



Decision Document

Environmental Protection Act 1986, Part V

Licensee: Cable Sands (W.A.) Pty Ltd

Licence: L8739/2013/1

Registered office: 53 Quill Way
Henderson
WA 6166

ACN: 009 137 142

Premises address: Wonnerup Mineral Sands mine
Wonnerup South Rd
Yalyalup
WA 6280
Being Lot 100 on Plan 65306.

Issue date: Friday, 17 May 2013

Commencement date: Monday, 20 May 2013

Expiry date: Saturday, 19 May 2018

Decision:

Based on the assessment detailed in this document, the Department of Environment and Conservation (DEC), has decided to issue a licence. DEC considers that in reaching this decision, it has taken into account all relevant considerations and legal requirements and that the Licence and its conditions will ensure that an appropriate level of environmental protection is provided.

Decision document prepared by: Daniel Hartnup.....
Regional Environmental Officer

Decision Document Authorised By: Neville Welsh.....
Regional Leader



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1 Purpose of this Document

This decision document explains how DEC has assessed and determined the application for a works approval or licence, and provides a record of DEC's decision-making process and how relevant factors have been taken into account. Stakeholders should note that this document is limited to DEC's assessment and decision making under Part V of the *Environmental Protection Act 1986*. Other approvals may be required for the proposal, and it is the proponent's responsibility to ensure they have all relevant approvals for their Premises.

Works approval and licence conditions

DEC has three types of conditions that may be imposed on works approvals and licences. They are as follows;

Standard conditions (SC)

DEC has standard conditions that are imposed on all works approvals and licences regardless of the activities undertaken on the Premises and the information provided in the application. These are included as the following conditions on works approvals and licences:

Works approval conditions: 1.1.1-1.1.3, 1.2.1, 1.2.2, 5.1.1 and 5.1.2.

Licence conditions: 1.1.1-1.1.3, 1.2.1-1.2.4, 5.1.1-5.1.4 and 5.2.1.

For such conditions, justification within the Decision Document is not provided.

Optional standard conditions (OSC)

In the interests of regulatory consistency DEC has a set of optional standard conditions that can be imposed on works approvals and licences. DEC will include optional standard conditions as necessary, and are likely to constitute the majority of conditions in any licence. The inclusions of any optional standard conditions are justified in Section 4 of this document.

Non standard conditions (NSC)

Where the proposed activities require conditions outside the standard conditions suite DEC will impose one or more non-standard conditions. These include both premises and sector specific conditions, and are likely to occur within a few licences. Where used, justification for the application of these conditions will be included in Section 4.



2 Administrative Summary

| Administrative Details | | |
|--|--|--|
| Application Type | Works Approval <input type="checkbox"/> | New Licence <input checked="" type="checkbox"/> |
| | Licence Amendment <input type="checkbox"/> | Works Approval Amendment <input type="checkbox"/> |
| Activities that cause the premises to become prescribed premises | Category Number(s) | Design Capacity |
| | 8 – Mineral sands mining or processing | 2,168,100 tonnes per year |
| | 6 – Mine dewatering | 600,000 tonnes per year |
| Application Verified | Date: 03/04/2013 | |
| Application Fee Paid | Date: 05/04/2013 | |
| Works Approval has been complied with Compliance Certificate received | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> | |
| Commercial-in-confidence claim | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | |
| Commercial-in-confidence claim outcome | N/A | |
| Is the proposal a Major Resource Project? | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | |
| Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the <i>Environmental Protection Act 1986</i> ? | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | Referral Decision No: CRN222591 Managed under Part V <input checked="" type="checkbox"/> Assessed under Part IV <input type="checkbox"/> |
| Is the proposal subject to Ministerial Conditions? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | Ministerial Statement No: EPA Report No: |
| Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the <i>Environmental Protection Act 1986</i>)? | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | Department of Water consulted Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| Is the Premises within an Environmental Protection Policy (EPP) Area? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If Yes include details of which EPP(s) here. | | |
| Is the Premises subject to any EPP requirements? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If Yes, include details here, eg Site is subject to SO ₂ requirements of Kwinana EPP. | | |



3 Executive summary of proposal

The Wonnerup Mineral Sands mine is a heavy mineral sands mine located 8.5 kilometres (km) east of Busselton at the southern end of the Swan Coastal Plain. The mine was recently established on 245 hectares (ha) of freehold land owned by Cable Sands, who also mined and rehabilitated the northern section of the site in the 1960s and 1970s.

The site is predominantly cleared farming land; however pockets of remaining native vegetation contain habitat for listed threatened fauna species and the site is flanked by two river systems that discharge into a wetland of international importance. There are several rural receptors within 450 metres (m) of the premises boundary, in addition to 58 individual properties within a 1.5 km radius. A regional highway abuts the northern boundary and the mine sits directly below the flight path of a regional airport.

The original proposal was referred to the EPA, who determined the overall impact of the mine was not so severe as to require formal assessment and the subsequent setting of formal conditions by the Minister for the Environment. As the mine is situated on freehold land released prior to 1899, the *Mining Act 1978* does not apply and environmental impacts associated with the mining activity cannot be managed through mining tenement conditions. As such, the Part V licence is the primary tool to control pollution, with noise levels continuously monitored from three monitoring stations surrounding the mine and dust monitoring during the drier, summer months. Groundwater abstraction and monitoring will be managed by the Department of Water; mine closure and rehabilitation will be managed by the City of Busselton.

The mining operation will utilise dry mining techniques and wet separation processing. Once overburden is removed, conventional earthmoving equipment will collect and transport ore to a screening unit, from where it will be pumped as a slurry to a wet plant. Titanium minerals will then be separated from clay fines and sand fractions to produce a heavy mineral concentrate (HMC), which is stockpiled and transported to the company's dry separation plant in Bunbury for further separation into individual constituent mineral products. Sandy tailings material will be returned to the mine pit, while clay fines will be pumped to solar evaporation ponds, allowed to dry and incorporated with the tails when the landscape is re-contoured. The quantity of ore to be mined is estimated at 6.5 million tonnes with a life-of-mine of 4 years. The mine will produce up to 370,000 tonnes of HMC at a nominal processing rate of 275 tonnes per hour.

The mine pit, which will reach up to 10 metres below ground level (m bgl) in places, intersects the watertable at approximately 4 m bgl. In-pit sumps will be used to dewater up to 0.6 gigalitres from the Superficial Bassendean Sand aquifer per year of operation. Abstracted groundwater will be pumped to the mine water circuit, consisting of a thickener and a process water storage dam. The majority of dewater will be treated and recirculated within the process; however excess volumes in the storage dam will be allowed to overflow into an on-site drain, which discharges off the premises into the Sabina River. Supplementary water for ore processing is obtained a production bores that abstracts from the Yarragadee aquifer. An additional 18 monitoring bores are located around the mine site and are monitored to detect impacts from mining operations on groundwater levels and quality that may impact on the nearby river systems.

Noise bunding ranging in height from 4 – 8.5 m has been constructed to mitigate noise emissions during mining operations. Noise levels are continuously monitored from 3 permanent locations with information streaming live to the process control room. Permanent dust monitoring equipment has also been installed and will monitor TSP and PM₁₀ during the drier months.

Cable Sands has indicated its future intentions to mine the property immediately west of the site and in conjunction with the mine infrastructure located on Lot 100.



4 Decision Table

All applications are assessed under the *Environmental Protection Act 1986*, the *Environmental Protection Regulations 1987*, DEC's Policy Statement - Limits and targets for prescribed premises 2006 and the risk matrix attached to this decision document in Appendix A and DEC's Industry Regulation Emissions and Discharges Assessment Framework. Where other references have been used in making the decision they are detailed in the decision table.

| DECISION TABLE | | | | |
|----------------------------------|---|------------|---|--------------------------------------|
| Works Approval / Licence Section | Condition Number W = Works Approval L = Licence | OSC or NSC | Justification (including risk description & decision methodology where relevant) | Reference Documents |
| General Conditions | L1.2.5 | OSC | <p>Emission Significance – 2 Socio-political context – No concern or interest Risk Assessment – D – licence conditions</p> <p>Dewatering effluent, along with tails return water, fines decant, recycled process water, rainfall and harvested stormwater runoff will be combined and managed through the mine water circuit. A water balance of the mine indicates there will be more water available than the process requires. OSC L1.2.5 has been added to ensure that all uncontaminated water is kept separate from contaminated/potentially contaminated stormwater entering the mine water circuit, in order to minimise the volume of excess water requiring discharge to the Sabina River.</p> | Application supporting documentation |
| Premises Operation | L1.3.1 – L1.3.4 | NSC | <p>Emission Significance – 2 Socio-political context – No concern or interest Risk Assessment – D – licence conditions</p> <p>A thickened slurry, consisting of the clay and silt fractions of the process stream, will be removed from the process using a thickener tank, with the fines allowed to settle with the aid of a flocculant. The fines, or “thickener underflow”, will then be pumped to, and allowed to dry, in a number of solar evaporation ponds (SEPs) or will be reused on-site for dust suppression. NSC 1.3.1 has been added to the licence to ensure that thickener underflow is only discharged to nominated SEPs that have been constructed in accordance with</p> | Application supporting documentation |



| | | | | |
|------------------|-----|--|--|--|
| | | | Cable Sand's internal document <i>WI220 Dam Construction and Management</i> or for dust suppression. NSC 1.3.2 has been added to ensure water levels in the SEPs are managed in such a manner that minimises the risk of overtopping, except in an extreme rainfall event (i.e. greater than a 1:72 year flood). NSC 1.3.3 has been added to ensure discharge pipelines and available freeboard is inspected on a daily basis and NSC 1.3.4 has been added to require an annual water balance for the site, in order to monitor the level of seepage to groundwater over the duration of mining. | |
| L1.3.5 – L1.3.6 | NSC | <p>Emission Significance – 3 Socio-political context – Some community concern or interest Risk Assessment – B – licence conditions</p> <p>The Premises is located in a high-risk area for shallow acid sulfate soils (ASS) and an ASS investigation of the Premises in 2009 identified sporadic occurrences of pyrite materials, indicating soils vulnerable to acidification on oxidation. The activity of sand mining also increases the risk of disturbing sulfidic sediments on the Premises at depths greater than 3 m. NSC L1.3.5 has been added to ensure that any ASS disturbed through the mining process is processed as ore through the wet plant and pH adjusted through the thickener phase. NSC L1.3.6 has been added to ensure an ASS log is maintained for all ASS disturbed and managed on the Premises.</p> | <p><i>Identification and investigation of acid sulfate soils in acidic landscapes</i> (DEC, March 2013)</p> <p><i>Investigation and management of acid sulfate soil hazards associated with silica and heavy mineral sand mining operations</i> (DEC, 2012)</p> <p>Application supporting documentation</p> | |
| L1.3.7 – L 1.3.8 | NSC | <p>Emission Significance – 3 Socio-political context – Some community concern or interest Risk Assessment – B – licence conditions</p> <p>The mine is located close to several residences and with 24/7 operations proposed, noise generated from the mine has the potential to impact on the amenity of local residents. Unreasonable noise has the potential to impact the amenity of local residents, and concerns were raised in several public submissions during the works approval phase of the project.</p> <p>Noise emissions modelled under worst case meteorological conditions indicate that marginal compliance with the assigned noise levels can be achieved at all times; however DEC, using the precautionary principle, has elected to include NSC L1.3.7, which restricts the use of the noisiest earth-moving machinery (defined as having a sound power level exceeding 110 dB) to day time hours only. This condition should be reviewed after 12 months of operation</p> | <p>Environmental Protection (Noise) Regulations 1997 (Noise Regulations)</p> <p>Application supporting documentation</p> | |



| | | | | |
|---|----------------------------|-----|--|--|
| | | | and, if Cable Sands can justify the need for operating noisy earth-moving machinery outside these hours and it can be demonstrated that noise is being managed appropriately, this condition can be relaxed (or removed). DEC also has concerns with the integrity of the noise bunds during adverse weather conditions, in particular the hay bales on the 8.5 m high bunds, and has therefore added NSC L1.3.8 to require the maintenance of all noise bunds to the final constructed heights under the works approval. | |
| Emissions General | L2.1.1 | OSC | Descriptive limits and targets will be set through conditions 2.3.3, 2.3.4 and 2.8.1 of the licence and therefore OSC regarding recording and investigation of exceedances of limits or targets has been included. | N/A |
| Point source emissions to air including monitoring | L2.2 and L3.2 | N/A | Emission Significance – 1 Socio-political context – No concern or interest Risk Assessment – E – no regulation, other management mechanisms There are no point source air emissions from operation of the mine. No specified conditions relating to point source air emissions or the monitoring of these emissions are required to be added to the licence. | N/A |
| Point source emissions to surface water including monitoring | L2.3.1 – L2.3.5 and L3.3.1 | OSC | Emission Significance – 3 Socio-political context – Some community interest or concern Risk Assessment – B – licence conditions The majority of treated water will be used in the processing of ore and for dust suppression; however excess volumes will be allowed to overflow from the process water dam into an on-site drainage channel which discharges off the Premises and into the Sabina River. OSC L2.3.1 has therefore been added to specify the authorised discharge point. OSC L2.3.3 and L2.3.4 have been added to specify the discharge water quality criteria at any one time, which are consistent with the limits and targets set by DoW and the Federal Department of Sustainability, Environment, Water, Population and Communities. In the event that the volume of water being discharged to the Sabina River exceeds the capacity of the river, Cable Sands has nominated a discharge point in the Abba River as a contingency measure. OSC L2.3.2 and 2.3.5 have therefore been added to specify the relevant management action in the event of requiring an emergency | <i>Identification and investigation of acid sulfate soils in acidic landscapes (DEC, March 2013)</i> Application supporting documentation |



| | | | | |
|---|---------------|-----|---|---|
| | | | <p>discharge to the Abba River. OSC 3.3.1 has been added to require weekly monitoring of pH, total dissolved salts and total suspended solids; monthly monitoring of total acidity, total alkalinity and metals (Al, Fe, Mn), and continuous monitoring of the volumetric flow rate whilst discharging.</p> | |
| Point source emissions to groundwater including monitoring | L2.4 and L3.4 | N/A | <p>Emission Significance – 1 Socio-political context – No concern or interest Risk Assessment – E – no regulation, other management mechanisms</p> <p>There are no point source emissions to groundwater from operation of the mine. No specified conditions relating to point source emissions to groundwater or the monitoring of these emissions are required to be added to the licence.</p> | N/A |
| Emissions to land including monitoring | L2.5 and L3.5 | N/A | <p>Emission Significance – 1 Socio-political context – No concern or interest Risk Assessment – E – no regulation, other management mechanisms</p> <p>There are no point source emissions to land from operation of the mine. No specified conditions relating to point source emissions to land or the monitoring of these emissions are required to be added to the licence.</p> | N/A |
| Fugitive Emissions | L2.6.1 | NSC | <p>Emission Significance – 3 Socio-political context – Some community concern or interest Risk Assessment – B – licence conditions</p> <p>Dust emissions are likely to be generated from land clearing, topsoil stripping, excavation, movement of vehicles along haul roads and wind erosion of exposed surfaces. When uncontrolled, the amount of dust emitted will be dependent on the nature of the mineral material that is exposed, moisture content and weather conditions. Dust has the potential to impact on the health and amenity of local residents, and concerns were raised in several public submissions during the works approval phase of the project. DEC also considers, based on its experience of dust generation from previous and existing mineral sands mines in the South West region that dust can be difficult to manage in unfavourable weather conditions, particularly those mines with large exposed areas and in proximity to populated areas. DEC therefore considers it appropriate to enforce a TSP limit at the Premises boundary to ensure that dust is managed appropriately.</p> | <p>Kwinana Environmental Protection (Kwinana)(Atmospheric Wastes) Policy 1999 (Kwinana EPP)</p> <p>Ambient Air Assessment Criteria, National Environmental Protection Measure (NEPM)</p> <p>AS4282-1997 <i>Control of the obtrusive effects of outdoor lighting</i></p> <p>General provisions of the <i>Environmental Protection Act 1986</i></p> |



| | | | | |
|--------------|-----------------|-----|---|--|
| | | | <p>The TSP limit set under NSC L2.6.1 is consistent with other mineral sands mines and is based on the Kwinana EPP 24-hour average of 260 µg/m³. Targets for TSP and PM₁₀ have also been set through Table 3.8.2.</p> <p>Light emissions will also be present as the mine is a 24-hour operation. Night time operations will be limited to front-end loaders and processing equipment. Large outdoor lights will be required for the mine pit and infrastructure and can be adjusted to mitigate any light overspill. NSC L2.6.2 has been added to require all external lighting on the mine to comply with AS4282.</p> | Application supporting documentation |
| Odour | L2.7 | N/A | <p>Emission Significance - 1 Socio-political context – No concern or interest Risk Assessment – E – no regulation, other management mechanisms</p> <p>Odour emissions are not expected to be generated from the mine operations. No specified conditions relating to odour emissions are required to be added to the licence.</p> | N/A |
| Noise | L2.8.1 – L2.8.2 | NSC | <p>Emission Significance - 4 Socio-political context – Some community concern or interest Risk Assessment – B – licence conditions</p> <p>As mentioned in NSC L1.3.7, noise emissions modelled under worst case meteorological conditions indicate that marginal compliance with the assigned noise levels can be achieved at all times. Based on DEC's experience of previous and existing mineral sands mines in the South West region, noise emissions can become a significant issue for mines that have 24-hour operations and are close to sensitive receptors. DEC is concerned that, given the proximity to sensitive receptors and the lack of an appropriate buffer to the predicted assigned levels that night time operations could be unacceptable.</p> <p>DEC has therefore determined that prescribing target noise levels at specific reference points around the mine site (targets based on Cable Sands' predicted worst case modelling data) will provide additional protection to sensitive receptors in proximity to the mine, and is the most appropriate method of ensuring Cable Sands minimise their impact. However, the prescribed targets are by no means a reflection of the assigned noise levels, i.e. compliance with the targets may not necessarily indicate compliance with the</p> | <p>Noise Regulations</p> <p>Application supporting documentation</p> |



| | | | | |
|---|-----------------|-----|---|--|
| | | | <p>assigned noise levels within 15 m of a noise sensitive receptor. NSC L2.8.1 has therefore been added and prescribes the noise emission targets at the three noise monitoring stations around the mine site, during the evening and night time periods. The target reference is a $L_{A90,30min}$ level, which is the equivalent of an L_{A10} level over 4 hours.</p> <p>In order to provide additional protection to closest residences during evening and night time operations, NSC L2.8.2 has been added to require all reasonable and practicable measures to be taken to abate noise emissions within 15 minutes of a target exceedance being recorded that is attributed to mining operations. The expected abatement measures include shutting down the second loader (when 2 are in operation); relocate equipment and/or stop work altogether at a specific location until certain conditions (e.g. weather) are appropriate to start again.</p> | |
| Monitoring General | L3.1.1 – L3.1.4 | OSC | <p>Descriptive monitoring of discharges to surface water, ambient monitoring of noise levels, dust, background river water quality and meteorological monitoring have been set through conditions 3.3.1, 3.8.1 – 3.8.3 and 3.9.1 of the licence and therefore OSC regarding the requirements of sampling, sampling frequency, monitoring equipment and calibration has been included.</p> | <p>AS/NZS 5667.1 <i>Water Quality – Sampling – Guidance on the Design of sampling programs, sampling techniques and the preservation and handling of samples</i></p> <p>AS/NZS 5667.6 <i>Water Quality – Sampling – Guidance on the sampling of rivers and streams</i></p> <p>AS 3580.9.3 <i>Methods for sampling and analysis of ambient air – TSP – High volume sampler gravimetric method</i></p> |
| Monitoring of inputs and outputs | L3.6 | N/A | <p>Monitoring of inputs is not required to ensure efficient operation of the mine. No specific conditions relating to monitoring of inputs are required to be added to the licence.</p> | N/A |
| Process Monitoring | L3.7 | N/A | <p>Monitoring of process parameters such as flow rate, temperature or pressure is not relevant to category 8 activities and therefore conditions relating to process monitoring are not required to be added to the licence.</p> | N/A |



| | | | | |
|--|---------------|------------|--|---|
| <p>Ambient Quality Monitoring</p> | <p>L3.8.1</p> | <p>OSC</p> | <p>Monitoring of ambient noise levels are required to ensure that noise emissions from mine operations are being managed to comply with the targets specified in condition 2.8.1 and the Noise Regulations. The monitoring suite includes continuous monitoring of instantaneous levels and spectral statistics, in order to determine the level of noise emissions attributable to mine operations and if the emissions attract a penalty for tonality, impulsiveness and modulation. Monitoring is prescribed from the three noise monitoring stations constructed under W5174, and using a combination of directional and non-directional monitoring systems which are linked to, and stream real-time data, back to the process control room.</p> <p>Monitoring of ambient air quality is required to ensure that dust emissions (TSP and PM₁₀) are managed appropriately during the drier months (i.e. October to May). Targets have been set and are based on the Kwinana EPP of 90 µg/m³ for TSP and the NEPM of 50 µg/m³ for PM₁₀. Monitoring is prescribed from the three dust monitoring stations constructed under W5174/2012/1.</p> <p>Monitoring of ambient surface water, both upstream and downstream of the mine site discharge point in the Sabina River, is required to monitor the potential impacts of mine water discharge off the Premises. Annual samples are required for physical parameters, indicators of acid sulfate soils, and metals likely to precipitate from solution under specific conditions. Monitoring in the Abba River has also been added, as background information should discharge ever be required under emergency conditions.</p> <p>Monitoring of ambient groundwater levels and quality for impacts due to mining operations are requirements of Cable Sand's licence to Take Water, administered by the Department of Water (DoW) under the <i>Rights in Water and Irrigation Act 1914</i>. DEC therefore does not consider it necessary to duplicate groundwater monitoring requirements under the licence; however NSC L5.3.2 has been added to require the monitoring data required by DoW in the annual monitoring report, for DEC's information and review.</p> | <p>Noise Regulations</p> <p>Kwinana EPP</p> <p>NEPM</p> <p>Licence to Take Water GWL173523</p> <p>General provisions of the <i>Environmental Protection Act 1986</i>.</p> <p>Application supporting documentation</p> |
| <p>Meteorological monitoring</p> | <p>L3.9.1</p> | <p>OSC</p> | <p>Monitoring of meteorological conditions is required for the management of noise and dust emissions during mining operations. An anemometer has been installed on the wet plant under W5174</p> | <p>AS 3580.14 <i>Methods for sampling and analysis of ambient air –</i></p> |



| | | | | |
|---------------------|--|-----|---|---|
| | | | and streams real-time data to the control room. DEC expects that Cable Sands will establish triggers for non-favourable wind criteria and utilise site specific weather conditions to manage emissions from the Premises. | <i>Meteorological monitoring for ambient air quality monitoring applications</i> Application supporting documentation |
| Improvements | L4.1.1 | NSC | The ASS management plan submitted with the application has been assessed by DEC and the proposed management to ASS disturbances appears simplistic and symptomatic by treatment/processing acidified sediments and water rather than undertaking an active ASS investigation as to the extent of ASS oxidation on the site. IR1 has been added to require an assessment of the magnitude of potential sulfide oxidation hazard at the Premises, and the potential impacts on groundwater quality and other sensitive receptors. | <i>Identification and investigation of acid sulfate soils in acidic landscapes</i> (DEC, March 2013) <i>Treatment and management of soils and water in acid sulfate soil landscapes</i> (DEC, July 2011) Application supporting documentation |
| Information | L5.1.1 – L5.1.4 L5.2.2 – L5.2.3 L5.3.1 | N/A | Standard conditions relating to the management of records and complaints, notification requirements and the submission of an annual audit compliance report and annual environmental report have been added to the licence. | N/A |



5 Advertisement and Consultation Table

| Date | Event | Comments received/Notes | How comments were taken into consideration |
|------------|--|--|--|
| 15/04/2013 | Application advertised in West Australian | No comments received. | N/A |
| 08/04/2013 | Application referred to interested parties listed | DAFWA and City of Busselton raised no objections to the proposal. | N/A |
| 02/05/2013 | Proponent sent a copy of draft licence | Preliminary draft licence provided to Cable Sands during the works approval compliance inspection on 02/05/2013. A subsequent meeting on 10/05/2013 was held to discuss Cable Sands comments/concerns on the preliminary draft. The primary issues raised related to conditions proposed for monitoring seepage from the SEPs, proposed management of ASS and potential ASS, proposed discharge water quality limits to the Sabina River, proposed noise emission targets, and the proposed improvement conditions relating to the existing management plan for ASS. Other comments/corrections were also provided on matters of fact within the draft conditions. | Conditions relating to the monitoring of seepage from SEPs were removed due to the high level of work required compared to the low environmental risk posed. Conditions relating to the management of ASS and PASS were amended to reflect Cable Sands' proposed management strategy. Conditions relating to discharge quality limits and targets were amended to be consistent with the criteria already set by DoW and DSEWPC. The proposed noise emission targets were amended to more accurately reflect Cable Sands' modelling data at the Sue Rd station. The proposed improvement condition for ASS site risk assessment was retained in the final. The majority of comments/corrections were accepted in the final draft. |
| 06/05/2013 | DoW sent a copy of draft instrument and decision document | Waiting for comments but draft conditions have been discussed previously (informally). | |
| 13/05/2013 | Proponent sent a copy of final draft licence and decision document | TBC | |



Appendix A

EMISSIONS AND DISCHARGES RISK ASSESSMENT MATRIX

Note: These matrix are taken from the current DEC Officer's Guide to Emissions and Discharges Risk Assessment May 2006.

Table 3: Measures of Significance of Emissions

| Emissions as a percentage of the relevant emission or ambient standard | | Worst Case Operating Conditions (95 th Percentile) | | | |
|--|-----------|---|-----------|----------|-------|
| | | >100% | 50 – 100% | 20 – 50% | <20%* |
| Normal Operating Conditions (50 th Percentile) | >100% | 5 | N/A | N/A | N/A |
| | 50 – 100% | 4 | 3 | N/A | N/A |
| | 20 – 50% | 4 | 3 | 2 | N/A |
| | <20%* | 3 | 3 | 2 | 1 |

*For reliable technology, this figure could increase to 30%

Table 4: Socio-Political Context of Each Regulated Emission

| | | Relative proximity of the interested party with regards to the emission | | | | |
|---|---|---|-------------|-------------|---------|----------|
| | | Immediately Adjacent | Adjacent | Nearby | Distant | Isolated |
| Level of Community Interest or Concern* | 5 | High | High | Medium High | Medium | Low |
| | 4 | High | High | Medium High | Medium | Low |
| | 3 | Medium High | Medium High | Medium | Low | No |
| | 2 | Low | Low | Low | Low | No |
| | 1 | No | No | No | No | No |

Note: These examples are not exclusive and professional judgement is needed to evaluate each specific case

*This is determined by DEC using the DEC "Officer's Guide to Emissions and Discharges Risk Assessment" May 2006.

Table 5: Emissions Risk Reduction Matrix

| | | Significance of Emissions | | | | |
|-------------------------|-------------|---------------------------|---|---|---|---|
| | | 5 | 4 | 3 | 2 | 1 |
| Socio-Political Context | High | A | A | B | C | D |
| | Medium High | A | A | B | C | D |
| | Medium | A | B | B | D | E |
| | Low | A | B | C | D | E |
| | No | B | C | D | E | E |

PRIORITY MATRIX ACTION DESCRIPTORS

A = Do not allow (fix)

B = licence condition (setting limits + EMPs - short timeframes)(setting targets optional)

C = licence condition (setting targets + EMPs - longer timeframes)

D= EIPs, other management mechanisms/licence conditions (monitoring/reporting)/other regulatory tools

E = No regulation, other management mechanisms