

Lucas Clarke

From: Grant Stidiford
Sent: Wednesday, 20 January 2016 5:26 PM
To: Adrian Jeffreys
Subject: DOC/16/8148 : Queensland Nickel Yabulu refinery DGBN - environmental risk management
Attachments: Queensland Nickel Yabulu refinery DGBN - environmental risk management.DOCX;
Queensland Nickel Yabulu refinery DGBN - environmental risk management.tr5

Adrian - as discussed. Attachment of Q&A to be added in the morning. The attached has been circulated to DEHP with comments received incorporated.

Grant

-----< HP Records Manager Record Information >-----

Record Number: DOC/16/8148
Title : Queensland Nickel Yabulu refinery DGBN - environmental risk management

DIRECTOR-GENERAL'S BRIEFING NOTE

Policy

Tracking Folder No. TF/16/861

Document No. DOC/16/8148

To: Director-General
Date: 20 January 2016
Subject: Environmental risk management at Queensland Nickel's Yabulu nickel and cobalt refinery

Approved / Not Approved / Noted

Addressee

Date

• RECOMMENDATION

It is recommended that you **note** that:

- the Department of Environment and Heritage Protection (DEHP) advises that Queensland Nickel's (QN) nickel and cobalt refinery at Yabulu (Yabulu Refinery) has been assessed and determined to be safe for the 2015/16 wet season;
- DEHP has confirmed that further work is required to fully understand any potential long-term exposure that may exist for the State, including any potential legal and financial exposure; and
- DEHP advises that it has made contact with the appointed Voluntary Administrators in relation to environmental management and obligations at the site.

• KEY ISSUES

Broad obligations

- In operating the Yabulu Refinery, QN is subject to obligations imposed by the *Environmental Protection Act 1994* including the General Environmental Duty as well as the conditions of its Environmental Authority (EA).
- The EA sets environmental standards for air, water, regulated structures, noise, land and ultimately rehabilitation. Importantly, given the Yabulu Refinery's location in North Queensland, the EA requires that a certain capacity exists – the Design Storage Allowance (DSA) – in the on-site Tailings Storage Facility (TSF) and other contaminated water storages prior to each wet season to manage the risk of discharge as a result of high rainfall.

Assessment of immediate risk

- The containment of the refinery waste products including brine and tailings is a particular risk associated with the Yabulu Refinery. The TSF and Brine Ponds are 215ha and 130ha in area respectively and contain significant quantities of contaminated water that could be released to the receiving environment in the event that these structures overflowed.
- DEHP has confirmed that it conducted a compliance inspection of the Yabulu Refinery on 14 October 2015 with a focus on water management and preparedness for the 2015/16 wet season. Based on advice provided by QN following the October 2015 compliance inspection, DEHP advises that all on-site storages comply with their respective DSA requirements and the site has been assessed as having adequate storage for the 2015/16 wet season.
- Specific capacity detail provided by DEHP is as follows (as at 11 November 2015):
 - o TSF: 43% full with capacity to accommodate 2196mm of rain;
 - o Brine Pond: 56% full with capacity to accommodate 2082mm of rain.
- The risk and consequences of the TSF overtopping are serious. There have previously been discharges from the TSF and on 7 December 2015 QN was

Action Officer: Grant Stidford
Area: Economic Policy
Telephone: 3003 9316

Approvals by Director / ED /DDG
documented in *notes* in TRIM

committed to stand trial for two indictable offences relating to the TSF overtopping on 13 April 2014 following rainfall associated with Tropical Cyclone Ita.

- DEHP has advised that it has made contact with the appointed Voluntary Administrators, FTI Consulting, and will continue to stay in contact to ensure that environmental management obligations are adhered to.
- Historically, there has been a high level of public interest in the environmental management activities of the Yabulu Refinery given proximity to the Great Barrier Reef Marine Park and surrounding residential communities.

Long-term risk

- DEHP has advised that further work is required to fully understand the State's long-term exposure should the financial situation of the company deteriorate further.
- No Financial Assurance is held with respect to managing or rehabilitating the Yabulu Refinery site in the event that any related obligations transfer to the State. DEHP does not have an estimate of costs that would be associated with the site's rehabilitation.
- Should the ultimate decision be to liquidate the business, DEHP has advised that it will monitor any attempts that are made to disclaim the property. A recent example of a site being disclaimed and the State having to take responsibility for ongoing environmental management was at the Texas silver mine

• **CONSULTATION**

- Department of Environment and Heritage Protection.

• **BACKGROUND**

- The Yabulu Refinery is located around 25km north of Townsville and is located approximately 1km from Halifax Bay, which forms part of the Great Barrier Reef Marine Park. The residential communities of Saunders Beach, Black River, Bushland Beach and Puroho Park surround the site.
- QN appointed FTI Consulting as Voluntary Administrators on 18 January 2016.

Comments

Dr Graham Fraine
Deputy Director-General
Policy Division

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• RECOMMENDATION

It is recommended that you **note** Department of Environment and Heritage Protection (DEHP) advice (**Attachment 1**) that:

- Queensland Nickel's (QN) nickel and cobalt refinery at Yabulu (Yabulu Refinery) has been assessed and determined to be safe for the 2015–16 wet season
- the DEHP has made contact with the appointed Voluntary Administrators in relation to environmental management and obligations at the site
- further work is required to fully understand any potential long-term exposure that may exist for the State, including any potential legal and financial exposure.

• KEY ISSUES

Broad obligations

- In operating the Yabulu Refinery, QN is subject to obligations imposed by the *Environmental Protection Act 1994* including the General Environmental Duty as well as the conditions of its Environmental Authority (EA).
- The EA sets environmental standards for air, water, regulated structures, noise, land and ultimately rehabilitation. Importantly, given the Yabulu Refinery's location in North Queensland, the EA requires that a certain capacity exists – the Design Storage Allowance (DSA) – in the on-site Tailings Storage Facility (TSF) and other contaminated water storages prior to each wet season to manage the risk of discharge as a result of high rainfall.

Assessment of immediate risk

- The containment of the refinery waste products including brine and tailings is a particular risk associated with the Yabulu Refinery. The TSF and Brine Ponds are 215 hectares and 130 hectares in area respectively and contain significant quantities of contaminated water that could be released to the receiving environment in the event that these structures overflowed.
- The DEHP has confirmed that it conducted a compliance inspection of the Yabulu Refinery on 14 October 2015 with a focus on water management and preparedness for the 2015–16 wet season. Based on advice provided by QN following the October 2015 compliance inspection, the DEHP advises that all on-site storages comply with their respective DSA requirements and the site has been assessed as having adequate storage for the 2015–16 wet season.
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 - o TSF: 43 per cent full with capacity to accommodate 2196 mm of rain
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Area: Economic Policy
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- The risk and consequences of the TSF overtopping are serious. There have previously been discharges from the TSF and on 7 December 2015 QN was committed to stand trial for two indictable offences relating to the TSF overtopping on 13 April 2014 following rainfall associated with Tropical Cyclone Ita.
- The DEHP has advised that it has made contact with the appointed Voluntary Administrators, FTI Consulting, and will continue to stay in contact to ensure that environmental management obligations are adhered to.
- Historically, there has been a high level of public interest in the environmental management activities of the Yabulu Refinery given proximity to the Great Barrier Reef Marine Park and surrounding residential communities.

Long-term risk

- The DEHP has advised that further work is required to fully understand the State's long-term exposure should the financial situation of the company deteriorate further.
- No Financial Assurance is held with respect to managing or rehabilitating the Yabulu Refinery site in the event that any related obligations transfer to the State. The DEHP does not have an estimate of costs that would be associated with the site's rehabilitation but they are expected to be very significant.
- The major long-term risk comes from the 245 hectare tailings dams which contain, amongst other dangerous materials, very large quantities of nitrogen-based products. If released, these would pose a major threat to the Great Barrier Reef.
- Significant legal and responsibility issues will arise should the business be liquidated and the refinery shut down permanently. Similar to the situation with abandoned mines, the Queensland Government becomes the manager of last resort and protracted court action, with limited prospects of success, may be required to recoup costs.
- It is relevant to note that the site remains subject to the *Queensland Nickel Agreement Act 1970* which provided generous concessions to the operator.

• CONSULTATION

- DEHP.

• BACKGROUND

- The Yabulu Refinery is located around 25 kilometres north of Townsville and is located approximately 1 kilometre from Halifax Bay, which forms part of the Great Barrier Reef Marine Park. The residential communities of Saunders Beach, Black River, Bushland Beach and Purono Park surround the site.
- QN appointed FTI Consulting as voluntary administrators on 18 January 2016.

Comments

Graham Fraine
Deputy Director-General
Policy Division

Lucas Clarke

From: Grant Stidiford
Sent: Wednesday, 20 January 2016 1:52 PM
To: Stephen Armstrong
Cc: Adrian Jeffreys; DLO EHP
Subject: RE: URGENT - Queensland Nickel Yabulu Refinery



Queensland
Government

Thanks Steve – much appreciated. Will touch base with you again later this afternoon if I need anything further.

Cheers

Grant



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Grant Stidiford
Economic Policy
Department of the Premier and Cabinet

P 07 3003 9316 M [redacted]
Executive Building, Level 14, 100 George Street, Brisbane QLD 4000
PO Box 15185, City East, QLD 4002

From: ARMSTRONG Steve [mailto:Steve.Armstrong@ehp.qld.gov.au]
Sent: Wednesday, 20 January 2016 1:34 PM
To: Grant Stidiford <Grant.Stidiford@premiers.qld.gov.au>; DLO EHP <DLO.EHP@ehp.qld.gov.au>
Cc: Adrian Jeffreys <adrian.jeffreys@premiers.qld.gov.au>
Subject: RE: URGENT - Queensland Nickel Yabulu Refinery

Grant

The attached document (dated 19 January) remains the most current. It deals comprehensively with the matters we quickly discussed (No FA held; site assessed as safe for the current wet season).

I also confirm that further work would be required to fully understand the State's long term exposure. For example, as stated in the document (p.8), the government does not have an estimate of costs associated with rehab – if that is required.

It may also be worth noting that EHP has been in contact with the Administrators and will continue to stay in close contact with them in relation to environmental management and obligations.

Thanks.

Steve Armstrong
Executive Officer
Office of the Director-General
Department of Environment and Heritage Protection
Ph: 07 3330 6304 M: [redacted]
Level 13, 400 George St, Brisbane QLD 4000
GPO Box 2454, Brisbane QLD 4001

From: Grant Stidiford [mailto:Grant.Stidiford@premiers.qld.gov.au]
Sent: Wednesday, 20 January 2016 12:25 PM
To: DLO EHP

Cc: ARMSTRONG Steve; Adrian Jeffreys
Subject: URGENT - Queensland Nickel Yabulu Refinery

Hi Gary,

Thanks for your assistance earlier today in putting me in touch with Rob. As discussed, I am preparing a briefing note for our DG on the nickel refinery and environmental considerations. Can I please get confirmation that:

1. The attached document dated 19 January 2016 remains the most current;
2. Further work would be required to understand the extent of any long-term exposure that the State may have in terms of managing environmental risks at the site in a worst-case scenario.

I have been asked to have the briefing note prepared for close of business today. Are you able to get confirmation of the above through to me by mid-afternoon?

Thanks

Grant



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Grant Stidiford
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Lucas Clarke

From: Grant Stidiford
Sent: Wednesday, 20 January 2016 12:25 PM
To: dlo.ehp@ehp.qld.gov.au
Cc: Stephen Armstrong; Adrian Jeffreys
Subject: URGENT - Queensland Nickel Yabulu Refinery
Attachments: QN v2.docx

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1. The attached document dated 19 January 2016 remains the most current;
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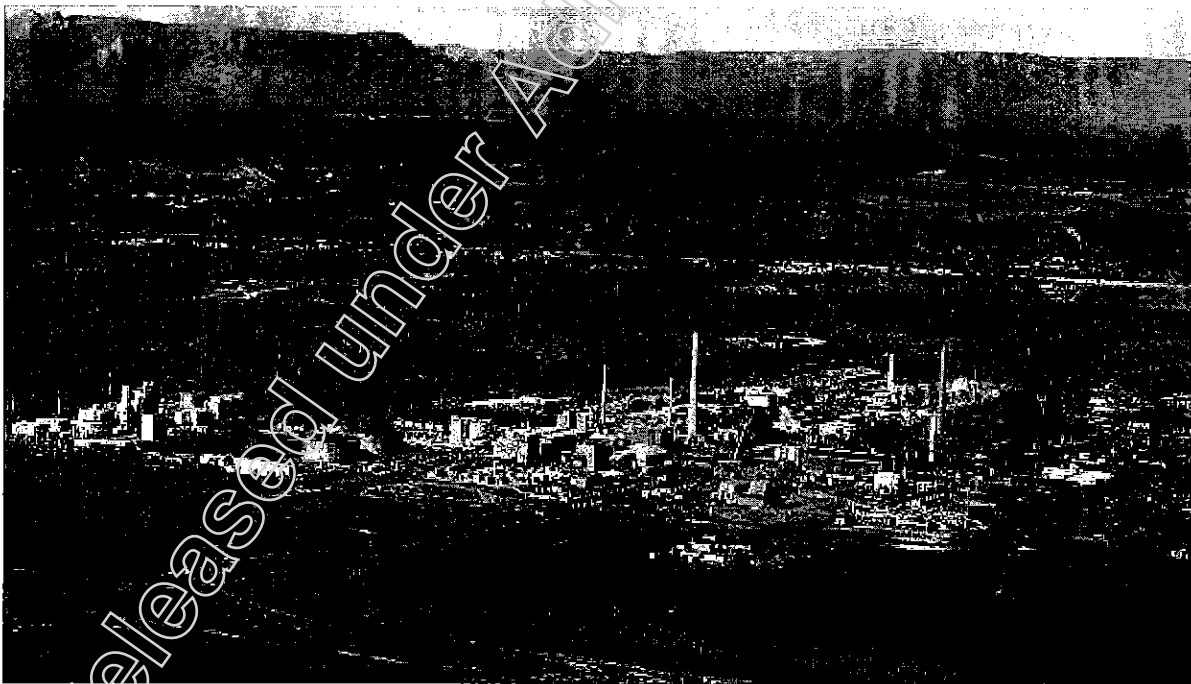
Executive Building, Level 14, 100 George Street, Brisbane QLD 4000

PO Box 15185, City East, QLD 4002

Queensland Nickel Yabulu Refinery

- **Current Situation**
- **Background**
- **Major infrastructure at the Queensland Nickel Refinery**
- **Rehabilitation Obligations**
- **Compliance History**
- **Questions & Answers**

19 January 2016



Information supplied by:

Dean Ellwood

Deputy Director General

Environmental Services and Regulation Division

Department of Environment and Heritage Protection

19 January 2016

Released under Administrative Access - DPC

Current Situation

Queensland Nickel, which operates a nickel and cobalt refinery 25 kilometres north-west of Townsville, went into voluntary administration 18 January 2016.

The Department of Environment and Heritage Protection (the department) was last on site on 14 October 2015. The department conducted a compliance inspection of the Queensland Nickel Yabulu refinery. As part of this inspection, departmental officers addressed the sites EA with a focus on water management and the preparedness for the upcoming wet season; this included an inspection of the sites Tailing Storage Facility (TSF).

The department is working to assess and monitor the situation to ensure the company continues to meet its environmental responsibilities.

The company has environmental obligations under the Environmental Protection Act 1994, addressing both its General Environmental Duty and compliance with its Environmental Authority.

The Environmental Authority sets environmental standards for air, water, regulated structures, noise, land and rehabilitation. Monitoring and reporting conditions are in place to ensure that the company is complying with these environmental standards.

The requirements of the Environmental Authority also include specific conditions for the post-closure rehabilitation of the company's Yabulu Nickel Refinery.

Together the Act and Environmental Authority make the company responsible for ensuring the site does not release any contaminants to the environment which could result in environmental harm or nuisance.

Background

- Queensland Nickel Pty Ltd (QN) owns and operates the Palmer Nickel and Cobalt Refinery located at Yabulu, 25km north of Townsville.
- Surrounding the refinery are the residential communities of Saunders Beach, Black River, Bushland Beach and Purono Park.
- The refinery is located about 1km from Halifax Bay, which is part of the Great Barrier Reef Marine Park World Heritage Area.
- The refinery has been operational since 1974 and produces some 30,000 tonnes of nickel and 1,500 tonnes of cobalt annually.
- Ore was originally sourced from the Nickel Mine in the town of Greenvale (km North West of Townsville
- Currently, the majority of ore is sourced and shipped from New Caledonia to the Port of Townsville where it is then transported by rail to the refinery.
- The refinery was acquired by Mr Clive Palmer on 31 July 2009 via a transfer of shares from BHP Pty Ltd.
- The refinery is also a major employer in the region with over 700 employees prior to the 15 January 2016 retrenchment announcement.

Major infrastructure at the Queensland Nickel Refinery

- The site consists of a number of infrastructure domains (refer to the included map).
- The Tailings Storage Facility (TSF) is approximately 215ha in area and is the primary storage for process water and tailings from the plant.
- The Brine Pond is approximately 130ha in area and stores brine water received from the reverse osmosis (water recycling) plant. The brine pond originally received tailings prior to the construction of the current TSF.
- Other areas of the site include the processing plant, ore storage paddock, rail loop and tippler, seepage recovery systems and a number of stormwater ponds and levees.
- QN also operates a ship unloading facility at the Port of Townsville.

Queensland Nickel Yabulu Refinery – rehabilitation obligations

- In October and November 2015 a number of media outlets reported on the financial status of QN. On 18 January 2016, EHP became aware that administrators had been appointed by the company. Notwithstanding this, it should be noted that environmental obligations under legislation, which include monitoring programs, reporting requirements and general environmental duty remain in force.
- The rehabilitation conditions of the company's permit continue to apply regardless of whether the permit ceases to have effect.
- Under the Environmental Protection Act, financial assurance is not applied to businesses of this type.

Queensland Nickel Yabulu Refinery – compliance history

- Queensland Nickel (QN) Yabulu Refinery is located approximately 20km north of Townsville and has been in operation since the 1970s
- Rainfall associated with ex-tropical cyclone Ita caused the Tailings Storage Facility to overtop at the Yabulu refinery on 13 April 2014. EHP conducted a formal investigation into potential breaches of the Environmental Authority following the discharge event. QN were committed to trial on 7 December 2015 for two indictable offences with the trial dates to be scheduled for late 2016.
- On 12 July 2015 EHP received nine complaints through the Pollution Hotline from residents in the Saunders Beach area alleging a 'very strong', 'putrid' ammonia odour originating from the refinery. QN advised that a malfunction at the plant interrupted the process that manages ammonia gas emissions.
- There has historically been heavy media coverage and public interest in the refinery due to the close proximity of the refinery to residential communities and Great Barrier Reef Marine Park, and the employment the activity provides to the Townsville community.

Question and Answer

On 18 January 2016, Queensland Nickel's directors appointed voluntary administrators to its Townsville Yabulu refinery – does this change Queensland Nickel's environmental obligations?

No. Queensland Nickel's environmental obligations under the Environmental Protection Act 1994, addressing both its general environmental duty and compliance with its environmental authority (EA), remain in place.

What are the rehabilitation requirements, set out in the EA?

The EA requires rehabilitation of the land to be completed irrespective of whether the permit has ended or ceased to have effect.

The EA requires rehabilitation of disturbed areas to achieve a site that is safe to humans and wildlife, non-polluting, stable, and able to sustain an agreed post-disturbance land use.

In addition the EA has further specific requirements for the rehabilitation of the regulated structures with the conditions requiring a decommissioning plan prepared by a Registered Professional Engineer Queensland.

The Act and EA make the company responsible to ensure the site does not release any contaminants to the environment which could result in environmental harm or nuisance.

Would the tailings dam at the Yabulu site be part of the rehabilitation?

Yes, Queensland Nickel's EA has further specific requirements for the rehabilitation of regulated structures such as the tailings dam.

What is the current risk of a spill from the Yabulu Tailings dam?

Based on information obtained from Queensland Nickel on 6 November 2015, all storages on site were assessed and meet their Design Storage Allowance requirements for the 2015/16 wet season.

EHP officers will continue to monitor the site to ensure compliance with Queensland Nickel's EA.

What is the current status of the tailings storage facility?

In December 2014 Queensland Nickel completed the Tailings Storage Facility (TSF) Cell 1 lift with final engineering certification and the submission of the as Constructed TSF design plans were provided to EHP in November 2014.

On 14 October 2015 the department conducted a compliance inspection of the Queensland Nickel Yabulu refinery. As part of this inspection, departmental officers addressed the sites EA with a focus on water management and the preparedness for the upcoming wet season, this included an inspection of the sites TSF.

The EA for the site requires that a certain amount of capacity, Design Storage Allowance (DSA), is available in the TSF and other contaminated water storages on site prior to each wet season

in order to manage the risk of a discharge occurring if high levels of rainfall are experienced.

An assessment of DSA takes into consideration improvements in stormwater controls and the constructed lift to the TSF to provide the required storage capacity.

Information provided by Queensland Nickel in response to the inspection and the amount of storage capacity available, as of the 16 October 2015 stated:

- the TSF was 39% full with sufficient capacity to accommodate 2355mm of rain; and
- the Brine Pond was 74% full with sufficient capacity to accommodate 1229mm of rain.

Through the month of October 2015 Queensland Nickel actively transferred water from the Brine pond to the TSF as part of their water management strategy. Updated information provided by Queensland Nickel to the department as of the 11 November 2015 stated that:

- the TSF was 43% full with sufficient capacity to accommodate 2196mm of rain; and
- the Brine Pond was 56% full with sufficient capacity to accommodate 2082mm of rain.

Based on information obtained from Queensland Nickel on the 11 November 2015, all storages on site were assessed and comply with their DSA requirements for the 2015/16 wet season.

Is there any risk to the site if it rains?

The EA for the site requires that a certain amount of capacity, Design Storage Allowance (DSA), is available in the TSF and other contaminated water storages on site prior to each wet season in order to manage the risk of a discharge occurring if high levels of rainfall are experienced.

An assessment of DSA takes into consideration improvements in stormwater controls and the constructed lift to the TSF to provide the required storage capacity.

Based on information obtained from Queensland Nickel on the 11 November 2015, all storages on site were assessed and comply with their DSA requirements for the 2015/16 wet season.

How will the department ensure Queensland Nickel's environmental obligations are met?

Monitoring and reporting conditions are in place to ensure Queensland Nickel is complying with environmental standards set out in the EA.

The Department of Environment and Heritage Protection (EHP) will continue to monitor Queensland Nickel to ensure compliance with its EA.

The department has a range of compliance powers and tools available to ensure that Queensland Nickel meet their environmental obligations.

What is the cost of rehabilitation of the Yabulu site, and is there financial assurance to rehabilitate the site?

The Environmental Protection Act does not specifically require a refinery to provide a financial assurance.

However, Queensland Nickel's environmental authority contains conditions to ensure that rehabilitation is conducted in accordance with the Department of Environment and Heritage Protection guidelines using relevant rehabilitation methodologies.

The Queensland Government does not have an estimate for the costs associated with remediating or rehabilitating the Queensland Nickel site and this is a responsibility of the company.

Should the site go into liquidation, forcing the refinery to be shut down or sold, would the department manage environmental issues?

The site has not gone into liquidation, therefore Queensland Nickel's environmental obligations under the *Environmental Protection Act 1994* remain in place.

EHP will continue to enforce the provisions of the *Environmental Protection Act 1994* and the requirements of the Environmental Authority in relation to Queensland Nickel.

EHP will maintain a watching brief regarding the activities of any appointed liquidator to monitor any attempts to disclaim the property.

Does voluntary administration affect the current court proceedings against Queensland Nickel?

No, charges against Queensland Nickel relating to an overflow of the Tailings Storage Facility in early 2014 remain before the court.

Environmental authority (EA) and Rehabilitation

When was the current EA issued?

EHP approved a negotiated amendment to the EA in November 2013.

The amended EA raises the bar considerably for this site and represents a very significant improvement in terms of the required environmental performance of the refinery.

The amended EA specifies contemporary standards for on-site water management and operation of the TSF, among other contemporary conditions including rehabilitation, air monitoring and reporting requirements.

What are the current rehabilitation requirements of the EA?

The company's environmental authority contains conditions to ensure that rehabilitation is conducted in accordance with Department of Environment and Heritage Protection guidelines using relevant rehabilitation methodologies to achieve best practice outcomes.

Among other things, the guidelines require that disturbed areas are rehabilitated to achieve a site that is safe to humans and wildlife, non-polluting, stable, and able to sustain an agreed post-disturbance land use.

Specific rehabilitation conditions in the EA cover all features at the site including closed landfills, hazardous dams (including the TSF and Brine Pond) and all other 'disturbed' land.

In addition the environmental authority requires the rehabilitation of the regulated structures and that a decommissioning plan be prepared by a Queensland registered professional engineer.

Also, the EA makes it clear that rehabilitation of the land is a requirement irrespective of whether the permit has ended or ceased to have effect. This particular statement was included based on advice from the EHP litigation unit and is supported by s207(3) of the Environmental Protection Act 1994.

Released under Administrative Access - DPC

Map – Queensland Nickle Pty Ltd Yabulu Refinery Tailings Storage Facility

Released under Administrative Access - DPC

Lucas Clarke

From: Grant Stidiford
Sent: Wednesday, 20 January 2016 10:57 AM
To: Adrian Jeffreys; Jillian Langford
Subject: RE: background on Yabulu

Have just spoken to Gary Shaw – he is getting me the name and details of a contact person to discuss further questions with.

From: Adrian Jeffreys
Sent: Wednesday, 20 January 2016 10:54 AM
To: Grant Stidiford <Grant.Stidiford@premiers.qld.gov.au>; Jillian Langford <Jillian.Langford@premiers.qld.gov.au>
Subject: background on Yabulu

<http://www.apf.gov.au/DocumentStore.ashx?id=c95bc116-5aac-43b3-9903-6db4a2459da6&subId=253624>

Useful overview – noting source.



Queensland
Government

Adrian Jeffreys

Executive Director

Strategic Policy and Intergovernmental Relations

Department of the Premier and Cabinet

P 07 3003 9314 M [REDACTED]

Executive Building, Level 14, 100 George Street, Brisbane QLD 4000

PO Box 15185, City East, QLD 4002

DIRECTOR-GENERAL'S BRIEFING NOTE

Policy

Tracking Folder No. TF/16/861

Document No. DOC/16/8148

To: Director-General
Date: 25 Jan 2016
Subject: Environmental risk management at
Queensland Nickel's Yabulu nickel and cobalt
refinery

Approved / Not Approved / Noted

Addressee

Date

25/1/16

• RECOMMENDATION

It is recommended that you note Department of Environment and Heritage Protection (DEHP) advice (**Attachment 1**) that:

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- the DEHP has made contact with the appointed Voluntary Administrators in relation to environmental management and obligations at the site
- further work is required to fully understand any potential long-term exposure that may exist for the State, including any potential legal and financial exposure.

• KEY ISSUES

Broad obligations

- In operating the Yabulu Refinery, QN is subject to obligations imposed by the *Environmental Protection Act 1994* including the General Environmental Duty as well as the conditions of its Environmental Authority (EA).
- The EA sets environmental standards for air, water, regulated structures, noise, land and ultimately rehabilitation. Importantly, given the Yabulu Refinery's location in North Queensland, the EA requires that a certain capacity exists – the Design Storage Allowance (DSA) – in the on-site Tailings Storage Facility (TSF) and other contaminated water storages prior to each wet season to manage the risk of discharge as a result of high rainfall.

Assessment of immediate risk

- The containment of the refinery waste products including brine and tailings is a particular risk associated with the Yabulu Refinery. The TSF and Brine Ponds are 215 hectares and 130 hectares in area respectively and contain significant quantities of contaminated water that could be released to the receiving environment in the event that these structures overflowed.
- The DEHP has confirmed that it conducted a compliance inspection of the Yabulu Refinery on 14 October 2015 with a focus on water management and preparedness for the 2015–16 wet season. Based on advice provided by QN following the October 2015 compliance inspection, the DEHP advises that all on-site storages comply with their respective DSA requirements and the site has been assessed as having adequate storage for the 2015–16 wet season.
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Area: Economic Policy
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- The DEHP has advised that it has made contact with the appointed Voluntary Administrators, FTI Consulting, and will continue to stay in contact to ensure that environmental management obligations are adhered to.
- Historically, there has been a high level of public interest in the environmental management activities of the Yabulu Refinery given proximity to the Great Barrier Reef Marine Park and surrounding residential communities.

Long-term risk

- The DEHP has advised that further work is required to fully understand the State's long-term exposure should the financial situation of the company deteriorate further.
- No Financial Assurance is held with respect to managing or rehabilitating the Yabulu Refinery site in the event that any related obligations transfer to the State. The DEHP does not have an estimate of costs that would be associated with the site's rehabilitation but they are expected to be very significant.
- The major long-term risk comes from the 245 hectare tailings dams which contain, amongst other dangerous materials, very large quantities of nitrogen-based products. If released, these would pose a major threat to the Great Barrier Reef.
- Significant legal and responsibility issues will arise should the business be liquidated and the refinery shut down permanently. Similar to the situation with abandoned mines, the Queensland Government becomes the manager of last resort and protracted court action, with limited prospects of success, may be required to recoup costs.
- It is relevant to note that the site remains subject to the *Queensland Nickel Agreement Act 1970* which provided generous concessions to the operator.

• CONSULTATION

- DEHP.

• BACKGROUND

- The Yabulu Refinery is located around 25 kilometres north of Townsville and is located approximately 1 kilometre from Halifax Bay, which forms part of the Great Barrier Reef Marine Park. The residential communities of Saunders Beach, Black River, Bushland Beach and Purono Park surround the site.
- QN appointed FTI Consulting as voluntary administrators on 18 January 2016.


Graham Fraine
Deputy Director-General
Policy Division

Comments

Phan provide
specific advice &
analysis in relation
to FA & removal.

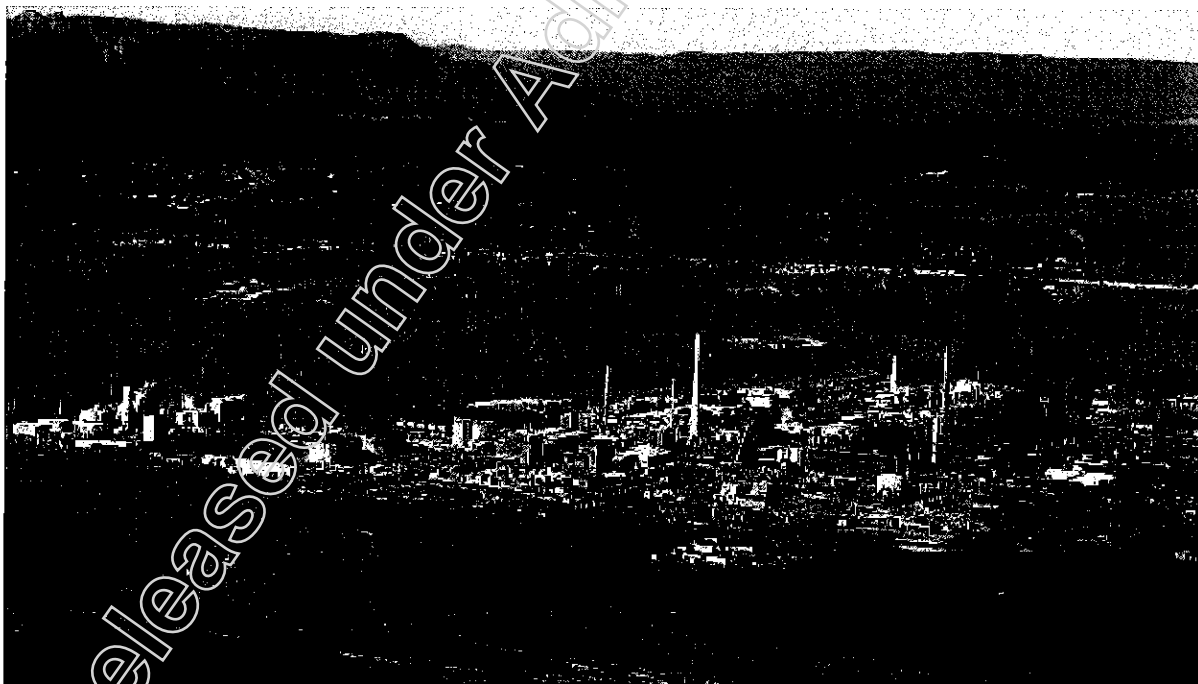
Action Officer: Grant Stidford
Area: Economic Policy
Telephone: 3003 9316

Approvals by Director / ED / DDG
documented in notes in TRIM

Queensland Nickel Yabulu Refinery

- **Current Situation**
- **Background**
- **Major infrastructure at the Queensland Nickel Refinery**
- **Rehabilitation Obligations**
- **Compliance History**
- **Questions & Answers**

19 January 2016



Information supplied by:

Dean Ellwood

Deputy Director General

Environmental Services and Regulation Division

Department of Environment and Heritage Protection

19 January 2016

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Current Situation

Queensland Nickel, which operates a nickel and cobalt refinery 25 kilometres north-west of Townsville, went into voluntary administration 18 January 2016.

The Department of Environment and Heritage Protection (the department) was last on site on 14 October 2015. The department conducted a compliance inspection of the Queensland Nickel Yabulu refinery. As part of this inspection, departmental officers addressed the sites EA with a focus on water management and the preparedness for the upcoming wet season; this included an inspection of the sites Tailing Storage Facility (TSF).

The department is working to assess and monitor the situation to ensure the company continues to meet its environmental responsibilities.

The company has environmental obligations under the Environmental Protection Act 1994, addressing both its General Environmental Duty and compliance with its Environmental Authority.

The Environmental Authority sets environmental standards for air, water, regulated structures, noise, land and rehabilitation. Monitoring and reporting conditions are in place to ensure that the company is complying with these environmental standards.

The requirements of the Environmental Authority also include specific conditions for the post-closure rehabilitation of the company's Yabulu Nickel Refinery.

Together the Act and Environmental Authority make the company responsible for ensuring the site does not release any contaminants to the environment which could result in environmental harm or nuisance.

Background

- Queensland Nickel Pty Ltd (QN) owns and operates the Palmer Nickel and Cobalt Refinery located at Yabulu, 25km north of Townsville.
- Surrounding the refinery are the residential communities of Saunders Beach, Black River, Bushland Beach and Purono Park.
- The refinery is located about 1km from Halifax Bay, which is part of the Great Barrier Reef Marine Park World Heritage Area.
- The refinery has been operational since 1974 and produces some 30,000 tonnes of nickel and 1,500 tonnes of cobalt annually.
- Ore was originally sourced from the Nickel Mine in the town of Greenvale (km) North West of Townsville
- Currently, the majority of ore is sourced and shipped from New Caledonia to the Port of Townsville where it is then transported by rail to the refinery.
- The refinery was acquired by Mr Clive Palmer on 31 July 2009 via a transfer of shares from BHP Pty Ltd.
- The refinery is also a major employer in the region with over 700 employees prior to the 15 January 2016 retrenchment announcement.



Major infrastructure at the Queensland Nickel Refinery

- The site consists of a number of infrastructure domains (refer to the included map).
- The Tailings Storage Facility (TSF) is approximately 215ha in area and is the primary storage for process water and tailings from the plant.
- The Brine Pond is approximately 130ha in area and stores brine water received from the reverse osmosis (water recycling) plant. The brine pond originally received tailings prior to the construction of the current TSF.
- Other areas of the site include the processing plant, ore storage paddock, rail loop and tippler, seepage recovery systems and a number of stormwater ponds and levees.
- QN also operates a ship unloading facility at the Port of Townsville.

Queensland Nickel Yabulu Refinery – rehabilitation obligations

- In October and November 2015 a number of media outlets reported on the financial status of QN. On 18 January 2016, EHP became aware that administrators had been appointed by the company. Notwithstanding this, it should be noted that environmental obligations under legislation, which include monitoring programs, reporting requirements and general environmental duty remain in force.
- The rehabilitation conditions of the company's permit continue to apply regardless of whether the permit ceases to have effect.
- Under the Environmental Protection Act, financial assurance is not applied to businesses of this type.

Queensland Nickel Yabulu Refinery – compliance history

- Queensland Nickel (QN) Yabulu Refinery is located approximately 20km north of Townsville and has been in operation since the 1970s
- Rainfall associated with ex-tropical cyclone Ita caused the Tailings Storage Facility to overtop at the Yabulu refinery on 13 April 2014. EHP conducted a formal investigation into potential breaches of the Environmental Authority following the discharge event. QN were committed to trial on 7 December 2015 for two indictable offences with the trial dates to be scheduled for late 2016.
- On 12 July 2015 EHP received nine complaints through the Pollution Hotline from residents in the Saunders Beach area alleging a 'very strong', 'putrid' ammonia odour originating from the refinery. QN advised that a malfunction at the plant interrupted the process that manages ammonia gas emissions. 

- There has historically been heavy media coverage and public interest in the refinery due to the close proximity of the refinery to residential communities and Great Barrier Reef Marine Park, and the employment the activity provides to the Townsville community.

Question and Answer

On 18 January 2016, Queensland Nickel's directors appointed voluntary administrators to its Townsville Yabulu refinery – does this change Queensland Nickel's environmental obligations?

No. Queensland Nickel's environmental obligations under the Environmental Protection Act 1994, addressing both its general environmental duty and compliance with its environmental authority (EA), remain in place.

What are the rehabilitation requirements, set out in the EA?

The EA requires rehabilitation of the land to be completed irrespective of whether the permit has ended or ceased to have effect.

The EA requires rehabilitation of disturbed areas to achieve a site that is safe to humans and wildlife, non-polluting, stable, and able to sustain an agreed post-disturbance land use.

In addition the EA has further specific requirements for the rehabilitation of the regulated structures with the conditions requiring a decommissioning plan prepared by a Registered Professional Engineer Queensland.

The Act and EA make the company responsible to ensure the site does not release any contaminants to the environment which could result in environmental harm or nuisance.

Would the tailings dam at the Yabulu site be part of the rehabilitation?

Yes, Queensland Nickel's EA has further specific requirements for the rehabilitation of regulated structures such as the tailings dam.

What is the current risk of a spill from the Yabulu Tailings dam?

Based on information obtained from Queensland Nickel on 6 November 2015, all storages on site were assessed and meet their Design Storage Allowance requirements for the 2015/16 wet season.

EHP officers will continue to monitor the site to ensure compliance with Queensland Nickel's EA.

What is the current status of the tailings storage facility?

In December 2014 Queensland Nickel completed the Tailings Storage Facility (TSF) Cell 1 lift with final engineering certification and the submission of the as Constructed TSF design plans were provided to EHP in November 2014.

On 14 October 2015 the department conducted a compliance inspection of the Queensland Nickel Yabulu refinery. As part of this inspection, departmental officers addressed the sites EA with a focus on water management and the preparedness for the upcoming wet season, this included an inspection of the sites TSF.

The EA for the site requires that a certain amount of capacity, Design Storage Allowance (DSA), is available in the TSF and other contaminated water storages on site prior to each wet season

in order to manage the risk of a discharge occurring if high levels of rainfall are experienced.

An assessment of DSA takes into consideration improvements in stormwater controls and the constructed lift to the TSF to provide the required storage capacity.

Information provided by Queensland Nickel in response to the inspection and the amount of storage capacity available, as of the 16 October 2015 stated:

- the TSF was 39% full with sufficient capacity to accommodate 2355mm of rain; and
- the Brine Pond was 74% full with sufficient capacity to accommodate 1229mm of rain.

Through the month of October 2015 Queensland Nickel actively transferred water from the Brine pond to the TSF as part of their water management strategy. Updated information provided by Queensland Nickel to the department as of the 11 November 2015 stated that:

- the TSF was 43% full with sufficient capacity to accommodate 2196mm of rain; and
- the Brine Pond was 56% full with sufficient capacity to accommodate 2082mm of rain.

Based on information obtained from Queensland Nickel on the 11 November 2015, all storages on site were assessed and comply with their DSA requirements for the 2015/16 wet season.

Is there any risk to the site if it rains?

The EA for the site requires that a certain amount of capacity, Design Storage Allowance (DSA), is available in the TSF and other contaminated water storages on site prior to each wet season in order to manage the risk of a discharge occurring if high levels of rainfall are experienced.

An assessment of DSA takes into consideration improvements in stormwater controls and the constructed lift to the TSF to provide the required storage capacity.

Based on information obtained from Queensland Nickel on the 11 November 2015, all storages on site were assessed and comply with their DSA requirements for the 2015/16 wet season.

How will the department ensure Queensland Nickel's environmental obligations are met?

Monitoring and reporting conditions are in place to ensure Queensland Nickel is complying with environmental standards set out in the EA.

The Department of Environment and Heritage Protection (EHP) will continue to monitor Queensland Nickel to ensure compliance with its EA.

The department has a range of compliance powers and tools available to ensure that Queensland Nickel meet their environmental obligations.

What is the cost of rehabilitation of the Yabulu site, and is there financial assurance to rehabilitate the site?

The Environmental Protection Act does not specifically require a refinery to provide a financial assurance.

However, Queensland Nickel's environmental authority contains conditions to ensure that rehabilitation is conducted in accordance with the Department of Environment and Heritage Protection guidelines using relevant rehabilitation methodologies.

The Queensland Government does not have an estimate for the costs associated with remediating or rehabilitating the Queensland Nickel site and this is a responsibility of the company.

Should the site go into liquidation, forcing the refinery to be shut down or sold, would the department manage environmental issues?

The site has not gone into liquidation, therefore Queensland Nickel's environmental obligations under the *Environmental Protection Act 1994* remain in place.

EHP will continue to enforce the provisions of the *Environmental Protection Act 1994* and the requirements of the Environmental Authority in relation to Queensland Nickel.

EHP will maintain a watching brief regarding the activities of any appointed liquidator to monitor any attempts to disclaim the property.

Does voluntary administration affect the current court proceedings against Queensland Nickel?

No, charges against Queensland Nickel relating to an overflow of the Tailings Storage Facility in early 2014 remain before the court.

Environmental authority (EA) and Rehabilitation

When was the current EA issued?

EHP approved a negotiated amendment to the EA in November 2013.

The amended EA raises the bar considerably for this site and represents a very significant improvement in terms of the required environmental performance of the refinery.

The amended EA specifies contemporary standards for on-site water management and operation of the TSF, among other contemporary conditions including rehabilitation, air monitoring and reporting requirements.

What are the current rehabilitation requirements of the EA?

The company's environmental authority contains conditions to ensure that rehabilitation is conducted in accordance with Department of Environment and Heritage Protection guidelines using relevant rehabilitation methodologies to achieve best practice outcomes.

Among other things, the guidelines require that disturbed areas are rehabilitated to achieve a site that is safe to humans and wildlife, non-polluting, stable, and able to sustain an agreed post-disturbance land use.

Specific rehabilitation conditions in the EA cover all features at the site including closed landfills, hazardous dams (including the TSF and Brine Pond) and all other 'disturbed' land.

In addition the environmental authority requires the rehabilitation of the regulated structures and that a decommissioning plan be prepared by a Queensland registered professional engineer.

Also, the EA makes it clear that rehabilitation of the land is a requirement irrespective of whether the permit has ended or ceased to have effect. This particular statement was included based on advice from the EHP litigation unit and is supported by s207(3) of the Environmental Protection Act 1994.

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Map – Queensland Nickle Pty Ltd Yabulu Refinery Tailings Storage Facility

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