



Application for Works Approval

Division 3, Part V *Environmental Protection Act 1986*

| | |
|------------------------------|---|
| Works Approval Number | W6183/2018/1 |
| Applicant | Drilline Pty Ltd |
| ACN | 065 688 164 |
| File Number | DER2018/001559 |
| Premises | Five Mile Creek Sand Project Mining Lease M46/524 Crown Reserve 2804 NULLAGINE WA 6758 |
| Date of Report | 24 January 2019 |

1. Definitions

In this Decision Report, the terms in the Table below have the meanings defined.

| Term | Definition |
|-------------------------------|---|
| ACN | Australian Company Number |
| Category/ Categories/ Cat. | Categories of Prescribed Premises as set out in Schedule 1 of the EP Regulations |
| Decision Report | refers to this document. |
| Delegated Officer | an officer under section 20 of the EP Act. |
| Department | means the department established under section 35 of the <i>Public Sector Management Act 1994</i> and designated as responsible for the administration of Part V, Division 3 of the EP Act. |
| DWER | Department of Water and Environmental Regulation As of 1 July 2017, the Department of Environment Regulation (DER), the Office of the Environmental Protection Authority (OEPA) and the Department of Water (DoW) amalgamated to form the Department of Water and Environmental Regulation (DWER). DWER was established under section 35 of the <i>Public Sector Management Act 1994</i> and is responsible for the administration of the <i>Environmental Protection Act 1986</i> along with other legislation. |
| Emission | has the same meaning given to that term under the EP Act. |
| EP Act | <i>Environmental Protection Act 1986 (WA)</i> |
| EP Regulations | <i>Environmental Protection Regulations 1987 (WA)</i> |
| Noise Regulations | <i>Environmental Protection (Noise) Regulations 1997 (WA)</i> |
| Occupier | has the same meaning given to that term under the EP Act. |
| Prescribed Premises | has the same meaning given to that term under the EP Act. |
| Premises | refers to the premises to which this Decision Report applies, as specified at the front of this Decision Report |
| Risk Event | As described in <i>Guidance Statement: Risk Assessment</i> |
| Works Approval Holder | Drilline Pty Ltd |

2. Overview of premises

1.1 Classification of premises

| Classification of Premises | Description | Approved Premises production or design capacity or throughput |
|----------------------------|---|---|
| Category 12 | Screening etc. of material: premises (other than premises within category 5 or 8) on which material extracted from aid the ground is screened, washed, crushed, ground, milled, sized or separated. | 50,000 tpa |

1.2 Description of proposed activity

Drilline Pty Ltd (the Applicant) proposes to screen up to 100,000 tonnes per year of material extracted from the creek bed of Five Mile Creek, located close to the town of Nullagine in the Pilbara. The extracted material will be sized between 4.75mm to 20mm. Screened material will be stockpiled onsite pending removal offsite.

The infrastructure and equipment are outlined in the table below and the site layout is shown in Figure 1.

| Ref | Infrastructure and Equipment | Site Layout Plan Reference (Figure 1) |
|-----|--|---------------------------------------|
| | Prescribed Activity (Category 12) | |
| 1 | Terrex Finlay 683 Supertrak mobile Screening Plant | Screening plant |
| 2 | Run of Mine working area | Working area |
| 3 | 36 tonne excavator | N/A – mobile equipment |
| 4 | 30 tonne Moxy semi-articulated dump truck | |
| 5 | 35 tonne wheel loader | |
| 6 | Water truck fitted with spray bars and water cannons | |
| 7 | Four-wheeled drive ute or service truck | |
| 8 | Single tipper or a road train double or triple trailer combination | |

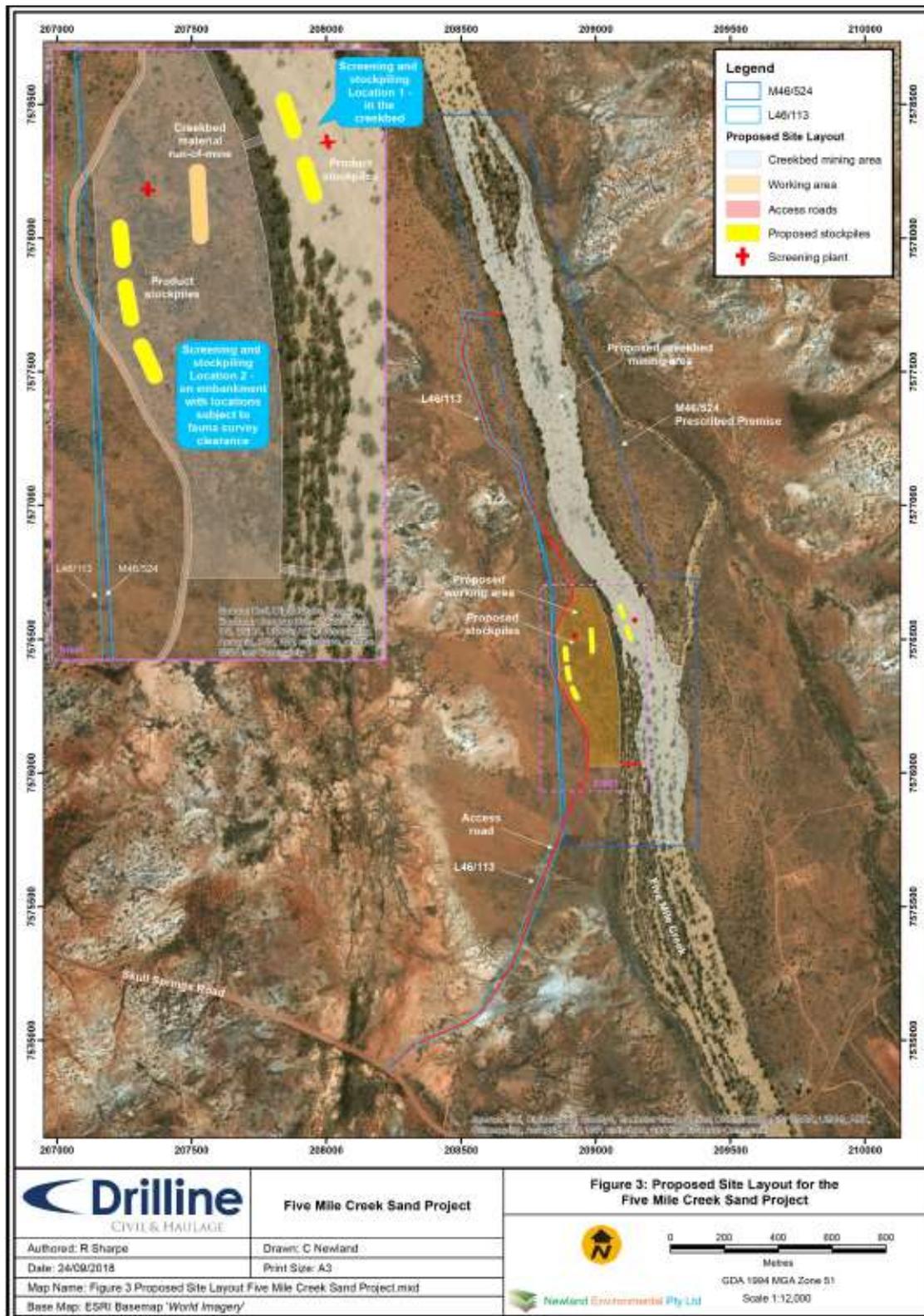


Figure 1: Site Layout Plan

Image provided as part of works approval supporting documentation

3. Legislative context and other approvals

Clearing of 13.53 hectares of vegetation along the creek bed is required. The clearing will allow for the development of a working hardstand and access roads. The Applicant holds clearing permit 6277/1 granted under the EP Act. The Applicant is currently preparing an application to amend the clearing permit to encompass the creek areas and will be submitted separately to the Department of Mines, Industry Regulation and Safety for assessment. This works approval does not authorise any clearing to be undertaken.

Sand mining of the creek has been authorised under Department of Mines, Industry Regulation and Safety (DMIRS) approval MP 44991 and Mine Closure Plan MCP 67979 (granted 25/06/2014). DMIRS approval is limited to 50,000 tonnes/year. It should be noted that the Delegated Officer will align this maximum throughput in the granting of any licences. If 100,000 tonnes/year for operations is required, evidence of the approved increase from DMIRS will need to be provided to DWER.

Other than placement of screening equipment and associated machinery, no other works are proposed under this application.

Approvals relevant to the premises are outlined in the table below.

| Legislation | Number | Approval |
|--|---|---|
| <i>Environmental Protection Act 1986</i> | CPS 6184/1 | Approval to clear 18.74 hectares of native vegetation Amendment application to DMIRS will be lodged to extend clearing area. |
| <i>Mining Act 1978</i> | MP 44991 and MCP 67979 granted 25/06/2014 | Mining Proposals and Mine Closure Plans managed by DMIRS Approval granted to screen up to 50,000 tonnes/year. |
| <i>Planning and Development Act 2005</i> | N/A | The Applicant has provided evidence from the Shire of East Pilbara that no local government approvals are required. |

4. Emission sources, pathways and receptors

3.1 Emissions

The potential for emissions to impact on sensitive receptors has been assessed in accordance with the Department's Risk Framework. The key emissions considered in this report are **dust, noise and movement of sediment (e.g. into waterways)** from activities including screening equipment placement and use and vehicle movements during construction.

The Applicant has proposed measures to assist in controlling these emissions, where necessary. The control measures have been considered when undertaking the risk assessment detailed in Section 4.

Following completion and compliance with this works approval, a prescribed premises category 12 licence under Part V of the EP Act will be required to authorise emissions associated with the operation of the premises i.e. screening and related activities, including vehicle movements, excavation, loading and unloading and storage of materials. A risk assessment for the operational phase has been included in this Decision Report, however licence conditions will not be finalised until DWER assesses the licence application.

3.2 Receptors

Risk is assessed as a combination of emission sources, the proximity and sensitivity of receptors to those emission sources and any pathways that can allow the emission to reach and potentially harm the receptor. Figure 2 and the table below provides a summary of human and environmental receptors in proximity to the premises and the risk assessment in Section 5 considers these receptors in the context of emissions and potential pathways.

| Receptor | Distance from Prescribed Premises |
|---|---|
| Human receptors | |
| Freehold house (Lot 21) | Approximately 2km south, south-east of screening operations |
| Five Mile Indigenous Community (Reserve 42717) | Approximately 2km south, south-east of screening operations |
| Nullagine townsite | 7.5km west of premises boundary |
| Millennium Minerals Limited mining camp | Approximately 8.1km south, south-west of premises boundary |
| Blue Spec mining camp | Approximately 11km north-east of premises boundary |
| Environmental receptors | |
| Nullagine River | Confluence located 3km downstream of premises boundary |
| Nullagine Water Reserve (Priority 1 Public Drinking Water Source Area) | 1.4km west of premises boundary |
| Priority Ecological Community 23: Stony saline plains of Mosquito Land System (saltbush community of the duplex plains) | Surrounding premises (not within it) |
| Surface geology | Alluvial riverine environment |

3.3 Pathways

As dust and noise are considered potential emissions, the prevailing wind direction has been considered. Using information available on the Bureau of Meteorology's website, the closest available weather station for climate data is Nullagine (No. 004027). Based on the climate data for Nullagine station (January 1897 to March 2004), the prevailing wind direction is easterly.

Sediment movements from surface run-off across the site may cause an increase in suspended solids in Five Mile Creek, resulting in turbidity and sedimentation. Contamination may also occur if sediments come into contact with contaminants and/or natural processes result in pH changes, releases of naturally occurring substances such as heavy metals or other geochemical changes. These pathways have been considered in the risk assessment table in Section 5.

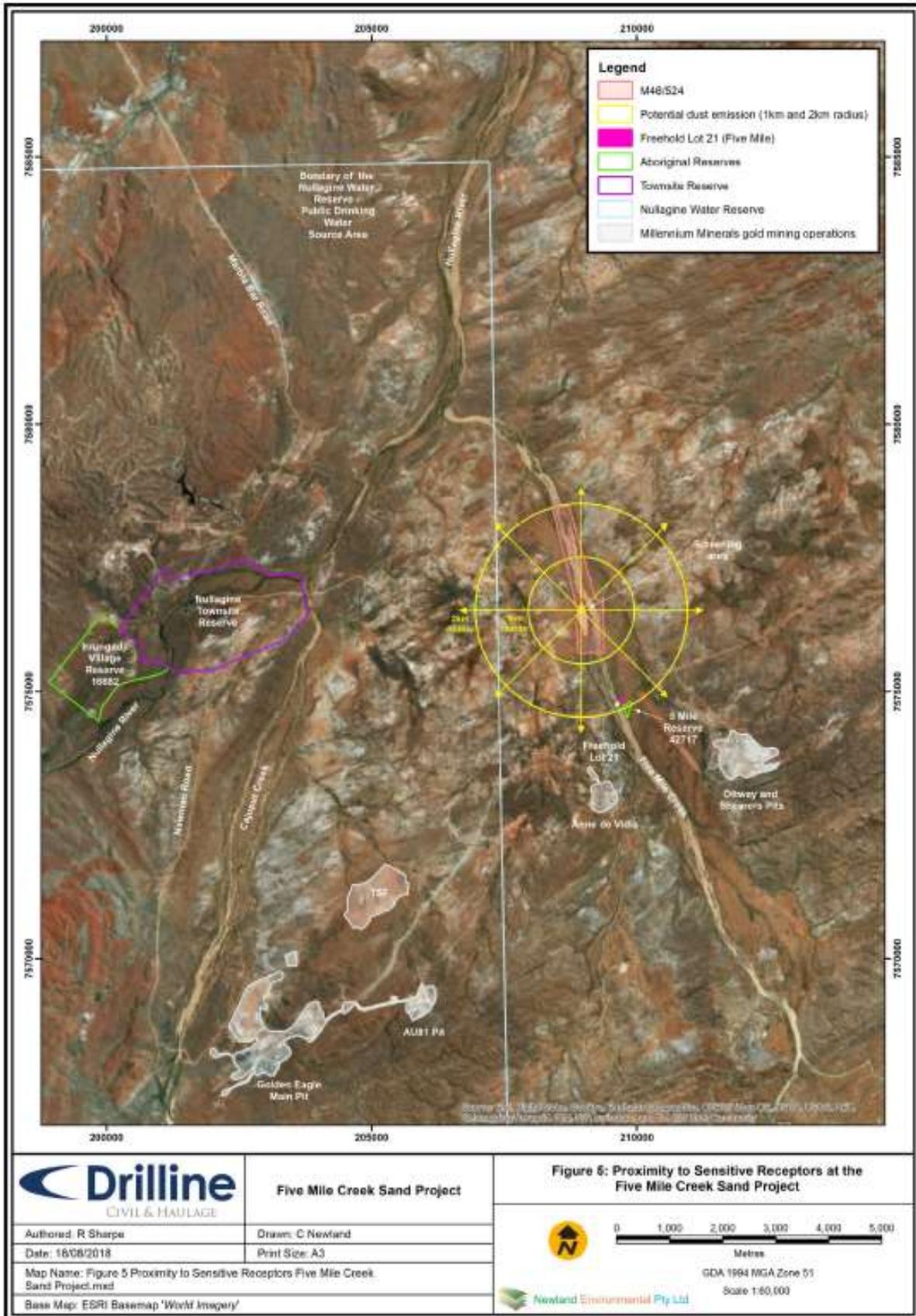


Figure 2: Distance to sensitive receptors

Image provided as part of works approval supporting documentation

5. Risk Assessment

Risk ratings have been assessed for each key emission source and take into account potential source-pathway-receptor linkages. The mitigation measures / controls proposed by the Applicant have been considered in determining the risk rating. Emissions during construction and operation have been assessed separately. This is because separate approvals are needed for each. The works approval that accompanies this report authorises construction only. A licence is required to operate the premises.

4.1 Risk assessment – construction

| Risk Event | | | | Consequence rating* | Likelihood rating* | Risk* | Reasoning | Regulatory controls (refer to conditions of the granted instrument) |
|--|---------------------|--|--|---------------------|--------------------|-------|--|---|
| Source/Activities | Potential emissions | Potential receptors, pathway and impact | Applicant controls | | | | | |
| Place of screener and associated equipment including vehicle movements | Dust | Air/windborne pathway causing impacts to surface water quality within the Five Mile Creek (within Premises boundary) | Wetting down roads using water truck with spray bars and water cannons | Slight | Unlikely | Low | The minor construction works (equipment placement) are not expected to generate significant dust emissions. The proposed controls are expected to be sufficient at mitigating dust emissions. | N/A |
| | Noise | Air/windborne pathway causing impacts to health and amenity of closest human receptors (indigenous community and freehold lot) approximately 2km from prescribed operations. | No specified controls for noise emissions | | | | The closest human receptors are located a significant distance (2km) from the premises and are not in the direction of the prevailing wind. | |

*Consequence ratings, likelihood ratings and risk descriptions are detailed in the Department's Guidance Statement: Risk Assessments (February 2017)

4.2 Risk assessment – operation (information only)*

| Risk Event | | | | Consequence rating** | Likelihood rating** | Risk** | Reasoning | Regulatory controls (refer to conditions of the granted instrument) |
|--|---------------------|---|--|----------------------|---------------------|--------|---|---|
| Source/Activities | Potential emissions | Potential receptors, pathway and impact | Applicant controls | | | | | |
| Excavation activities Screening activities Unloading, loading and storage of material Vehicle movements | Dust | Air/windborne pathway causing impacts to surface water quality within the Five Mile Creek (within Premises boundary) | Wetting down processing areas, roads and stockpiles using water truck with spray bars and water cannons. Dust skirts and covers (where feasible) on processing equipment. | Minor | Unlikely | Low | This receptor is within the Premises boundary however when the sand is extracted, it is damp from the creek bed and unlikely to generate significant dust emissions. The proposed controls are expected to be sufficient at mitigating dust emissions. | To be determined at licensing assessment stage* |
| | | Air/windborne pathway causing impacts to health and amenity of closest human receptors (indigenous community and freehold lot) approximately 2km from prescribed operations. | Speed limits restricted to 20km/hr Machinery fitted with mufflers and baffles | | | | | |
| Processing and storage of material | Sediment | Overland runoff causing impacts to surface water quality Five Mile Creek (within premises boundary) from an increase in of suspended solids resulting in turbidity and sedimentation of the Creek, and associated riparian flora and fauna. | Earthen bunds surrounding processing and storage areas | Minor | Unlikely | Low | Applicant controls are suitable for limiting sediment release and runoff. Given the nature of the extracted material (river bed sand) and operations, is unlikely that the sediments will contain contaminants. | To be determined at licensing assessment stage* |

*The works approval that accompanies this Report authorises construction only. A licence is required for operations.

**Consequence ratings, likelihood ratings and risk descriptions are detailed in the Department's Guidance Statement: Risk Assessments (February 2017)

6. Consultation

| Method | Comments received | DWER response |
|---|--|--|
| Application advertised on DWER website (11/12/2018) | None received | N/A |
| Direct interest stakeholders notified | DMIRS provided comment on 29/11/2018 to advise that the relevant DMIRS approvals only authorised the screening of up to 50,000 tonnes/year and not the 100,000 tonnes/year specified in the application submitted to DWER. DMIRS advised that there are no proposals currently under assessment to increase the premises throughput to 100,000 tonnes/year | The premises throughput in any subsequent licence will be limited to 50,000 tonnes/year as specified in the granted DMIRS approvals. |
| Applicant notified of draft (22/01/2019) | Comments received 23 January 2019 waiving the remainder of the comment period. | N/A |

7. Conclusion

This assessment of the risks of activities on the premises has been undertaken with due consideration of a number of factors, including the documents and policies specified in this decision report (summarised in Appendix 1).

DWER notes that it may review the appropriateness and adequacy of controls at any time and that, following a review, DWER may initiate amendments to the approval under the EP Act.

Tracey Hassell

A/MANAGER WASTE INDUSTRIES

Delegated Officer under section 20 of the *Environmental Protection Act 1986*

Appendix 1: Key documents

| Document title | Availability |
|---|--|
| Works Approval (W6183/2018/1) application form and supporting documentation (October 2018) | DWER records (A1732966; A1732975) |
| DER, July 2015. <i>Guidance Statement: Regulatory principles</i> . Department of Environment Regulation, Perth. | accessed at www.dwer.wa.gov.au |
| DER, October 2015. <i>Guidance Statement: Setting conditions</i> . Department of Environment Regulation, Perth. | |
| DER, August 2016. <i>Guidance Statement: Licence duration</i> . Department of Environment Regulation, Perth. | |
| DER, February 2017 <i>Guidance Statement: Risk Assessments</i> . Department of Environment Regulation, Perth. | |
| DER, February 2017. <i>Guidance Statement: Decision Making</i> . Department of Environment Regulation, Perth. | |