

LICENCE FOR PRESCRIBED PREMISES Environmental Protection Act 1986

LICENCE NUMBER: L4612/1989/11

FILE NUMBER: 2012/006877

LICENSEE AND OCCUPIER OF PREMISES

BHP Billiton Nickel West Pty Ltd 125 St Georges Terrace PERTH WA 6000 ACN: 004 184 598

NAME AND LOCATION OF PREMISES

Nickel West Leinster Nickel Operations Mining tenements ML255SA, M36/230, L36/93, M36/4 and M36/389 LEINSTER WA 6437 (as shown in Attachment 1)

PRESCRIBED PREMISES CATEGORY

Schedule 1 of the Environmental Protection Regulations 1987

Table 1. Pre	escribed activities a	as listed by the	Environmental	Protection F	Regulations 19	87

CATEGORY NUMBER	CATEGORY DESCRIPTION	APPROVED PREMISES PRODUCTION OR DESIGN CAPACITY
5	Processing or beneficiation of metallic or non-metallic ore: premises on which – (a) metallic or non-metallic ore is crushed, ground, milled or otherwise processed; or (b) tailings from metallic or non-metallic ore are reprocessed; or (c) tailings or residue from metallic or non-metallic ore are discharged into a containment cell or dam.	3,600,000 tonnes per year
6	Mine dewatering: premises on which water is extracted and discharged into the environment to allow mining of ore	2,000,000 tonnes per year
57	Used tyre storage (general): premises (other than premises within category 56) on which used tyres are stored.	500 tyres or less
64	Class II putrescible landfill site: premises on which waste (as determined by reference to the waste type set out in the document entitled "Landfill Waste Classification and Waste Definitions 1996" published by the Chief Executive Officer and as amended from time to time) is accepted for burial.	20 tonnes or more per year
85	Sewage facility: premises – a) on which sewage is treated (excluding septic tanks); or b) from which treated sewage is discharged onto land or into waters.	44m ³ per day

ISSUE DATE:	Thursday, 17 October 2013
COMMENCEMENT DATE:	Saturday, 19 October 2013
EXPIRY DATE:	Thursday, 18 October 2018
DATE OF AMENDMENT:	Thursday, 17 December 2015



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CONDITIONS OF LICENCE

Subject to this licence and the conditions set out in the attached pages.

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Date signed: 17 December 2015

Officer delegated under Section 20 of the Environmental Protection Act 1986

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Premises description and licence summary

Nickel concentrator plant (category 5)

Nickel West Leinster operation (NLN) is an underground and open pit nickel sulfide mine and concentrator plant. The facility is located within the Shire of Leonora, approximately 370 kilometres (km) north of Kalgoorlie WA.

NLN sources ore from the Perseverance underground mine and Rocky's Reward Pit. Approximately 2,000,000 tonnes of ore and waste rock are mined annually. There are two historic open pit mines known as Rocky's Reward and Harmony; of which Harmony is on care and maintenance (Attachment 2).

The concentrator plant uses conventional crushing, semi-autogenous grinding (SAG) and ball milling and flotation extraction and recovery to produce nickel sulfide concentrate.

Reagents used in the process include:

- Sodium Ethyl Xanthate;
- Guar Gum;
- Frother;
- Polysill; and
- Copper Sulfate.

Water is removed from the concentrate via thickening, filtering and air drying. Captured water is recycled back through the processing plant. Approximately 300,000 tonnes of concentrate at 12 - 15% nickel is produced per annum.

Waste material (tailings) is thickened prior to being pumped to one of two tailings storage facilities (TSF) (Attachment 3). Details of each operating TSF are listed below in Table 2. Process water collected from the TSF decant pond or through the seepage collection systems is pumped back to the processing plant for reuse via the return water pipeline. Both the tailings delivery and return water pipelines lay within secondary containment infrastructure to capture spilt material. Telemetry systems are fitted to both pipelines to signal pipeline breaches. All four cells are monitored by a series of groundwater bores with conditions requiring the reporting of results (Attachments 4 and 5).

Seepage from the facility is concentrated to the south of TSF2. Monitoring bores, recovery bores and a toe drain have been installed to capture and measure lateral seepage flow (Attachment 4). A seepage interception and recovery trench has been constructed at the base of TSF 3AB's eastern embankment.

Cell	Current licensed embankment height	Work approval approved embankment height (pending commissioning)	Estimated embankment works completion date	Works approval reference
TSF 3AB	RL 10,551.5m	RL 10,554.0m	February 2014	W5479/2013/1
TSF 3CD	RL 10,551.5m	RL 10,554.0m	August 2013	W5331/2013/1
TSF 3E	RL 10,543.0m	N/A	N/A	N/A
TSF 2	RL 10,542.5m	RL10,550.0m	February 2018	W5314/2013/1

Table 2. NLN TSF embankment lift planning

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L4612/1989/11 includes conditions related to the sampling of gaseous waste from the concentrate drier exhaust stack. These emissions are captured under Schedule 4 Part 3 of the Environmental Protection Regulations 1987.

The dried nickel concentrate is transported from NLN by road to the Leonora rail siding where it is loaded into rail cars and moved to the Kalgoorlie nickel smelter for further refinement. On occasions NLN transports concentrate to the Esperance port using half height sea containers. This material is shipped directly to international customers.

Concentrate not immediately transported from site is held in one of two lined storage ponds. The two ponds have a combined capacity of 100,000 tonnes.

Screening (category 5)

NLN operates the Koonoonooka sand quarry located approximately 8km northeast of the concentrator plant (Attachment 2). The screening plant has a process capacity of 780,000 tonnes per annum (tpa). The screened sand transported to the NLN sand and tailings mixing pad.

Paste fill plant (category 5)

A 500,000tpa paste fill plant was constructed at NLN in 2003 (Attachment 2). The facility operated for two years before being placed in a state of care and maintenance.

Mine dewatering (category 6)

NLN undertakes dewatering activities to maintain the Perseverance underground mine. Water extracted from the underground sumps is utilised by the concentrator plant with excess dewatering discharged to purpose built evaporation ponds (Attachment 6). NLN was licensed to discharge up to one million tpa. Modelling suggests the evaporation ponds have a capacity to accept 1.3 million tpa. Mine dewatering is also accounted for through use as dust suppression. Dewatering operations occur intermittently at Rocky's Reward Pit as required and dewater is discharged to the nearby Harmony Open Pit or a Turkey's Nest as required for ancillary dust suppression or exploration drilling operations.

Landfills (category 64)

NLN operates three Class II putrescible landfills at the NLN site (Attachments 2 and 3). These include:

- The NLN restricted access waste facility accepting dried biological wastes from the Leinster town waste water treatment plant (WWTP) screen and macerator, asbestos wastes, medical wastes, waste tyres and contaminated solid wastes compliant to Class II criteria as listed in the document WA Landfill Classifications and Waste Definitions 1996;
- 2. The Rocky's Reward landfill a landfill within the Rocky's Rewards waste rock dump that accepts putrescible wastes generated from the mine site; and
- 3. A septic disposal cell a putrescible landfill which accepts solids from the Leinster town WWTP drying beds and biosolids from the mine site WWTP.

NLN is a licenced controlled waste carrier (licence # T00742) under the Environmental Protection (Controlled Waste) Regulations 2004. This authorises NLN to transport the following waste streams:

- 1. Category 1 biological wastes (biosolids and WWTP screen and macerator material);
- 2. Category 3 clinical wastes (mine site and township medical centre items); and
- 3. Category 15 miscellaneous wastes (tyres).

Used tyres are disposed of in the Rocky's Reward waste dump as per Part 6 of the Environmental Protection Regulations 1987 (Attachment 3).

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Waste water treatment plant (category 85)

Waste water from the mine site ablutions is treated by a 44m³ per day WWTP. Approximately 30m³ of treated effluent is discharged daily to the designated 2.5ha irrigation area. Nutrient loading, access and signage of the site are regulated by the Water Quality Protection Note 22 *Irrigation with Nutrient Rich Waste Water* (DoW 2008). Solids from the facility are buried at the Class II putrescible landfill (septic disposal cell).

Bioremediation facility

NLN operates a bioremediation facility for the treatment of hydrocarbon contaminated soil (Attachment 3). NLN is required to manage the facility as per the guidelines - *Contaminated Sites Management Series, Bioremediation of hydrocarbon-contaminated soils in Western Australia. October 2004.*

Ancillary infrastructure

NLN maintains the following ancillary infrastructure to support mining and processing activities:

- Bulk chemical storages as necessary for concentrator plant and mining operations (managed under a Department of Mines and Petroleum Dangerous Goods licence)
 - Sodium Ethyl Xanthate;
 - o Diesel;
 - Copper Sulfate; and
 - o Anhydrous Ammonia (storage within Mine Air Cooling Plant);
- Administration and maintenance facilities;
- Vehicle washdown facilities;
- Oil/water separator units;
- CAPES contracting site office, including maintenance workshop facilities; and
- Potable water chlorination plant, dosing the 11 Mile borefield water supply to NLN and the town of Leinster.

L4612/1989/11 contains conditions that are specific to the management of waste from ancillary operations.

December 2015 Amendment

The licence has been amended to add an additional dewatering bore (RRDB02) and pump at the Rocky's Reward Open Pit and an additional pipeline to a discharge at Harmony Open Pit. The additional dewatering capacity is required in order to facilitate future underground mining at Leinster 1A. The dewatering capacity of category 6 has been increased to 2,000,000 tpa in line with NLN's Licence to Take Water GWL 66248(5) issued under section 5C of the *Rights in Water and Irrigation Act 1914* by the Department of Water. With the additional bore RRDB02 in operation the previous throughput of 1,000,000 tpa under category 6 would have been exceeded.

An amendment to the monitoring schedule and parameters for RRDB03 under condition W6(a) has also been made.

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DEFINITIONS

In these conditions of licence, unless inconsistent with the text or subject matter:

"the Act" means the Environmental Protection Act 1986;

"AS 4323.1" means the Australian Standard AS4323.1 *Stationary Source Emissions Method 1: Selection of sampling positions;*

"**AS/NZS 5667.1**" means the Australian Standard AS/NZS 5667.1 Water Quality – Sampling – Guidance of the Design of sampling programs, sampling techniques and the preservation and handling of samples;

"AS/NZS 5667.10" means the Australian Standard AS/NZS 5667.10 Water Quality – Sampling – Guidance on sampling of waste waters;

"AS/NZS 5667.11" means the Australian Standard AS/NZS 5667.11 Water Quality – Sampling – Guidance on sampling of groundwaters;

"CEO" means the Chief Executive Officer of the Environmental Protection Act 1986;

"CEO" for the purpose of correspondence means;

Chief Executive Officer Department Administering the Environmental Protection Act 1986 Locked Bag 33 CLOISTERS SQUARE WA 6850 Email: info@der.wa.gov.au

"code of practice for the storage and handling of dangerous goods" means Department of Mines and Petroleum, 2010, Storage and handling of dangerous goods — code of practice (2nd edition): Resources Safety, Department of Mines and Petroleum, Western Australia;

"**controlled waste**" has the definition in Environmental Protection (Controlled Waste) Regulations 2004;

"dangerous goods" has the meaning defined in the Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007;

"**freeboard**" means the distance between the maximum water surface elevations and the top of retaining banks or structures. Freeboard is provided to prevent overtopping due to unforeseen conditions, and/or events greater than the maximum design event of the structure;

"Harmony Open Pit Discharge Point" means the discharge point as depicted in Attachment 8;

"Landfill Waste Classification and Waste Definitions 1996 (As amended December 2009)" means the document entitled "Landfill Waste Classification and Waste Definitions 1996 (As amended December 2009) published by the Chief Executive Officer and as amended from time to time;

"licence" means this licence numbered L4612/1989/11 and issued under the *Environmental Protection Act 1986;*

"licensee" means the person or organisation named as licensee on page 1 of the licence;

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"NATA" means the National Association of Testing Authorities;

"**premises**" means the area defined in the premises map in Attachment 1 and listed as the premises address on page 1 of the licence;

"TSF" means tailings storage facility;

"Turkey's Nest" means the Turkey's Nest depicted in Attachment 8 and Attachment 9;

"USEPA Method 5" means United States (of America) Environmental Protection Agency Method 5 – *Determination of particulate matter emissions from stationary sources*; and

"USEPA Method 8" means United States (of America) Environmental Protection Agency Method 8 – Determination of sulfuric acid and sulfur dioxide emissions from stationary sources.

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GENERAL CONDITIONS

ANNUAL REPORT

G1 The licensee shall provide its Annual Environmental Report containing the monitoring data and other collected data required by any condition of this licence by **31 October each year**. This report shall cover the previous 12 month period from 1 August to 31 July outlining how compliance with licence conditions were achieved and providing comment on any trends within the data. One digital copy of this report shall be provided to the CEO.

ANNUAL AUDIT COMPLIANCE REPORT

G2 The licensee shall by **31 October in each year**, provide to the CEO an Annual Audit Compliance Report in the form in Attachment 7 to this licence, signed and certified in the manner required by section C of the form, indicating the extent to which the licensee has complied with the conditions of this licence and any previous licence issued under Part V of the Act for the premises, during the period beginning 1 August the previous year and ending on 31 July in that year.

AIR POLLUTION CONTROL CONDITIONS

DUST - GENERAL REQUIREMENT

- A1 (a) The licensee shall take appropriate measures to prevent or minimise the generation of dust from all materials handling operations, stockpiles and open areas.
- A1(b) The licensee shall ensure where saline water, including process/groundwater and circuit/TSF return water, is used for dust suppression, damage to surrounding vegetation is avoided.

DUST - MAINTENANCE OF COLLECTION AND CONTROL SYSTEMS

- A2 The licensee shall maintain all installed dust collection or dust control systems to minimise visible dust including:
 - (i) Coverings on conveyors, transfer points and discharge points;
 - (ii) Skirtings; and
 - (iii) Dust filters.

PRIMARY CRUSHER - DUST CONTROL

A3 The licensee shall, as equipment and weather conditions require, utilise water sprays at the coarse ore bin, above the jaws at the crusher feed, below the jaws at crusher discharge point and at the head of the stockpile feed conveyor to control the generation of dust.

STACK SAMPLING PORTS, PLATFORMS ACCESS WAYS

A4 The licensee shall ensure that all installed emissions sampling ports, platforms and access ways on the stacks and ducting at the premises are maintained for purpose of emission sampling.

ATMOSPHERIC DISCHARGE MONITORING

A5(a) The licensee shall at the frequency stated take representative samples of the following gaseous discharges from the main discharge stack serving the powerhouse and process plant under normal operating conditions in accordance with Australian Standard AS4323.1.

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able 3. Atmospheric discharge monitoring requirements			
Discharge point	Frequency	Parameters	
Process plant dryer	Annually	sulfur dioxide (SO ₂), nickel,	
stack		cadmium, arsenic, chromium,	
		copper, lead, zinc, mercury,	
		vanadium and particulates.	

A5(b) The licensee shall ensure monitoring results are expressed dry at 0 degrees Celsius and 1.0 atmosphere pressure (101.325 kilopascals) measured in accordance with USEPA Method 5 for particulates, USEPA Method 8 for sulfur dioxide and appropriate USEPA methods for other parameters.

WATER POLLUTION CONTROL CONDITIONS

TSF - CONTAMINATED MATTER

- W1(a) The licensee shall manage the storage of all matter containing saline and alkaline constituents within TSFs in a manner which prevents pollution. TSF return (circuit) water and seepage of constituents of the TSFs shall be managed to prevent damage to vegetation and pollution of surface waters or groundwater, except where described in condition W1(b).
- W1(b) The licensee shall ensure that where TSF return (circuit) water is discharged to the Harmony Open Pit it is done so via the Harmony Open Pit discharge point and pipeline as shown in Attachment 9.

LOCATION OF WASTE RETENTION FACILITIES

- W2 The licensee shall ensure waste retention facilities are not constructed upstream or within catchments of surface impoundments which are used for human, stock or irrigation water supply purposes.
- STORMWATER DIVERSION AWAY FROM TSFs AND EVAPORATION PONDS
 W3 The licensee shall divert stormwater run-off away from areas adjacent to TSFs or evaporation ponds to minimise the threat of accidental loss of stored matter due to flooding or erosion.

INSTALLATION OF DRAINAGE BELOW TSFs, EVAPORATION PONDS AND CONCENTRATE STORAGE POND

W4 The licensee shall maintain all installed perimeter drains immediately downstream of the external toes of the TSFs, evaporation ponds and concentrate storage ponds, which shall be used to collect and recover any liquid matter resulting from seepage or breach of the embankments.

GROUNDWATER MONITORING AND RECOVERY BORE LOCATIONS

W5 The licensee shall install and maintain groundwater monitoring bores and recovery bores at the locations detailed in licence Attachment 4 (TSF2), Attachment 5 (TSF3) and Attachment 6 (evaporation ponds) for the purpose of sampling for and recovering seepage in the vicinity of the TSF and evaporation ponds.

GROUNDWATER MONITORING PROGRAM

W6(a) The licensee shall undertake the monitoring in Table 4 according to the specifications in that table.

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Table 4 NLN groundwater monitoring bore sampling regime

Monitoring site	Frequency	Paramotors
All receivery bares (as shown in Attachments 4, 5	Monthly	Cumulative flow mater reading
All recovery bores (as shown in Allachments 4, 5	wonuny	date of motor reading here
and b)		status
TOFO		Status.
	Manathala.	0)4/1
	Monthly	SWL
- MB63, MB64, MB65 and MB66 ***		
TSF2		
- MB60, MB61 and MB62 **	March, June,	pH", arsenic, nickel, chromium,
- MB63, MB64, MB65 and MB66 ***	September and	copper, selenium, total dissolved
	December	solids (TDS) ^{π} and electrical
		conductivity profile [#]
Rocky's Reward Bores (south of Harmony Pit as	Annual	pH [#] , arsenic, nickel, chromium,
shown on Attachment 8)		copper, selenium, electrical
RRDB03 RRDB02		conductivity [#] and total dissolved
		solids (TDS) [#]
TSF 2	March, June,	Standing water level (SWL)
MB01, MB04, MB05, MB07, MB39, MB40, MB41,	September and	noting whether the recovery bore
MB42, MB43, MB54, LNOPB02, LWB039	December	was on or off at the time of
		measurement.
TSF 3 – Cell A, B, C, D		
MB23, MB24, MB25, MB26, MB27, MB28, MB29,		
MB30, MB31, MB32, MB33, MB44, MB45, MB46,		
MB47, MB49, MB50, LRC610, LRC611, LRC614,		
LRC616. LRC617.		
, ,		
TSF 3 – Cell E		
MB48, MB53, MB55, MB56, MB57, MB58, MB59		
Evaporation Ponds		
EPMB01, EPMB01, EPMB02A, EPMB05B,		
EPMB06A, EPMB07A, EPMB08A, EPMB09,		
EPMB10, EPMB11, EPMB12, EPMB14,		
EPMB15A, EPMB16A, EPMB17A, EPMB18A,		
EPMB19A, EPMB20A, EPMB21A		
TSE2		
MB06*, MB39, MB42, MB54, LNOPB02, LWB039	Annually	nickel and $TDS^{\#}$
	, unidally	
TSF3 – Cell A B C D		
MB31 MB44 MB45 MB47 MB49 MB50		
I RC610 RC611 RC614 RC616 RB01*		
RB02*		
TSE3 – Cell F		
MB48 MB53 MB56 MB58 MB59		
Evaporation ponds		
EPMB01 EPMB02A EPMB06A EPMB07A		
EPMB08A EPMB09 EPMB12 EPMB14		
FPMR15A FPMR16A FPMR17A FPMR18A		
EPMB19A EPMB20A EPMB21A EPRB02*		
TSF3	Annually	electrical conductivity profile
MB31 RC614		closificar conductivity promo

*Recovery bore. (**) Shallow bores slotted from 6 metres. (***) Deep bores slotted from 12 metres.

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[#] These parameters should be measured and recorded in the field to ensure representativeness. Field sample results are to be reported as per condition G1. An exemption from NATA laboratory analysis is allowed given geographical remoteness of the sample site and the short holding time of the parameter.

- W6(b) The licensee shall collect all water samples in accordance with Australian Standard AS/NZS 5667.1, or other methods approved by the CEO.
- W6(c) All laboratory samples are submitted to a laboratory with current NATA accreditation for the parameters to be measured [unless indicated otherwise in the table shown in condition W6(a)].

GROUNDWATER LEVEL LIMIT

W7 The licensee shall ensure groundwater levels in compliance monitoring bores (Table 5, Column 2) are deeper than four metres below ground level.

Table 5. Bores associated with SWL targets and limits

Column 1	Column 2
TSF 2	MB39, MB42, MB54, MB61, MB62

GROUNDWATER LEVEL TARGET

- W8(a) The licensee shall, upon becoming aware that groundwater levels in compliance monitoring bores (Table 5, Column 2) are shallower than six metres below ground level, within six months, design and implement a groundwater recovery program to achieve the target level (≥six metres).
- W8(b) The groundwater recovery program required by condition W8(a) shall include:
 - (i) Notification to the CEO immediately of when and in how many bores the target could not be met;
 - (ii) Any significant environmental impacts observed;
 - (iii) Strategies to achieve the groundwater level target, including predicted increases in groundwater recovery and any additional recovery bores or trenches required;
 - (iv) Predicted timeframes to achieve the groundwater level target; and
 - (v) Strategies to ensure the target will be met in the future.

GROUNDWATER RECOVERY PROGRAM

W9 The licensee shall conduct an annual assessment of the risk associated with seepage from the TSFs and if necessary install and operate seepage recovery measures to ensure vegetation impact is minimised during operation and after closure. This assessment shall be reported in the annual report as required in condition G1.

VEGETATION MONITORING PROGRAM

W10 The licensee shall undertake a vegetation monitoring program in the vicinity of the TSFs and evaporation ponds which shall include photographic monitoring of the vegetation along transects near the TSF.

WASTE MANAGEMENT FROM ANCILLARY OPERATIONS

W11 The licensee shall ensure wastes from ancillary facilities such as maintenance workshops, vehicle washdown bays, refuelling depots and laboratories are managed in a manner which minimise their detrimental effect on the surrounding environment.

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Practical measures such as protective bunding, skimmers, silt traps, neutralisation pits and petrol/oil traps are to be provided and maintained as appropriate.

MANAGEMENT OF SALINE DEWATERING

- W12 The licensee shall ensure any saline dewatering effluent used for dust suppression, discharged to evaporation ponds, or disposed of by engineered drains to local salt lakes does not adversely impact vegetation.
- W13 The licensee shall ensure that dewater from Rocky's Reward Open Pit is only discharged to Harmony Open Pit via the Harmony Open Pit Discharge Point or to the Turkey's Nest as depicted in Attachment 8.

LIQUID CHEMICAL STORAGE

- W14(a) The licensee shall store environmentally hazardous chemicals including fuel, oil or other hydrocarbons (where the total volume of each substance stored on the premises exceeds 250 litres) within low permeability (10⁻⁹ metres per second or less) compound(s) designed to contain not less than 110% of the volume of the largest storage vessel or inter-connected system and at least 25% of the total volume of substances stored in the compound.
- W14(b) The licensee shall immediately recover, or remove and dispose of, any liquid resulting from significant spills or leaks of chemicals including fuel, oil or other hydrocarbons, whether inside or outside the low permeability compound(s).
- W14(c) The compound(s) described in part (a) to this condition shall:
 - (i) Be graded or include a sump to allow recovery of liquid;
 - (ii) Be chemically resistant to the substances stored;
 - (iii) Include valves, pumps and meters associated with transfer operations wherever practical. Otherwise the equipment shall be adequately protected (eg. bollards) and contained in an area designed to permit recovery of chemicals released following accidents or vandalism;
 - Be designed such that jetting from any storage vessel or fitting will be captured within the bunded area [see for example Australian Standard 1940-1993 Section 5.9.3 (g)];
 - (v) Be designed such that chemicals which may react dangerously if they come into contact, are in separate bunds in the same compound or in different compounds; and
 - (vi) Be controlled such that the capacity of the bund is maintained at all times (e.g. regular inspection and pumping of trapped uncontaminated rain water).

FREEBOARD

W15 The licensee shall maintain a minimum top of embankment freeboard of 300 millimetres within all storage facilities containing saline or alkaline constituents to accommodate extreme rainfall events and prevent overtopping. This condition includes, but is not limited to TSFs, return water dams, saline water dams and evaporation ponds.

TSF VISUAL INSPECTIONS

- W16 (a) The licensee shall undertake visual inspections of the operational TSFs at least once every 12 hours. As a minimum the following shall be inspected:
 - (i) Tailings delivery lines;
 - (ii) Return water lines, including the pipeline that discharges to Harmony Open Pit;
 - (iii) Tailings deposition;

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- (iv) Ponding on the surface of the TSF;
- (v) Internal embankment freeboard; and
- (vi) The external walls of the TSF.
- W16(b) The licensee shall ensure a log book is kept for all visual inspections and is made available to an inspector on request. The log book shall be signed by the person undertaking the inspection and shall indicate any problems noted.

PIPELINE BUNDING

- W17(a) The licensee shall ensure that all pipelines containing saline or alkaline constituents are either buried or sited within appropriately bunded facilities. This condition includes but is not limited to tailings delivery lines, return water lines and saline water lines.
- W17(b) For above ground pipelines containing matter consistent with conditions W17(a), the licensee shall site catch pits at appropriate low points along the pipeline route to enable the containment of spills.

WASTEWATER TREATMENT PLANT

- W18(a) The licensee shall ensure the operation and discharge from the wastewater treatment plant comply with the Water Quality Protection Note 22, 'Irrigation with nutrient-rich waste water' (Department of Water, July 2008).
- W18(b) The licensee shall discharge the treated effluent so that ponding and pooling of the treated effluent do not occur.
- W18(c) Discharge should occur such that over spray does not fall outside the discharge area during strong wind events.

INSTALLATION OF RECOVERY TRENCH BELOW IRRIGATION AREA

W19 The licensee shall maintain a recovery trench immediately downstream of the irrigation area which shall be used to collect and recover any liquid matter resulting from runoff during heavy rainfall events.

TREATED EFFLUENT DISCHARGE SAMPLING POINT

- W20 The licensee shall maintain a sampling point for treated effluent discharged from the wastewater treatment system as per AS/NZS 5667.10 so that:
 - (i) Wastewater samples can easily be taken there from and are representative of wastewater discharged;
 - (ii) It is accessible at all times to inspectors appointed under the *Environmental Protection Act 1986*; and
 - (iii) The flow rate of wastewaters being discharged from the treatment plant can be measured and the daily flow rate estimated in cubic metres per day (m^3/day).

WASTEWATER TREATMENT PLANT SYSTEM MAINTENANCE

- W21 The licensee shall operate and maintain the treatment system:
 - (i) Such that there is no discernible leakage;
 - (ii) To facilitate the removal of accumulated sludges without risking the integrity of the treatment system; and
 - (iii) In a manner that minimises odours.

CAPACITY CONSTRAINTS OF WASTEWATER TREATMENT PLANT SYSTEM W22 The licensee shall ensure wastewater treatment plant system be maintained such that extreme rainfall events do not cause overtopping.

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HARMONY OPEN PIT POND LEVEL LIMIT

- W23 The licensee shall ensure that the pond water level in the Harmony Open Pit void does not exceed 10,426 m RL.
- W24 The licensee shall complete an annual survey of the standing water level in the Harmony Open Pit void and compare the level to that of the limit in condition W23.

SOLID WASTE CONTROL CONDITIONS

WASTE ACCEPTANCE AND MANAGEMENT

- S1(a) The licensee shall accept and bury only the following types of waste at the premises:
 - (i) Clean fill;
 - (ii) Type 1 inert wastes;
 - (iii) Type 2 inert wastes;
 - (iv) Type 3 inert wastes
 - (v) Putrescible wastes;
 - (vi) Type 1 special wastes (asbestos and asbestos cement products);
 - (vii) Type 2 special wastes; and
 - (viii) Other wastes, including contaminated solid wastes, that comply with Class II criteria in the document titled 'Landfill Waste Classification and Waste Definitions' 1996 (as amended December 2009).
- S1(b) Where the licensee is notified or is aware of the disposal of contaminated solid wastes, the licensee shall ensure the following procedures are in place for managing asbestos wastes:
 - (i) Before entry to the site, any asbestos material shall be wrapped in heavy duty plastic or material approved by the CEO;
 - (ii) The disposal area(s) for more than one cubic metre of asbestos material shall be identified in the site Emergency Response Manual;
 - (iii) A copy of the site plan marked with the locations used for asbestos disposal as described in part (ii) of this condition shall be kept as a permanent record and made available for viewing by the CEO on request; and
 - (iv) The licensee, or its representative, shall be available to witness the burial of the asbestos waste under at least one metre of fill or putrescible waste as soon as practicable after placement in the landfill and sign a bound, numbered register within two hours of the burial to attest that it has been buried in accordance with these procedures.
- S1(c) Where the licensee is notified or is aware of the disposal of contaminated solid wastes, the licensee shall ensure the following procedures are in place for managing contaminated solid wastes:
 - (i) The waste shall be inspected by the licensee or its representative prior to burial;
 - (ii) Where such loads are identified, the nature of the load, delivery vehicle's registration number, driver's name and volume delivered shall be recorded; and
 - (iii) Any identified contaminated solid waste shall be accompanied by documentary evidence that it meets the Class II waste acceptance criteria in the document titled 'Landfill Waste Classification and Waste Definitions' 1996 (as amended December 2009) from a laboratory which is either NATA accredited or has been approved by the CEO.

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- S1(d) The licensee shall ensure the following procedures are in place for managing clinical and related wastes:
 - A representative of the licensee must complete and sign the original waste transport certificate, noting any discrepancies between waste declared and waste received;
 - (ii) Keep a record of the waste transport certificate for at least three years;
 - (iii) Are immediately unloaded and covered to a minimum depth of one metre of soil or solid waste;
 - (iv) The disposal area(s) is (are) defined by grid references on the premises plan;
 - (iv) Are not excavated or uncovered during subsequent landfill operations; and
 - (vi) Access to the landfill premises where the waste is buried is restricted to authorised personnel only.

MANAGEMENT OF LANDFILL ACTIVITIES

The licensee shall take the following measures when landfilling activities are conducted at the premises:

- (i) Dispose of waste on the premises at least 35m from the premises boundary;
- (ii) Place waste within a defined trench or within an area enclosed by earthen or other bunds;
- (iii) Restrict the non-green waste tipping area to a maximum linear length of 30m;
- (iv) Push waste into the active trench or bunded area and cover as per regulation 6 of the Environmental Protection (Rural Landfill) Regulations 2002;
- Stockpile sufficient cover material to allow waste to be covered in accordance with part (iv) of this condition for a period of two weeks and to cover waste in the event of a fire;
- (vi) Manage the active landfill area such that at no time does landfilling result in an exposed face exceeding 2m in vertical height; and
- (vii) Cover waste with a final soil cover of at least 1m.

WINDBLOWN WASTE

S3 The licensee shall contain windblown waste within the boundaries of the premises, by regularly covering waste. Windblown waste shall be removed from the immediate surrounds and access roads where required or as directed in writing by the CEO or in person by an authorised inspector.

STORMWATER DRAINS PUTRESCIBLE LANDFILL

- S4(a) The licensee shall ensure stormwater is diverted from the filled areas by drains or other means and directs flows to stormwater drains or natural drainage.
- S4(b) The licensee shall ensure stormwater drains be kept clear of windblown waste to allow effective draining.

GROUNDWATER AND SUPERFICIAL WATER BODY

- S5(a) The licensee shall maintain an undisturbed separation distance of at least 3m below the base of the deepest excavation and the highest seasonal level of the groundwater.
- S5 (b) The licensee shall maintain a minimum distance of at least 100m from the waste disposal site to any superficial water body.

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USED TYRE STORAGE

- S6(a) The quantity of used whole tyres stored at the premises shall be limited to no more than 500 tyres.
- S6(b) The licensee shall ensure that individual tyre stacks do not exceed:
 (i) 100m² in area; and
 (ii) 4m in height.
- S6(c) The licensee shall ensure that all tyres are stacked on their side walls or if stored on their treads, are baled with a securing device made from a non-combustible material.
- S6(d) The licensee shall ensure that tyre stacks are not less than 6m from any other tyre stacks.
- S6(e) The licensee shall ensure firefighting equipment stored onsite is capable of controlling and extinguishing a tyre fire.
- S6(f) The licensee shall construct the tyre storage facility in such a manner that ensures water and other liquid waste that may result from the fighting of tyre fires, is captured by bunding to prevent that waste entering the environment.
- S6(g) The licensee shall ensure that tyre stacks do not obscure fire protection equipment (including fire hydrants and fire hoses) or related signage.

LICENCE NUMBER: L4612/1989/11

FILE NUMBER: 2012/006877

Premises boundary map

The premises' location is shown in the map below. The red line depicts the premises boundary.





ATTACHMENT 2

LICENCE NUMBER: L4612/1989/11

FILE NUMBER: 2012/006877

NLN open pits, sand screening plant, paste fill plant and landfills.



NLN TSFs, tyre disposal cell, Rocky's Rewards putrescible landfill and the bioremediation area.





TSF2 groundwater monitoring and recovery bore locations

TSF3 groundwater monitoring and recovery bore locations





NLN evaporation pond groundwater monitoring and recovery bores

LICENCE NUMBER: L4612/1989/11

Form: AACR Period : Name: Annual Audit Compliance Report

Annual Audit Compliance Report

Section A: Statement of compliance with licence conditions

Were all conditions of licence complied with within the annual period?			
Yes		Initial sections A & B, then proceed to section C	
No		Initial section A, then proceed to section B	

Each page must be initialled by the person(s) who signs section C of this AACR.

Initial:

Section B: Details of non-compliance with licence condition

a) Licence condition not complied with?				
b) Date(s) and time(s) the non-compliance occurred, if application	able?			
c) Was this non-compliance reported to DER?				
□ Yes, and				
□ Reported to DER verbally Date:				
□ Reported to DER in writing Date:				
d) Has DER taken, or finalised any action in relation to the no	n-compliance?			
e) Summary of particulars of non-compliance, and what was t	he environmental impact?			
f) If relevant, the precise location where the non-compliance occurred (attach man or diagram)				
g) Cause of non-compliance				
h) Action taken or that will be taken to mitigate any adverse effects of the non-compliance				
	I			
i) Action taken or that will be taken to prevent recurrence of the non-compliance				

Please use a separate page for each licence condition that was not complied with. Each page must be initialled by the person(s) who signs section C of this AACR.

Initial:

Section C: Signature and certification

This AACR must only be signed by a person(s) with legal authority to sign it as defined below. Please tick the box next to the category that describes how this AACR is being signed. If you are uncertain about who is entitled to sign or which category to tick, please contact the licensing officer for your premises.

If the licence holder is	The AACR must be signed and certified:
	by the individual licence holder, or
an individual	by a person approved in writing by the Chief Executive Officer (CEO) of DER to sign on the licensee's behalf.
	by affixing the common seal of the licensee in accordance with the <i>Corporations Act 2001</i> ; or
	by two directors of the licensee; or
	by a director and a company secretary of the licensee, or
a corporation	if the licensee is a proprietary company that has a sole director who is also the sole company secretary – by that director, or
	by the principal executive officer of the licensee; or
	by a person with authority to sign on the licensee's behalf who is approved in writing by the CEO of DER.
A public authority	by the principal executive officer of the licensee; or
(other than a local government)	by a person with authority to sign on the licensee's behalf who is approved in writing by the CEO of DER.
	by the CEO of the licensee; or
a local government	by affixing the seal of the local government.

It is an offence under section 112 of the *Environmental Protection Act 1986* for a person to give information on this form that to their knowledge is false or misleading in a material particular. There is a maximum penalty of \$50,000 for an individual or body corporate.

I/We declare that the information in this AACR is correct and not false or misleading in a material particular.

Signature:	Signature:		
Name: (printed)	Name: (printed)		
Position:	Position:		
Date://	Date://		
Seal (if signing under seal)			

Image: Constraint of the stand pipe line Image: Constand pipe Image: Con	0 0
Author: Rebecca Nixon Nickel West Date: 08/11/2015 Stainless Steel Materials Scale: 1:5,000 Map Projection: GDA 94 Zone 51 Figure No:	Nickel West Leinster Nickel Operation Rockys Reward dewatering pipeline and bore overview

Rocky's Reward Open Pit Dewatering System

TSF Return water discharge point to Harmony Open Pit, including new groundwater monitoring bore RRDB03

M36/8 M36/8 HARMONY OPEN PIT	boundary Premise boundary twater pipeline Bore	N F D T <td< th=""></td<>
3 bhpbilliton	Author: Rebecca Nixon Date: 14/05/2015	Nickel West Leinster Nickel Operation
Nickel West Aluminium and Nickel	Scale: 1:20.000	TSE depart water to Harmony Once Dit
Projection Details: MGA Zone 51	Scale. 1.20,000	ISF decant water to Harmony Open Pit
General Overview.mxd		



Decision Document

Environmental Protection Act 1986, Part V

Proponent:BHP Billiton Nickel West Pty LtdLicence:L4612/1989/11

Registered office:	125 St Georges Terrace PERTH WA 6000
ACN:	004 184 598
Premises address:	BHP Billiton Nickel West Leinster Nickel Operation ML255SA, M36/230, L36/93, M36/4, and M36/389 Mine Access Rd LEINSTER WA 6437.
Issue date:	Thursday, 17 October 2013
Commencement date:	Saturday, 19 October 2013
Expiry date:	Thursday, 18 October 2018

Decision

Based on the assessment detailed in this document the Department of Environment Regulation (DER), has decided to issue an amended 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 prepared by:

Louise Lavery Licensing Officer

Decision Document authorised by:

Tim Gentle Delegated Officer



Contents

Dec	cision Document	1
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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.* 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.

2 Administrative summary

Administrative details		
Application type	Works Approval New Licence Licence amendment Works Approval amendme	ent
	Category number(s)	Assessed design capacity
	5	3,600,000 tonnes per year
Activities that cause the premises to become	6	2,000,000 tonnes per year
prescribed premises	57	500 tyres or less
	64	20 tonnes or more per year
	85	44m ³ per day
Application verified	Date: N/A	
Application fee paid	Date:N/A	
Works Approval has been complied with	Yes No N/A	\mathbb{A}
Compliance Certificate received	Yes No N/A	\mathbf{A}
Commercial-in-confidence claim	Yes No	
Commercial-in-confidence claim outcome		



Is the proposal a Major Resource Project?	Yes⊠	No		
Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the <i>Environmental Protection Act 1986</i> ?	Yes	No⊠	Referral decision No: Managed under Part V	
Is the proposal subject to Ministerial Conditions?	Yes	No⊠	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□ No⊠ Department of Water consulted Yes □ No □				
Is the Premises within an Environmental Protection Policy (EPP) Area Yes No				
Is the Premises subject to any EPP requirements? Yes No \boxtimes If Yes, include details here, eg Site is subject to SO ₂ requirements of Kwinana EPP.				

3 Executive summary of proposal and assessment

BHP Billiton Nickel West Leinster (NLN) currently processes nickel sulfide ore from the Cliffs Underground Nickel Mine to produce nickel concentrate at 3.6 million tonnes per annum (Mtpa) of ore to produce approximately 2.8 Mtpa of tailings. Tailings resulting from the nickel concentrator process are discharged (in slurry form) to an above-ground paddock style Tailings Storage Facility (TSF) compound, located approximately 2.5 km north of the Concentrator Plant. Tailings are deposited in thin layers to form a "beach" adjacent to the perimeter embankment, with liquor released from the settling tailings collected in a pool around a central decant tower.

May 2015 Amendment

NLN proposed to discharge water from the NLN TSF to the nearby (closed) Harmony Open Pit. Water would be collected from the TSF via the current decant system and discharged to the nearby pit for final storage and evaporation.

Water has been accumulating on the NLN TSF since the suspension of mining from the Perseverance Underground mine in 2013, when the reduction in onsite ore availability resulted in a transition towards campaign processing operations. The change to non-continuous processing has resulted in an overall reduction in the quantity of circuit water consumed in the NLN Concentrator Facility and subsequently reduced the amount of water reclaimed to the Concentrator from the TSF. NLN is licensed to discharge groundwater from the Rocky's Reward open cut mining operation to the Harmony Open Pit, in accordance with L4612/1989/11. Approximately 12,000 kL of water from the TSF would be discharged over an in initial period of 1 month, followed by intermittent discharge throughout the year, as needed to maintain the Processing Facility water balance. Limiting the storage of excess water on the NLN TSF is necessary to maintain the operation of the TSF within design operating parameters.



The pipeline to discharge the TSF decant water to the Harmony Pit is largely already in place and hence no additional clearing is required. The May 2015 partial decision document related to the assessment of the discharge of TSF return water to Harmony Open Pit only and authorises the operation of a pipeline assessed through Works Approval W5817/2015/1. DER did not reassess the acceptability or impacts of other emissions and discharges from the Premises or re-visited any existing emission control levels. No changes to the conditions on the previous licence have been made with the exception of conditions as highlighted on the amended licence. New conditions W1(b), W23 and W24 were added to the Licence and W6(a) and W16(a) amended. The Licence was not converted to the new template format.

December 2015 Amendment

This partial decision document is for an amendment to authorise operation of a new dewatering bore (RRDB02; as shown on Attachment 8 of the Licence), pump at the Rockys Reward Open Pit, and a new pipeline from RRDB02 to Harmony Open Pit, in order to increase dewatering such that underground mining at Leinster 1A can commence.

The pipeline will be located in an existing bunded pipetrace to contain spills.

Additionally an increase to the category 6 dewatering capacity to 2,000,000 tonnes per year has been authorised consistent with the Premises' Licence to Take Water GWL66248(5) from the Department of Water.

A third amendment to the frequency and parameters for monitoring of water quality from the dewatering bore RRDB03 has been made for to account that the equipment to measure electrical conductivity profile is unable to be installed on the bore and hence electrical conductivity will be sampled as per the process in place for DoW reporting. The frequency has been altered from quarterly to annually consistent with DoW reporting. RRDB02 will also adopt the monitoring regime as for RRDB03. The Licensee should note that RRDB03 is sampled as a proxy for decant water quality being discharged to the Harmony Open Pit from the NLN TSF. Conditions W6(a) and Attachment 8 have been amended on the Licence as a result.



4 Decision table

All applications are assessed in line with the *Environmental Protection Act 1986*, the *Environmental Protection Regulations 1987* and DER's Operational Procedure on Assessing Emissions and Discharges from Prescribed Premises. Where other references have been used in making the decision they are detailed in the decision document.

DECISION TABL	E		
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
section Premises operation	Category 6	The capacity under category 6 has been doubled to 2,000,000 tpa. This is consistent with the Licensee's Licence to Take Water GWL 66248(5) issued under section 5C of the <i>Rights in Water and Irrigation Act 1914</i> by the Department of Water. Total estimated dewatering using both RRDB03 and RRDB02 is estimated to increase to 1,692,000 kL, above the previous threshold of 1,000,000 tpa.	Applicant supporting documentation General provisions of the <i>Environmental</i> <i>Protection Act</i> 1986. <i>Rights in Water</i> <i>and Irrigation Act</i> 1914
	Condition W13 Condition W16(a) Condition W16(b) Condition W17(a) Condition W17(b)	Abnormal Operation Emission Description Emission: Saline water with dissolved metals (mine dewater from Rockys Reward abstracted by RRDB02 and RRDB03 is transported in an above ground HDPE pipeline through a disturbed area to be discharged in the Harmony Open Pit (refer Figure 1). A pipeline rupture or leak may result in a discharge of mine dewater to land. Impact: The decant pipeline traverses through a disturbed area with no native vegetation. Controls: The decant pipeline is located within an earthen bund, however the capacity	

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DECISION TABLE	= 		
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		of the bund is not specified. The pipeline will be inspected 6 hourly when in operation. NLN has an existing spill reporting procedure in place such that personnel are instructed to report leaks and or damage to the pipeline. Any pipe failure or rupture will be detected through the 12 hourly inspections and the manual valves activated to shut off flow.	
		<u>Risk Assessment</u> <i>Consequence:</i> Insignificant <i>Likelihood</i> : Possible <i>Risk Rating:</i> Low	
		<u>Regulatory Controls</u> As the existing risk is low no regulatory controls are necessary, however existing conditions in relation to pipelines carrying saline water on the Licence will ensure a level of control. Condition W16(a) on the existing Licence L4612/1989/11 requires return water lines to be inspected every 12 hours	
		Condition W17(a) requires all pipelines containing saline or alkaline constituents to either be buried or sited within appropriately bunded facilities. Condition W17(b) further states that above ground pipelines with saline or alkaline constituents should also have catch pits located at appropriate low points along the pipeline route to enable containment of spills. Condition W13 states that dewater from Rocky's Reward Open Pit is only to be discharged to Harmony Open Pit via the Harmony Open Pit discharge point or to the Turkey's Nest depicted in Attachment 8.	
		<u>Residual Risk</u> <i>Consequence:</i> Insignificant <i>Likelihood</i> : Possible <i>Risk Rating:</i> Low	

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DECISION TABL	3		
Works	Condition	Justification (including risk description & decision methodology where relevant)	Reference
Approval /	number		documents
Licence	W = Works Approval		
section	L= Licence		
Point source emissions to groundwater including monitoring	Condition W6(a)	Table 4 has been amended to reduce the frequency of water quality monitoring for RRDB03 from quarterly to annually, consistent with the terms of the Licence's monitoring required by their Licence to Take Water. RRDB02 has also been added to the list of parameters to be sampled. The requirement for monitoring electrical conductivity has also been modified, consistent with the Licensee's application that states the that equipment to monitor an electrical conductivity profile on the recovery bores is unable to be installed.	Applicant supporting documentation General provisions of the <i>Environmental</i> <i>Protection Act</i> 1986.
Licence	N/A	No changes to Licence duration are proposed as a result of the Amendment.	N/A
Duration			

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5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
04/12/15	Proponent sent a copy of draft instrument	No comments made.	N/A
15/12/15	DER review of final instrument	Administrative error identified by DER in relation to the CEO's contact details	Edit made to CEO's contact details.

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6 Risk Assessment

Note: This matrix is taken from the DER Corporate Policy Statement No. 07 - Operational Risk Management

Table 1:	Emissions	Risk	Matrix
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Likelihood	Consequence						
	Insignificant	Insignificant Minor Moderate Major Severe					
Almost Certain	Moderate	High	High	Extreme	Extreme		
Likely	Moderate	Moderate	High	High	Extreme		
Possible	Low	Moderate	Moderate	High	Extreme		
Unlikely	Low	Moderate	Moderate	Moderate	High		
Rare	Low	Low	Moderate	Moderate	High		