at Kwinana.

5.4 TOWN OF KWINANA – COMMENT 1

The Town of Kwinana and public submissions noted that noise from extremely heavy trains late at night could cause a nuisance to residents living near to the rail line. They note that in the referral, that movement and unloading of trains was to occur between 6:00 am and 6:00 pm, the CER now states that 40% of trains are likely to pass through metropolitan suburbs between 10:00 pm and 7:00 am. In Kwinana there are six houses within 100 m and four houses within 60 m of the rail line. Could the proponent comment on the following issues?

1 *What sound reduction measures are engineered into the locomotives and how do they compare acoustically with world best practice?*
2 *What sound reduction measures are engineered into the wagons and track and how do they compare acoustically with world best practice?*
3 *What system does Westrail have to record and respond to complaints regarding train noise?*
4 *What commitments do Westrail give in relation to train noise?*
5 *Are the iron ore trains likely to be noisier than other trains, if so why must they travel during the sensitive night time hours? Why can't they be scheduled to travel during the day?*
6 *Why has the train timetable been changed since the original application?*

The Proponent's responses are outlined for each individual point outlined above.

1 The locomotives are designed and built to meet the environmental noise levels specified in the Railways of Australia (ROA) Manual of Engineering Standards and Practices which are believed to be among the most stringent in the world. The locomotives are based on

American locomotive design and incorporate significant additional sound reduction measures (e.g.. insulation) to meet the ROA noise standards.

2 No specific sound reduction measures are engineered into the wagons which are essentially designed and built to the Associations of American Railroads specifications. These types of wagons are commonly used world wide. It should be noted that the maximum noise generated by the train is due to the locomotive and not the wagons.

There are no specific sound reduction measures engineered into the track, which is also designed to commonly used world wide standards and practices. The track is maintained to a high standard which ensures wheel/rail noise is kept to a minimum.

3 Westrail responds to all complaints of noise emissions by discussing with the complainant, usually in person, his or her concerns and if appropriate arranging for independent noise measurements to determine the extent of the problem. Where noise levels are considered excessive Westrail seeks to employ, where practicable and feasible, measures that will ameliorate the noise impact.

4 Westrail through its Environmental Management Manual makes the following commitments in relation to train noise:

- Endeavour to do whatever can be practically and technically achieved to minimise noise emissions from freight operations.
- Remain proactive in responding to all complaints of noise emissions from freight operations and seek to employ wherever practicable and feasible measures that will ameliorate noise impacts.
- Commit to the development of a strategy for ensuring that all rail noise related complaints are addressed personally, promptly and efficiently.
- Commit to the further development of its baseline knowledge of railway noise emissions through further survey and noise modelling initiatives.
- Undertake an assertive and proactive role in ensuring noise impacts are recognised and minimised within new residential developments beside all railway operations by establishing guidance criteria for local Government and Statutory Planning Authorities.

1 The iron ore trains will be hauled by Westrail's newest locomotives (Q Class) which are significantly quieter than the older types of locomotives that have, and continue to, haul along the Kwinana line. The iron ore trains are therefore unlikely to be nosier than other trains.

2 The train timetable will vary throughout the life of the Project. The train schedule is developed according to the other users of the rail line and will therefore vary as the users of the line vary. The train times provided in the referral and the CER are indicative only and are subject to change through out the life of the Project.

5.5 CITY OF COCKBURN

The City of Cockburn believe the CER fails to provide a contextual assessment of the overall impact which rail transport will have on the residential communities in close proximity to the rail line. The CER fails to identify what actual changes to the existing noise environment this additional rail usage will create. This needs to be carried out in order to assess the real impacts of the additional rail transport, and to develop mitigation measures to deal with these impacts. In particular detailed assessment of the impacts associated with transport during night time hours is necessary. Can the proponent provide this assessment?

The impacts associated with noise from the trains were assessed in accordance with the draft Policy. However, Herring Storer Acoustics has undertaken an assessment of the change in the acoustic environment along the route. This assessment has used the L_{eq}[1] and a distance of 60 m from the nearest house to the rail line in calculating the change in noise levels along the track. Typical train movements along the rail line were obtained from Westrail. The number of movements provided by Westrail are a minimum and could increase from 32 to 44 depending on the season. However, using the minimum number of existing train movement results in an assessment of the worst case scenario for the change in the acoustic environment.

Calculations were carried out for the existing and future noise levels based on a previous study (Herring Storer Acoustics, 1998) for the Bunbury – Collie railway for Westrail. The existing noise levels ($L_{A\ eq}$[2]) during the day and at night were calculated to be 54.6 dB(A) and 54.4 dB(A) respectively. An increase of two trains per day as required by this Project would result in noise levels of 54.8 dB(A) during the day and 54.5 dB(A) at night. This indicates that there will be minimal change to the existing acoustic environment as a result of the increased train movements associated with this Project.

5.6 TOWN OF KWINANA – COMMENT 2

The Town of Kwinana states the noise modelling performed is also unclear in terms of the assumptions used. For example, it is unclear whether the maximum modelled noise levels from a passing locomotive include emissions from carriages or not, and if so whether the carriages are loaded. It is also unclear as to whether other factors such as curves in the rail, differences in grade etc have been included. Could the Proponent address these issues?

The maximum noise levels are defined as the maximum noise level for one train to pass the point at which the assessment is being undertaken. The maximum noise emitted from a train passing is emitted from the locomotive (providing the locomotive is being operated at or above Notch 3) and therefore the noise levels from the carriages do not contribute to the maximum level. The calculations undertaken for the CER assumed a worse case scenario with the locomotives operating in Notch 8.

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[1] Equivalent continuous sound pressure level.

[2] Equivalent continuous sound pressure level which has been A-weighted.

Differences in grade, curves in the rail and the carriages being loaded or unloaded were not considered and do not need to be considered, as the calculations required for the Draft Policy are relative. This basically means that as long as the assumptions included in the calculations for both existing and proposed scenarios are the kept constant, the results will be correct. Therefore, differences in grade, curves in the rail and loading/unloading of wagons were not considered in either the existing or the proposed scenarios.

5.7 TOWN OF KWINANA – COMMENT 3

The Town of Kwinana believe the report should also identify and address measures which can be implemented by Westrail to minimise noise impacts such as the scheduling of trains to avoid night time transport, maintenance of trains and rail infrastructure and the installation of noise barriers. Further to this a commitment is required from the proponent to carry out noise monitoring and to ensure that locomotives do not exceed the modelled noise levels or result in significant change to the existing noise environment. Could the Proponent comment on this and would the Proponent be prepared to make a commitment?

Westrail recognises that noise emitted from rail lines can cause annoyance to the community particularly where residents abut the rail line. Westrail's operations are undertaken in accordance with its Environmental Management Manual. In addition, Westrail is in the process of developing an EMS based on the ISO 14001 to ensure that the commitments outlined in the Environmental Management Manual are achieved.

Westrail will respond to complaints associated with the rail line and will investigate incidences and take action where the noise level is significantly high. Westrail will, and does, control noise from the rail lines through the application of:

- silencers;
- antivibration mountings;
- wheel turning (re-profiling of wheels);
- rail grinding; and
- replacing aging locomotives with new ones of lower overall sound output.

As discussed in point 3 of Section 5.4, Westrail will respond to any complaints received regarding noise emissions and will arrange for independent noise measurements to determine the extent of the problem, where necessary.

5.8 GENERAL PUBLIC – COMMENT 1

Several public submissions commented on para 6.2.5.3 of the CER which states "The residents of the north Rockingham area currently experience noise levels which exceed the Environmental Protection (Noise) Regulations 1997 (DEP 1998). Therefore any new industry cannot 'significantly contribute' to these existing noise levels". The submitters found this statement to be particularly objectionable, believing it to mean that since levels were already being exceeded, that any additional noise was okay. Could the Proponent explain what is meant by this statement in relation to the noise regulations?

The statement "significantly contribute to these existing noise levels" is incorrect and should be "significantly contribute to the assigned noise levels" as per Regulation 7(2). The term "significantly contribute" has a specific definition in the noise regulations whereby it means that a new proposal must achieve a noise level which is 5 dB (A) lower than the assigned noise levels specified in the *Environmental Protection (Noise) Regulations 1997.*

5.9 GENERAL PUBLIC – COMMENT 2

A public submission stated that the assigned level at location 3 was 35 dB(A) not 37 dB(A) as stated in the HSA report. Could the Proponent comment on this?

The assigned level at location 3 (179 Kent Street) was calculated to have an influencing factor (IF) of 2 dB(A) as follows:

IF = 1/20 (% commercial inner circle + % commercial outer circle) + 1/10 (% industrial inner circle + % Industrial outer circle)
= 1/20 (0 + 35) + 1/10 (0 + 0)
= 1.75
= 2

The 35% commercial contribution is due to Area B of the Kwinana Policy Area within the meaning of the *Environmental Protection (Kwinana) (Atmospheric Wastes) Policy Approval Order 1992.*

Therefore, the 35 dB(A) stated in the public submission is incorrect. However, even if the assigned level was 35 dB(A) the noise emissions from the Project would still comply with the noise regulations.

5.10 GENERAL PUBLIC – COMMENT 3

A public submission notes that the quieter Q-Class locomotives are to be used, but suggests that it is the manner in which the trains are operated that causes much of the noise. How will the proponent ensure that shunting and take up noise is controlled?

Shunting noise at the car dumper will be controlled through the use of the incline and decline into and out of the car dumper, as described in Section 5.3. The drivers of the trains are trained by Westrail to ensure that the locomotives are driven correctly.

6. VIBRATION

6.1 CITY OF COCKBURN

The City of Cockburn considers that it is important that the Proponents provide a commitment that compliance with the standard DIN4150 will occur and if not, that mitigation measures will be

undertaken to ensure compliance at all times. Monitoring of vibration should also occur at representative locations along the rail route. Is the Proponent prepared to make these commitments?

Westrail's policy on vibration caused by railway operations is to comply with Australian Standard 2670 and to aim to achieve compliance with the more stringent limits developed from the German Standard DIN 4150 Part 3 – Structural Vibration in Buildings. Vibration measurements have been undertaken at Canning Vale (approximately 12 months ago) as a result of a complaint, and levels were found to be well below recognised criteria that would cause any type of structural damage. It should be noted that there is no reason to believe that vibration levels will change with the introduction of iron ore trains. Westrail deals with vibration complaints in the same manner as for noise complaints (Point 3, Section 5.4)

6.2 GENERAL PUBLIC

A member of the public believes that the present axle weight on the rail line is 19 t, and suspects that the proposed trains at 24 t axle weight might cause structural damage to property. Could the Proponent comment on this?

The rail line in question is currently rated at 24 tonne axle load and has been carrying trains at this weight for many years.

7. MARINE IMPACTS

7.1 DEP – COMMENT 1

The DEP notes that in the literature there are references to iron limitation of phytoplankton growth even in nitrate rich environments, including surface waters. Some investigation would be required to find what the limiting factors are in Cockburn Sound. Could the Proponent address this issue?

There is no evidence to suggest that phytoplankton grown in Cockburn Sound is iron-limited. Indeed there is a substantial body of evidence pointing to phosphate and nitrate as the key biostimulants enabling unwanted stimulation of planktonic blooms in Cockburn Sound. Moreover, the above statement by the DEP assumes that there will be significant spillage from the facility. The entire facility will be fully enclosed so that any spillage is contained. The FPA has committed to undertake a sediment monitoring programme to monitor for the presence of iron ore and other metals around the Bulk Cargo Jetty (BCJ) (Commitment 12). If monitoring indicates an increase in the levels of iron or other contaminants in the sediments, an investigation into the source of this contamination will be undertaken. If the increase in iron is attributable to the Project then the FPA will implement management measures to prevent iron ore entering the Sound.

7.2 DEP – COMMENT 2

The DEP notes that sediment concentrations of heavy metals are generally highest in the southern half of Cockburn Sound and along the eastern margin adjacent to the Kwinana Industrial area and the proposed development site. Concentrations of TBT, arsenic and mercury are greater than the

sediment criteria given in the Southern Metropolitan Coastal Waters Study. There is no mention of sediment resuspension and increased bioavailability of nutrients and toxicants in sediments during construction and through shipping activity. Could the Proponent address this issue?

The proposed facility will be constructed using pile driving techniques and will not require any dredging thereby minimising the extent of sediment resuspension during construction. Pile driving will be undertaken for a period of approximately eight to ten weeks. Some sediment resuspension will probably occur during the operation of the Kwinana Export Facility due to ship propelling action at the berth pocket. This will be very limited in spatial extent and the ships that are proposed to be used for this Project will not result in any greater levels of re-suspension than that which already occurs at the BCJ. Whilst the ships may be of a larger size, they will operate in deeper water at the new berth. Approximately one ship per week will be required to transport the iron ore from the proposed facility.

7.3 DEP – COMMENT 3

The DEP questions whether any lubricants would be used on the conveyor infrastructure and if so, what measures would be used to prevent the lubricants entering Cockburn Sound?

The conveyor will sit within a totally enclosed system with a concrete floor. Self lubricating systems are likely to be employed hence the risk of lubricant loss within the system will be extremely low and subsequent potential for loss to the marine environment will be even lower.

7.4 CITY OF ROCKINGHAM – COMMENT 1

The City of Rockingham note that the CER does not address how impacts on marine organisms exposed to the additional TBT bought in on ships associated with iron ore exportation, will be managed. Could the proponent address this issue?

The issue of TBT contamination in the marine environment is an international one and is being addressed by the International Maritime Organisation (IMO). Use and control of TBT antifouling coatings on commercial ships requires international cooperation due to the nature of the shipping industry. TBT is a highly effective antifouling agent that provides a working life of five years, which is the maximum period between dry-docking inspections currently allowed by many Certification Societies.

The shipping industry remains reluctant to voluntarily drop TBT, as presently there are no alternatives on the market that provide a 5 year period of protection. The best current alternatives such as Sea 911, which are copper based paints that use various types of booster biocides (e.g. zinc pyriothone), are not only more expensive but also have a shorter effective life (3 years). Cost-benefit studies undertaken in the US suggest that higher vessel fuel costs due to increased drag, plus the increased risk of introducing marine pests via the greater incidence of hull fouling, are also major disincentives. Thus, while Japan remains the only major maritime nation to have totally banned application TBT paints in all of its ship-yards and dry docks, current data indicate that over 60% of the world's fleet continues to be anti-fouled in other Asian ports, the vast majority being in Korea, Singapore and Taiwan (Gaffey, 1999).

Because single nations such as Japan and Australia cannot adopt unilateral measures to prevent the arrival of TBT anti-fouled vessels without causing major cost penalties to their trade competitiveness, the Marine Environment Protection Committee (MEPC) of the International Maritime Organisation (IMO) has recently adopted a draft Assembly Resolution for placing a global ban on:

- the application of any organotin antifoulant paint from 1 January 2003; and
- a complete ban on their presence from 1 January 2008, a five year period taking account of the maximum 5 years allowed between dry-docking.

This Resolution was adopted at MEPC's 42nd Session in November 1998 to enable IMO consideration and possible approval as early as November 1999.

A nationwide ban has been proposed to be invoked by Australia after 2006 for the application of TBT paints on all vessels (except for possible Naval vessel operational requirements), unless the IMO sets an earlier date in which case Australia will ensure it complies with any such international requirements. This proposed unilateral measure was put forward by the current Federal Government in its election commitment of October 1998, and was subsequently incorporated into the Commonwealth Government's Ocean Policy in December 1998.

In the meantime, the MEPC Working Group of the IMO is now addressing the various options for developing a legal instrument to enable effective application of the international ban. Options include a new Annex to the International Convention for the Prevention of Pollution from Ships (MARPOL 73/78), or a separate free-standing instrument such as a new International Convention or Code.

The FPA has recently released and implemented guidelines which effectively bans in-water hull cleaning. This minimises the amount of TBT contaminated material that enters the Sound from commercial shipping operations. The additional one ship movement per week required by the project represents only a 3% increase in total commercial shipping movements in the Port of Fremantle.

7.5 CITY OF ROCKINGHAM – COMMENT 2

The City of Rockingham notes the commitment to sample sediments around the Bulk Cargo Jetty and monitor for changes in levels of iron and other contaminants. This will allow management measures to be implemented before harm occurs and is considered to be reasonable, however no suggestions have been made about what management measures would be appropriate. Could the Proponent comment on this?

If iron or other contaminants are found in the sediments around the BCJ the FPA and KIPL will identify the source of the iron and implement appropriate mitigation measures, in consultation with the DEP, if these are associated with the Project. These measures may include:

- implementing additional dust management measures,
- undertaking additional housekeeping measures (such as more regular vacuuming and cleaning of areas likely to accumulate dust); and

- undertaking additional inspections of dust management equipment to ensure that it is operating effectively.

Other management measures will be developed as appropriate and will be aimed at identifying the source of the iron contamination and minimising migration of any iron or other contaminants into the Sound.

7.6 CITY OF ROCKINGHAM – COMMENT 3

The City of Rockingham notes that there is no mention in the CER of the time frame for the preparation of the spill management plan by the FPA and to whose satisfaction the cleanup of any spills would be to. Could the Proponent provide this information?

A spill management plan will be developed as part of the FPA's EMS which will be implemented prior to commissioning of the Kwinana Export Facility. The EMS will be undertaken to the reasonable satisfaction of the DEP. Any spills would be cleaned up to the reasonable satisfaction of the DEP.

7.7

GENERAL PUBLIC – COMMENT 1

The City of Rockingham, City of Cockburn, CCWA and public submissions stated that the cumulative impacts were not dealt with adequately. They need to be addressed specifically and in a quantified manner. The proposal should be discussed in the context of existing proposed marine related developments in Cockburn Sound. The DEP notes that the loss of seagrass habitat has not been addressed from a cumulative impact perspective. Could the Proponent address these issues further?

The proposed Kwinana Export Facility is a minor addition to the current and proposed industrial Projects in the Sound. The major issues addressed by the Environmental Protection Authority in its recent strategic advice to the Minister for the Environment on Cockburn Sound (EPA 1998) included:

- the impact of dredging on marine life on the seabed, the release of nutrients, the mobilisation of toxicants and reduction in light regimes as a result of this disturbance;
- management of pollution entering the Sound;
- obstruction of water currents and the increased in flushing times caused by harbour developments;
- loss of seagrasses and potential seagrass habitat;
- impacts associated with TBT; and
- impacts associated with ballast water.

The proposed Project will not have any impact on the first three issues outlined above. In addition, the proposed Kwinana Export Facility will not result in the destruction of any seagrasses. A very small proportion of potential seagrass habitat within Cockburn Sound (0.005%) will be lost as a result of the construction of the jetty.

The cumulative impacts of TBT and ballast water are more difficult to assess and quantify at the present time. These issues are being addressed on a state, national and international level and the FPA is being proactive in its involvement in these two issues and will continue to ensure that management of TBT and ballast water continues to improve in Cockburn Sound. See section 7.4 for further discussions regarding TBT.

In the case of ballast water, current data indicate that this medium has been responsible for up to 20% of the 170 or so non-native marine species that have been introduced to Australian waters over the past 200 years. At present the European fan worm is the only known pest in Fremantle waters, however, its means of introduction is uncertain.

The Port of Fremantle intends to remain at the forefront in implementing and promoting the national and international ballast water control and management strategies of AQIS and the IMO. The FPA has recently commissioned a comprehensive in-water baseline survey to determine whether any of the target species of known marine pests are currently established in the waters of Fremantle/ Cockburn Sound. The results of this survey will form the basis of the risk based approach to ballast water management that is expected to be introduced by the IMO in 2000.

7.8 CONSERVATION COUNCIL OF WESTERN AUSTRALIA

The CCWA believe the proposal is inconsistent with the EPA's advice on the marine environment of the Sound (Bulletin 907). The EPA noted that the environment of the Sound is already under pressure and that marine water quality is poor and deteriorating. The EPA also expressed concern over the loss of public access to the beaches of Cockburn Sound. The CCWA do not feel it is appropriate for further development to proceed until there are significant improvements in the environment of Cockburn Sound. Could the Proponent address this issue?

The Proponent does not believe that the Project will have a significant impact on Cockburn Sound. See comments in Section 7.7.

7.9 COM-NET

Com-Net believes that the cumulative impact on Cockburn Sound will be greater, because the impact of oil and spillages from industry must be seen as an overall load. Individually the impact of one ship may be minor, but the total is the figure that causes the problem. The existing load of vessels on Cockburn Sounds fragile environment is too great, no more should be permitted until current problems are addressed. Could the Proponent respond to this?

See comments in Section 7.7.

7.10 GENERAL PUBLIC – COMMENT 2

Public submissions state that the sound is too fragile to accept any more shipping which will add to the TBT and ballast water problems. Moving mussel farms a few hundred metres west gives little reassurance that the product will be safer to consume. Could the Proponent comment on this?

See comments in Section 7.7.

Farmed mussels in the Sound have been monitored annually and show levels of heavy metals which are below the WA Health Standard and the Maximum Residue Limit for heavy metals specified in the national Food Standards Code (1998). The proposal to move the mussel farms from their current location is not part of the Kwinana Export Facility Project and is not related to risk from consumption of the product but is related to guarantee of tenure and overall risk management for the industry.

7.11

GENERAL PUBLIC – COMMENT 3

A public submission notes that the CER considers boating and mussel farms, but does not include the horse and dog beaches south of the proposal site. On weekends this section of the beach is very busy with horses and dogs being exercised. Could the Proponent comment on this matter?

The beaches south of the Proposal site will not be affected by the Project. The project will in no way inhibit public access to this area and therefore the section of the beach currently used for exercising horses and dogs will still be accessible for these activities.

8. ALTERNATIVES

8.1 GENERAL PUBLIC - COMMENT 1

The two main issues influencing the Proponent's decision to look at exporting from Kwinana appear to be the lack of a deep water port at Esperance and the quality of the rail line from Widgemooltha to Esperance. The DEP understands the Esperance Port Authority has plans for dredging the harbour and Westrail is looking at upgrading the rail line. Several submitters suggested that the omission of this information from the CER was misleading. Could the proponent discuss the pros and cons of the option of dredging Esperance Port and upgrading the rail line to Esperance?

At the time of writing the CER, this information was not available for inclusion in the CER. The investigation into the dredging of the Esperance Port was initiated, as a separate Project, by the Esperance Port Authority. The Esperance Port Authority has stated that it is pursuing this Project to enable Cooperative Bulk Handling to load larger ships for the export of grain. The need for this dredging in the short to medium term has not been confirmed by the grain industry and two port loading has not occurred at Esperance since the last deepening. The Project has not been designed to accommodate the ships that would be required for KIPL's operations. Therefore the Proponents understand that additional dredging would be required if KIPL were to continue to export from Esperance.

The decision to export the iron ore through the BCJ at Kwinana has not yet been made by KIPL. The investigations into the Kwinana operation are still being undertaken as part of a feasibility study of the Project, which includes obtaining environmental approval for the Project. However, if KIPL decides to export its iron ore through the Esperance Port as a result of dredging undertaken, the FPA would still wish to construct a dedicated export facility to enable the export of other bulk products through the BCJ, assuming export volumes justified this.

8.2

GENERAL PUBLIC – COMMENT 2

Members of the public suggested the viability of using the existing BHP jetty in Kwinana should be re-examined. The DEP notes that re-use of the BHP site would be likely to result in a lower environmental impact. The public was told at a meeting last year that this was too expensive an option, however submitters found it is difficult to understand how it could be viable for the Fremantle Port Authority to provide completely new infrastructure if it was too expensive to upgrade the existing BHP infrastructure. The submitters found it surprising that the FPA, operating under corporatisation, could find the project commercially viable when private enterprise could not, especially considering the existing infrastructure at the BHP site. Could the Proponent explain this?

It is not clear to the Proponent that the re-use of the BHP facilities would result in lower environmental impact as a result of the large quantity of dredging that would be required. This option also considered the use of open stockpiles such as those that currently exist at the BHP facilities rather than a fully enclosed facility.

In order for KIPL to use the BHP facilities, the existing facility would have to be removed and an entirely new unloading facility would need to be constructed. BHP Transport investigated the cost of developing a facility for exporting the iron ore through its facilities. The resulting cost estimate was significantly greater than the cost estimate calculated for exporting through the BCJ. The additional costs associated with using the BHP facilities were largely associated with the extensive dredging required around the jetty and the removal of the existing infrastructure to accommodate the infrastructure required for the quantities of iron ore to be exported by KIPL.

8.3 TOWN OF KWINANA

The Town of Kwinana notes the northern and western jetty options would have less visual impact at Kwinana Beach and the CER has provided some rationale for the selection of the southern jetty option but has not provided a detailed analysis in regard to the increase in risk associated with the northern or western jetty options. Could the Proponent provide more information on this issue?

A number of options for the location of the extension to the Kwinana BCJ were considered prior to selecting the preferred options. These were:

- a southern extension from Berth 2;
- a western extension from the existing access road/berth interface; and
- a northern extension from Berth 1.

From a risk perspective the southern extension from Berth 2 is the preferred options. These risks are outlined in detail below.

Northern Option

If the northern option was constructed there would be an increased risk to berthing and unberthing of oil tankers at the BP refinery jetty to the north of the BCJ, due to the close proximity of the new facility. At present, should difficulties be encountered at the BP refinery jetty during berthing/unberthing operations, there is clear passage out to sea. Construction of a northern extension to the BCJ would obstruct this clear passage. Ultimately the risk of oil spillage into Cockburn Sound is also increased if the risk associated with shipping movements is increased.

The predominant south westerly wind pattern and a northern extension to the BCJ would increase the inherent risks of the berthing operation for the iron ore ships, as the tugs attempt to hold the ship back from the jetty to avoid impact. There is also a greater risk of infrastructure damage as the wind action places higher tensile forces on mooring lines. The southern option results in the bow of the ship pointing directly into the south westerlies thereby reducing the wind loads.

A northern extension to the BCJ would create a wharf adjoining BCJ1 where anhydrous ammonia is unloaded for CSBP Wesfarmers. This option would lead to more operations/people being within the vicinity of the ammonia berth, leading to increased risk during ammonia unloading. Risks associated with berthing/unberthing of iron ore ships during unloading of ammonia would also be substantially greater than for the southern option. The southern option provides for the greatest separation from the ammonia operations due to the intervening jetty, BCJ2.

Western Option

The construction of western extension to the BCJ would significantly increase the risk of berthing/unberthing operations at the existing berths due to its close proximity and the restricted clear passage to sea in the event of a mishap or emergency.

The predominant south westerly wind pattern would also result in a higher risk of infrastructure damage as the wind loads attempt to blow the bow of the ship away from the berth (but not to the same extent as the northern option).

The western option would also lead to greater risks to jetty users during normal BCJ operations and in the event of an emergency, as a result of the increased congestion of vehicles, equipment, and people at the four way intersection that would be created by the westerly extension. The southern option would have a separate access neck from the shore thereby minimising the congestion on the BCJ.

9.

PUBLIC SAFETY AND RISK

9.1 DEP AND TOWN OF KWINANA

The DEP and the Town of Kwinana note that the emergency crossing behind the nickel refinery could be blocked for 4 to 5 hours during train unloading. The CER recommends that the issue of alternative access be addressed as part of ongoing discussions. This issue is of some concern and should be fully addressed at this stage. Could the Proponent provide further information on this issue?

KIPL has not yet committed to exporting its iron ore through the BCJ. It would be premature to discuss moving the emergency crossing behind the nickel refinery until this decision has been made and the final engineering studies have been undertaken. If the Project proceeds, emergency access/egress impacts will be discussed with the Kwinana Industries Council and the Fire and Rescue Services as part of the overall Kwinana Industries Mutual Aid arrangements to determine the most appropriate solution.

9.2 CSBP

CSBP notes that it has responsibilities for occupational and public safety and the environment during ammonia transfer operations and CSBP believes the CER should have recognised the safety and emergency plans associated with ammonia transfer operations, and made specific reference to them. Could the Proponent comment on this matter?

CSBP Wesfarmers has a specific restricted access and emergency plan for anhydrous ammonia transfers that occur at BCJ1 approximately six times per year. This plan integrates with the FPA emergency response plan. When the proposed export facility is constructed, both plans will be amended to incorporate the new operations. The proposed facility will not have any impact on the ammonia operations. Personnel working at the proposed facility will be advised of the emergency notification system and actions that need to be taken in the event of an emergency during ammonia operations at BCJ1.

9.3 GENERAL PUBLIC

Public submissions were concerned about the effect of iron ore dust on health, they noted the high incidence of asthma around Kwinana and were concerned that iron ore dust could worsen the situation. Could the proponent address these concerns?

There are no particular studies that have been undertaken that show that the incident of asthma in Kwinana is significantly different from anywhere else in the Western Australia or Australia (Asthma Foundation *Pers Com.*). In addition there is no evidence that increased industry in an area results in a greater incident of asthma (Asthma Foundation *Pers Com.*). The Proponent has committed to undertake monitoring around the proposed facility to ensure that the dust levels do not significantly exceed background levels (see Section 4).

10. VEGETATION/DUNES

10.1 DEPARTMENT OF RESOURCES DEVELOPMENT

The DRD supports the planting of ground covering along the conveyor to minimise erosion, but notes that this should be extended to include 'maintaining' this vegetation. Could the Proponent comment on this?

The rehabilitation along the conveyor will be undertaken so that the vegetation is self-sustaining. However, the Proponents will undertake maintenance or remedial activities in areas where rehabilitation has not been successful. Such activities may include replanting or seeding any unsatisfactory areas, repairing any erosion problems, or weed control.

10.2 TOWN OF KWINANA – COMMENT 1

The Town of Kwinana believe the proposed Landscape Plan should have an increased focus on rehabilitation of the dunes damaged by the proposal. A Rehabilitation Plan is required for the dune area and should incorporate the direct planting and maintenance of locally native primary dune species. Could the Proponent comment on this?

Rehabilitation of the dune area will be addressed in the Landscape Plan to be prepared for the Project. Rehabilitation of the dune area will include direct planting and seeding of local native dune species. As stated in Commitment 12, this Landscape Plan will be prepared to the reasonable satisfaction of the Town of Kwinana and the DEP.

10.3 TOWN OF KWINANA – COMMENT 2

The Town of Kwinana also state that the affected dunes and assess tracks should be temporarily stabilised using branches from vegetation removed during construction activities rather than burying the material on-site or in landfill as proposed in the CER. Could the Proponent comment on this?

Vegetation removed from the dune areas cleared for construction of the conveyor will used during rehabilitation of the dunes. It will be respread over the area to be rehabilitated as a stabilising measure and to act as a seed source.

However, due to the large quantity of weeds present around the site of the proposed shed, vegetation removed from this area will not be respread during rehabilitation. This vegetation will be either buried onsite, or disposed of in accordance with council regulations, to minimise the further spread of weeds in the area.

10.4 TOWN OF KWINANA – COMMENT 3

The Town of Kwinana state the Proponent should investigate the final alignment of the conveyor through the dune area. The location of the conveyor and access track should be generally

perpendicular to the prevailing winds to reduce erosion and sand drift. Can the proponents accommodate this?

The predominant winds in the vicinity of the Project area come from the south west. The conveyor is generally located perpendicular to these winds, however the final design work for the Project has not yet been undertaken. Consideration will be given to wind direction when this final design work is undertaken.

11. OTHER

11.1 GENERAL PUBLIC – COMMENT 1

Public submissions were concerned with the CER statement "..and also benefit other potential exporters of bulk materials or commodities...". The submitters believe that any other materials or commodities should be identified up front. They were extremely concerned about other noxious or hazardous materials and the prospect of live sheep exports from the facility. Could the Proponent comment on this and guarantee that the live export of sheep would not occur from this jetty?

It is not intended that the proposed facility will be used for the export of live sheep. The second paragraph of the Executive Summary and page 12 of the CER, states that any other commodities identified for future export will undergo separate environmental approval if required.

11.2 GENERAL PUBLIC – COMMENT 2

A public submission suggested that the figures in the CER don't balance. 6 100 t of ore twice daily equals 12,200 t = 85400 t per week. Ships are said to carry loads up to 120 000 t and to be one a week. This means the ships will depart partly laden, which seems doubtful or an enormous stockpile will be required. Could the Proponent clarify this matter?

It should be noted that only 12 trains per week will transport ore to the storage shed (see Table 3 of the CER) and therefore only 73,200 t of ore will be transported to the storage shed per week. The ships used to export the iron ore will vary in size and will be dependant on the receiving port. The ships used to transport the iron ore will carry loads up to 120,000 t and will range from 30,000 t.

The proposed shed facility will have the capacity to stockpile up to 90,000 t of fines and 180,000 t of lump ore.

11.3 GENERAL PUBLIC – COMMENT 3

A public submission stated that they believed the FPA intended to proceed with the development of an export facility (jetty) at Kwinana even if the KIPL project for the export of iron ore did not go ahead. Could the Proponent comment on this?

The FPA could not proceed with the development of this Project without the input from a major exporter. In the event that KIPL decides to export its iron ore through Esperance, the FPA would

proceed with the construction of the jetty component of the Project if another suitable major exporter requires the facility. The export of other commodities would be referred to the EPA for separate environmental approval, where required.

11.4 GENERAL PUBLIC – COMMENT 4

Public submissions stated that there would be a huge disruption to traffic at the train crossings, especially during peak traffic. The CER should have addressed the crossings at Yangebup Road, Hope Road, Nicholson Road, Spencer Road and others. Could the Proponent comment on this?

As stated in the CER, the trains will take approximately 3.7 minutes to cross Kwinana Beach Road. In addition, the signals will operate for 20 seconds before the train crosses the road and approximately 5 seconds after the train has crossed the road. Therefore the total delay to traffic will be approximately 4.1 minutes. An indicative train timetable was provided in the CER (Table 3 of the CER) which indicated that there will only be two additional trains per day using the crossing and that only approximately four trains per week will cross the road during peak week day traffic times. The trains will operate on a 28 hour turnaround time and therefore will operate at different times each day.

Trains crossing other roads will take only 2.2 minutes[3] to cross, will cross these roads at different times of the day, and will not be restricted to peak week day traffic times.

11.5 GENERAL PUBLIC – COMMENT 5

Public submissions stated that it was unacceptable for a proposal that would create just 6 jobs to go ahead when it could jeopardise hundreds of tourism related jobs. Could the Proponent comment on this?

The construction of the Project will result in the employment of over 200 people over a 20 month period. Six full time positions will be required for the operation of the car dumper, conveyor system and storage shed. In-direct jobs will also be generated as a result of the Project. Also see comments in Section 3.3.

Additional jobs would also be generated if other bulk commodities were exported through the facility. The numbers of people employed for the export of other commodities would be dependant on the type of commodity to be exported.

The Proponents do not believe that the facility will jeopardise tourism related jobs (also see Section 2.5).

11.6 GENERAL PUBLIC – COMMENT 6

[3] This estimate was based on the locomotive crossing the roads at an average speed of 25 km/hr.

Public submissions noted that the CER made no mention of contingency plans. What would happen in the event of a power failure or strike action?

Contingency plans will be developed as part of KIPL's EMP and the FPA's EMS. Both the EMP and EMS will be prepared and implemented to the reasonable satisfaction of the DEP (Commitments 2 and 3). All facilities will have built in safety systems that will result in a shutdown in the event of a failure along any of the conveyors. These systems will be "fail safe" and will shutdown in a safe and controlled manner.

11.7 GENERAL PUBLIC – COMMENT 7

A public submission questioned the justification of using scheme water for the Project. Could the Proponent provide further information?

The water for the Project will be sourced from scheme water. Due to the contaminated nature of the groundwater it is not possible to use it for dust suppression as it will contaminate the ore and result in contamination around the stockpiles and other areas where water is required for dust suppression. In addition the groundwater in the region is approaching its sustainable yield and therefore any new industry in the region should not use this groundwater (City of Rockingham *Statement of Planning Policy No. 7.1*).

11.8 GENERAL PUBLIC – COMMENT 8

A public submission suggested that iron ore companies in the north west had to provide their own infrastructure and questions why KIPL should benefit from a taxpayer funded rail line to Kwinana and the FPA jetty. Could the Proponent comment on this ?

The rail line from Koolyanobbing to Kwinana is already in existence. This line is currently not operating at capacity and it would not be considered acceptable to construct a second rail line when there is a line already present that is capable of handling the additional traffic. Other private companies also use this rail line.

Many of the mining companies in the north west provide their own infrastructure because existing rail lines are not present in the region. These rail lines are often used only by the mining companies that constructed them.

12. CONCLUSION

The Proponents believe they have adequately addressed all the issues raised by the Government agencies, non-Government organisations, and the general public in the CER and this Response to Submissions. The Proponents are committed to planning, constructing and operating the Kwinana Export Facility in an environmentally and socially acceptable manner.

* * *

13.

REFERENCES

Dames & Moore (1998) Ballast Water Management. Port of Oakland. Public Technical Memorandum Report Number 0280. November 1998.

Dames & Moore (1998) Port of Brisbane Ballast Water Risk Assessment, Stage 1 Study. Port of Brisbane Corporation, In Press

Dames & Moore (1999) Kwinana Export Facility Consultative Environmental Review Prepared for Fremantle Port Authority, Koolyanobbing Iron Pty Ltd and Westrail.

Department of Environmental Protection (1998) Best Practice Environmental Licenses DEP, Perth, June 1998.

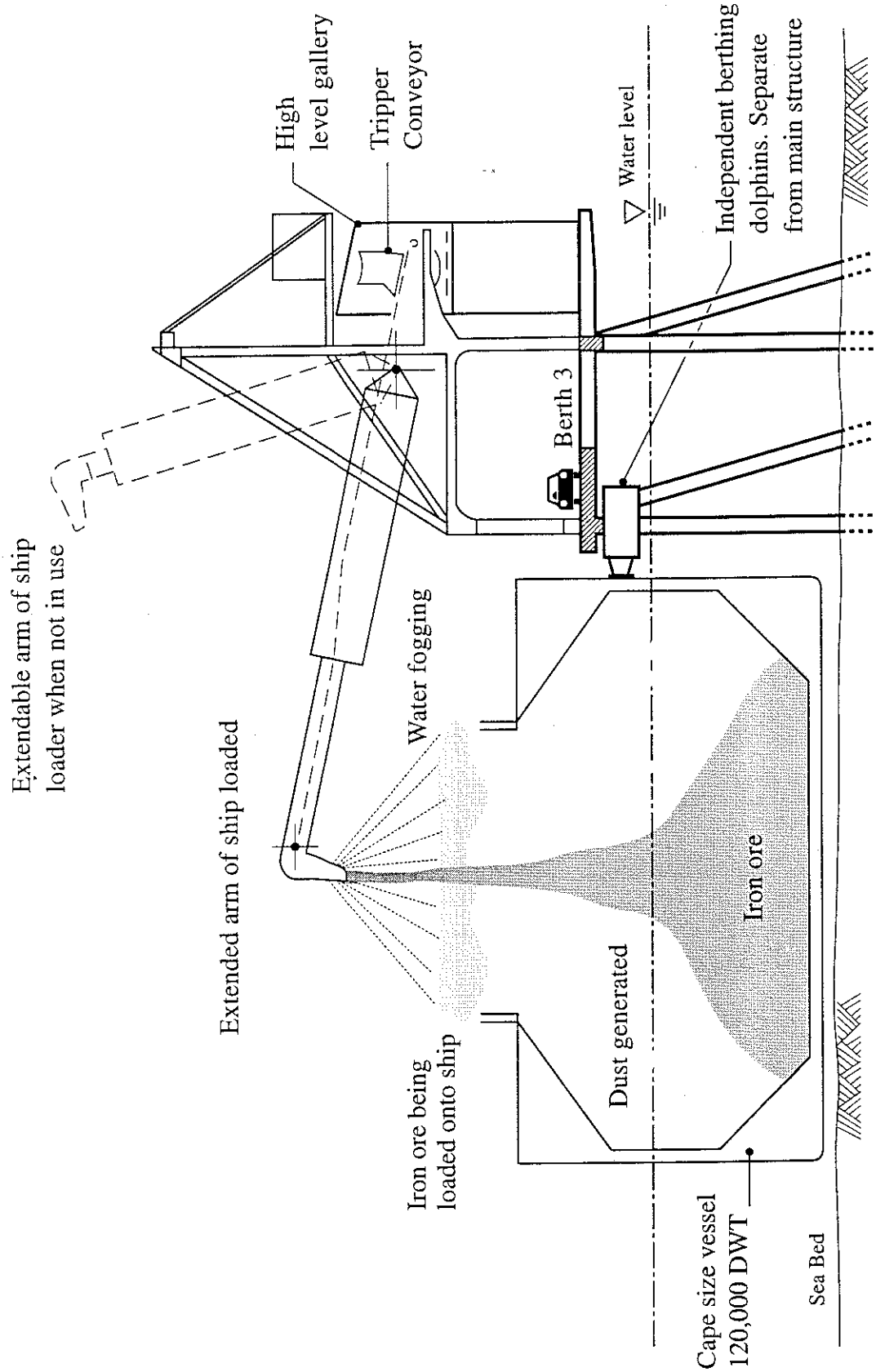
Department of Fisheries (1998) A Proposal for the Establishment of Mussel Farming at Two Locations in Cockburn Sound. Prepared by Enzer Marine Environmental Consultants.

Gaffey, T. (1999) Tributyltin (TBT) Antifoulant; Australia's New Policy Timeframes and Alternatives. Paper presented at 14th Australasian Port and Harbour Conference. Sheraton, Perth, April 1999.

Geraghty, A. (1999) Defining best practice environmental management in mining. *In* Best Practice 1999: The Yearbook of Best Practice Environmental Management in the Minerals and energy Industries. Australian Minerals and Energy Environment Foundation, Melbourne, Victoria.

Herring Storer Acoustics (1998) Acoustic Assessment of Wagerup-Bunbury-Collie Rail Corridors. Prepared for Westrail, June 1998. Ref 6472-98036.

Howard, B. and Cameron, I. (1998) Dust Control Best Practice Environmental Management in Mining Module. Environment Australia, Canberra.



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Fremantle Port Authority, Kooiyanobbing Iron Pty Ltd, Westrail
KWINANA EXPORT FACILITY

JETTY AND SHIP LOADER

Figure 1

DAMES & MOORE PTY LTD

Appendix A

Description of Proposed Facility Used for the SIA

KWINANA EXPORT FACILITY BACKGROUND INFORMATION

What is the proposal?
An export facility at the existing Kwinana Bulk Cargo Jetty. Initially the facility will be used for the export of 4 million tonnes per annum of iron ore which is mined at Koolyanobbing in the eastern wheatbelt. It is expected that the facility would be used for other dry bulk exports in the future. The facility will be in an area zoned for industrial and port uses.

Who are the proponents?
Koolyanobbing Iron Pty Ltd.
Fremantle Port Authority
Westrail

What will comprise the export facility?
a berthing jetty constructed as a southern extension of the existing bulk cargo jetty
an access jetty supporting a road and a low level enclosed conveyor
a rail line along the existing service corridor (approx 2 trains per day)
a rail car dumper
a storage shed (60m x 330m and 27m in height)
enclosed conveyors
a bulk material ship loader (rises 36m above the jetty)

The iron ore export project requires approx 1 ship/week.

Why is the project needed?
Currently iron ore is shipped out of Esperance. Koolyanobbing want to relocate the export facility to Kwinana to accommodate an increase in iron ore exports that cannot be handled by the existing port facilities at Esperance, and to be closer to markets. The existing jetty has to be expanded because it is primarily an import facility and cannot cater for large volumes of dry bulk exports.

Will the project be subject to environmental assessment?
Yes. The EPA have determined that a Consultative Environmental Review (CER) be prepared. This will be prepared by consultants Dames & Moore and released to the public for comment in early 1999.

The CER will address a range of environmental issues and include a social impact assessment. The Wells Park/Kwinana Beach survey is part of the social impact assessment process.

Project enquiries:

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Appendix B

Letter Report for SIA Undertaken
Over the Christmas/New Year Period

CHRISTMAS-NEW YEAR PERIOD COUNTS OF PEOPLE USING WELLS PARK AND KWINANA BEACH

Introduction

At the request of the Fremantle Port Authority, Alison Day & Associates undertook a count of users of Wells Park and Kwinana Beach over the Christmas-New Year period.

The brief was to visit the area on three occasions between December 26 1998 and January 2 1999 and count users of the area using the Observation Survey form developed for the Social Impact Assessment surveys undertaken in November and early December 1998.

The full results of this survey are shown in the attached three tables.

Survey results

The total number of people counted over three visits was 264 persons. The counts were as follows:

Saturday December 26 (Boxing Day)	134 persons
Sunday December 27	102 persons
Tuesday December 29 (not a public holiday)	28 persons
	264

Of this total, 93 (35%) were children and 171 (65%) were adults.

The total person counts for each area visited were as follows:

Wells Park	102
Car park	10
Fishing jetty	34
Beach	111
Coastal waters	7
	264

The beach was slightly more used than Wells Park during each count and overall.

The main activities observed were:

Children at play	93
Sitting	58
Picnic/bbq	47
Fishing	22
Swimming	18

Activities observed

Sitting in car	4
Sitting	58
Picnic/bbq	47
Walking dog	0
Recreation	9
Children at play	93
Youth activities	0
Fishing	22
Swimming	18
Boating	6
Wind surfing	1
Standing talking	6
Total	264

Comparison to previous counts

In the seven surveys undertaken for the SIA between November 18 and December 5 1998, the maximum number of people counted in the area at any one time was 67 persons (Saturday November 21).

The counts for three Saturday visits undertaken for the SIA were 67, 29 and 57, for one Sunday visit was 62 and for a Tuesday visit was 22. Thus the figures for Saturday December 26 (134) and Sunday December 27 (102) are much higher than the Saturday and Sunday counts for the SIA. The count of 28 persons for Tuesday December 29 (28) was similar to the count for Tuesday November 24 (22).

For this survey, as with the SIA surveys, the beach was the most used location of the five locations where counts were undertaken. In the SIA counts and in these counts, children at play was the most frequently observed activity. The 5 most frequently observed activities in these counts are the same as the 5 most frequently observed activities in the SIA (which were children at play, picnic/bbq activities, fishing, sitting and swimming).

For the SIA, 73% of persons counted were adults and 27% were children. In this count 65% were adults and 35% were children. More children were therefore present in the Christmas-New Year period.

WELLS PARK/BEACH/COASTAL OBSERVATION SURVEY

Date of visit: Saturday December 26 (Boxing Day)

Time of day: 1 pm

Weather conditions: Fine, warm

Number of persons observed and activities:

	Park	Car park	Fishing jetty	Beach	Coastal waters
Sitting in car		3			
Sitting	8			22	
Picnic/bbq	27				
Walking dog					
Recreation	9				
Children at play	16		4	32	
Youth activities					
Fishing			4		
Swimming				8	
Boating					1
Other (identify)					
TOTAL COUNTS	60	3	8	62	1

Total counted: 134 persons

WELLS PARK/BEACH/COASTAL OBSERVATION SURVEY

Date of visit: Sunday December 27 (not a public holiday)

Time of day: 10.20 am

Weather conditions: Fine, warm to hot

Number of persons observed and activities:

	Park	Car park	Fishing jetty	Beach	Coastal waters
Sitting in car					
Sitting	10		4	9	
Picnic/bbq	13				
Walking dog					
Recreation					
Children at play	8		4	21	
Youth activities					
Fishing			15		
Swimming				7	
Boating					5
Other (standing talking)		6			
TOTAL COUNTS	31	6	23	37	5

Total counted: 102 persons

WELLS PARK/BEACH/COASTAL OBSERVATION SURVEY

Date of visit: Tuesday December 29 (not a public holiday)

Time of day: 2 pm

Weather conditions: Fine, hot

Number of persons observed and activities:

	Park	Car park	Fishing jetty	Beach	Coastal waters
Sitting in car		1			
Sitting				5	
Picnic/bbq	7				
Walking dog					
Recreation					
Children at play	4			4	
Youth activities					
Fishing			3		
Swimming				3	
Boating					
Other (wind surfing)					1
TOTAL COUNTS	11	1	3	12	1

Total counted: 28 persons