



Licence

Environmental Protection Act 1986, Part V

Licensee: **Bioworks Australia Pty Ltd**

Licence: **L8957/2016/1**

Registered office: 79 Alacrity Place
HENDERSON WA 6166

ACN: 116 632 136

Premises address: 79 Alacrity Place
HENDERSON WA 6166
Being Lot 44 on Plan 050679
Certificate of Title Volume 2659 Folio 889
as depicted in Schedule 1

Issue date: 23 December 2016

Commencement date: 26 December 2016

Expiry date: 25 December 2036

Prescribed premises category

Schedule 1 of the *Environmental Protection Regulations 1987*

Category number	Category description	Category production or design capacity	Approved Premises production or design capacity
31	Chemical manufacturing: premises on which chemical products are manufactured by a chemical process.	100 tonnes or more per year	Not more than 2,000 tonnes per annual period

Conditions

This Licence is subject to the conditions set out in the attached pages.

Date signed: 23 December 2016

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Jonathan Bailes
A/Senior Manager – Industry Regulation (Process Industries)

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



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Introduction

This Introduction is not part of the Licence conditions.

DER's industry licensing role

The Department of Environment Regulation (DER) is a government department for the state of Western Australia in the portfolio of the Minister for Environment. DER's purpose is to advise on and implement strategies for a healthy environment for the benefit of all current and future Western Australians.

DER has responsibilities under Part V of the *Environmental Protection Act 1986* (the Act) for the licensing of prescribed premises. Through this process DER regulates to prevent, control and abate pollution and environmental harm to conserve and protect the environment. DER also monitors and audits compliance with works approvals and licence conditions, takes enforcement action as appropriate and develops and implements licensing and industry regulation policy.

Licence requirements

This Licence is issued under Part V of the Act. Conditions contained within the Licence relate to the prevention, reduction or control of emissions and discharges to the environment and to the monitoring and reporting of them.

Where other statutory instruments impose obligations on the Premises/Licensee the intention is not to replicate them in the licence conditions. You should therefore ensure that you are aware of all your statutory obligations under the Act and any other statutory instrument. Legislation can be accessed through the State Law Publisher website using the following link:

<http://www.slp.wa.gov.au/legislation/statutes.nsf/default.html>

For your Premises relevant statutory instruments include but are not limited to obligations under the:

- *Environmental Protection (Unauthorised Discharges) Regulations 2004* – these Regulations make it an offence to discharge certain materials such as contaminated stormwater into the environment other than in the circumstances set out in the Regulations.
- *Environmental Protection (Controlled Waste) Regulations 2004* - these Regulations place obligations on you if you produce, accept, transport or dispose of controlled waste.
- *Environmental Protection (Noise) Regulations 1997* – these Regulations require noise emissions from the Premises to comply with the assigned noise levels set out in the Regulations.

You must comply with your licence. Non-compliance with your licence is an offence and strict penalties exist for those who do not comply.

Licence holders are also reminded of the requirements of section 53 of the Act which places restrictions on making certain changes to prescribed premises unless the changes are in accordance with a works approval, licence, closure notice or environmental protection notice.



Licence fees

If you have a licence that is issued for more than one year, you are required to pay an annual licence fee prior to the anniversary date of issue of your licence. Non-payment of annual licence fees will result in your licence ceasing to have effect, meaning that it will no longer be valid and you will need to apply for a new licence for your Premises.

Ministerial conditions

If your Premises has been assessed under Part IV of the Act you may have had conditions imposed by the Minister for Environment. You are required to comply with any conditions imposed by the Minister.

Premises description and licence summary

BioWorks Australia Pty Ltd (BioWorks) produces methyl-esters (biodiesel) by the chemical reaction of a blend of used cooking oils and methanol. The Licensee previously operated the same business at 21 Prossner Way, Henderson under Licence L8203 since 2006. The new premises at 79 Alacrity Place, Henderson were constructed under works approval W5953 and a compliance document was received by DER on 22 November 2016 stating the works have been completed as in accordance with the works approval conditions.

Biodiesel is a clean-burning methanol (mono-alkyl) ester or ethanol-ester based fuel made from vegetable or animal fats. Biodiesel contains no petroleum, but it can be blended at any level with petroleum diesel to create a biodiesel blend.

Methyl-esters are produced by a chemical process known as transesterification. In this process, used cooking oils are reacted to produce methyl-esters and a glycerol by-product. BioWorks currently utilises the glycerol by-product as a key component in industrial applications. Methyl-esters can be utilised for a diverse range of application with the primary use being a substitute for mineral diesel.

The transesterification process modified used by BioWorks does not produce any waste products, odours, or significant noise emissions. The process involves cleaning of collected oil (this utilises the glycerol by-product and produces a usable by-product), reacting the cleaned oil, separating the methyl esters from glycerol, and cleaning and filtering the methyl esters prior to sale.

The production site is located at 79 Alacrity Place, Henderson. This site comprises a single workshop (458m²) and a substantial hardstand. The workshop contains the production facilities for the manufacture and cleaning of methyl esters. The site also contains a small tank farm for the storage of treated oil feedstock and finished methyl esters. The workshop includes bunding to contain any spillages. Loading and unloading of collected used cooking oil or produced methyl-esters are done within the facilities in bunded containment locations.

Operations commence at 7am and continue through to 7pm.

Production Process

Biodiesel is made through a process called transesterification whereby the glycerine is separated from the vegetable oil. The process produces two products - biodiesel (mono-alkyl ester) and glycerine (a by-product used in soaps and other products).

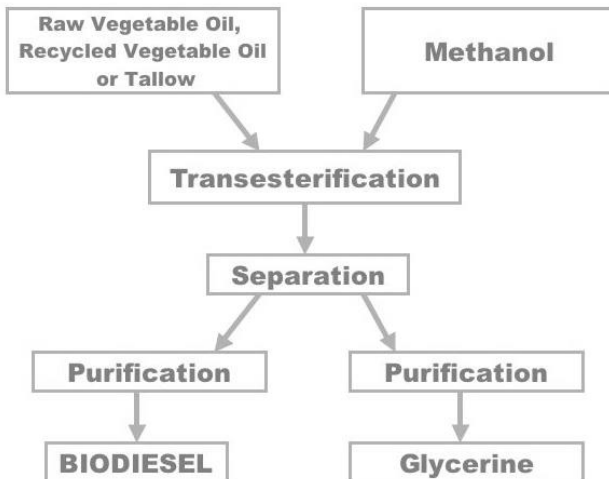
BioWorks use a catalysed reaction. A mixture of methanol and an alkaline catalyst is blended with the feedstock oil to produce a reaction that creates biodiesel and glycerine that separate naturally after the reaction.



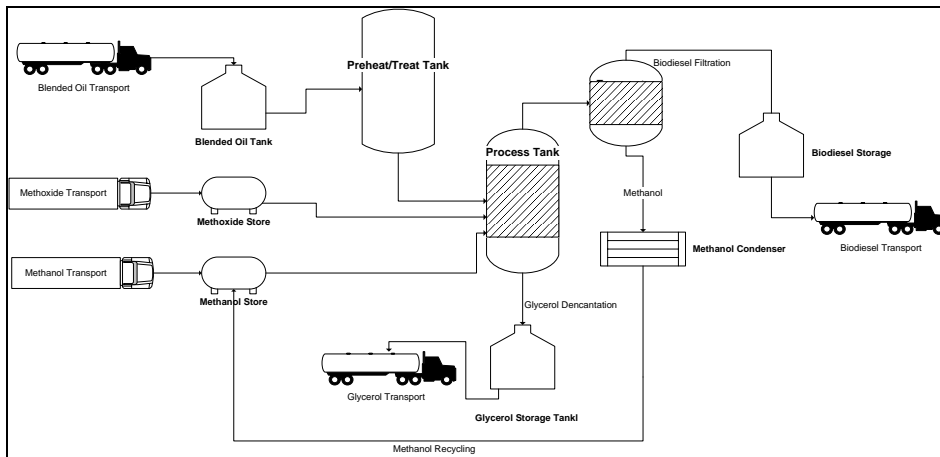
The transesterification process involves:

1. The oil/fat blend is deposited in a tank by pump.
2. The oil/fat is heated to the desired process temperature.
3. The oil/fat is treated to remove free fatty acids, solids and any other contaminants.
4. The treated oil/fat is pumped to the process tank.
5. Methanol & the catalyst mixture are pumped into the process tank.
6. Glycerol is separated from the mixture and drained to the glycerol storage tank.
7. Excess methanol is evaporated from the biodiesel created – the methanol is condensed for re-use.
8. The biodiesel is passed through separation to remove any residues of glycerol.
9. The biodiesel is then filtered and pumped out for storage.

As shown below:



An overview of the process is shown below:



The initial production capacity for the plant is 30,000 litres per week (and not more than 2,000 tonnes per annum).

The licences and works approvals issued for the Premises are:

Instrument log		
Instrument	Issued	Description
W5953/2016/1	23/03/2016	New works approval
L8957/2016/1	05/12/2016	New EP Act licence



Severance

It is the intent of these Licence conditions that they shall operate so that, if a condition or a part of a condition is beyond the power of this Licence to impose, or is otherwise *ultra vires* or invalid, that condition or part of a condition shall be severed and the remainder of these conditions shall nevertheless be valid to the extent that they are within the power of this Licence to impose and are not otherwise *ultra vires* or invalid.

END OF INTRODUCTION

Licence conditions

1 General

1.1 Interpretation

1.1.1 In the Licence, definitions from the *Environmental Protection Act 1986* apply unless the contrary intention appears.

1.1.2 For the purposes of this Licence, unless the contrary intention appears:

'Act' means the *Environmental Protection Act 1986*;

'Annual Audit Compliance Report' means a report in a format approved by the CEO as presented by the Licensee or as specified by the CEO from time to time and published on the Department's website;

'annual period' means the inclusive period from 1 January until 31 December in the same year;

'CEO' means Chief Executive Officer of the Department of Environment Regulation;

'CEO' for the purpose of correspondence means:

Chief Executive Officer
Department Div.3 Pt.V EP Act
Locked Bag 33 Cloisters Square
Perth WA 6850
info@der.wa.gov.au

'Department' means the department established under s.35 of the Public Sector Management Act 1994 and designated as responsible for the administration of Division 3 Part V of the Act

'Licence' means this Licence numbered L8957/2016/1 and issued under the Act;

'Licensee' means the person or organisation named as Licensee on page 1 of the Licence;

'Premises' means the area defined in the Premises Map in Schedule 1 and listed as the Premises address on page 1 of the Licence;

1.2 General conditions

1.2.1 The Licensee must immediately recover, or remove and dispose of spills of oils, fats, methanol, glycerine or biodiesel outside an engineered containment system.



2 Information

2.1 Records

- 2.1.1 All information and records required by the Licence shall:
- (a) be legible;
 - (b) if amended, be amended in such a way that the original and subsequent amendments remain legible or are capable of retrieval;
 - (c) except for records listed in 2.1.1(d) be retained for at least 6 years from the date the records were made or until the expiry of the Licence or any subsequent licence; and
 - (d) for those following records, be retained until the expiry of the Licence and any subsequent licence:
 - (i) off-site environmental effects; or
 - (ii) matters which affect the condition of the land or waters.
- 2.1.2 The Licensee must submit to the CEO within 30 days after the annual period, an Annual Audit Compliance Report indicating the extent to which the Licensee has complied with the Conditions in this Licence for the Annual Period.
- 2.1.3 The Licensee must implement a complaints management system that as a minimum records the number and details of complaints received concerning the environmental impact of the activities undertaken at the Premises and any action taken in response to the complaint.

2.2 Reporting

- 2.2.1 The Licensee must submit to the CEO an Annual Environmental Report within 30 days after the end of the annual period. The report shall contain the information listed in Table 2.2.1 in the format or form specified in that table.

Table 2.2.1: Annual Environmental Report		
Condition or table (if relevant)	Parameter	Format or form
N/A	Summary of any failure or malfunction of any pollution control equipment and any environmental incidents that have occurred during the annual period and any action taken	None specified
2.1.3	Complaints summary	None specified



Schedule 1: Maps

Premises map

The Premises is shown on the map below. The green line depicts the Premises boundary.





Decision Document

Environmental Protection Act 1986, Part V

Proponent: **Bioworks Australia Pty Ltd**

Works Approval: **L8957/2016/1**

Registered office: 79 Alacrity Place
 HENDERSON WA 6166

ACN: 116 632 136

Premises address: 79 Alacrity Place
 HENDERSON WA 6166
 Being Lot 44 on Plan 050679
 Certificate of Title Volume 2659 Folio 889
 as depicted in Schedule 1.

Issue date: Thursday, 22 December 2016

Commencement date: Monday, 26 December 2016

Expiry date: Tuesday, 25 December 2036

Decision

Based on the assessment detailed in this document the Delegated Officer has decided to issue a licence. DER 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 authorised by:

Jonathan Bailes
Delegated Officer



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1 Purpose of this Document

This decision document explains how DER has assessed and determined the application and provides a record of DER's decision-making process and how relevant factors have been taken into account. Stakeholders should note that this document is limited to DER's assessment and decision making under Part V of the *Environmental Protection Act 1986*.

This Decisions Document follows on from completion of construction of the premises under the provisions of works approval W5953/2016/1 granted on 23 March 2016. Bioworks has advised that it has built premises in accordance with the provisions of the works approval and has sought a licence for the premises.

Other approvals may be required for operation of the site, and it is the applicant's responsibility to ensure they have all relevant approvals for the Premises.



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)	Assessed design capacity
	31	Not more than 2,000 tonnes per year
Application verified	Date: 17/02/2016	
Application fee paid	Date: 24/02/2016	
Works Approval has been complied with	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	
Compliance Certificate received	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" 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 type="checkbox"/> No <input checked="" 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 type="checkbox"/> No <input checked="" type="checkbox"/>	Referral decision No: Managed under Part V <input 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 type="checkbox"/> No <input checked="" type="checkbox"/>	Department of Water consulted Yes <input type="checkbox"/> No <input checked="" 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"/>		



3 Executive summary of proposal and assessment

Premises description and licence summary

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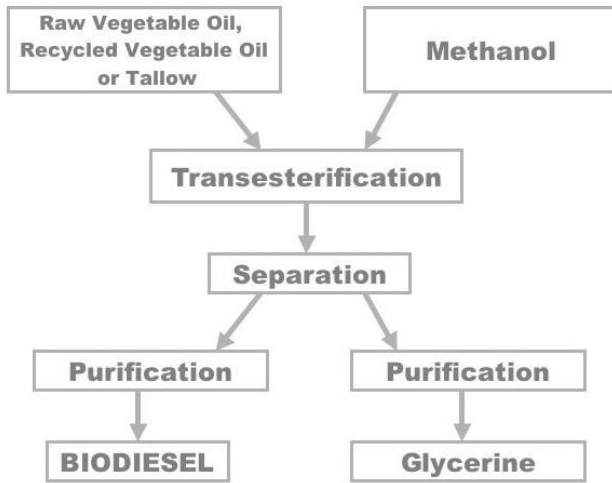
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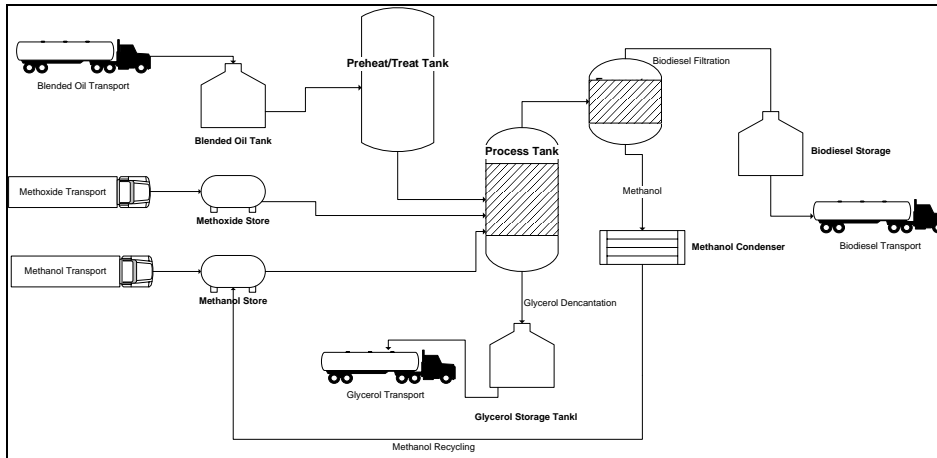
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The process is shown below:



An overview of the process is shown below:



The initial production capacity of the plant is 30,000 litres per week (and not more than 2,000 tonnes per annum).



4 Decision table

All applications are assessed in line with the *Environmental Protection Act 1986*, the *Environmental Protection Regulations 1987* and DER's Guidance Statement: Risk Assessments (November 2016). Where other references have been used in making the decision, they are detailed in the decision document.

DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
General conditions and premises operation	L1.2.1	<p>Operation</p> <p><u>Emission Description</u> <i>Emission:</i> Materials such as waste cooking oil and chemicals stored and used on site contaminating stormwater or flowing off site. <i>Impact:</i> Contamination of soil and/or groundwater. The nearest public drinking water source area (PDWSA) is located approximately 7km east of the premises. Groundwater is approximately 9m below ground level, and the premises is approximately 325m from the coast. Contamination of groundwater with fuels or chemical solutions may have limited localised impacts. <i>Controls:</i> All materials likely to cause contamination are stored within bunding or buildings. All operational areas within the premises are on hardstand. Clean stormwater is diverted away from contamination sources and discharges to the on-site drainage system.</p> <p><u>Risk Assessment</u> <i>Consequence:</i> Minor <i>Likelihood:</i> Rare <i>Risk Rating:</i> Low</p> <p><u>Regulatory Controls</u> Condition 1.2.1 requires the Licensee to clean up any chemical spills outside engineered containment systems. The premises is also subject to the <i>Environmental Protection (Unauthorised</i></p>	<p>Application supporting documentation</p> <p><i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i></p>



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<p><i>Discharges) Regulations 2004 (UDRs) and the general provisions of the Environmental Protection Act 1986 (The EP Act).</i></p> <p><u>Residual Risk</u> <i>Consequence:</i> Slight <i>Likelihood:</i> Unlikely <i>Residual Risk Rating:</i> Low</p>	
Odour	No Licence conditions	<p>Operation</p> <p><u>Emission Description</u> <i>Emission:</i> Fugitive odour emissions from the used oil process. There are no residences within 3km of the premises. <i>Impact:</i> Nuisance odour impacts on neighbouring businesses. An odour sampling and dispersion model was conducted on the business when it operated from O'Connor in 2007 for the same processes. The report states that from the O'Connor plant, there were no main odour sources with no odour emissions identified. There have been no odour complaints received by DER from the previously operated O'Connor or Henderson plants. <i>Controls:</i> All operations likely to be odorous take place within the building and in sealed vessels.</p> <p><u>Risk Assessment</u> <i>Consequence:</i> Slight <i>Likelihood:</i> Unlikely <i>Risk Rating:</i> Low</p> <p><u>Regulatory Controls</u> The premises is subject to the general provisions of the <i>Environmental Protection Act 1986</i></p> <p><u>Residual Risk</u></p>	<i>Environmental Protection Act 1986</i>



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<p><i>Consequence:</i> Slight <i>Likelihood:</i> Unlikely <i>Residual Risk Rating:</i> Low</p>	
Noise		<p>Operation <u>Emission Description</u> <i>Emission:</i> Noise emissions from the used oil process including the use of the separator and compressor. The premises is located within the Henderson industrial area. There are no residences within 3km of the premises. <i>Impact:</i> Nuisance noise impacts on neighbouring businesses. A noise assessment conducted at the O'Connor premises in 2007 showed that during normal operations of the processing plant and compressor (inside an enclosure), the noise level at a distance of 36m would be 17dB L_{A10} and well within the noise regulations. The air receiver and processing plant at the new premises will be enclosed as per the noise assessment and has previously operated at other premises in Henderson with DER not receiving any noise complaints from the premises. <i>Controls:</i> The site will operate from 7am to 7pm with all operations taking place within the building.</p> <p><u>Risk Assessment</u> <i>Consequence:</i> Slight <i>Likelihood:</i> Unlikely <i>Risk Rating:</i> Low</p> <p><u>Regulatory Controls</u> Provisions of the <i>Environmental Protection (Noise) Regulations 1997</i> are considered appropriate to regulate noise emissions from the premises.</p> <p><u>Residual Risk</u></p>	<p>Application supporting documentation</p> <p><i>Environmental Protection (Noise) Regulations 1997</i></p>



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<p><i>Consequence: Slight</i> <i>Likelihood: Unlikely</i> <i>Residual Risk Rating: Low</i></p> <p>The site is subject to the <i>Environmental Protection (Noise) Regulations 1997</i>.</p>	
Information	L2.1.1-2.1.4	<p>Condition 5.1.5 from the previous licence (L8616) has not been included in the licence. The intention of this condition is covered by the <i>Environmental Protection (Controlled Waste) Regulations 2004</i>.</p> <p>All other information conditions are valid and are necessary administration and reporting requirements to ensure compliance.</p>	<i>Environmental Protection (Controlled Waste) Regulations 2004</i>
Licence Duration		<p>The licence has been issued for 20 years as per DER <i>Guidance Statement: Licence Duration</i>.</p>	<i>Guidance Statement: Licence Duration (August 2016)</i>



5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
29/02/2016	Application advertised in West Australian (or other relevant newspaper)	No comments were received.	N/A
19/12/2016	Draft instrument sent to the applicant for comment.	Minor comments regarding typographical errors were received via phone on 20 December 2016	The decision document and licence were updated as per the comments received.

6 Risk Assessment

Note: This matrix is taken from the DER Guidance Statement - Risk Assessments

Table 1: Emissions Risk Matrix

Likelihood	Consequence				
	Slight	Minor	Moderate	Major	Severe
Almost Certain	Medium	High	High	Extreme	Extreme
Likely	Medium	Medium	High	High	Extreme
Possible	Low	Medium	Medium	High	Extreme
Unlikely	Low	Medium	Medium	Medium	High
Rare	Low	Low	Medium	Medium	High