



Annual Audit Compliance Report Form

Environmental Protection Act 1986, Part V Division 3

Once completed, please submit this form either via email to info@dwer.wa.gov.au, or to the below postal address:

Department of Water and Environmental Regulation
Locked Bag 10
Joondalup DC WA 6919

Section A – Licence details

| | | | |
|------------------------------|------------------------------------|----------------------|-------------|
| Licence number: | L5533/1976/11 | Licence file number: | 2011/005902 |
| Licence holder name: | BHP Billiton Nickel West Pty. Ltd. | | |
| Trading as: | Click here to enter text. | | |
| ACN: | 004184598 | | |
| Registered business address: | 125 St Georges Terrace PERTH 6000 | | |
| Reporting period: | 01/01/2020 to 31 /12 /2020 | | |

Section B – Statement of compliance with licence conditions

Did you comply with all of your licence conditions during the reporting period?
(please tick the appropriate box)

Yes – please complete:

- section C;
- section D (if required); and
- sign the declaration in Section F.

No – please complete:

- section C;
- section D (if required);
- section E; and
- sign the declaration at Section F.

Section C – Statement of actual production

Provide the actual production quantity for this reporting period. Supporting documentation is to be attached.

| Prescribed premises category | Actual production quantity |
|---|---|
| Category 5 Processing or beneficiation of metallic or non- metallic ore | Total Ore Treated/Milled - zero dry metric tonnes |

Section D – Statement of actual Part 2 waste discharge quantity

Provide the actual Part 2 waste discharge quantity for this reporting period. Supporting documentation is to be attached.

| Prescribed premises category | Actual Part 2 waste discharge quantity |
|--|--|
| Category 5 Processing or beneficiation of metallic or non-metallic ore | Tailings to TSF – zero tonnes |

Section E – Details of non-compliance with licence condition

Please use a separate page for each condition with which the licence holder was non-compliant at a time during the reporting period.

| | | | |
|---------------|---|----------------------------|-------------|
| Condition no: | 3 | Date(s) of non-compliance: | 3 June 2020 |
|---------------|---|----------------------------|-------------|

Details of non-compliance:

Three Dryer stack units recorded the following (averaged) particulate concentrations during their quarterly sampling run conducted on 3 June 2020:

- Dryer 1: 760 mg/m³
- Dryer 2: 300 mg/m³; and
- Dryer 3: 330 mg/m³.

What was the actual (or suspected) environmental impact of the non-compliance?

NOTE – please attach maps or diagrams to provide insight into the precise location of where the non-compliance took place.

Application of the CALMET/CALPUF model (covering a period from 11 March 2020 to 11 June 2020) estimated up to three 24-hour (i.e. 1-day) average PM₁₀ concentrations above the 50 µg/m³ (at any discrete receptor), assuming measured concentrations were continuously emitted for the assessment period.

1. 107 µg/m³ over 3 May 2020 (Peak PM₁₀ concentrations over 0000 to 0300 hours and 1700 to 2300 hours – mostly stable night-time impacts.);
2. 55 µg/m³ over 27 March 2020 (Peak PM₁₀ concentrations over 0000 to 0700 hours with moderate winds 30 to 40°. Mostly stable night-time impacts; and
3. 52 µg/m³ over 24 March 2020 (Peak PM₁₀ concentrations over 0000 to 0400 hours for directions 30 to 45° and moderate (> than 5 m/s) speeds, and a peak at 1700 hours).

For these potential events, any impact / exposure would have been lessened due to the peak concentrations occurring during the night-time or early morning period, when residents were likely to be indoors, thereby reducing exposure.

Cause (or suspected cause) of non-compliance:

The dryers and scrubbers did not operate to a rated capacity based on product sizing.

Product supplied by third party providers (TPP) was finer than normal i.e. during May 2020 period: 86.9 µm from TPP 1 and 41.6 µm from TPP 2, compared to an average particle size of 112.7 µm during April 2020.

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| | |
|---|-----------------|
| Action taken to mitigate any adverse effects of non-compliance and prevent recurrence of the non-compliance: | |
| <ul style="list-style-type: none"> • Reviewed its engagements with TPP to improve the management of product size monitoring. • Undertook a design and maintenance review of the Kambalda Dryers' pollution control equipment in order to confirm the criteria for particulate sizing. • Developed and implemented a standard operating procedure for the management of product sizing. | |
| Was this non-compliance previously reported to DWER? | |
| <input checked="" type="checkbox"/> Yes, and | |
| <input type="checkbox"/> Reported to DWER verbally | Date: / / |
| <input checked="" type="checkbox"/> Reported to DWER in writing | Date: 3/07/2020 |

Section E – Details of non-compliance with licence condition

Please use a separate page for each condition with which the licence holder was non-compliant at a time during the reporting period.

| | | | |
|---------------|---|----------------------------|--------------|
| Condition no: | 3 | Date(s) of non-compliance: | 20 July 2020 |
|---------------|---|----------------------------|--------------|

Details of non-compliance:

Two Dryer stack units recorded the following (averaged) particulate concentrations during their investigation sampling run conducted on 20 July 2020:

- Dryer 2: 760 mg/m³; and
- Dryer 3: 310 mg/m³.

What was the actual (or suspected) environmental impact of the non-compliance?

NOTE – please attach maps or diagrams to provide insight into the precise location of where the non-compliance took place.

No environmental impact as a result of the non-compliance, as determined by the application of the CALMET/CALPUF model for the period 12 June to 27 July 2020.

Modelled ground level concentrations were below NEPM at receptors.

Cause (or suspected cause) of non-compliance:

The dryers and scrubbers did not operate to a rated capacity based on product sizing and infrastructure malfunction.

On internal inspection the following issues were identified:

Gas bypassing around the impingement plates in the tray scrubbers:

- Dryer 2: Dislodged impingement plate; and
- Dryer 3: Two impingement plates partially dislodged.

Action taken to mitigate any adverse effects of non-compliance and prevent recurrence of the non-compliance:

- De-rated the dryer capacity by dropping the dryer operating temperature levels and therefore throughput.
- Commenced daily composite sizing to monitor concentrate product sizing.
- Changed Third Party provided concentrate blend to increase overall particulate sizing (i.e. Moved from a 3:1 blend to a 2:1 blend).
- Cleaned the scrubbers (including re-installation of impingement plates).
- Re-sampled the dryer stack total particulate emissions.

Was this non-compliance previously reported to DWER?

Yes, and

Reported to DWER verbally

Date: / /

Reported to DWER in writing

Date: 23/07/2020

Section E – Details of non-compliance with licence condition

Please use a separate page for each condition with which the licence holder was non-compliant at a time during the reporting period.

| | | | |
|---------------|---|----------------------------|--------------|
| Condition no: | 3 | Date(s) of non-compliance: | 10 July 2020 |
|---------------|---|----------------------------|--------------|

Details of non-compliance:

One Dryer stack unit recorded the following (averaged) particulate concentration during its investigation sampling run conducted on 10 July 2020:

- Dryer 1: 280 mg/m³

What was the actual (or suspected) environmental impact of the non-compliance?

NOTE – please attach maps or diagrams to provide insight into the precise location of where the non-compliance took place.

No environmental impact as a result of the non-compliance as determined by the application of the CALMET/CALPUF model for the period 12 June to 27 July 2020.

Modelled ground level concentrations were below NEPM at receptors.

Cause (or suspected cause) of non-compliance:

The dryers and scrubbers did not operate to a rated capacity based on product sizing and infrastructure malfunction.

On internal inspection the following issues were identified:

- Warped impingement plates, allowing gas to bypass around the impingement plates within the tray scrubbers.

Action taken to mitigate any adverse effects of non-compliance and prevent recurrence of the non-compliance:

- De-rated Dryer 1
- Use of a different concentrate blend
- Reduced ball loading in the repulp mill
- Continuous PM10 monitoring; and
- Cleaned the scrubbers (including re-instating original impingement plate configuration)

Was this non-compliance previously reported to DWER?

Yes, and

| | |
|---|-----------------|
| <input type="checkbox"/> Reported to DWER verbally | Date: / / |
| <input checked="" type="checkbox"/> Reported to DWER in writing | Date: 5/08/2020 |

Section E – Details of non-compliance with licence condition

Please use a separate page for each condition with which the licence holder was non-compliant at a time during the reporting period.

| | | | |
|---------------|---|----------------------------|-----------------|
| Condition no: | 3 | Date(s) of non-compliance: | 18 & 19/11/2020 |
|---------------|---|----------------------------|-----------------|

Details of non-compliance:

Three Dryer stack units recorded the following (averaged) particulate concentrations during their quarterly sampling run conducted on 18 and 19 November 2020:

- Dryer 1: 360 mg/m³
- Dryer 2: 320 mg/m³; and
- Dryer 3: 250 mg/m³.

What was the actual (or suspected) environmental impact of the non-compliance?

NOTE – please attach maps or diagrams to provide insight into the precise location of where the non-compliance took place.

No environmental impact as a result of the non-compliance as determined by the application of the CALMET/CALPUF model for the period 24 September 2020 to 6 December 2020.

Modelled ground level concentrations were below NEPM at receptors.

Cause (or suspected cause) of non-compliance:

The dryers and scrubbers did not operate to a rated capacity based on product sizing and infrastructure malfunction.

On internal inspection the following issues were identified:

Dryer 1:

- Numerous nozzles (at the impingement plate level) blocked
- Numerous pinholes in the spray bars; and
- Hole in the process water strainer.

Dryer 2:

- Build up on the moisture eliminator fins
- Moisture eliminator drain hole blocked; and
- One blocked spray bar.

Action taken to mitigate any adverse effects of non-compliance and prevent recurrence of the non-compliance:

Upon receipt of preliminary results, NiW temporarily suspended operations to conduct a detailed inspection of the dryers, resulting in the following immediate repairs:

Dryer 1:

- Nozzles (at the impingement plate level) unblocked.
- Patched pinholes in the spray bars, new spray bars ordered; and
- Replaced the process water strainer.

Dryer 2:

- Moisture eliminator fins cleaned
- Moisture eliminator drain hole unblocked; and
- Spray bar unblocked.

Dryer 3:

- Inspected and deemed free of issues.

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Undertook a review of operational and maintenance strategies of the dryers, utilising a consultant processing engineer specialising in concentrate dryers:

- Program of weekly spray bar and underflow inspections of dryers implemented
- Three weekly scrubber cleaning implemented

Improved Air Quality Control practices.

Short term monthly stack testing commissioned (rather than quarterly as required by the licence).

Investigating additional long term maintenance, operational and monitoring strategies.

Was this non-compliance previously reported to DWER?



Yes, and

| | |
|---|------------------|
| <input type="checkbox"/> Reported to DWER verbally | Date: / / |
| <input checked="" type="checkbox"/> Reported to DWER in writing | Date: 11/01/2021 |

Section F – Declaration

I / We declare that the information in this Annual Audit Compliance Report is true and correct and is not false or misleading in a material particular¹.

I / We consent to the Annual Audit Compliance Report being published on the Department of Water and Environmental Regulation's (DWER) website.

| | | | |
|-------------------------------|---|-----------------|--|
| Signature ² : |  | Signature: | |
| Name: (printed) |  | Name: (printed) | |
| Position: | General Manager Concentrators & Integrated Operations Nickel West | Position: | |
| Date: | | Date: | |
| Seal (if signing under seal): | | | |

¹ 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.

² AACRs can only be signed by the licence holder or an authorised person with the legal authority to sign on behalf of the licence holder.