

From: BENNINK Kate [Kate.Bennink@des.qld.gov.au]
Sent: Monday, 16 January 2017 5:10 PM
To: [redacted] sch4p4(6) Personal Information
CC: MARSHALL Michelle; COPP Rachel
Subject: Updated conditions
Attachments: 20170116 Edited Conditions for Ensham.docx

Hi [redacted] 4p4(6) Personal Informa

Please find updated conditions as discussed last Thursday.

Cheers

Kate

Kate Bennink

Manager Environmental Services



Business Centre (Coal) | Coal and Central Queensland Compliance

Department of Environment and Heritage Protection

P 07 4987 9384 M [redacted] 4p4(6) Personal Inform

99 Hospital Road, Emerald QLD 4720

PO Box 3028, Emerald QLD 4720



...make the move

From: [redacted]@ensham.com.au]
Sent: Wednesday, 18 January 2017 3:51 PM
To: BENNINK Kate; [redacted]
CC: MARSHALL Michelle; COPP Rachel
Subject: RE: Updated conditions
Attachments: 20170118 Draft EA conditions.docx

Hi Kate,

[redacted] has me to send on the marked up document as discussed this afternoon.

Regards

[redacted]

Manager - HSET Systems
Health Safety Environment Training



P - (07) 4987 3615

M - [redacted]

E - [redacted]@ensham.com.au

From: BENNINK Kate [mailto:Kate.Bennink@ehp.qld.gov.au]
Sent: Monday, 16 January 2017 5:11 PM
To: [redacted]
Cc: MARSHALL Michelle; COPP Rachel
Subject: Updated conditions

Hi [redacted]

Please find updated conditions as discussed last Thursday.

Cheers

Kate

Kate Bennink

Manager Environmental Services



Business Centre (Coal) | Coal and Central Queensland Compliance
Department of Environment and Heritage Protection

P 07 4987 9384 M [redacted]
99 Hospital Road, Emerald QLD 4720

PO Box 3028, Emerald QLD 4720



...make the move

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RTI Act 2009

Agency interest: Land		
Condition number	Condition	
G1	Preventing contaminant release to land Contaminants must not be released to land in manner which constitutes nuisance, material or serious environmental harm.	No change
G2	Bord and pillar – factors of safety The holder of the environmental authority will determine relevant pillar and roadway dimensions to ensure that the following factors of safety are achieved: a) 2.11 for bord and pillar workings beneath the Nogoia River anabranch; b) 2.11 for access roadways beneath the Nogoia River to connect the bord and pillar and longwall mining areas; and c) 1.6 for all other bord and pillar workings beneath the floodplain of the Nogoia River.	No change
G3	Operational management protocols must be put in place to ensure that minimum pillar and roadway dimensions calculated to achieve the factors of safety in Condition G2 are achieved during the life of the bord and pillar operation.	No change
G4	Rehabilitation success criteria All areas <u>surface</u> significantly disturbed by mining activities must be rehabilitated to a safe, stable and non-polluting landform, with a self-sustaining vegetation cover in accordance with Appendix 4: Rehabilitation success criteria , to be <u>submitted to the administering authority</u> populated by an EA amendment by 28 April 2017.	Edited Due date changed to 28 April 2017 to align with Rehabilitation Management Plan.

Table GX: Rehabilitation schedule in the PoOps & RMP

Time Frame	Location	Area	Activity
30 June 2017	Low wall spoil Pit B	> 110 ha	Topsoil, rip and seed
30 June 2017	Low wall spoil Pit D, E	> 50 ha	Reshape
19 December 2017	Low wall spoil Pit D, E	> 50 ha	Reshape
19 December 2017	Low wall spoil Pit D, E	> 100 ha	Topsoil, rip and seed
29 June 2018	Low wall spoil Pit D, E, F	> 50 ha	Reshape
31 January 2019	Low wall spoil Pit D, E, F	> 50 ha	Reshape
31 January 2019	Low wall spoil Pit D, E, F	> 100 ha	Topsoil, rip and seed
G7	Within twenty (20) business days after each due dates <u>identified</u> in Table GX: Rehabilitation schedule , the administering authority must receive notification that details how rehabilitation has been completed to <u>comply undertaken in accordance</u> -with Table GX: Rehabilitation schedule .		
G8	A <u>suitably qualified person must provide a</u> final report <u>to the administering authority describing the condition of and confirms completion of</u> all rehabilitation required by Table GX: Rehabilitation schedule . <u>The report must be</u> , must be completed by a suitably qualified person and provided to the administering authority by 28 February 2019 .		

Definition	<p><i>Suitably qualified and experienced person</i> in relation to rehabilitation means one who holds relevant professional qualifications to the satisfaction of the administering authority; AND demonstrated knowledge, experience and expertise in relevant fields as set out below:</p> <p>a) <i>rehabilitation practices for resource activities; and</i></p> <p>b) <i>a total of five years of suitable experience and demonstrated expertise in the following categories:</i></p> <ul style="list-style-type: none"> <i>i. coal mine site rehabilitation;</i> <i>ii. development of rehabilitation management plans and monitoring programs; and</i> <i>iii. Assessment of rehabilitation performance indicators in the resources industry.</i> 	Provided by EHP
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G9	<p>Rehabilitation Management Plan</p> <p>A Rehabilitation Management Plan for all <u>surface</u> mining domains must be developed by a suitably qualified person that includes the following:</p> <ul style="list-style-type: none"> a) <u>A table that details the schedule for rehabilitation that will be undertaken during 2017 and 2018 (Table GX: Rehabilitation Schedule).</u> b) <u>A map showing the location of the rehabilitation in (a) above (Appendix 5: Location of Rehabilitation</u> a)c) <u>The Success Criteria for rehabilitation at the mine (excluding voids) Appendix 4: Rehabilitation Success Criteria.</u> b)d) <u>map existing areas of rehabilitation including classification of stage (i.e. time since establishment) and quality;</u> e)e) <u>a strategy for progressive rehabilitation;</u> e)f) <u>detail the design objectives for rehabilitation of each domain to achieve rehabilitation success criteria and the identified post mining land uses;</u> e)g) <u>specify spoil characteristics, soil analysis, soil separation for use on rehabilitation;</u> f)h) <u>specify the topsoil requirements for the site and provide details of how topsoil will be managed for use in rehabilitation;</u> g)i) <u>detail any topsoil deficit and how any deficit will be managed for successful rehabilitation;</u> h)j) <u>detail rehabilitation methods applied to areas;</u> i)k) <u>detail landform design including end of mine design;</u> j)l) <u>detail how landform design will be consistent with surrounding topography;</u> k)m) <u>identify and detail planned native vegetation rehabilitation areas and corridors;</u> l)n) <u>identify at least a minimum of three (3) reference sites for use in rehabilitation monitoring;</u> m)o) <u>describe rehabilitation indicators and how these will be monitored;</u> n)p) <u>describe management actions to address unsuccessful rehabilitation or redesign;</u> e)q) <u>describe end of mine landform design planning and post mining land uses across the</u> 	<p>Edited</p>
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G10	<p>The Rehabilitation Management Plan required by Condition G9 must be submitted to the administering authority by 28 April 2017 for review and approval. Following approval, the Rehabilitation Management Plan must be implemented.</p> <p><u>Rehabilitation success criteria for voids are to be developed in accordance with Condition G13. and not Condition G9.</u></p>	New condition
G11	<p>Despite Condition G9, rehabilitation success criteria for voids are subject to Condition G13.</p> <p><u>The Rehabilitation Management Plan required by Condition G9 must be submitted to the administering authority by 28 April 2017 for review and approval. Following approval, the Rehabilitation Management Plan must be implemented.</u></p>	New condition
G12	<p>Residual voids Residual voids must not cause any serious environmental harm to land, surface waters or any recognised groundwater aquifer, other than the environmental harm constituted by the existence of the residual void itself and subject to any other condition within this environmental authority.</p>	No change

G20	An annual report that describes rehabilitation status against the requirements of Condition G4 must be developed by a suitably qualified person.	Edited
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Remove current Condition G16 as there is no washplant and therefore no tailings at Ensham.

New condition to go in General:

All reports, plans and programs must be made available to the administering authority upon request.

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From: [redacted] sch4p4(6) Personal Information [redacted]@idemitsu.com.au]
Sent: Friday, 20 January 2017 9:59 AM
To: [redacted] p4(6) Personal Inform; BENNINK Kate
Subject: Draft Ensham EA
Attachments: Draft EA conditions (2).docx

Morning [redacted] Personal Kate,

I was looking over the draft EA sent through on Wednesday and realised that when reorientated the page word has somehow not shown the last 4 sub clauses for G9. I have no idea how this occurred and do apologise. I have fixed this now and have attached the proper document. Kate, I am in meetings until 2pm but would really like to catch up with you to discuss the track changes and document flow.

Thanks

[redacted] p4(6) Personal Informa

Group Manager – Health, Safety & Environment
Idemitsu Australia Resources Pty Ltd



P: (07) 3222 5673
M: [redacted] p4(6) Personal Informa
E: [redacted] p4(6) Personal Inform@idemitsu.com.au

Level 1, 60 Albert Street
Brisbane QLD 4000

Table GX: Rehabilitation schedule in the PoOps & RMP

Time Frame	Location	Area	Activity
30 June 2017	Low wall spoil Pit B	>110 ha	Topsoil, rip and seed
30 June 2017	Low wall spoil Pit D, E	>50 ha	Reshape
19 December 2017	Low wall spoil Pit D, E	>50 ha	Reshape
19 December 2017	Low wall spoil Pit D, E	>100 ha	Topsoil, rip and seed
29 June 2018	Low wall spoil Pit D, E, F	>50 ha	Reshape
31 January 2019	Low wall spoil Pit D, E, F	>50 ha	Reshape
31 January 2019	Low wall spoil Pit D, E, F	>100 ha	Topsoil, rip and seed
G7	Within twenty (20) business days after each due dates <u>identified in Table GX: Rehabilitation schedule</u> , the administering authority must receive notification that details how rehabilitation has been <u>completed to comply undertaken in accordance</u> -with Table GX: Rehabilitation schedule .		New condition
G8	A <u>suitably qualified person must provide a final report to the administering authority describing the condition of and confirms completion of all</u> rehabilitation required by Table GX: Rehabilitation schedule. The report must be must be completed by a suitably qualified person and provided to the administering authority by 28 February 2019 .		New condition See definition, below, to be included in EA definitions schedule.
Definition	<p><i>Suitably qualified and experienced person</i> in relation to rehabilitation means one who holds relevant professional qualifications to the satisfaction of the administering authority; AND demonstrated knowledge, experience and expertise in relevant fields as set out below:</p> <p>a) <i>rehabilitation practices for resource activities; and</i></p> <p>b) <i>a total of five years of suitable experience and demonstrated expertise in the following categories:</i></p> <ol style="list-style-type: none"> i. <i>coal mine site rehabilitation;</i> ii. <i>development of rehabilitation management plans and monitoring programs; and</i> iii. <i>Assessment of rehabilitation performance indicators in the resources industry.</i> 		Provided by EHP

G9	<p>Rehabilitation Management Plan</p> <p>A Rehabilitation Management Plan for all <u>surface</u> mining domains must be developed by a suitably qualified person that includes the following:</p> <ul style="list-style-type: none"> <u>a) A table that details the schedule for rehabilitation that will be undertaken during 2017 and 2018 (Table GX: Rehabilitation Schedule).</u> <u>b) A map showing the location of the rehabilitation in (a) above (Appendix 5: Location of Rehabilitation)</u> <u>a)c) The Success Criteria for rehabilitation at the mine (excluding voids) Appendix 4: Rehabilitation Success Criteria.</u> <u>b)d) map existing areas of rehabilitation including classification of stage (i.e. time since establishment) and quality;</u> <u>e)e) a strategy for progressive rehabilitation;</u> <u>e)f) detail the design objectives for rehabilitation of each domain to achieve rehabilitation success criteria and the identified post mining land uses;</u> <u>e)g) specify spoil characteristics, soil analysis, soil separation for use on rehabilitation;</u> <u>f)h) specify the topsoil requirements for the site and provide details of how topsoil will be managed for use in rehabilitation;</u> <u>e)i) detail any topsoil deficit and how any deficit will be managed for successful rehabilitation;</u> <u>h)j) detail rehabilitation methods applied to areas;</u> <u>i)k) detail landform design including end of mine design;</u> <u>j)l) detail how landform design will be consistent with surrounding topography;</u> <u>k)m) identify and detail planned native vegetation rehabilitation areas and corridors;</u> <u>n) identify at least a minimum of three (3) reference sites for use in rehabilitation monitoring;</u> <u>l)o) describe rehabilitation indicators and how these will be monitored;</u> <u>n)q) describe management actions to address unsuccessful rehabilitation or redesign;</u> <u>e)r) describe end of mine landform design planning and post mining land uses across the mine; and</u> <u>p)s) include a triple bottom line assessment (or a comparative alternative assessment method) of the proposed final landform design criteria and alternatives.</u> 	Edited
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G10	<p>The Rehabilitation Management Plan required by Condition G9 must be submitted to the administering authority by 28 April 2017 for review and approval. Following approval, the Rehabilitation Management Plan must be implemented.</p> <p><u>Rehabilitation success criteria for voids are to be developed in accordance with Condition G13 and not Condition G9.</u></p>	New condition
G11	<p>Despite Condition G9, rehabilitation success criteria for voids are subject to Condition G13.</p> <p><u>The Rehabilitation Management Plan required by Condition G9 must be submitted to the administering authority by 28 April 2017 for review and approval. Following approval, the Rehabilitation Management Plan must be implemented.</u></p>	New condition
G12	<p>Residual voids Residual voids must not cause any serious environmental harm to land, surface waters or any recognised groundwater aquifer, other than the environmental harm constituted by the existence of the residual void itself and subject to any other condition within this environmental authority.</p>	No change
G13	<p>Residual Void <u>Study Management Project Plan</u> A Residual Void <u>Study Project Management Plan</u> ("the study") must be developed and submitted to the administering authority in accordance with Conditions G14 to G18. The Study, and must include, <u>but not limited to</u>, the following:</p> <ul style="list-style-type: none"> a) options available for minimising final void area and volume; b) design objectives for rehabilitation of final voids; c) void hydrology, addressing the long-term water balance in the voids, connections to groundwater resources and water quality parameters in the long term; d) pit wall stability, considering the effects of long-term erosion and weathering of the pit wall and the effects of significant hydrological events; e) options available for minimising risk of flood interaction for all flood events up to and including the Probable Maximum Flood level; f) void capability to support native flora and fauna; and g) void rehabilitation success criteria and final void areas and volumes to meet the outcomes in Condition G4. 	Edited and split from the condition above.
G14	<p>A project plan outlining how Condition G13 will be achieved must be submitted to the administering authority by 28 February 2017 for review and approval. Following approval, the project plan must be implemented.</p>	New condition

From: [sch4p4(6) Personal Information]@idemitsu.com.au]
Sent: Monday, 23 January 2017 2:34 PM
To: BENNINK Kate; COPP Rachel; MARSHALL Michelle
CC: [sch4p4(6) Personal Information]
Subject: Draft EA conditions (3).docx
Attachments: Draft EA conditions (3).docx

Follow Up Flag: Follow up
Due By: Wednesday, 1 February 2017 8:00 AM
Flag Status: Completed

Hi Kate,
Changes discussed have been made. Happy to hook up again on the phone and run through these tomorrow if available. I am on [sch4p4(6) Personal Information]

Cheers

[Personal]

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RTI Act 2009

Table GX: Rehabilitation schedule

Time Frame	Location	Area	Activity
30 June 2017	Low wall spoil Pit B	$\approx$ > 110 ha	Topsoil, rip and seed
30 June 2017	Low wall spoil Pit D, E	$\approx$ > 50 ha	Reshape
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G9	<p>Rehabilitation Management Plan</p> <p>A Rehabilitation Management Plan for all surface mining domains must be developed by a suitably qualified person that includes the following:</p> <ul style="list-style-type: none"> a) A table that details the schedule for rehabilitation that will be undertaken during 2017 and 2018 (Table GX: Rehabilitation Schedule). b) A map showing the location of the rehabilitation in (a) above (Appendix 5: Location of Rehabilitation) c) The Success Criteria for rehabilitation at the mine (excluding voids) Appendix 4: Rehabilitation Success Criteria. d) map existing areas of rehabilitation including classification of stage (i.e. time since establishment) and quality; e) a strategy for progressive rehabilitation; f) detail the design objectives for rehabilitation of each domain to achieve rehabilitation success criteria and the identified post mining land uses; g) specify spoil characteristics, soil analysis, soil separation for use on rehabilitation; h) specify the topsoil requirements for the site and provide details of how topsoil will be managed for use in rehabilitation; i) detail any topsoil deficit and how any deficit will be managed for successful rehabilitation; j) detail rehabilitation methods applied to areas; k) detail landform design including end of mine design; l) detail how landform design will be consistent with surrounding topography; m) identify and detail planned native vegetation rehabilitation areas and corridors; n) identify at least a minimum of three (3) reference sites for use in rehabilitation monitoring; o) describe rehabilitation indicators and how these will be monitored; p) describe management actions to address unsuccessful rehabilitation or redesign; r) describe end of mine landform design planning and post mining land uses across the mine; and s) include a triple bottom line assessment (or a comparative alternative assessment method) of the proposed final landform design criteria and alternatives. 	Edited
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G10	<p>The Rehabilitation Management Plan required by Condition G9 must be submitted to the administering authority by 28 April 2017 for review and approval. Following approval, the Rehabilitation Management Plan must be implemented.</p> <p><u>Rehabilitation success criteria for voids are to be developed in accordance with Condition G13 and not Condition G9.</u></p>	New condition
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G13	<p>Residual Void Study Management Project Plan A Residual Void <u>Study Project Management Plan</u> ("the study") must be developed and submitted to the administering authority in accordance with Conditions G14 to G18. <u>The Study, and</u> must include, <u>but not limited to</u>, the following:</p> <ul style="list-style-type: none"> a) options available for minimising final void area and volume; b) design objectives for rehabilitation of final voids; c) void hydrology, addressing the long-term water balance in the voids, connections to groundwater resources and water quality parameters in the long term; d) pit wall stability, considering the effects of long-term erosion and weathering of the pit wall and the effects of significant hydrological events; e) options available for minimising risk of flood interaction for all flood events up to and including the Probable Maximum Flood level; f) void capability to support native flora and fauna; and g) void rehabilitation success criteria and final void areas and volumes to meet the outcomes in Condition G4. 	Edited and split from the condition above.
G14	<p>A project plan outlining how Condition G13 will be achieved must be submitted to the administering authority by 28 February 2017 for review and approval. Following approval, the project plan must be implemented.</p>	New condition

From: WELLS Melissa [Melissa.Wells@des.qld.gov.au]
Sent: Tuesday, 31 January 2017 5:18 PM
To: 4p4(6) Personal Informa CARLOS Reuben
CC: sch4p4(6) Personal Information ; BENNINK Kate
Subject: RE: Actions from Teleconference re Ensham FA and Residual Voids
Attachments: Ensham_extensionPoOLtr310117.pdf

Follow Up Flag: Follow up
Flag Status: Completed

Hi) Personal Ir

Thank you for the follow up email.

In relation to:

1. FA decision – The FA decision has been extended until the 28 February 2017 (see attached).
2. PoO resubmission – Preference is for a resubmission of the plan. It is not necessary to withdraw the previous plan. The resubmitted PoO would be an updated plan that describes the levee backfill option and associated costs. It would also accompany an updated compliance statement. Your suggested timeframe of the end of this week is fine.
3. As above.
4. It is anticipated that the FA decision and amended EA will occur concurrently i.e 28 February. Taking this into account the suggested date of the 28 February in the draft conditions for a project plan may need to be reconsidered. This could be just by a few days to avoid issuing and EA on the 28 February with a requirement to submit a project plan same day. Since our discussion last week we have received advice back from litigation regarding the review of draft conditions. Kate will be in contact with Personal regarding next steps/scope of technical report.

Any questions or concerns regarding the above please don't hesitate to contact me.

Regards,
Melissa.

Melissa Wells
Director
Business Centre (Coal) | Coal and Central Qld Compliance
Department of Environment and Heritage Protection



P 07 4987 9343 M 4p4(6) Personal Inform
99 Hospital Road, Emerald QLD 4720
PO Box 3028, Emerald QLD 4720

From: 4(6) Personal Inform [mailto:4(6) Personal Inform@idemitsu.com.au]
Sent: Tuesday, 31 January 2017 2:20 PM
To: CARLOS Reuben <Reuben.Carlos@ehp.qld.gov.au>; WELLS Melissa <Melissa.Wells@ehp.qld.gov.au>
Cc: sch4p4(6) Personal Information @idemitsu.com.au; sch4p4(6) Personal Information @idemitsu.com.au; p4(6) Personal Inform@ensham.com.au
Subject: Actions from Teleconference re Ensham FA and Residual Voids

Hi Reuben & Melissa,

Further to our discussion last Friday 27/1/17 regarding the Ensham Financial Assurance and residual void technical study, we understood that there were some actions that were agreed:

1. EHP to confirm process for extension of time for FA determination, noting that the current determination is due 31/1/17 (as per letter from Kate dated 25 November 2016)
2. EHP to confirm what is required to submit the updated Plan of Operations with the levee backfill calculation – does the current submission need to be formally withdrawn or can the new version just be submitted.
3. Ensham to have the updated calculator certified and the Plan of Operations updated and submitted to EHP.
4. Ensham to advise EHP of the timeframe to finalise scope/details for the technical study and provide to EHP for review and comment.

With regards to Action 3, I can confirm that the certification process is underway and barring any issues being raised the updated calculator and Plan of Operations should be submitted to EHP by the end of this week.

With regards to Action 4, the draft EA conditions that are currently with EHP describes the process for developing the study (Draft Condition G13) and a requirement to submit the project plan for approval by 28 February 2017 (Draft Condition G14). Draft Condition G15 also requires regular updates on progress of the study to be provided to EHP. I assume that these conditions and timeframes address this action.

Are you able to confirm how EHP are going with Actions 1 and 2?

Regards,

ch4p4(6) Personal Informatio

Chief Operating Officer
Idemitsu Australia Resources Pty Ltd



P: (07) 3222 5671

M: p4(6) Personal Informa

E: 4(6) Personal Inform@idemitsu.com.au

Level 1, 60 Albert Street
Brisbane QLD 4000

31 January 2017

4p4(6) Personal Informat

Chief Operating Officer
Idemitsu Australia Resources Pty Ltd

4p4(6) Personal Informat [@idemitsu.com.au](mailto:4p4(6) Personal Informat@idemitsu.com.au)

Dear 4p4(6) Personal in

As per recent discussions between the Department of Environment and Heritage Protection (the department) and Idemitsu Australia Resources Pty Ltd, the department would like to confirm the extension of the financial assurance decision under section 295(2)(c) of the *Environmental Protection Act 1994*. The new date for a decision on the amount and form of financial assurance for the Ensham Coal Mine environmental authority (EPML00732813) is 28 February 2017.

Should you have any further enquiries, please contact Ms Michelle Marshall, Team Leader (Assessment) on telephone 07 4987 9321.

Yours sincerely

sch4p4(6) Personal Information

Kate Bennink
Manager Environmental Services

From: BENNINK Kate [Kate.Bennink@des.qld.gov.au]
Sent: Thursday, 2 February 2017 1:11 PM
To: [p4(6) Personal Informa
Subject: Re: Ensham Residual Void Study Project Schedule

Hi [Personal] sorry I missed your call yesterday. I've been on the road this morning and in meetings today and tomorrow but could we lock in a time to chat at 1030am tomorrow? Cheers Kate

Kate Bennink

Manager Environmental Services

Business Centre (Coal) | Coal and Central Queensland Compliance

Department of Environment and Heritage Protection

P 07 4987 9384 **M** [p4(6) Personal Informa

99 Hospital Road, Emerald QLD 4720

PO Box 3028, Emerald QLD 4720

On 2 Feb 2017, at 10:43 am, [sch4p4(6) Personal Information]@idemitsu.com.au> wrote:

Hi Kate,

I trust all is well up in Emerald? I called and left a message earlier this week to see if we can set up a time circa Friday 17/2 to run through the draft Residual Void Study Project schedule. I want to make sure that we have put in sufficient time at the back end of the period for EHP to do what your team need to do and run through the scope of the works post the Options Analysis Workshop which is on the 8th of Feb.

Can you advise your availability pls.

Ta

[p4(6) Personal Informa

Group Manager – Health, Safety & Environment
Idemitsu Australia Resources Pty Ltd

<image001.png>

P: (07) 3222 5673

M: [p4(6) Personal Informa

E: [p4(6) Personal Informa]@idemitsu.com.au

Level 1, 60 Albert Street
Brisbane QLD 4000

From: [sch4p4(6) Personal Information]@idemitsu.com.au]
Sent: Tuesday, 7 February 2017 12:04 PM
To: BENNINK Kate
Subject: Re: Draft EA conditions

Thanks Kate. I appreciate the update. Happy to collaborate on the conditions of this makes the current transactional process easier.

Cheers

[Personal Information]

Sent from my iPhone

On 7 Feb. 2017, at 11:58 am, BENNINK Kate <Kate.Bennink@ehp.qld.gov.au> wrote:

Hi [Personal Information]

I just wanted to keep you updating regarding the conditions, I am still working on changes due to review by our Litigation team, however I will have them to you this week for your consideration.

As discussed on Friday, [sch4p4(6) Personal Information] and Michelle will be your contact during this time.

Cheers
Kate

<image002.png> **Kate Bennink**
Manager Environmental Services
Business Centre (Coal) | Coal and Central Queensland Compliance
Department of Environment and Heritage Protection

P 07 4987 9384 M [p4(6) Personal Information]
99 Hospital Road, Emerald QLD 4720
PO Box 3028, Emerald QLD 4720

<image004.png>

...make the move

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MILTON Kerrie

From: MARSHALL Michelle
Sent: Tuesday, 7 February 2017 4:12 PM
To: b4(6) Personal Inform
Cc: BENNINK Kate
Subject: FW: Very draft Res Void Project Scope/ Plan (ToR)

Hi b4(6) Personal Inform

Kate has asked me to respond.

My input to the below would be that "regulatory engagement" is not scheduled to occur until 16/5/17.

I would hope that in practice this occurs earlier than that, and frequently.

If you would like to schedule another meeting with myself and Stacey McLennan (Kates successor for the next 5 weeks) just let me know.

Warm regards,



Michelle Marshall

Team Leader (Assessment)

Business Centre (Coal) | Coal and Central Queensland Compliance

Department of Environment and Heritage Protection

P 07 4987 9321

99 Hospital Road, Emerald QLD 4720

GPO Box 3028, Emerald QLD 4720



From: b4(6) Personal Inform [mailto:b4(6) Personal Inform@idemitsu.com.au]

Sent: Friday, 3 February 2017 10:27 AM

To: BENNINK Kate <Kate.Bennink@ehp.qld.gov.au>

Subject: Very draft Res Void Project Scope/ Plan (ToR)

Hi Kate,

For our discussion. Cheers. Personal

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	i	Task Mode	Task Name	Duration	Start	Finish
1						
2		→	[-] Ensham Final Void Project	534 days?	Mon 16/01/17	Thu 31/01/19
3		→	[+] Project Definition	21 days	Mon 16/01/17	Mon 13/02/17
10		→	[-] Project Study	390 days?	Tue 14/02/17	Mon 13/08/18
11		→	[-] Concept Studies	65 days?	Tue 14/02/17	Mon 15/05/17
12		→	Option 1 - Backfill Void Study	20 days	Tue 14/02/17	Mon 13/03/17
13		→	Option 2 - TBA	20 days	Tue 14/02/17	Mon 13/03/17
14		→?	Option 3 - TBA			
15		→	[+] Common Studies (Desktop)	60 days	Tue 14/02/17	Mon 8/05/17
21		→	Review Study Outcomes	5 days	Tue 9/05/17	Mon 15/05/17
22		→	Concept Study Complete	0 days	Mon 15/05/17	Mon 15/05/17
23		→	[+] PFS Studies	75 days?	Tue 16/05/17	Mon 28/08/17
36		→	[-] FS Studies	95 days	Tue 29/08/17	Mon 8/01/18
37		→	Develop Detailed Scope	10 days	Tue 29/08/17	Mon 11/09/17
38		→	Option 1 - Backfill Void Study	80 days	Tue 12/09/17	Mon 1/01/18
39		→	Option 2 - TBA	80 days	Tue 12/09/17	Mon 1/01/18
40		→	[+] Common Studies (Field Verifiy)	80 days	Tue 12/09/17	Mon 1/01/18
46		→	Review Study Outcomes	5 days	Tue 2/01/18	Mon 8/01/18
47		→	FS Study Complete	0 days	Mon 8/01/18	Mon 8/01/18
48		→	[+] Final Design Studies	155 days	Tue 9/01/18	Mon 13/08/18
60		→	[-] Regulatory Engagement	326 days	Tue 16/05/17	Tue 14/08/18
61		→	Concept Review	1 day	Tue 16/05/17	Tue 16/05/17
62		→	PFS Review	1 day	Tue 29/08/17	Tue 29/08/17
63		→	FS Review	1 day	Tue 9/01/18	Tue 9/01/18
64		→	Final Design Review	1 day	Tue 14/08/18	Tue 14/08/18
65		→	[-] Regulatory Approval	122 days	Wed 15/08/18	Thu 31/01/19
66		→	Selection of Approved Option	10 days	Wed 15/08/18	Tue 28/08/18
67		→	[-] Prepare Regulatory Documentation (Draft)	25 days	Wed 29/08/18	Tue 2/10/18
68		→	Plan of Operations	25 days	Wed 29/08/18	Tue 2/10/18
69		→	FA Calculator	25 days	Wed 29/08/18	Tue 2/10/18

p4(6) Personal Inform:

Group Manager – Health, Safety & Environment
Idemitsu Australia Resources Pty Ltd



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Level 1, 60 Albert Street
Brisbane QLD 4000

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From: MARSHALL Michelle

Sent: Wednesday, 1 March 2017 11:22 AM

To: [REDACTED]@idemitsu.com.au

CC: [REDACTED] MCLENNAN Stacey; BENNINK Kate

Subject: Ensham Notice of Decision and Environmental Authority EPML00732813

Attachments: EA NoD 20170228 EA by written agreement Ensham Coal Mine EPML00732813.pdf; EA 20170228 EA EPML00721813 Ensham Coal Mine.pdf; PoO 20170228 NoD for the amount and form of FA EPML00732813 Idemitsu Ensham Coal Mine.pdf

Hi [REDACTED]

Please find attached:

- Notice of Decision on the amount and form of financial assurance.
- Notice of Amendment of an environmental authority by written agreement.
- A copy of the amended Environmental Authority EPML00732813 Ensham Coal Mine.

The originals will be posted to your registered address in todays mail.

If you have any questions please feel free to give either myself or Stacey a call.

Warm regards,

Michelle Marshall

Team Leader (Assessment)

Business Centre (Coal) | Coal and Central Queensland Compliance

Department of Environment and Heritage Protection

P 07 4987 9321

99 Hospital Road, Emerald QLD 4720

GPO Box 3028, Emerald QLD 4720

...make the move

Permit¹

Environmental Protection Act 1994

Environmental Authority EPML00732813 Ensham Coal Mine

This environmental authority is issued by the administering authority under Chapter 5 of the Environmental Protection Act 1994.

Permit¹ number: EPML00732813

Environmental authority takes effect on 28 February 2017.

The anniversary date of the environmental authority is 31 May.

Environmental authority holder(s)

Permit Holder(s)	Name	Registered address
Principal Holder	Bligh Coal Limited	Level 1 60 Albert Street BRISBANE CITY QLD 4000
Joint Holder	Idemitsu Australia Resources Pty Ltd	Level 1 60 Albert Street BRISBANE CITY QLD 4000
Joint Holder	Natural Resources Investment (Australia) Pty Ltd	Suite 3, Level 14, 201 Miller Street NORTH SYDNEY NSW 2060

¹ Permit includes licences, approvals, permits, authorisations, certificates, sanctions or equivalent/similar as required by legislation

Environmentally relevant activity and location details

Environmentally relevant activity(ies)	Location(s)
<p><u>Schedule 2:</u></p> <p>ERA 8(3) Chemical Storage – storing more than 500m³ of chemicals of class C1 or C2 combustible liquids under AS1940 or dangerous goods class 3 under subsection (1)(c).</p> <p>ERA 16(2)(a) Extractive and Screening Activities – extracting, other than by dredging, in a year, the following quantity of material - 5000t to 100,000t.</p> <p>ERA 56 Regulated Waste Storage – receiving and storing regulated waste.</p> <p>ERA 60(1)(d) Waste Disposal – operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1)(a) - more than 200000t.</p> <p>ERA 62 Waste Transfer Station Operation – operating on a commercial basis or in course of carrying on a commercial enterprise, a waste transfer station that receives a total quantity of at least 30t or 30m³ of waste on any day.</p> <p>ERA 63(1)(a)(i) Sewage Treatment – operating sewage treatment works, other than no-release works, with a total daily peak design capacity of 21 to 100EP if treated effluent is discharged from the works to an infiltration trench or through an irrigation scheme.</p> <p><u>Schedule 2A:</u></p> <p>ERA 13 Mining black coal</p>	<p>ML7459</p> <p>ML7460</p> <p>ML70049</p> <p>ML70326</p> <p>ML70365</p> <p>ML70366</p> <p>ML70367</p>

Additional information for applicants

Environmentally relevant activities

The description of any environmentally relevant activity (ERA) for which an environmental authority is issued is a restatement of the ERA as defined by legislation at the time the approval is issued. Where there is any inconsistency between that description of an ERA and the conditions stated by an environmental authority as to the scale, intensity or manner of carrying out an ERA, then the conditions prevail to the extent of the inconsistency.

An environmental authority authorises the carrying out of an ERA and does not authorise any environmental harm unless a condition stated by the authority specifically authorises environmental harm.

A person carrying out an ERA must also be a registered suitable operator under the *Environmental Protection Act 1994* (EP Act).

Contaminated land

It is a requirement of the EP Act that if an owner or occupier of land becomes aware a notifiable activity (as defined in Schedule 3 and Schedule 4) is being carried out on the land, or that the land has been, or is being, contaminated by a hazardous contaminant, the owner or occupier must, within 22 business days after becoming so aware, give written notice to the chief executive.

sch4p4(6) Personal Information

Signature

28 February 2017

Date

Stacey McLennan
Department of Environment and Heritage Protection
Delegate of the administering authority
Environmental Protection Act 1994

Enquiries:
Business Centre (Coal)
Department of Environment and Heritage
Protection
PO Box 3028
EMERALD QLD 4720
Phone: (07) 4987 9320
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Obligations under the *Environmental Protection Act 1994*

In addition to the requirements found in the conditions of this environmental authority, the holder must also meet their obligations under the EP Act, and the regulations made under the EP Act. For example, the holder must comply with the following provisions of the Act:

- general environmental duty (section 319);
- duty to notify environmental harm (section 320-320G);
- offence of causing serious or material environmental harm (sections 437-439);
- offence of causing environmental nuisance (section 440);
- offence of depositing prescribed water contaminants in waters and related matters (section 440ZG); and
- offence to place contaminant where environmental harm or nuisance may be caused (section 443).

Conditions of environmental authority

Agency interest: General	
Condition number	Condition
A1	<p>Financial assurance</p> <p>The activity must not be carried out until the environmental authority holder has given financial assurance to the administering authority as security for compliance with this environmental authority and any costs or expenses, or likely costs or expenses, mentioned in section 298 of the Act.</p>
A2	<p>The amount of financial assurance must be reviewed by the holder of this environmental authority when a plan of operations is amended or replaced or the authority is amended.</p>
A3	<p>Prevent and/or minimise likelihood of environmental harm</p> <p>In carrying out the environmentally relevant activities, you must take all reasonable and practicable measures to prevent and/or minimise the likelihood of environmental harm being caused. Any environmentally relevant activity, that, if carried out incompetently, or negligently, may cause environmental harm, in a manner that could have been prevented, shall be carried out in a proper manner in accordance with the conditions of this authority.</p> <p><i>NOTE: This authority authorises the environmentally relevant activity. It does not authorise environmental harm unless a condition contained within this authority explicitly authorises that harm. Where there is no condition or the authority is silent on a matter, the lack of a condition or silence shall not be construed as authorising harm.</i></p>
A4	<p>Maintenance of measures, plant and equipment</p> <p>The environmental authority holder must ensure:</p> <ul style="list-style-type: none"> a) that all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority are installed; b) that such measures, plant and equipment are maintained in a proper condition; and c) that such measures, plant and equipment are operated in a proper manner.
A5	<p>Monitoring and records</p> <p>Record, compile and keep for a minimum of five (5) years all monitoring results required by this environmental authority and make available for inspection all or any of these records upon request by the administering authority.</p>
A6	<p>Where monitoring is a requirement of this environmental authority, ensure that a competent person(s) conducts all monitoring.</p>
A7	<p>Notification of emergencies, incidents and exceptions</p> <p>All reasonable actions are to be taken to minimise environmental harm, or potential environmental harm, resulting from any emergency, incident or circumstances not in accordance with the conditions of this environmental authority.</p>

A8	As soon as practicable after becoming aware of any emergency, incident or information about circumstances which results or may result in environmental harm not in accordance with the conditions of this environmental authority, the administering authority must be notified in writing.
A9	<p>Not more than ten (10) business days following the initial notification of an emergency, incident or information about circumstances which result or may result in environmental harm, written advice must be provided to the administering authority in relation to:</p> <ul style="list-style-type: none"> a) proposed actions to prevent a recurrence of the emergency or incident; b) the outcomes of actions taken at the time to prevent or minimise environmental harm; and c) proposed actions to respond to the information about circumstances which result or may result in environmental harm.
A10	As soon as practicable, but not more than six (6) weeks following the initial notification of an emergency, incident or information about circumstances which result or may result in environmental harm, environmental monitoring must be performed and written advice must be provided of the results of any such monitoring performed to the administering authority.
A11	Contaminants must not be released to the receiving environment unless they are in accordance with the contaminant limits authorised by this environmental authority.
A12	This environmental authority does not authorise environmental harm unless a condition contained within the authority explicitly authorises that harm. Where there is no condition or the authority is silent on a matter, the lack of a condition or silence shall not be construed as authorising harm.
A13	<p>Definitions</p> <p>Words and phrases used throughout this environmental authority are defined in Definitions section of this environmental authority. Where a definition for a term used in this environmental authority is sought and the term is not defined within this environmental authority, the definitions in the <i>Environmental Protection Act 1994</i>, its Regulations and Environmental Protection Policies must be used.</p>
A14	<p>Scope of activity</p> <p>This environmental authority authorises the mining of 12 million tonnes of run of mine (ROM) coal per annum.</p>
A15	All reports, plans and programs must be made available to the administering authority upon request.

Agency interest: Air	
Condition number	Condition
B1	<p>Dust nuisance</p> <p>The release of dust or particulate matter or both resulting from the mining activity must not cause an environmental nuisance at any nuisance sensitive or commercial place.</p>
B2	<p>When requested by the administering authority or as a result of a complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer), dust and particulate monitoring must be undertaken, and the results thereof notified to the administering authority within fourteen (14) days following completion of monitoring. Monitoring must be carried out at a place(s) relevant to the potentially affected dust sensitive place. Dust and particulate matter must not exceed the following levels when measured at any nuisance sensitive or commercial place:</p> <ul style="list-style-type: none"> a) dust deposition of 120 milligrams per square metre per day, when monitored in accordance with <i>Australian Standard AS 3580.10.1 of 2003</i> (or more recent editions); and b) a concentration of particulate matter with an aerodynamic diameter of less than 10 micrometre (µm) (PM10) suspended in the atmosphere of 50 micrograms per cubic metre over a 24 hour averaging time, at a nuisance sensitive or commercial place downwind of the site, cannot be exceeded more than five (5) times per year, when monitored in accordance with: <ul style="list-style-type: none"> i) Australian Standard AS 3580.9.6 of 2003 (or more recent editions) Ambient air - Particulate matter - Determination of suspended particulate PM10 high-volume sampler with size-selective inlet -Gravimetric method; or ii) any alternative method of monitoring PM10 which may be permitted by the <i>Air Quality Sampling Manual</i> as published from time to time by the administering authority. iii) any alternative method of monitoring PM10 as set out in the relevant Australian Standard including AS/NZ 3580.9.9:2006 Methods for sampling and analysis of ambient air – Determination of suspended particulate matter – PM10 low volume sampler – Gravimetric method; AS/NZS 3580.9.6:2003 Methods for sampling and analysis of ambient air – Determination of particulate matter – PM10 high volume sampler with size-selected inlet – Gravimetric method; AS/NZS 3580.9.7:2009 Methods for sampling and analysis of ambient air – Determination of suspended particulate matter – Dichotomous sampler (PM10, coarse PM and PM2.5) – Gravimetric method; AS/NZS 3580.9.8:2008 Methods for sampling and analysis of ambient air – Method 9.8: Determination of suspended particulate matter – PM10 continuous direct mass method using a tapered element oscillating microbalance analyser, AS/NZS 3580.9.11:2008 Methods for sampling and analysis of ambient air – Method 9.11 Determination of suspended particulate matter – PM10 beta attenuation monitors (or more recent editions).

B3	<p>If monitoring indicates exceedance of the relevant limits in Condition B2, then the environmental authority holder must:</p> <ul style="list-style-type: none"> a) address the complaint including the use of appropriate dispute resolution if required; and b) immediately implement dust abatement measures so that emissions of dust from the activity do not result in further environmental nuisance.
B4	The release of noxious or offensive odour(s) or any other noxious or offensive airborne contaminant(s) resulting from the mining activity must not cause an environmental nuisance at any nuisance sensitive or commercial place.
B5	When requested by the administering authority, odour monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within fourteen (14) days to the administering authority following completion of monitoring.
B6	<p>If the administering authority determines the odour released to constitute an environmental nuisance, then the environmental authority holder must:</p> <ul style="list-style-type: none"> a) address the complaint including the use of appropriate dispute resolution if required; and b) immediately implement odour abatement measures so that emissions of odour from the activity do not result in further environmental nuisance.

Agency interest: Water	
Condition number	Condition
C1	<p>Contaminant Release</p> <p>Contaminants that will, or have the potential to cause environmental harm must not be released directly or indirectly to any waters as a result of the authorised mining activities, except as permitted under the conditions of this environmental authority.</p>
C2	Unless otherwise permitted under the conditions of this environmental authority, the release of mine affected water to waters must only occur from the release points specified in Table C1 and depicted in Appendix 1 attached to this environmental authority.
C3	The release of mine affected water to internal water management infrastructure that is installed and operated in accordance with a water management plan that complies with Condition C30 is permitted.
C4	The release of mine affected water to waters in accordance with Condition C2 must not exceed the release limits stated in Table C2 when measured at the monitoring points specified in Table C1 for each quality characteristic.

Table C1 (Mine affected water release points, sources and receiving waters)

Release Point (RP)	Easting (GDA94)	Northing (GDA94)	Mine Affected Water Source and Location	Monitoring Point	Receiving waters description
RP 1	653753	7401398	Ramp 24 Fill Point Dam, Ramp ¾ Drain, A, B, C, D, E, F and Y Pits	End of pipe	Nogoa River
RP2	654270	7412235	Y pit	End of pipe	Boggy creek

Table C2 (Mine Affected Water Release Limits)

Quality Characteristics	Release Limits	Monitoring Frequency
Electrical conductivity (uS/cm)	10,000 µS/cm (end of pipe)	Real time telemetry for EC and pH with grab samples at commencement and weekly thereafter when safe to do so and access permits. Daily grab samples if telemetry not available. The first sample must be taken as soon as practicable following commencement of release.
pH (pH Unit)	6.5 (minimum) 9.0 (maximum)	
Sulphate (SO ₄ ²⁻)	1,000mg/L	Commencement of release and thereafter weekly during release.
Turbidity (NTU)	360	Daily during release (the first sample must be taken within 2 hours of commencement of release).

C5	<p>The release of mine affected water to waters from the release points must be monitored at the locations specified in Table C1 for each quality characteristics and at the frequency specified in Table C2 and Table C3.</p> <p><i>NOTE: the administering authority will take into consideration any extenuating circumstances prior to determining an appropriate enforcement response in the event Condition C5 is contravened due to a temporary lack of safe or practical access. The administering authority expects the environmental authority holder to take all reasonable and practicable measures to maintain safe and practical access to designated monitoring locations.</i></p>
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Table C3 (Release contaminant trigger investigation levels)

Quality Characteristic	Trigger Levels* (µg/L)	Monitoring Frequency
Aluminium	300	Commencement of release and thereafter weekly during release.
Ammonia	900	
Arsenic	13	
Boron	370	
Cadmium	0.2	
Chromium	1.0	
Cobalt	90	
Copper	10	
Fluoride (total)	2000	
Iron	300	
Lead	4	
Manganese	1900	
Mercury	0.2	
Molybdenum	34	
Nickel	11	
Nitrate	1100	
Selenium	10	
Silver	1	
Sodium	TBA	
Petroleum hydrocarbons (C6-C9)	20	
Petroleum hydrocarbons (C10-C36)	100	
Uranium	20	
Vanadium	20	
Zinc	20	

NOTE:

1. All metals and metalloids must be measured as total (unfiltered) and dissolved (filtered). Trigger levels for metal/metalloids apply if dissolved results exceed trigger.
2. The quality characteristics required to be monitored as per **Table C3** can be reviewed once the results of two years monitoring data is available, or if sufficient data is available to adequately demonstrate negligible environmental risk, and it may be determined that a reduced monitoring frequency is appropriate or that certain quality characteristics can be removed from **Table C3** by amendment.
3. SMD – slightly moderately disturbed level of protection, guideline refers ANZECC & ARMICANZ (200).
4. LOR – typical reporting for method stated. ICPMS/CV FIMS – analytical method required to achieve LOR.

C6	<p>If quality characteristics of the release exceed any of the trigger levels specified in Table C3 during a release event, the environmental authority holder must compare the downstream monitoring point (MP5) to the trigger values specified in Table C3 and:</p> <ul style="list-style-type: none"> a) where the trigger values are not exceeded then no action is to be taken; or b) where the downstream monitoring points outlined in Table C6 exceed the trigger values specified Table C3 for any quality characteristic, compare the results of the downstream site to the data from background monitoring sites and; <ul style="list-style-type: none"> i) if the result is less than or equal to the background monitoring site data, then no action is to be taken; or ii) if the result is greater than the background monitoring site data, complete an investigation into the potential for environmental harm and provide a written report to the administering authority within 90 days, outlining: <ul style="list-style-type: none"> 1) details of the investigations carried out; and 2) actions taken to prevent environmental harm. <p><i>NOTE: Where an exceedance of a trigger level has occurred and is being investigated, in accordance with Condition C6 b) ii of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.</i></p>
C7	If an exceedance in accordance with Condition C6 b) ii is identified, the holder of the authority must notify the administering authority in writing within 24 hours of receiving the result.
C8	<p>Mine Affected Water Release Events</p> <p>The environmental authority holder must ensure a stream flow gauging station/s is installed, operated and maintained to determine and record stream flows at the locations and flow recording frequency specified in Table C4.</p>
C9	Notwithstanding any other condition of this environmental authority, the release of mine affected water to waters in accordance with Condition C2 must only take place during periods of natural flow events in accordance with the receiving water flow criteria for discharge specified in Table C4 for the release point(s) specified in Table C1 .
C10	The holder is prohibited from releasing mine affected water into releases made from Fairbairn Dam for entitlement holders or environmental flows in accordance with the <i>Water Act 2000</i> , <i>Water Regulation 2002</i> , <i>Water Resource (Fitzroy Basin) Plan 2011</i> or <i>Fitzroy Basin Resource Operations Plan</i> .
C11	The daily quantity of mine affected water released from each release point must be measured and recorded at the monitoring points in Table C1 .
C12	Releases to waters must be undertaken so as not to cause erosion of the bed and banks of the receiving waters, or cause a material build-up of sediment in such waters.

Table C4 (Contaminant Release during Flow Events)

Receiving waters	Release point (RP)	Gauging Station	Gauging Station Easting	Gauging Station Northing	Receiving water flow recording frequency	Receiving water flow criteria for discharge (m ³ /s)	Electrical conductivity and sulphate release limits (µS/cm)
Nogoa River	RP1	"GS2" DNRM Gauging Station 130219A Nogoa River at Duck Ponds.	650392	7402391	Continuous real time	Medium Flow 10m ³ /sec	Electrical conductivity (µS/cm): 10,000 Sulphate (SO ₄ ²⁻): 1,000mg/L
						Low Flow For a period of 28 days after natural flow events that exceed 10m ³ /sec	Electrical conductivity (µS/cm): <650 Sulphate (SO ₄ ²⁻): <250 mg/L
Boggy Creek	RP2	"GS3" Ramp 8 crossing of Boggy Creek at Yongala.	654855	7412729	Continuous real time	Medium Flow 2m ³ /sec	Electrical conductivity (µS/cm): 10,000 Sulphate (SO ₄ ²⁻): 1,000mg/L
						Low Flow <1.0m ³ /sec for a period of 28 days after natural flow events that exceed 2m ³ /sec	Electrical conductivity (µS/cm): <650 Sulphate (SO ₄ ²⁻): <250 mg/L

C13	<p>The 80th percentile of electrical conductivity (EC) values recorded at the downstream monitoring point (MP5) must not exceed 1,200µS/cm at any time during the release influence period and have a maximum value of no greater than 1,440µS/cm. The 80th percentile must be calculated using all EC values recorded by the monitoring station during the release influence period.</p> <p><i>NOTE: The release influence period is the period during which the downstream monitoring points are influenced by mine affected water released from Ensham Coal Mine and includes both the duration of release and any lag time between release point/s and downstream monitoring points.</i></p>
C14	<p>If electrical conductivity recorded at MP6 exceeds 650µS/cm during a release event, the environmental authority holder must immediately notify the administering authority and seek written approval to continue releasing mine affected water.</p>
C15	<p>Notification of Release Event</p> <p>The environmental authority holder must notify the administering authority as soon as practicable and no later than twenty-four (24) hours after commencing to release mine affected water to the receiving environment. Notification must include the submission of written advice to the administering authority of the following information:</p> <ul style="list-style-type: none"> a) release commencement date/time; b) details regarding the compliance of the release with the conditions of Department Interest: Water of the environmental authority (that is, contaminant limits, natural flow, discharge volume); c) release point/s; d) release rate; e) release salinity; and f) receiving water/s including the natural flow rate. <p><i>NOTE: Notification to the administering authority must be addressed through a notification to the WaTERS Unit.</i></p>

C16	<p>The environmental authority holder must notify the administering authority as soon as practicable and nominally no later than twenty-four (24) hours after cessation of a release event of the cessation of a release notified under Condition C15 and within 28 days provide the following information in writing:</p> <ul style="list-style-type: none"> a) release cessation date/time; b) natural flow volume in receiving water; c) volume of water released; d) details regarding the compliance of the release with the conditions of Department Interest: Water of this environmental authority (i.e. contamination limits, natural flow, discharge volume); e) all in-situ water quality monitoring results; and f) any other matters pertinent to the water release event. <p><i>NOTE: Successive or intermittent releases occurring within twenty-four (24) hours of the cessation of any individual release can be considered part of a single release event and do not require individual notification for the purpose of compliance with Conditions C15 and C16, provided the relevant details of the release are included within the notification provided in accordance with Conditions C15 and C16.</i></p>
C17	<p>Notification of Release Event Exceedance</p> <p>If the release limits defined in Table C2 are exceeded, the holder of the environmental authority must notify the administering authority within twenty-four (24) hours of receiving the results.</p>
C18	<p>The environmental authority holder must, within twenty-eight (28) days of a release that is not compliant with the conditions of this environmental authority, provide a report to the administering authority detailing:</p> <ul style="list-style-type: none"> a) the reason for the release; b) the location of the release; c) the total volume of the release and which (if any) part of this volume was non-compliant; d) the total duration of the release and which (if any) part of this period was non-compliant; e) all water quality monitoring results (including all laboratory analyses); f) identification of any environmental harm as a result of the non-compliance; g) all calculations; and h) any other matters pertinent to the water release event.

C19	<p>Release notification – potentially affected stakeholder</p> <p>The environmental authority holder must notify all potentially affected stakeholders on commencement (within 2 hours or another time frame as agreed to in writing with the relevant potentially affected stakeholder) of releasing mine affected water to the receiving environment. Notification must be in the form agreed to by the potentially affected stakeholder. Notification must include the following information unless otherwise agreed to by the potentially affected stakeholder:</p> <ul style="list-style-type: none"> a) release commencement date/time; b) release location (release point/s); c) release rate; d) receiving waters for the release; e) receiving water flow rate f) water quality of the release including salinity and pH; and g) estimated duration of the release.
C20	<p>Receiving Environment Monitoring and Contaminant Trigger Levels</p> <p>The quality of the receiving waters must be monitored at the locations specified in Table C6 for each quality characteristic and at the monitoring frequency stated in Table C5.</p>
C21	<p>If quality characteristics of the receiving water at the downstream monitoring points exceed any of the trigger levels for pH, suspended solids or sulphate specified in Table C5 during a release event the environmental authority holder must compare the downstream results to the upstream results in the receiving waters and:</p> <ul style="list-style-type: none"> a) where the downstream result is the same or a lower value than the upstream value for the quality characteristic then no action is to be taken; or b) where the downstream results exceed the upstream results complete an investigation into the potential for environmental harm and provide a written report to the administering authority in the next annual return, outlining: <ul style="list-style-type: none"> i) details of the investigations carried out; and ii) actions taken to prevent environmental harm. <p><i>NOTE: Where an exceedance of a trigger level has occurred and is being investigated, in accordance with Condition C21(b) of this condition, no further reporting is required for subsequent trigger events for that quality characteristic.</i></p>

Table C5 (Receiving waters contaminant trigger levels)

Quality Characteristic	Contaminant Trigger Levels	Monitoring Frequency	Comments
Electrical Conductivity ($\mu\text{S/cm}$)	Cease Release 1,440 $\mu\text{S/cm}$ (MP5) 1,200 $\mu\text{S/cm}$ (80 th ile) (MP5) Approval Trigger 650 $\mu\text{S/cm}$ (MP6)	Real time telemetry. Daily grab samples if telemetry not available (the first sample must be taken as soon as practicable).	Grab samples shall be taken only when safe to do so and access permits. Refer to Condition C14 .
pH	6.5 – 9.0		
Suspended Solids (mg/L)	1,000	Grab samples at commencement and weekly thereafter.	Grab samples shall be taken only when safe to do so and access permits.
Sulphate (SO_4^{2-}) (mg/L)	250		

NOTE: All metals and metalloids must be measured as total (unfiltered) and dissolved (filtered). Trigger levels for metal/metalloids apply if dissolved results exceed trigger.

* Quality characteristics required to be monitored as stated. Trigger level to be reviewed once the results of appropriate monitoring data is available.

Table C6 (Receiving water upstream background sites and downstream monitoring points)

Monitoring Points	Receiving Waters Location Description	Easting (GDA94)	Northing (GDA94)
<i>Upstream background monitoring point</i>			
MP2	Nogoa River at Duckponds (130219A)	650392.4	7402391.3
MP4	Boggy Creek – Ramp 8 crossing of Boggy Creek at Yongala	654855	7412729
<i>Downstream monitoring points</i>			
MP5	Nogoa River at Ensham Lease Boundary	654688	7400679
MP6	Mackenzie River at Riley's Crossing (130113A)	663861	7395396

C22	<p>Receiving Environment Monitoring Program (REMP)</p> <p>The environmental authority holder must maintain and implement a Receiving Environment Monitoring Program (REMP) to monitor, identify and describe any adverse impacts to surface water environmental values, quality and flows due to the authorised mining activity. This must include monitoring the effects of the mine on the receiving environment periodically (under natural flow conditions) and while mine affected water is being discharged from the site.</p> <p>For the purposes of the REMP, the receiving environment is the waters of the Nogoa River, downstream of Ensham Coal Mine to Riley's Crossing of the Mackenzie River and downstream of the Comet River junction. The REMP should encompass any sensitive receiving waters or environmental values downstream of the authorised mining activity that will potentially be directly affected by an authorised release of mine affected water.</p>
C23	<p>The REMP must:</p> <ul style="list-style-type: none"> a) assess the condition or state of receiving waters, including upstream conditions, spatially within the REMP area, considering background water quality characteristics based on accurate and reliable monitoring data that takes into consideration temporal variation (e.g. seasonality); b) be designed to facilitate assessment against water quality objectives for the relevant environmental values that need to be protected; c) include monitoring from background reference sites (e.g. upstream or background) and downstream sites from the release (as a minimum, the locations specified in Table C6); d) specify the frequency and timing of sampling required in order to reliably assess ambient conditions and to provide sufficient data to derive site specific background reference values in accordance with the <i>Queensland Water Quality Guidelines 2006</i>. This should include monitoring during periods of natural flow irrespective of mine or other discharges; e) include monitoring and assessment of dissolved oxygen saturation, temperature and all water quality parameters listed in Table C2 and C3; f) include, where appropriate, monitoring of metals/metalloids in sediments (in accordance with ANZECC & ARMCANZ 2000, BATLEY and/or the most recent version of <i>AS5667.1 Guidance on Sampling of Bottom Sediments</i>); g) include, where appropriate, monitoring of macroinvertebrates in accordance with the AusRivas methodology, h) apply procedures and/or guidelines from ANZECC & ARMCANZ 2000 and other relevant guideline documents; i) describe sampling and analysis methods and quality assurance and control; and j) incorporate stream flow and hydrological information in the interpretations of water quality and biological data.

C24	A report outlining the findings of the REMP, including all monitoring results and interpretations in accordance with Conditions C22 and C23 must be prepared annually and made available on request to the administering authority. This must include an assessment of background reference water quality, the condition of downstream water quality compared against water quality objectives, and the suitability of current discharge limits to protect downstream environmental values.
C25	<p>Water reuse</p> <p>Mine affected water may be piped or trucked or transferred by some other means that does not contravene the conditions of this environmental authority and deposited into artificial water storage structures, such as farm dams or tanks, or used directly at properties owned by the environmental authority holder or a third party (with the consent of the third party).</p>
C26	All determinations of water quality and biological monitoring must be performed by an appropriately qualified person.
C27	<p>The release of any contaminants as permitted by this environmental authority, directly or indirectly to waters, other than internal water management infrastructure that is installed and operated in accordance with a water management plan that complies with Condition C30:</p> <ul style="list-style-type: none"> a) must not produce any visible discolouration of receiving waters; and b) must not produce any slick or other visible or odorous evidence of oil, grease or petrochemicals nor contain visible floating oil, grease, scum, litter or other objectionable matter.
C28	<p>Annual water monitoring reporting</p> <p>The following information must be recorded in relation to all water monitoring required under the conditions of this environmental authority and submitted to the administering authority in the specified format with each annual return:</p> <ul style="list-style-type: none"> a) the date on which the sample was taken; b) the time at which the sample was taken; c) the monitoring point at which the sample was taken; d) the measured or estimated daily quantity of the contaminants released from all release points; e) the release flow rate at the time of sampling for each release point; f) the results of all monitoring and details of any exceedances with the conditions of this environmental authority; and g) water quality monitoring data must be provided to the administering authority in the specified electronic format upon request.
C29	<p>Activities within watercourses</p> <p>Destroying native vegetation, excavating, or placing fill in a watercourse, lake or spring necessary for and associated with mining operations must be undertaken in accordance with the administering authority's <i>Guideline - Activities in a Watercourse, Lake or Spring associated with Mining Activities</i>.</p>

C30	<p>Water Management Plan</p> <p>A Water Management Plan must be developed by an appropriately qualified person and implemented.</p>
C31	<p>Saline drainage</p> <p>The holder of this environmental authority must ensure proper and effective measures are taken to avoid or otherwise minimise the generation and/or release of saline drainage.</p>
C32	<p>Acid rock drainage</p> <p>The holder of this environmental authority must ensure proper and effective measures are taken to avoid or otherwise minimise the generation and/or release of acid rock drainage.</p>
C33	<p>Stormwater and water sediment controls</p> <p>An Erosion and Sediment Control Plan must be developed by an appropriately qualified person and implemented for all stages of the mining activities on the site to minimise erosion and the release of sediment to receiving waters and contamination of stormwater.</p>
C34	<p>Stormwater, other than mine affected water, is permitted to be released to waters from:</p> <ul style="list-style-type: none"> a) erosion and sediment control structures that are installed and operated in accordance with the Erosion and Sediment Control Plan required by Condition C33; and b) water management infrastructure that is installed and operated, in accordance with a Water Management Plan that complies with Condition C30, for the purpose of ensuring water does not become mine affected water.
C35	<p>The maintenance and cleaning of any vehicles, plant or equipment must not be carried out in areas from which contaminants can be released into any receiving waters.</p>
C36	<p>Any spillage of wastes, contaminants or other materials must be cleaned up as quickly as practicable to minimise the release of wastes, contaminants or materials to any stormwater drainage system or receiving waters.</p>
C37	<p>Sewage effluent</p> <p>Sewage effluent used for dust suppression or irrigation must not exceed sewage release limits defined in Table C7.</p>
C38	<p>Groundwater</p> <p>Groundwater affected by mining activities must be monitored at the locations and frequencies and for the parameters defined in Table C8. The groundwater monitoring locations are shown in Appendix 2. If, based on assessment of the monitoring results by a suitably qualified person, the Ensham mine is demonstrated to have adversely affected the use of privately owned bores listed in Table C8, the holder of the environmental authority will provide an equivalent (in quality and quantity), alternative water supply to the owner of the bore/s for the impact caused by the Ensham mine. Monitoring of bores owned by private landholders is subject to the landholder providing access to the bore and ensuring that the bore is in a suitable condition such that it is able to be monitored.</p>

Table C7 (Sewage effluent quality standards)

Quality	Release limit	Units	Limit type	Monitoring frequency
5 Day BOD	20	mg/L	max	On release
pH	6 - 8		range	On release
Free Chlorine residuals	1.0	mg/L	max	On release
Faecal coliforms (based on the average of a minimum of 5 samples)	1,000	Colonies per 100ml	max	On release

C39	Subject to requirements of Condition C38 , if the groundwater investigation trigger levels defined in Table C9 are exceeded then the environmental authority holder must complete an investigation into the potential for environmental harm and notify the administering authority with twenty-eight (28) days of receiving the analysis results.
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Table C8 (Groundwater monitoring locations)

Location	Monitoring Point	Easting (GDA94)	Northing (GDA94)	Aquifer	Parameters	Frequency
Nogoa River Alluvium	EC01	650018	7403059	Alluvium	Water Level and Quality (as per Table C9)	Quarterly
	EC03	650338	7402547	Alluvium		
	EC07	650973	7401746	Alluvium		
	EC09A	651354	7401504	Alluvium		
	EC11	651517	7401192	Alluvium		
	EC13	651517	7400776	Alluvium		
	EC22	651693	7400494	Alluvium		
	GW01	653934	7400423	Alluvium		
Regional Bores (Private Property)	Karanga (Bore A)	649043	7388304	Unknown	Water Level and Quality (as per Table C9)	Quarterly
	Winton Creek (Bore 4)	642771	7400758	Unknown		
	Twin Bore (Bore 5)	641319	7401567	Unknown		
	Jamar Bore (Bore 7)	642025	7399084	Rewan Formation		
	Yongala (RN89383)	657586	7415693	Burngrove Formation		
	Fairhills (RN89380)	658696	7416877	Burngrove Formation		
	Railway (RN90140)	663591	7412470	Undiff Coal Measures		
	Conmurra (RN103788)	657954	7390072	Fair Hill Formation		

Regional Bores (Ensham Mine)	RB01	650018	7412835	Rewan, Rangal	Water Level and Quality (as per Table C9)	Quarterly once installed
	RB02	647787	7410365	Rewan, Rangal		
	RB03	645503	7402324	Rewan, Rangal		
	RB04	642784	7398932	Rewan		
	RB05	646209	7395311	Rangal – overburden, coal		
	RB06	648836	7392168	Rangal coal		

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Table C9 (Groundwater investigation trigger levels)

Parameter	Unit	Trigger Levels	Limit Type
pH	pH Units	mean $\pm$ 3s [#]	Minimum/Maximum
Electrical Conductivity	μ S/cm	mean $\pm$ 3s [#]	DERM (2010) ¹
Total Dissolved Solids	mg/L	mean + 3s [#]	DERM (2010) ¹
Calcium	mg/L	mean + 3s [#]	DERM (2010) ¹
Magnesium	mg/L	mean + 3s [#]	DERM (2010) ¹
Sodium	mg/L	mean + 3s [#]	DERM (2010) ¹
Potassium	mg/L	mean + 3s [#]	DERM (2010) ¹
Chloride	mg/L	mean + 3s [#]	DERM (2010) ¹
SO ₄	mg/L	mean + 3s [#]	DERM (2010) ¹
CO ₃	mg/L	mean + 3s [#]	DERM (2010) ¹
HCO ₃	mg/L	mean + 3s [#]	DERM (2010) ¹
Iron	mg/L	mean + 3s [#]	DERM (2010) ¹
Aluminium	mg/L	5	ANZECC (2000) Livestock Drinking Water Level
Silver	mg/L	0.002	Based on available dataset upper limit
Arsenic	mg/L	0.5	ANZECC (2000) Livestock Drinking Water Level
Mercury	mg/L	0.002	ANZECC (2000) Livestock Drinking Water Level
Antimony	mg/L	0.005	Based on available dataset upper limit
Molybdenum	mg/L	0.15	ANZECC (2000) Livestock Drinking Water Level
Selenium	mg/L	0.1	Based on available dataset upper limit
Total Petroleum Hydrocarbons C6-C9 (silica gel)*	μ g/L	$\leq$ 20 (LOR)	Laboratory limit of reporting (LOR)
Total Petroleum Hydrocarbons C10-C14 (silica gel)*	μ g/L	$\leq$ 50 (LOR)	Laboratory limit of reporting (LOR)
Total Petroleum Hydrocarbons C15-C28 (silica gel)*	μ g/L	$\leq$ 100 (LOR)	Laboratory limit of reporting (LOR)
Total Petroleum Hydrocarbons C29-C36 (silica gel)*	μ g/L	$\leq$ 50 (LOR)	Laboratory limit of reporting (LOR)

NOTE: All metals and metalloids must be measured as total (unfiltered) and dissolved (filtered). Trigger levels for metal/metalloids apply if dissolved results exceed trigger.

* TPH analysis with silica gel clean-up. If monitoring requirements change to TRH according to the National Environment Protection Measures (NEPM) the trigger levels should remain unchanged.

* Specific limits for individual monitoring points apply. Trigger levels applied to individual bores at the time of submission of the Background Groundwater Monitoring Program are included in **Appendix 3** with recognition that as the volume of groundwater data increases, these limits will be modified when applied to ongoing sampling results.

¹ DERM (2010) "Guideline – Recording Interpretation and Analysis of Monitoring Results, ERA 60 – Waste Disposal". Trigger levels to be recalculated annually and applied, based on ongoing water quality monitoring data

C40	Subject to requirements of Condition C38 , groundwater levels and groundwater drawdown fluctuations, not resulting from the pumping of licensed bores, must be notified within twenty-eight (28) days to the administering authority following completion of monitoring.
C41	<p>Background groundwater monitoring program</p> <p>A background groundwater monitoring program must be maintained and implemented to include bore(s) that are located an appropriate distance from potential sources of impact from mining activities to provide the following:</p> <ul style="list-style-type: none"> a) representative groundwater samples from the aquifers potentially affected by mining activities; b) routine sampling to determine background groundwater data as far as practicable; and c) background groundwater data in hydraulically isolated background bore(s) that have not been affected by any mining activities.
C42	The groundwater monitoring data must be reviewed on an annual basis. The review must include the assessment of groundwater levels and quality data and the suitability of the monitoring network. The assessment must be submitted to the administering authority within twenty-eight (28) days of receiving the report.
C43	<p>The following information must be recorded in relation to all groundwater water sampling:</p> <ul style="list-style-type: none"> a) the date on which the sample was taken; b) the time at which the sample was taken; c) the monitoring point at which the sample was taken; and d) the results of all monitoring.

Agency interest: Dams and Levees	
Condition number	Condition
D1	<p>Assessment of consequence category</p> <p>The consequence category of any structure must be assessed by a suitably qualified and experienced person in accordance with the <i>Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)</i> at the following times:</p> <ul style="list-style-type: none"> a) prior to the design and construction of the structure, if it is not an existing structure; or b) prior to any change in its purpose or the nature of its stored contents.
D2	A consequence assessment report and certification must be prepared for each structure assessed and the report may include a consequence assessment for more than one structure.
D3	Certification must be provided by the suitably qualified and experienced person who undertook the assessment, in the form set out in the <i>Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)</i> .
D4	<p>Design and construction¹ of a regulated structure</p> <p>Conditions D5 to D9 inclusive do not apply to existing structures.</p>
D5	All regulated structures must be designed by, and constructed ² under the supervision of, a suitably qualified and experienced person in accordance with the requirements of the <i>Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)</i> .
D6	Construction of a regulated structure is prohibited unless the holder has submitted a consequence category assessment report and certification to the administering authority has been certified by a suitably qualified and experienced person for the design and design plan and the associated operating procedures in compliance with the relevant condition of this authority.
D7	Certification must be provided by the suitably qualified and experienced person who oversees the preparation of the design plan in the form set out in the <i>Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)</i> , and must be recorded in the Regulated Dams/Levees register.

¹ Construction of a dam includes modification of an existing dam – refer to the definitions.

² Certification of design and construction may be undertaken by different persons.

D8	<p>Regulated structures must:</p> <ul style="list-style-type: none"> a) be designed and constructed in accordance with and conform to the requirements of the <i>Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)</i>; b) be designed and constructed with due consideration given to ensuring that the design integrity would not be compromised on account of: <ul style="list-style-type: none"> i) floodwaters from entering the regulated dam from any watercourse or drainage line; and ii) wall failure due to erosion by floodwaters arising from any watercourse or drainage line. c) have the floor and sides of the dam designed and constructed to prevent or minimise the passage of the wetting front and any entrained contaminants through either the floor or sides of the dam during the operational life of the dam and for any period of decommissioning and rehabilitation of the dam.
D9	<p>Certification by the suitably qualified and experienced person who supervises the construction must be submitted to the administering authority on the completion of construction of the regulated structure, and state that:</p> <ul style="list-style-type: none"> a) the 'as constructed' drawings and specifications meet the original intent of the design plan for that regulated structure; b) construction of the regulated structure is in accordance with the design plan.
D10	<p>Operation of a regulated structure</p> <p>Operation of a regulated structure, except for an existing structure, is prohibited unless:</p> <ul style="list-style-type: none"> a) the holder has submitted to the administering authority: <ul style="list-style-type: none"> i) one paper copy and one electronic copy of the design plan and certification of the 'design plan' in accordance with Condition D6, and ii) a set of 'as constructed' drawings and specifications, and iii) certification of those 'as constructed drawings and specifications' in accordance with Condition D9, and iv) where the regulated structure is to be managed as part of an integrated containment system for the purpose of sharing the DSA volume across the system, a copy of the certified system design plan. v) the requirements of this authority relating to the construction of the regulated structure have been met; vi) the holder has entered the details required under this authority, into a Register of regulated structures; and vii) there is a current operational plan for the regulated structures.

D11	<p>For existing structures that are regulated structures:</p> <p>a) where the existing structure that is a regulated structure is to be managed as part of an integrated containment system for the purpose of sharing the DSA volume across the system, the holder must submit to the administering authority within 12 months of the commencement of this condition a copy of the certified system design plan including that structure; and</p> <p>b) there must be a current operational plan for the existing structures.</p>
D12	Each regulated structure must be maintained and operated, for the duration of its operational life until decommissioned and rehabilitated, in a manner that is consistent with the current operational plan and, if applicable, the current design plan and associated certified 'as constructed' drawings.
D13	<p>Mandatory reporting level</p> <p>Conditions D14 to D17 inclusive only apply to Regulated Structures which have not been certified as low consequence category for 'failure to contain – overtopping'.</p>
D14	The Mandatory Reporting Level (the MRL) must be marked on a regulated dam in such a way that during routine inspections of that dam, it is clearly observable.
D15	The holder must, as soon as practical and within forty-eight (48) hours of becoming aware, notify the administering authority when the level of the contents of a regulated dam reaches the MRL.
D16	The holder must, immediately on becoming aware that the MRL has been reached, act to prevent the occurrence of any unauthorised discharge from the regulated dam.
D17	The holder must record any changes to the MRL in the Register of Regulated Structures.
D18	<p>Design storage allowance</p> <p>The holder must assess the performance of each regulated dam or linked containment system over the preceding November to May period based on actual observations of the available storage in each regulated dam or linked containment system taken prior to 1 July of each year.</p>
D19	By 1 November of each year, storage capacity must be available in each regulated dam (or network of linked containment systems with a shared DSA volume), to meet the Design Storage Allowance (DSA) volume for the dam (or network of linked containment systems).
D20	The holder must, as soon as possible and within forty-eight (48) hours of becoming aware that the regulated dam (or network of linked containment systems) will not have the available storage to meet the DSA volume on 1 November of any year, notify the administering authority.
D21	The holder must, immediately on becoming aware that a regulated dam (or network of linked containment systems) will not have the available storage to meet the DSA volume on 1 November of any year, act to prevent the occurrence of any unauthorised discharge from the regulated dam or linked containment systems.

D22	<p>Annual inspection report</p> <p>Each regulated structure must be inspected each calendar year by a suitably qualified and experienced person.</p>
D23	<p>At each annual inspection, the condition and adequacy of all components of the regulated structure must be assessed and a suitably qualified and experienced person must prepare an annual inspection report containing details of the assessment and include recommended actions to ensure the integrity of the regulated structure.</p>
D24	<p>The suitably qualified and experienced person who prepared the annual inspection report must certify the report in accordance with the <i>Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)</i>.</p>
D25	<p>The holder must:</p> <ul style="list-style-type: none"> a) within 20 business days of receipt of the annual inspection report, provide to the administering authority: <ul style="list-style-type: none"> i) the recommendations section of the annual inspection report; and ii) if applicable, any actions being taken in response to those recommendations; and b) if, following receipt of the recommendations and (if applicable) actions, the administering authority requests a full copy of the annual inspection report from the holder, provide this to the administering authority within 10 business days³ of receipt of the request.
D26	<p>Transfer arrangements</p> <p>The holder must provide a copy of any reports, documentation and certifications prepared under this authority, including but not limited to any Register of Regulated Structures, consequence assessment, design plan and other supporting documentation, to a new holder on transfer of this authority.</p>
D27	<p>Register of regulated structures</p> <p>A Register of regulated structures must be established and maintained by the holder for each regulated dam.</p>
D28	<p>The holder must provisionally enter the required information in the Register of regulated structures when a design plan for a regulated dam is submitted to the administering authority.</p>
D29	<p>The holder must make a final entry of the required information in the Register of regulated structures once compliance with Conditions D10 and D11 has been achieved.</p>
D30	<p>The holder must ensure that the information contained in the Register of regulated structures is current and complete on any given day.</p>
D31	<p>All entries in the Register of regulated structures must be approved by the chief executive officer for the holder of this authority, or their delegate, as being accurate and correct.</p>

D32	The holder must, at the same time as providing the annual return, supply to the administering authority a copy of the records contained in the Register of regulated structures, in the electronic format required by the administering authority.
D33	<p>Transitional arrangements</p> <p>All existing structures that have not been assessed in accordance with either the Manual or the former <i>Manual for Assessing Hazard Categories and Hydraulic Performance of Dams</i> must be assessed and certified in accordance with the Manual within 6 months of amendment of the authority adopting this schedule.</p>
D34	All existing structures must subsequently comply with the timetable for any further assessments in accordance with the Manual specified in Table D9 , depending on the consequence category for each existing structure assessed in the most recent previous certification for that structure.
D35	<p>Table D9 ceases to apply for a structure once any of the following events has occurred:</p> <ul style="list-style-type: none"> a) it has been brought into compliance with the hydraulic performance criteria applicable to the structure under the Manual; or b) it has been decommissioned; or c) it has been certified as no longer being assessed as a regulated structure.
D36	Certification of the transitional assessment required by Conditions D33 and D34 (as applicable) must be provided to the administering authority within 6 months of amendment of the authority adopting this schedule.
D37	<p>Design requirements for the levee and adjacent mining excavation include:</p> <ul style="list-style-type: none"> a) the design level of the levee crest shall be at least one (1) metre above the estimated 1 in 1,000 ARI flood event for the adjacent watercourses; and b) mining excavation slopes adjacent to the levee must remain stable and are to be designed with a factor of safety of one point five (1.5) (calculated from the levee toe) or above based on an accepted stability analysis.
D38	<p>The flood protection levee authorised under this environmental authority must be constructed and maintained such that:</p> <ul style="list-style-type: none"> a) it does not result in increased erosion of the bank or bed of the Nogoa River; b) it does not significantly impact upon riparian or existing remnant vegetation; and c) the levee itself will not erode during any flood events up to the 1 in 1,000 ARI event.

³ Please note that for some model conditions, such as model conditions for dams associated with a resource activity – non mining activity, the notification requirements may be located in a separate part of the conditions of an environmental authority (e.g. under notification requirement conditions).

Table D9 (Transitional hydraulic performance requirements for existing structures)

Transition period required for existing structures to achieve the requirements of the <i>Manual for Assessing Consequence Categories and Hydraulic Performance of Dams</i>			
Compliance with criteria	High	Significant	Low
>90% and a history of good compliance performance in last 5 years	No transition required	No transition required	No transitional conditions apply. Review consequence assessment every 7 years .
>70%-≤90%	Within 7 years , unless otherwise agreed with the administering authority, based on no history of unauthorised releases.	Within 10 years , unless otherwise agreed with the administering authority, based on no history of unauthorised releases.	No transitional conditions apply. Review consequence assessment every 7 years .
>50-≤70%	Within 5 years unless otherwise agreed with the administering authority, based on no history of unauthorised releases.	Within 7 years unless otherwise agreed with the administering authority, based on no history of unauthorised releases.	Review consequence assessment every 7 years .
≤50%	Within 5 years or as per compliance requirements (e.g. TEP timing)	Within 5 years or as per compliance requirements (e.g. TEP timing)	Review consequence assessment every 5 years .

Agency interest: Noise	
Condition number	Condition
E1	<p>Noise nuisance</p> <p>Noise from activities must not cause an environmental nuisance at any sensitive receptor or commercial place.</p>
E2	<p>All noise from activities must not exceed the levels for the time periods specified in Table E10 at any sensitive receptor or commercial place.</p>
E3	<p>Noise monitoring</p> <p>When requested by the administering authority, noise monitoring must be undertaken to investigate any complaint of noise nuisance, and the results notified within fourteen (14) days to the administering authority. Monitoring must include:</p> <ul style="list-style-type: none"> a) LA 10, adj, 10 mins b) LA 1, adj, 10 mins c) the level and frequency of occurrence of impulsive or tonal noise; d) atmospheric conditions including wind speed and direction; e) effects due to extraneous factors such as traffic noise; and f) location date and time of recording.
E4	<p>Noise is not considered to be a nuisance under Condition E1 if monitoring shows that noise does not exceed the levels in the time periods specified in Table E10 (Noise limits).</p>
E5	<p>The method of measurement and reporting of noise monitoring must comply with the current edition of the administering authority's <i>Noise Measurement Manual</i>.</p>
E6	<p>If monitoring indicates exceedance of the relevant limits in Condition E4, then the environmental authority holder must:</p> <ul style="list-style-type: none"> a) address the complaint including the use of appropriate dispute resolution if required; and b) immediately implement noise abatement measures so that emissions of noise from the activity do not result in further environmental nuisance.
E7	<p>Vibration nuisance</p> <p>Vibration from the licensed activities must not cause an environmental nuisance at any sensitive or commercial place.</p>

E8	When requested by the administering authority, vibration monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within fourteen (14) days to the administering authority following completion of monitoring.
E9	<p>If the environmental authority holder can provide evidence through monitoring that the limits defined in Table E11 are not being exceeded then the environmental authority holder is not in breach of Condition E7. Monitoring must include:</p> <ul style="list-style-type: none"> a) location of the blast(s) within the mining area (including which bench level); and b) atmospheric conditions including temperature, relative humidity and wind speed and direction; and c) location, date and time of recording.
E10	<p>If monitoring indicates exceedance of the relevant limits in Table E11 (Vibration limits), then the environmental authority holder must:</p> <ul style="list-style-type: none"> a) address the complaint including the use of appropriate dispute resolution if required; and b) immediately implement vibration abatement measures so that vibration from the activity does not result in further environmental nuisance.
E11	<p>Airblast overpressure nuisance</p> <p>The airblast overpressure level from blasting operations on the premises must not exceed the limits defined in Table E12 at any nuisance sensitive or commercial place.</p>

Table E10 (Noise limits)

Noise Level dB(A)	7am – 6pm	6pm – 10pm	10pm – 7am
<i>Noise measured at a 'Noise sensitive place'</i>			
LA 10, adj, 10 mins	B/g + 5	B/g + 5	B/g + 3
LA 1, adj, 10 mins	N/A	N/A	B/g + 8
<i>Noise measured at a 'Commercial place'</i>			
LA 10, adj, 10 mins	B/g + 10	B/g + 10	B/g + 5

Table E11 (Vibration limits)

Location	Vibration measured
Sensitive or commercial place	5 mm/s peak particle velocity for nine (9) out of ten (10) consecutive blasts and not greater than 10 mm/s peak particle velocity at any time

Table E12 (Airblast overpressure level)

Location	Airblast Overpressure Measured
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Sensitive or commercial place

Air blast overpressure level of **115 db** (Linear peak) for **nine (9) out of ten (10) consecutive blasts** initiated and not greater than **120 db** (Linear peak) at any time.

E12	When requested by the administering authority, airblast overpressure monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within fourteen (14) days to the administering authority following completion of monitoring.
E13	Airblast overpressure monitoring must include the following descriptors, characteristics and conditions: <ul style="list-style-type: none"> a) location of the blast(s) within the mining area (including which bench level); b) atmospheric conditions including temperature, relative humidity and wind speed and direction; and c) location, date and time of recording.
E14	If monitoring indicates exceedance of the relevant limits in Table E12 , then the environmental authority holder must: <ul style="list-style-type: none"> a) address the complaint including the use of appropriate dispute resolution if required; and b) immediately implement airblast overpressure abatement measures so that airblast overpressure from the activity does not result in further environmental nuisance.
E15	The method of measurement and reporting of airblast overpressure levels must comply with the current edition of the administering authority's <i>Noise Measurement Manual</i> .

Agency interest: Waste	
Condition number	Condition
F1	Storage of tyres Scrap tyres stored awaiting disposal or transport for take-back and recycling, or waste-to-energy options must be stored in stable stacks and at least 10m from any other scrap tyre storage area, or combustible or flammable material, including vegetation.
F2	All reasonable and practicable fire prevention measures must be implemented, including removal of grass and other materials within a 10m radius of the scrap tyre storage area.
F3	Disposing of scrap tyres resulting from the authorised activities in spoil emplacements is acceptable, provided tyres are placed as deep in the spoil as reasonably practicable. A record must be kept of the number and location for tyres disposed.
F4	Scrap tyres resulting from the mining activities disposed within the operational land must not impede saturated aquifers or compromise the stability of the consolidated landform.

F5	<p>Waste Management</p> <p>A Waste Management Plan, in accordance with the <i>Environmental Protection (Waste Management) Policy 2000</i>, must be implemented and must cover:</p> <ul style="list-style-type: none"> a) describe how Ensham mine recognise and apply the waste management hierarchy; b) identify characterisations of wastes generated from the project and general volume trends over the past five (5) years; c) a program for safe recycling or disposal of all wastes - reusing and recycling where possible; d) waste commitments with auditable targets to reduce, reuse and recycle; e) the waste management control strategies must consider: <ul style="list-style-type: none"> i) the type of wastes; ii) segregation of the wastes; iii) storage of the wastes; iv) transport of the wastes; v) monitoring and reporting matters concerning the waste; vi) emergency response planning; vii) disposal, reused and recycling options; f) identify the potential adverse and beneficial impacts of the wastes generated; g) detail the hazardous characteristics of the waste generated (if any); h) cover a disposal procedure for hazardous wastes ; i) outline the process to be implemented to allow for continuous improvement of the waste management systems; j) identify responsible staff (positions) for implementing, managing and reporting the Waste Management Plan; and k) cover a staff awareness and induction program that encourages re-use and recycling.
F6	Waste must not be burned or allowed to be burned on the licensed site unless by approval of the administering authority.
F7	A designated area must be set aside for the segregation of economically viable, recyclable solid and liquid waste.

F8	<p>Records must be kept for five (5) years, and must include the following information:</p> <ul style="list-style-type: none"> a) date of pickup of waste; b) description of waste; c) cross reference to relevant waste transport documentation; d) quantity of waste; e) origin of the waste; f) destination of the waste; and g) intended fate of the waste, for example, type of waste treatment, reprocessing or disposal. <p><i>NOTE: Records of documents maintained in compliance with a waste tracking system established under the Environmental Protection Act 1994 or any other law for regulated waste will be deemed to satisfy this condition.</i></p>
F9	<p>Records of trade and regulated wastes or material leaving the mining lease for recycling or disposal, including the final destination and method of treatment, must be in accordance with the <i>Environmental Protection (Waste Management) Policy 2000</i>.</p>
F10	<p>All regulated waste received at and removed from the site must be transported by a person who holds a current authority to transport such waste under the provisions of the <i>Environmental Protection Act 1994</i>.</p>
F11	<p>Except as otherwise provided by the conditions of this authority, all waste removed from the site must be taken to a facility that is lawfully allowed to accept such waste under the provisions of the <i>Environmental Protection Act 1994</i>.</p>

Agency interest: Land	
Condition number	Condition
G1	<p>Preventing contaminant release to land</p> <p>Contaminants must not be released to land in a manner which constitutes nuisance, material or serious environmental harm.</p>
G2	<p>Bord and pillar – factors of safety</p> <p>The holder of the environmental authority will determine relevant pillar and roadway dimensions to ensure that the following factors of safety are achieved:</p> <ul style="list-style-type: none"> a) 2.11 for bord and pillar workings beneath the Nogoia River anabranch; b) 2.11 for access roadways beneath the Nogoia River to connect the bord and pillar and longwall mining areas; and c) 1.6 for all other bord and pillar workings beneath the floodplain of the Nogoia River.
G3	<p>Operational management protocols must be put in place to ensure that minimum pillar and roadway dimensions calculated to achieve the factors of safety in Condition G2 are achieved during the life of the bord and pillar operation.</p>
G4	<p>Rehabilitation success criteria</p> <p>All surface areas significantly disturbed by mining activities must be rehabilitated to a safe, stable and non-polluting landform, with a self-sustaining vegetation cover in accordance with Appendix 4: Rehabilitation success criteria.</p> <p>Underground workings must be rehabilitated to be safe, stable and non-polluting.</p>
G5	<p>Appendix 4: Rehabilitation success criteria.</p> <p>The environmental authority holder must apply to amend the environmental authority to update Appendix 4: Rehabilitations Success Criteria for all domains excluding voids by 28 April 2017.</p>
G6	<p>The environmental authority holder must apply to amend the environmental authority to update Appendix 4: Rehabilitations Success Criteria for all domains including voids by 31 March 2019.</p>
G7	<p>Rehabilitation activities</p> <p>Rehabilitation must commence progressively in accordance with the Rehabilitation Management Plan required by Condition G11.</p>
G8	<p>In addition to Condition G7, rehabilitation activities must be completed as specified in Table G1: Rehabilitation schedule and as shown in Appendix 5: Location of rehabilitation, in accordance with Appendix 4: Rehabilitation success criteria.</p>

Table G1: Rehabilitation schedule

Time Frame	Location	Area	Activity
30 June 2017	Low wall spoil Pit B	At least 110 ha	Topsoil, rip and seed
30 June 2017	Low wall spoil Pit D, E	At least 50 ha	Reshape
19 December 2017	Low wall spoil Pit D, E	At least 50 ha	Reshape
19 December 2017	Low wall spoil Pit D, E	At least 100 ha	Topsoil, rip and seed
29 June 2018	Low wall spoil Pit D, E, F	At least 50 ha	Reshape
31 January 2019	Low wall spoil Pit D, E, F	At least 50 ha	Reshape
31 January 2019	Low wall spoil Pit D, E, F	At least 100 ha	Topsoil, rip and seed

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G9	Within 20 business days after each due date in Table G1: Rehabilitation schedule , the administering authority must receive notification on how rehabilitation has been undertaken in accordance with Condition G8 .
G10	A final report that describes and confirms that rehabilitation in accordance with Table G1: Rehabilitation schedule , has been undertaken, must be completed by a suitably qualified person and provided to the administering authority by 31 March 2019.
G11	<p>Rehabilitation Management Plan</p> <p>A Rehabilitation Management Plan for all mining domains must be developed by a suitably qualified person that includes the following:</p> <ul style="list-style-type: none"> a) a map existing of areas of rehabilitation including classification of stage (i.e. time since establishment) and quality; b) a strategy for progressive rehabilitation, including a progressive rehabilitation schedule; c) details of the design objectives for rehabilitation of each domain to achieve rehabilitation success criteria and the identified post mining land uses; d) specify the spoil characteristics, soil analysis and soil separation for use on rehabilitation; e) specify the topsoil requirements for the site and how topsoil will be managed for use in rehabilitation; f) details of any topsoil deficit and how any deficit will be managed for successful rehabilitation; g) details of rehabilitation methods to be applied to areas; h) details of landform design including end of mine design; i) details of how landform design will be consistent with surrounding topography; j) identification of planned native vegetation rehabilitation areas and corridors; k) identification of at least a minimum of three (3) reference sites for use in rehabilitation monitoring; l) description of rehabilitation indicators and how these will be monitored; m) description of management actions to address unsuccessful rehabilitation or redesign; n) description of end of mine landform design planning and post mining land uses across the mine; and o) include a triple bottom line assessment (or a comparative alternative assessment method) of the proposed final landform design criteria and alternatives.
G12	The Rehabilitation Management Plan required by Condition G11 must be submitted to the administering authority by 31 May 2017 for review and comment.
G13	Within 20 business days of receiving comments from the administering authority, the Rehabilitation Management Plan must be updated to address the comments and resubmitted to the administering authority for approval.
G14	Rehabilitation activities must comply with the Approved Rehabilitation Management Plan.

G15	<p>Residual voids</p> <p>Residual voids must not cause any serious environmental harm to land, surface waters or any recognised groundwater aquifer, other than the environmental harm constituted by the existence of the residual void itself and subject to any other condition within this environmental authority.</p>
G16	<p>Residual Void Project</p> <p>A Residual Void Project must be completed and submitted to the administering authority for review and comment by 31 March 2019, and must be comprised of the following at a minimum:</p> <ul style="list-style-type: none"> a) Terms of Reference; b) Residual Void Study; c) Progress Reports; and d) Rehabilitation success criteria for voids
G17	<p>The Terms of Reference for the Residual Void Project required by Condition G16 must be submitted to the administering authority by 15 March 2017 for review and comment.</p>
G18	<p>Within 20 business days of receiving comments from the administering authority, the Terms of Reference must be updated to address the comments and resubmitted to the administering authority for approval.</p> <p>Once approved, the Terms of Reference may only be amended with written agreement from the administering authority.</p>
G19	<p>The Residual Void Project must be carried out in accordance with the Approved Terms of Reference.</p>
G20	<p>The Residual Void Project required by Condition G16 must include, but not be limited to, the following:</p> <ul style="list-style-type: none"> a) options available for minimising final void area and volume; b) design objectives for rehabilitation of final voids; c) void hydrology, addressing the long-term water balance in the voids, connections to groundwater resources and water quality parameters in the long term; d) pit wall stability, considering the effects of long-term erosion and weathering of the pit wall and the effects of significant hydrological events; e) options available for minimising risk of flood interaction for all flood events up to and including the Probable Maximum Flood level; f) void capability to support native flora and fauna; and g) void rehabilitation success criteria and final void areas and volumes to meet the outcomes in Condition G4.

G21	<p>Progress reports must detail the status of the Residual Void Project in accordance with the approved Terms of Reference and must be provided to the administering authority on or before the following dates:</p> <ul style="list-style-type: none"> a) 31 July 2017; b) 31 January 2018; c) 31 July 2018; and d) 31 October 2018; or e) at any time upon request by the administering authority within 28 business days of receiving the request.
G22	The Residual Void Project must be submitted to the administering authority in accordance with the approved Terms of Reference for review and comment.
G23	Within 20 business of receiving comments from the administering authority, the Residual Void Project required by Condition G16 must be updated to address the comments and resubmitted to the administering authority for approval.
G24	Prior to 31 March 2019 the environmental authority holder must submit an Environmental Authority amendment application to populate Appendix 4: Rehabilitation Success Criteria with rehabilitation success criteria for voids and residual void areas and volumes.
G25	<p>Rehabilitation monitoring</p> <p>Rehabilitation monitoring in accordance with Condition G11 must be conducted by a suitably qualified person on a yearly basis and provided to the administering authority upon request.</p>
G26	An annual report that describes rehabilitation status against the requirements of Condition G4 must be developed by a suitably qualified person and provided to the administering authority upon request
G27	<p>Post Closure Management Plan</p> <p>A Post Closure Management Plan for the site must be prepared at least 18 months prior to the final coal processing on site and implemented for a nominal period of:</p> <ul style="list-style-type: none"> a) at least thirty (30) years following final coal processing on site; or b) a shorter period if the site is proven to be geotechnically and geochemically stable and it can be demonstrated to the satisfaction of the administering authority that no release of contaminants from the site will result in environmental harm.

G28	<p>The Post Closure Management Plan must include the following elements:</p> <p>a) operation and maintenance of:</p> <ul style="list-style-type: none">i) wastewater collection and reticulation systems;ii) wastewater treatment systems;iii) the groundwater monitoring network;iv) final cover systems; andv) vegetative cover. <p>b) monitoring of:</p> <ul style="list-style-type: none">i) surface water quality;ii) groundwater quality;iii) seepage rates;iv) erosion rates;v) the integrity and effectiveness of final cover systems; andvi) the health and resilience of native vegetation cover.
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G29	<p>Mine Waste</p> <p>A Mining Waste Management Plan together with the certification by an appropriately qualified person must be developed and implemented during the continuation of the environmental authority. The Mining Waste Management Plan must at a minimum include:</p> <ul style="list-style-type: none"> a) characterisation programs to ensure that all mining waste is progressively characterised during disposal for net acid producing potential, salinity and the following parameters: pH, Electrical Conductivity (EC), Acid Neutralising Capacity (ANC), Net Acid Generation (NAG) (reporting NAG capacity and NAG pH after oxidation), Total Sulphur (S), Chromium Reducible Sulphur (Scr), Boron (B) Cadmium (Cd), Iron (Fe), Aluminium (Al), Copper (Cu), Magnesium (Mg), Manganese (Mn), Calcium (Ca), Sodium (Na), Zinc (Zn) and Sulphate (SO₄); b) individual parameters in a) above can be removed following sufficient mine waste characterisation to demonstrate that certain individual parameters are not present in sufficient quantities to warrant further characterisation; c) characterisation programs to ensure that the physical properties of the mining waste is progressively characterised during disposal; d) the availability or leachability of metals from the mining waste; e) quantification of PAF from mining waste present; f) review impacts of the PAF mining waste on the rehabilitation; g) management actions for mining waste that has been identified as having a high availability or leachability of metals; h) management actions for mining waste that has been defined as PAF; i) identification of environmental impacts and potential environmental impacts; j) control measures for routine operations to minimise likelihood of environmental harm; k) contingency plans and emergency procedures for non-routine situations; and l) periodic review of environmental performance and continual improvement.
G30	<p>Storage and handling of flammable and combustible liquids</p> <p>All flammable and combustible liquids must be contained within an on-site containment system and controlled in a manner that prevents environmental harm and maintained in accordance with the current version of AS 1940 – <i>Storage and Handling of Flammable and Combustible Liquids</i>.</p>
G31	<p>Spillage of all flammable and combustible liquids must be controlled in a manner that prevents environmental harm.</p>
G32	<p>Storage and handling of chemicals</p> <p>All chemicals must be contained within an on-site containment system and controlled in a manner that prevents environmental harm and maintained in accordance with the current version of the relevant Australian Standard.</p>
G33	<p>Spillage of all chemicals must be controlled in a manner that prevents environmental harm.</p>

G34	<p>Infrastructure</p> <p>All infrastructure, constructed by or for the environmental authority holder during the licensed activities including water storage structures, must be removed from the site prior to surrender, except where agreed in writing by the post mining land owner / holder.</p> <p><i>NOTE: This is not applicable where the landowner / holder is also the environmental authority holder.</i></p>
G35	<p>Exploration</p> <p>Disturbance due to exploration activities in areas not authorised to be mined must be rehabilitated in accordance with provisions detailed in the <i>Code of Environmental Compliance for Exploration and Mineral Development Projects</i>.</p>

Agency interest: Community

Condition number	Condition
H1	<p>Complaint response</p> <p>All complaints received must be recorded including details of complainant, reasons for the complaint, investigations undertaken, conclusions formed and actions taken. This information must be made available for inspection by the administering authority on request.</p>
H2	<p>The holder of this environmental authority must record the following details for all complaints received and provide this information to the administering authority on request:</p> <ul style="list-style-type: none"> a) time, date, name and contact details of the complainant; b) reasons for the complaint; c) conclusions formed; and d) any actions taken

END OF CONDITIONS

Definitions

Key terms and/or phrases used in this document are defined in this section and **bolded** throughout this document. Applicants should note that where a term is not defined, the definition in the *Environmental Protection Act 1994*, its regulations or environmental protection policies must be used. If a word remains undefined it has its ordinary meaning.

“acceptance criteria” means the measures by which actions implemented are deemed to be complete. The acceptance criteria indicate the success of the decommissioning and rehabilitation outcomes or remediation of areas which have been significantly disturbed by the environmentally relevant activities. Acceptance criteria may include information regarding:

- a) stability of final land forms in terms of settlement, erosion, weathering, pondage and drainage;
- b) control of geochemical and contaminant transport processes;
- c) quality of runoff waters and potential impact on receiving environment;
- d) vegetation establishment, survival and succession;
- e) vegetation productivity, sustained growth and structure development;
- f) fauna colonisation and habitat development;
- g) ecosystem processes such as soil development and nutrient cycling, and the recolonisation of specific fauna groups such as collembola, mites and termites which are involved in these processes;
- h) microbiological studies including recolonisation by mycorrhizal fungi, microbial biomass and respiration;
- i) effects of various establishment treatments such as deep ripping, topsoil handling, seeding and fertiliser application on vegetation growth and development;
- j) resilience of vegetation to disease, insect attack, drought and fire; and
- k) vegetation water use and effects on ground water levels and catchment yields.

“accepted engineering standards” in relation to dams, means those standards of design, construction, operation and maintenance that are broadly accepted within the profession of engineering as being good practice for the purpose and application being considered. In the case of dams, the most relevant documents would be publications of the Australian National Committee on Large Dams (ANCOLD), guidelines published by Queensland government departments, and relevant Australian and New Zealand Standards.

“acid rock drainage” means any contaminated discharge emanating from a mining activity formed through a series of chemical and biological reactions, when geological strata is disturbed and exposed to oxygen and moisture as a result of mining activity.

“administering authority” means the Department of Environment and Heritage Protection or its successor.

“affected person” is someone whose drinking water can potentially be impacted as a result of discharges from a dam or their life can be put at risk due to dwellings or workplaces being in the path of a dam break flood.

“airblast overpressure” means energy transmitted from the blast site within the atmosphere in the form of pressure waves. The maximum excess pressure in this wave, above ambient pressure is the peak airblast overpressure measured in decibels linear (dB).

“ambient (or total) noise” at a place, means the level of noise at the place from all sources (near and far), measured as the Leq for an appropriate time interval.

“annual exceedence probability” or “AEP” means the probability that at least one event in excess of a particular magnitude will occur in any given year.

“annual inspection report” means an assessment prepared by a suitably qualified and experienced person containing details of the assessment against the most recent consequence assessment report and design plan (or system design plan):

- a) against recommendations contained in previous annual inspections reports;
- b) against recognised dam safety deficiency indicators;
- c) for changes in circumstances potentially leading to a change in consequence category;
- d) for conformance with the conditions of this authority;
- e) for conformance with the ‘as constructed’ drawings;
- f) for the adequacy of the available storage in each regulated dam, based on an actual observation or observations taken after 31 May each year but prior to 1 November of that year, of accumulated sediment, state of the containment barrier and the level of liquids in the **dam** (or network of linked containment systems);
- g) for evidence of conformance with the current operational plan.

“ANZECC” means the *Australian and New Zealand Guidelines for Fresh Marine Water Quality 2000*.

“authority” means environmental authority (mining activities) under the *Environmental Protection Act 1994*.

“appropriately qualified person” means a person who has professional qualifications, training, skills or experience relevant to the nominated subject matter and can give authoritative assessment, advice and analysis on performance relative to the subject matter using the relevant protocols, standards, methods or literature.

“assessed” or “assessment” by a suitably qualified and experienced person in relation to a hazard assessment of a dam, means that a statutory declaration has been made by that person and, when taken together with any attached or appended documents referenced in that declaration, all of the following aspects are addressed and are sufficient to allow an independent audit at any time:

- a) exactly what has been assessed and the precise nature of that assessment;
- b) the relevant legislative, regulatory and technical criteria on which the assessment has been based;
- c) the relevant data and facts on which the assessment has been based, the source of that material, and the efforts made to obtain all relevant data and facts; and
- d) the reasoning on which the assessment has been based using the relevant data and facts, and the relevant criteria.

“associated works” in relation to a dam, means:

- a) operations of any kind and all things constructed, erected or installed for that dam; and
- b) any land used for those operations.

“authority” means environmental authority (mining activities) under the *Environmental Protection Act 1994*.

“bed and banks” for a waters, river, creek, stream, lake, lagoon, pond, swamp, wetland or dam means land over which the water of the waters, lake, lagoon, pond, swamp, wetland or dam normally flows or that is normally covered by the water, whether permanently or intermittently; but does not include land adjoining or adjacent to the bed and banks that is from time to time covered by floodwater.

“beneficial use” in respect of dams means that the current or proposed owner of the land on which a dam stands, has found a use for that dam that is:

- a) of benefit to that owner in that it adds real value to their business or to the general community,
- b) in accordance with relevant provisions of the *Environmental Protection Act 1994*,
- c) sustainable by virtue of written undertakings given by that owner to maintain that dam, and
- d) the transfer and use have been approved or authorised under any relevant legislation.

“blasting” means the use of explosive materials to fracture-

- a) rock, coal and other minerals for later recovery; or
- b) structural components or other items to facilitate removal from a site or for reuse.

“certification” means assessment and approval must be undertaken by a suitably qualified and experienced person in relation to any assessment or documentation required by this Manual, including design plans, ‘as constructed’ drawings and specifications, construction, operation or an annual report regarding regulated structures, undertaken in accordance with the Board of Professional Engineers of Queensland Policy Certification by RPEQs (ID: 1.4 (2A)).

“certifying, certify or certified” have a corresponding meaning as ‘certification’.

“chemical” means –

- a) an agricultural chemical product or veterinary chemical product within the meaning of the *Agricultural and Veterinary Chemicals Code Act 1994* (Commonwealth); or
- b) a dangerous good under the dangerous goods code; or
- c) a lead hazardous substance within the meaning of the *Workplace Health and Safety Regulation 1997*; or
- d) a drug or poison in the *Standard for the Uniform Scheduling of Drugs and Poisons* prepared by the Australian Health Ministers’ Advisory Council and published by the Commonwealth; or
- e) any substance used as, or intended for use as –
 - i) a pesticide, insecticide, fungicide, herbicide, rodenticide, nematocide, miticide, fumigant or related product; or
 - ii) a surface active agent, including, for example, soap or related detergent; or
 - iii) a paint solvent, pigment, dye, printing ink, industrial polish, adhesive, sealant, food additive, bleach, sanitiser, disinfectant, or biocide; or
 - iv) a fertiliser for agricultural, horticultural or garden use; or
- f) a substance used for, or intended for use for –
 - i) mineral processing or treatment of metal, pulp and paper, textile, timber, water or wastewater; or
 - ii) manufacture of plastic or synthetic rubber.

“commercial place” means a work place used as an office or for business or commercial purposes, which is not part of the mining activity and does not include employees accommodation or public roads.

“competent person” means a person with the demonstrated skill and knowledge required to carry out the task to a standard necessary for the reliance upon collected data or protection of the environment.

“construction” or “constructed” in relation to a dam includes building a new dam and modifying or lifting an existing dam, but does not include investigations and testing necessary for purposes of preparing a design plan.

“consequence” in relation to a structure as defined, means the potential for environmental harm resulting from the collapse or failure of the structure to perform its primary purpose of containing, diverting or controlling flowable substances.

“consequence category” means a category, either low, significant or high, into which a dam is assessed as a result of the application of tables and other criteria in the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)*.

“contaminated” means the substance has come into contact with a contaminant.

“contaminant” A contaminant can be –

- a) a gas, liquid or solid; or
- b) an odour; or
- c) an organism (whether alive or dead), including a virus; or
- d) energy, including noise, heat, radioactivity and electromagnetic radiation; or
- e) a combination of contaminants.

“dam” means a land-based structure or a void that contains, diverts or controls flowable substances, and includes any substances that are thereby contained, diverted or controlled by that land-based structure or void and **associated works**.

“dam crest volume” means the volume of material (liquids and/or solids) that could be within the walls of a dam at any time when the upper level of that material is at the crest level of that dam. That is, the instantaneous maximum volume within the walls, without regard to flows entering or leaving (for example, via spillway).

“design plan” is a document setting out how all identified consequence scenarios are addressed in the planned design and operation of a regulated structure.

“design storage allowance or DSA” means an available volume, estimated in accordance with the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)* published by the administering authority, must be provided in a dam as at 1 November each year in order to prevent a discharge from that dam to an **annual exceedance probability (AEP)** specified in that Manual.

“designer” for the purposes of a regulated dam, means the certifier of the design plan for the regulated dam.

“effluent” treated waste water discharged from sewage treatment plants.

“emergency action plan” means documentation forming part of the operational plan held by the holder or a nominated responsible officer, that identifies emergency conditions that sets out procedures and actions that will be followed and taken by the dam owner and operating personnel in the event of an emergency. The actions are to minimise the risk and consequences of failure, and ensure timely warning to downstream communities and the implementation of protection measures. The plan must require dam owners to annually update contact.

“environmental authority” means an environmental authority granted in relation to an environmentally relevant activity under the *Environmental Protection Act 1994*.

“environmental authority holder” means the holder of this environmental authority.

“environmentally relevant activity” means an environmentally relevant activity as defined under Section 18 of the *Environmental Protection Act 1994* and listed under Schedule 2 of the *Environmental Protection Regulation 2008*.

“existing structure” means a structure that was in existence prior to the adoption of this schedule of conditions under the authority.

“extreme Storm Storage” – means a storm storage allowance determined in accordance with the criteria in the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)* published by the administering authority

“financial assurance” means a security required under the *Environmental Protection Act 1994* by the administering authority to cover the cost of rehabilitation or remediation of disturbed land or to secure compliance with the environmental authority.

“flowable substance” means matter or a mixture of materials which can flow under any conditions potentially affecting that substance. Constituents of a flowable substance can include water, other liquids fluids or solids, or a mixture that includes water and any other liquids fluids or solids either in solution or suspension.

“foreseeable future” is the period used for assessing the total probability of an event occurring. Permanent structures and ecological sustainability should be expected to still exist at the end of a 150 year foreseeable future with an acceptable probability of failure before that time.

“hazardous waste” means any substance, whether liquid, solid or gaseous, derived by or resulting from, the processing of minerals that tends to destroy life or impair or endanger health.

“holder” means:

- a) where this document is an environmental authority, any person who is the holder of, or is acting under, that environmental authority; or
- b) where this document is a development approval, any person who is the registered operator for that development approval.

“hydraulic performance” means the capacity of a regulated dam to contain or safely pass flowable substances based on the design criteria specified for the relevant consequence category in the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)*.

“infrastructure” means water storage dams, roads and tracks, buildings and other structures built for the purpose and duration of the conduct of the environmentally relevant activities, but does not include other facilities required for the long term management of the impact of those activities or the protection of potential resources. Such other facilities include dams other than water storage dams, waste dumps, voids, or stockpiles and assets, that have been decommissioned, rehabilitated, and lawfully recognised as being subject to subsequent transfer with ownership of the land.

“lake” includes –

- a) lagoon, swamp or other natural collection of water, whether permanent or intermittent; and
- b) the bed and banks and any other element confining or containing the water.

“ $L_{A\ 10, \text{adj}, 10 \text{ mins}}$ ” means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 10% of any 10-minute measurement period, using Fast response.

“ $L_{A\ 1, \text{adj}, 10 \text{ mins}}$ ” means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 1% of any 10-minute measurement period, using Fast response.

“ $L_{A, \text{max adj}, T}$ ” means the average maximum A-weighted sound pressure level, adjusted for noise character and measured over any 10 minute period, using Fast response.

“land capability” as defined in the *Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland (DME 1995)*.

“land suitability” as defined in the *Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland (DME 1995)*.

“land use” term to describe the selected post mining use of the land, which is planned to occur after the cessation of mining operations.

“levee” means an embankment that only provides for the containment and diversion of stormwater or flood flows from a contributing catchment, or containment and diversion of flowable materials resulting from releases from other works, during the progress of those stormwater or flood flows or those releases; and does not store any significant volume of **water** or **flowable substances** at any other times.

“low consequence dam” means any dam that is not a high or significant consequence category as assessed using the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)*.

“mandatory reporting level or MRL” means a warning and reporting level determined in accordance with the criteria in the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)* published by the administering authority.

“manual” means the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)* published by the administering authority.

“mg/L” means milligrams per litre.

“mine affected water”

- a) means the following types of water:
- i) pit water, tailings dam water, processing plant water;
 - ii) water contaminated by a mining activity which would have been an environmentally relevant activity under Schedule 2 of the *Environmental Protection Regulation 2008* if it had not formed part of the mining activity;
 - iii) rainfall runoff which has been in contact with any areas disturbed by mining activities which have not yet been rehabilitated, excluding rainfall runoff discharging through release points associated with erosion and sediment control structures that have been installed in accordance with the standards and requirements of an Erosion and Sediment Control Plan to manage such runoff, provided that this water has not been mixed with pit water, tailings dam water, processing plant water or workshop water;
 - iv) groundwater which has been in contact with any areas disturbed by mining activities which have not yet been rehabilitated;
 - v) groundwater from the mine's dewatering activities;
 - vi) a mix of mine affected water (under any of paragraphs i)-v) and other water.
- b) does not include surface water runoff which, to the extent that it has been in contact with areas disturbed by mining activities that have not yet been completely rehabilitated, has only been in contact with:
- i) land that has been rehabilitated to a stable landform and either capped or revegetated in accordance with the acceptance criteria set out in the environmental authority but only still awaiting maintenance and monitoring of the rehabilitation over a specified period of time to demonstrate rehabilitation success; or
 - ii) land that has partially been rehabilitated and monitoring demonstrates the relevant part of the landform with which the water has been in contact does not cause environmental harm to waters or groundwater, for example:
 - 1) areas that are been capped and have monitoring data demonstrating hazardous material adequately contained with the site;
 - 2) evidence provided through monitoring that the relevant surface water would have met the water quality parameters for mine affected water release limits in this environmental authority, if those parameters had been applicable to the surface water runoff; or
 - iii) both.

“mineral” means a substance which normally occurs naturally as part of the earth’s crust or is dissolved or suspended in water within or upon the earth’s crust and includes a substance which may be extracted from such a substance, and includes—

- a) clay if mined for use for its ceramic properties, kaolin and bentonite;
 - b) foundry sand;
 - c) hydrocarbons and other substances or matter occurring in association with shale or coal and necessarily mined, extracted, produced or released by or in connection with mining for shale or coal or for the purpose of enhancing the safety of current or future mining operations for coal or the extraction or production of mineral oil there from;
 - d) limestone if mined for use for its chemical properties;
 - e) marble;
 - f) mineral oil or gas extracted or produced from shale or coal by in situ processes;
 - g) peat;
 - h) salt including brine;
 - i) shale from which mineral oil may be extracted or produced;
 - j) silica, including silica sand, if mined for use for its chemical properties;
 - k) rock mined in block or slab form for building or monumental purposes;
- but does not include—
- l) living matter;
 - m) petroleum within the meaning of the *Petroleum Act 1923*;
 - n) soil, sand, gravel or rock (other than rock mined in block or slab form for building or monumental purposes) to be used or to be supplied for use as such, whether intact or in broken form;
 - o) water.

“modification or modifying” (see definition of ‘construction’).

“natural flow” means the flow of water through waters caused by nature.

“nature” includes:

- a) ecosystems and their constituent parts; and
- b) all natural and physical resources; and
- c) natural dynamic processes.

“noxious” means harmful or injurious to health or physical well being, other than trivial harm.

“offensive” means causing reasonable offence or displeasure; is disagreeable to the sense; disgusting, nauseous or repulsive, other than trivial harm.

“operational land” means the land associated with the project for which this environmental authority has been issued.

“operational plan” includes:

- a) normal operating procedures and rules (including clear documentation and definition of process inputs in the DSA allowance);
- b) contingency and emergency action plans including operating procedures designed to avoid and/or minimise environmental impacts including threats to human life resulting from any overtopping or loss of structural integrity of the regulated structure.

“peak particle velocity (ppv)” means a measure of ground vibration magnitude which is the maximum rate of change of ground displacement with time, usually measured in millimetres/second (mms⁻¹).

“Potentially Affected Stakeholders” includes (but should not be limited to)

- a) the administering authority;
- b) a local landholder whose property is riparian, downstream of the release point specified in Table C1 of the environmental authority and is determined by the environmental authority holder to be potentially impacted by mine affected water releases;
- c) other party nominated by the administering authority;
- d) the relevant local government authority;
- e) a Resource Operations Licence (ROL) holder or other water entitlement holder under the *Water Act 2000* located between the nearest compliance point listed in Table 1 of the operational policy and the release point specified in Table C1 of the environmental authority; and
- f) does not include a landholder or other party who by written agreement with the environment authority holder has declined to be notified for the purpose of this condition.

“protected area” means - a protected area under the *Nature Conservation Act 1992*; or

- a) a marine park under the *Marine Parks Act 1992*; or
- b) a World Heritage Area.

“progressive rehabilitation” means rehabilitation (defined below) undertaken progressively or a staged approach to rehabilitation as mining operations are ongoing.

“receiving environment” means all groundwater, surface water, land, and sediments that are not disturbed areas authorised by this environmental authority.

“receiving waters” means all groundwater and surface water that are not disturbed areas authorised by this environmental authority.

“register of regulated structures” includes:

- a) date of entry in the register;
- b) name of the structure, its purpose and intended/actual contents;
- c) the consequence category of the structure as assessed using the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)*;
- d) dates, names, and reference for the design plan plus dates, names, and reference numbers of all document(s) lodged as part of a design plan for the structure;
- e) name and qualifications of the suitably qualified and experienced person who certified the design plan and 'as constructed' drawings;
- f) for the regulated structure, other than in relation to any levees –
 - i) the dimensions (metres) and surface area (hectares) of the dam measured at the footprint of the dam;
 - ii) coordinates (latitude and longitude in GDA94) within five metres at any point from the outside of the dam including its storage area
 - iii) dam crest volume (megalitres);
 - iv) spillway crest level (metres AHD).
 - v) maximum operating level (metres AHD);
 - vi) storage rating table of stored volume versus level (metres AHD);
 - vii) design storage allowance (megalitres) and associated level of the dam (metres AHD);
 - viii) mandatory reporting level (metres AHD);
- g) the design plan title and reference relevant to the structure;
- h) the date construction was certified as compliant with the design plan;

- i) the name and details of the suitably qualified and experienced person who certified that the constructed structure was compliant with the design plan;
- j) details of the composition and construction of any liner;
- k) the system for the detection of any leakage through the floor and sides of the dam;
- l) dates when the regulated dam underwent an annual inspection for structural and operational adequacy, and to ascertain the available storage volume for 1 November of any year;
- m) dates when recommendations and actions arising from the annual inspection were provided to the administering authority;
- n) dam water quality as obtained from any monitoring required under this authority as at 1 November of each year.

"reference site" (or analogue site) may reflect the original location, adjacent area or another area where rehabilitation success has been completed for a similar biodiversity. Details of the reference site may be as photographs, computer generated images and vegetation models etc.

"regulated dam" means any dam in the significant or high consequence category as assessed using the *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures (EM635)* published by the administering authority.

"regulated structure" includes dams which are regulated dams, land-based containment structures, levees, bunds and voids, but not a tank or container designed and constructed to an Australian Standard that deals with strength and structural integrity.

"regulated waste" means non-domestic waste mentioned in schedule 7 of the *Environmental Protection Regulation 2008* (whether or not it has been treated or immobilised), and includes:

- a) for an element – any chemical compound containing the element; and
- b) anything that has contained the waste.

"rehabilitation" the process of reshaping and revegetating land to restore it to a stable landform and in accordance with the acceptance criteria set out in this environmental authority and, where relevant, includes remediation of contaminated land.

"representative" means a sample set which covers the variance in monitoring or other data either due to natural changes or operational phases of the mining activities.

"residual void" means an open pit resulting from the removal of ore and/or waste rock which will remain following the cessation of all mining activities and completion of rehabilitation processes.

"saline drainage" The movement of waters, contaminated with salt(s), as a result of the mining activity.

"self sustaining" means an area of land which has been rehabilitated and has maintained the required acceptance criteria without human intervention for a period nominated by the administering authority.

"sensitive place" means;

- a) a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises; or
- b) a motel, hotel or hostel; or
- c) an educational institution; or
- d) a medical centre or hospital; or
- e) a protected area under the *Nature Conservation Act 1992*, the *Marine Parks Act 1992* or a *World Heritage Area*; or
- f) a public park or gardens.

"sewage" means the used water of person's to be treated at a sewage treatment plant.

“significant disturbance” – includes land

- a) if it is contaminated land; or
- b) it has been disturbed and human intervention is needed to rehabilitate it.
 - i) to a state required under the relevant environmental authority; or
 - ii) if the environmental authority does not require the land to be rehabilitated to a particular state – to its state immediately before the disturbance.

Some examples of disturbed land include:

- a) areas where soil has been compacted, removed, covered, exposed or stockpiled;
- b) areas where vegetation has been removed or destroyed to an extent where the land has been made susceptible to erosion; (vegetation & topsoil)
- c) areas where land use suitability or capability has been diminished;
- d) areas within a watercourse, waterway, wetland or lake where mining activities occur;
- e) areas submerged by tailings or hazardous contaminant storage and dam walls in all cases;
- f) areas under temporary infrastructure. Temporary infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be removed after mining activities have ceased; or
- g) areas where land has been contaminated and a suitability statement has not been issued.

However, the following areas are not included:

- a) areas off lease (e.g. roads or tracks which provide access to the mining lease);
- b) areas previously significantly disturbed which have achieved the rehabilitation outcomes;
- c) by agreement with the administering authority, areas previously significantly disturbed which have not achieved the rehabilitation objective(s) due to circumstances beyond the control of the mine operator (such as climatic conditions);
- d) areas under permanent infrastructure. Permanent infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be left by agreement with the landowner. The agreement to leave permanent infrastructure must be recorded in the Landowner Agreement and lodged with the administering authority; and
- e) disturbances that pre-existed the grant of the tenure unless those areas are disturbed during the term of the tenure.

“spillway” means a weir, channel, conduit, tunnel, gate or other structure designed to permit discharges from the dam, normally under flood conditions or in anticipation of flood conditions.

“stable” in relation to land, means land form dimensions are or will be stable within tolerable limits now and in the foreseeable future. Stability includes consideration of geotechnical stability, settlement and consolidation allowances, bearing capacity (trafficability), erosion resistance and geochemical stability with respect to seepage, leachate and related contaminant generation.

“structure” means dam or levee.

“suitably qualified and experienced person” in relation to regulated structures means a person who is a Registered Professional Engineer of Queensland (RPEQ) under the provisions of the *Professional Engineers Act 2002*, and has demonstrated competency and relevant experience:

- a) for regulated dams, an RPEQ who is a civil engineer with the required qualifications in dam safety and dam design;
- b) for regulated levees, an RPEQ who is a civil engineer with the required qualifications in the design of flood protection embankments.

Note: It is permissible that a suitably qualified and experienced person obtain subsidiary certification from an RPEQ who has demonstrated competence and relevant experience in either geomechanics, hydraulic design or engineering hydrology.

“Suitably qualified person” in relation to rehabilitation means one who holds relevant professional qualifications to the satisfaction of the administering authority; AND demonstrated knowledge, experience and expertise in relevant fields as set out below:

- a) rehabilitation practices for resource activities; and
- b) a total of five years of suitable experience and demonstrated expertise in the following categories:
 - i. coal mine site rehabilitation;
 - ii. development of rehabilitation management plans and monitoring programs; and
 - iii. Assessment of rehabilitation performance indicators in the resources industry.

“system design plan” means a plan that manages an integrated containment system that shares the required DSA and/or ESS volume across the integrated containment system.

“Terms of Reference” means the purpose, structure, scope and timing of the Residual Void Project, as approved by the administering authority.

“tolerable limits” means a range of parameters regarded as being sufficient to meet the objective of protecting relevant environmental values. For example, a range of settlement for a tailings capping, rather than a single value, could still meet the objective of draining the cap quickly, preventing pondage and limiting infiltration and percolation.

“trivial harm” means environmental harm which is not material or serious environmental harm and will not cause actual or potential loss or damage to property of an amount of, or amounts totalling more than \$5,000.

“void” means any constructed, open excavation in the ground.

“waste” as defined in section 13 of the *Environmental Protection Act 1994*.

“water” means –

- a) water in waters or spring;
- b) underground water;
- c) overland flow water; or
- d) water that has been collected in a dam.

“waste water” means used water from the activity, process water or contaminated storm water.

“watercourse” has the meaning in Schedule 4 of the *Environmental Protection Act 1994* and means a river, creek or stream in which water flows permanently or intermittently—

- a) in a natural channel, whether artificially improved or not; or
- b) in an artificial channel that has changed the course of the watercourse.

Watercourse includes the bed and banks and any other element of a river, creek or stream confining or containing water.

“waters” includes all or any part of a river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined water in natural or artificial watercourses, bed and banks of a watercourse, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside gutter, stormwater run-off, and groundwater.

“Water year” means the 12-month period from 1 July to 30 June.

“Wet season” means the time of year, covering one or more months, when most of the average annual rainfall in a region occurs. For the purposes of DSA determination this time of year is deemed to extend from 1 November in one year to 31 May in the following year inclusive.

“µg/L” means micrograms per litre.

Attachments

Appendix 1 – EA Water Monitoring Points

Appendix 2 – Groundwater Monitoring Network Review

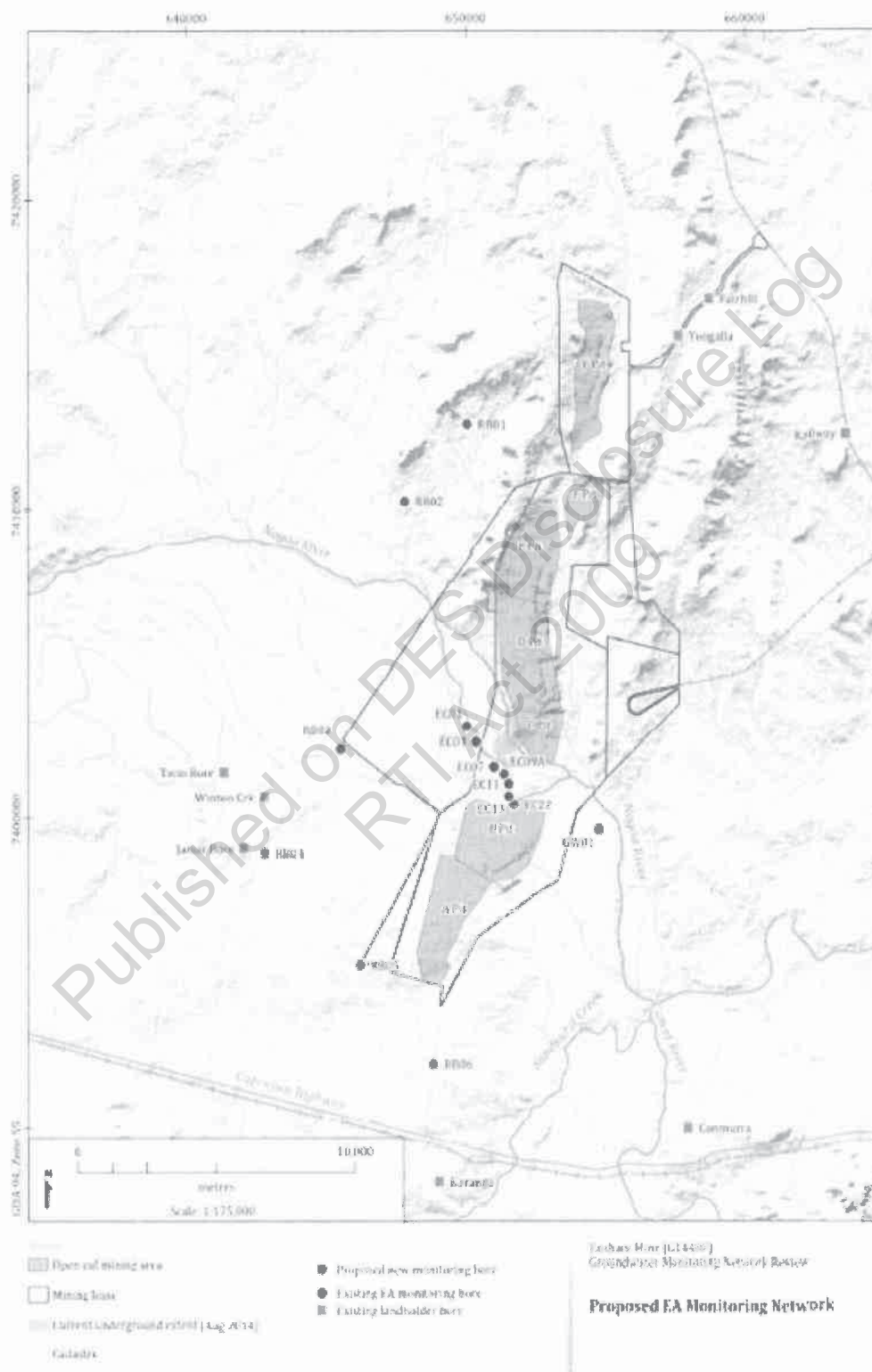
Appendix 3 – Groundwater Trigger Levels (Background Groundwater Monitoring Report)

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Appendix 1 – EA Water Monitoring Points



Appendix 2 - Groundwater Monitoring Network Review



Appendix 3 Groundwater Trigger Levels (Background Groundwater Monitoring Report)

Monitoring	pH	EC	TDS	Ca	Mg	Na	K	Cl	SO ₄	CO ₃	HCO ₃	Fe
Units	pH units	µS/cm	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Limit type	range	max	max	max	max	max	max	max	max	max	max	max
Bore EC01	6.2 – 8.1	62,98 1	43,93 4	1,344	2,162	10,71 4	15	21,21 2	2,040	8	2,739	3.66
Bore EC02	6.7 – 7.9	17,09 2	13,99 2	149	356	2,720	9	4,413	390	9	1,547	3.82
Bore ECO3	5.6 – 8.2	48,04 6	40,92 8	1,800	2,186	5,672	24	16,64 7	1,749	9	1,214	21.21
Bore EC04	6.6 – 8.0	5,763	3,563	275	222	761	9	1,304	173	9	1,519	3.45
Bore EC05	6.9 – 8.2	53,64 2	38,43 0	1,360	1,853	8,209	27	18,93 9	1,783	9	1,220	2.02
Bore EC06	6.3 – 7.8	6,176	4,608	426	317	625	26	1,794	143	9	1,409	7.55
Bore EC07	6.3 – 8.1	30,19 1	18,41 2	1,149	1,264	4,964	23	11,93 0	1,080	9	896	11.31
Bore EC08	6.8 – 7.7	2,502	1,552	136	82	342	13	502	11	10	807	14.08
Bore EC09	6.2 – 8.3	50,52 5	42,53 2	1,737	1,829	6,807	15	17,96 1	1,607	10	869	13.43
Bore EC09A	5.9 – 8.2	47,11 0	35,18 3	1,406	1,926	6,346	21	15,88 1	1,446	9	1,291	21.83
Bore EC10	6.5 – 8.4	7,640	3,637	203	227	832	7	1,583	162	9	563	1.15
Bore EC11	6.0 – 8.2	27,78 3	18,58 3	838	807	3,362	21	7,820	695	9	1,070	33.45
Bore EC12	5.2 – 8.7	16,73 2	11,32 6	1,017	1,086	1,594	18	6,768	359	8	615	31.05
Bore EC13	5.7 – 8.4	33,75 5	28,17 2	1,209	953	4,386	32	10,56 7	858	9	1,144	10.16
Bore EC14	5.9 – 8.2	11,81 4	10,21 1	608	512	1,237	26	3,646	227	9	838	12.57
Bore EC15	6.6 – 8.1	4,280	2,577	258	218	249	6	1,176	79	1	559	2.41
Bore EC16	6.4 – 8.5	1,844	1,106	32	27	386	7	281	23	9	750	9.47
Bore EC17	6.1 – 7.8	2,698	2,173	146	96	327	7	550	425	1	464	9.94
Bore EC18	- ²	- ²	5,000 ¹	1,000 ¹	- ²	- ²	- ²	- ²	1,000 ¹	- ²	- ²	- ²
Bore EC19	7.0 – 8.1	629	429	21	32	63	1	26	18	1	241	0.05
Bore EC20	6.2 – 7.6	1,326	753	88	53	122	6	196	49	1	409	0.92
Bore EC22	6.2 – 8.5	6,859	6,020	320	342	792	11	2,256	1,727	9	694	2.45
Bore EC23	9.2 – 8.5	9,019	6,352	420	438	1,037	8	2,710	183	1	1,024	1.21
Bore GW1	7.1 – 8.8	15,63 4	9,003	182	460	2,189	10	4,178	284	93	2,043	1.25
Bore GW2	6.7 – 7.9	5,078	2,448	57	30	120	8	1,051	143	10	599	2.08
DERM 13020177	6.2 – 9.1	7,092	3,747	60	124	1,060	3	1,561	471	10	748	5.77
Weir Bore	6.5 – 9.4	3,264	1,872	39	56	568	12	879	110	79	1,035	1.30
Jamar	7.1 – 8.6	6,595	3,624	108	81	1,160	18	2,101	3	1	538	8.04
100169	- ²	- ²	5,000 ¹	1,000 ¹	- ²	- ²	- ²	- ²	1,000 ¹	- ²	- ²	- ²
100037	- ²	- ²	5,000 ¹	1,000 ¹	- ²	- ²	- ²	- ²	1,000 ¹	- ²	- ²	- ²
132290	- ²	- ²	5,000 ¹	1,000 ¹	- ²	- ²	- ²	- ²	1,000 ¹	- ²	- ²	- ²

Monitoring	pH	EC	TDS	Ca	Mg	Na	K	Cl	SO ₄	CO ₃	HCO ₃	Fe
Units	pH units	µS/cm	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Limit type	range	max	max	max	max	max	max	max	max	max	max	max
37512	.. ²	.. ²	5,000 ¹	1,000 ¹	.. ²	.. ²	.. ²	.. ²	1,000 ¹	.. ²	.. ²	.. ²
103685	.. ²	.. ²	5,000 ¹	1,000 ¹	.. ²	.. ²	.. ²	.. ²	1,000 ¹	.. ²	.. ²	.. ²
RN100036	.. ²	.. ²	5,000 ¹	1,000 ¹	.. ²	.. ²	.. ²	.. ²	1,000 ¹	.. ²	.. ²	.. ²
RN103024	.. ²	.. ²	5,000 ¹	1,000 ¹	.. ²	.. ²	.. ²	.. ²	1,000 ¹	.. ²	.. ²	.. ²

- ¹ ANZECC Water Quality Guidelines (2000) Stockwater used in the absence of sufficient data to support a site specific trigger value.
² Additional data required to set a trigger value

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Appendix 4: Rehabilitation Success Criteria.

To be populated as per Condition G4, G5 and G6.

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Appendix 5: Location of Rehabilitation



END OF ENVIRONMENTAL AUTHORITY

Notice

Environmental Protection Act 1994

Amendment of an environmental authority by written agreement

This non-statutory notice is issued by the administering authority to advise that the environmental authority has been amended by written agreement with the environmental authority holder under section 215(1)(b) of the Environmental Protection Act 1994.

To: Bligh Coal Limited, Idemitsu Australia Resources Pty Ltd and Natural Resources Investment (Australia) Pty Ltd

C/O Ensham Resources Pty Ltd
PO Box 1565
EMERALD QLD 4720

ATTN: Steve Kovac

Our reference: EPML00732813 Ensham Coal Mine

Amendment of an environmental authority by written agreement

1. Environmental authority details

Environmental authority number EPML00732813 dated 28 February 2017.

Land description: ML7459, ML7460, ML70049, ML70326, ML70365, ML70366, ML70367.

2. Amendment of environmental authority

On 16 February 2017 the Department of Environment and Heritage Protection (the department) wrote to you to request written agreement to amend environmental authority EPML00732813 as follows:

- Updates to the listed EA holders.
- Addition of condition A15: "All reports, plans and programs must be made available to the administering authority upon request."
- Correction of notes contained in conditions C6 and C7 to show correct reference to condition C6 b) ii.
- Correction of notes contained in condition C21 to show correct reference to Condition C21 (b).
- Updates to the schedule "Agency interest: Land", Conditions G1 through G26, as outlined in the attached.
- Update of numbering to Conditions G27 through G35.

Notice

Amendment of an environmental authority by written agreement

- Inclusion of definitions for "suitably qualified person" and "terms of reference"

On 28 February 2017 the administering authority received written agreement from you for the requested amendments. Environmental authority EPML00732813 has been amended and is attached to this notice.

For clarification, it should be noted that the department's position is that Ensham Resources Pty Ltd is required to reinstate the floodplain by backfilling any open cut mining voids within the floodplain to approximately pre-mining area surface level, as outlined, agreed and committed to within the Environmental Impact Statement 2006 and Environmental Management Plan 2010 prepared by Hansen Bailey for Ensham Resources Pty Ltd.

Should you have any questions about the notice, please contact the department on the contact details provided below.

sch4p4(6) Personal Information

Signature

28 February 2017

Date

Stacey McLennan
Department of Environment and Heritage Protection
Delegate of the administering authority
Environmental Protection Act 1994

Enquiries:
Coal Business Centre
PO Box 3028, Emerald QLD 4720
Phone: (07) 4987 9320
Email: CRMining@ehp.qld.gov.au

Attachments

Amended environmental authority EPML00732813

Notice

Environmental Protection Act 1994

Decision on amount and form of financial assurance

This notice is issued by the administering authority¹, pursuant to section 296 of the Environmental Protection Act 1994 to advise the holder of an environmental authority of the decision on the amount and form of financial assurance imposed on the environmental authority.

To: Bligh Coal Limited, Idemitsu Australia Resources Pty Ltd and Natural Resources Investment (Australia) Pty Ltd

C/O Ensham Resources Pty Ltd
PO Box 1565
EMERALD QLD 4720

cc: The Mining Registrar
Coal Assessment Hub
Department of Natural Resources and Mines
Email: CoalHub@dnrm.qld.gov.au

Service, Training and Regulatory Support
Department of Natural Resources and Mines
Email: Mines_online@dnrm.qld.gov.au

Attention: **Steve Kovac**
Email: Steve.Kovac@idemitsu.com.au

Your reference: EPML00732813 Ensham Coal Mine
Our reference: 174745

Re: Decision on the amount and form of financial assurance.

1. Application details

Application made by Ensham Resources Pty Ltd, on behalf of Bligh Coal Limited, Idemitsu Australia Resources Pty Ltd and Natural Resources (Australia) Pty Ltd, for the amount and form of financial assurance required under environmental authority EPML00732813, was received by the administering authority on 2 February 2017.

2. Environmental authority details

Environmental authority number EPML00732813 dated 28 February 2017 issued to Bligh Coal Limited, Idemitsu Australia Resources Pty Ltd and Natural Resources (Australia) Pty Ltd.

Property/location description(s): ML7459, ML7460, ML70049, ML70326, ML70365, ML70366, ML70367.

¹ The Department of Environment and Heritage Protection is the administering authority under the *Environmental Protection Act 1994*.

Decision on amount and form of financial assurance

3. Decision

For the purpose of calculating financial assurance (FA) associated with the Plan of Operations, the amount of FA to be paid is **\$174,543,962**. However it should be noted that the department's position is that Ensham Resources Pty Ltd is required to reinstate the floodplain by backfilling any open cut mining voids within the floodplain to approximately pre-mining area surface level, as outlined, agreed and committed to within the Environmental Impact Statement 2006 and Environmental Management Plan 2010 prepared by Hansen Bailey for Ensham Resources Pty Ltd.

The administering authority has decided:

- That the total rehabilitation liability associated with the Plan of Operations for the period 1 February 2017 to 31 January 2019 has been determined utilising the proposed "levee backfill option", which is not an EHP approved rehabilitation outcome contained within EA EPML00732813.
- That the holders of EA EPML00732813 must provide to the administering authority an agreed upon rehabilitation outcome by **31 March 2019** which will be conditioned within EA EPML00732813 via an amendment. The agreed upon rehabilitation outcome will be utilised to determine the total rehabilitation liability for the replacement Plan of Operations.
- That the total cost of rehabilitation is **\$218,179,953** (excluding GST). That the total cost of rehabilitation applies for the period ending **18 January 2018**. After which time, you will be required to update the validity of the third party quote supplied by MEC mining.
- To apply a **20%** discount. This is because the application demonstrated compliance with the mandatory pre-requisites and the criteria for demonstrating sound financial health and adequate budgeting for the scheduled rehabilitation in the upcoming FA period, and for undertaking activities that reduce the amount of waste stored onsite (10% or more of waste rock was used to backfill an opencut void).
- That the discount applies for the period ending **18 January 2018** after which time the discount will expire and the amount of financial assurance required will revert to its undiscounted value. You will need to resubmit an application to amend the amount of financial assurance if you wish to receive a discount for the next plan of operations term.
- That the amount of financial assurance for the period ending **18 January 2018** to be paid is **\$174,543,962** in the form of a bank guarantee.

The pro-forma for a bank guarantee for financial assurance is available for download from the department's website at: www.ehp.qld.gov.au.

4. Grounds for the decision

- a) Pursuant to section 295 of the *Environmental Protection Act 1994*, the administering authority must decide the amount and form of financial assurance required under a condition of an environmental authority, having regard to the relevant regulatory requirements and any criteria stated in the Guideline, 'Financial assurance under the Environmental Protection Act 1994' (ESR/2015/1758).
- b) Ensham Resources Pty Ltd, on behalf of Bligh Coal Limited, Idemitsu Australia Resources Pty Ltd and Natural Resources Investment (Australia) Pty Ltd, submitted a compliance statement declaring

Notice

Decision on amount and form of financial assurance

that financial assurance has been calculated in accordance with the Guideline, 'Financial assurance under the Environmental Protection Act 1994' (ESR/2015/1758).

- c) The total cost of rehabilitation proposed by Ensham Resources Pty Ltd, on behalf of Bligh Coal Limited, Idemitsu Australia Resources Pty Ltd and Natural Resources Investment (Australia) Pty Ltd, represents the total of likely costs and expenses that may be incurred in taking action to rehabilitate or restore and protect the environment because of environmental harm that may be caused by the activity.
- d) The application for a 10% discount for undertaking activities that reduce the amount of waste stored onsite (20% or more of tailings) was refused as the application did not adequately demonstrate measures undertaken to reduce annual waste disposal by the minimum amount specified that would otherwise have been stored onsite in a high risk storage activity.

5. Review and appeal rights

You may apply to the administering authority for a review of this decision within **10 business days** after receiving this notice. You may also appeal against this decision to the Land Court. Information about your review and appeal rights is attached to this notice. This information is guidance only and you may have other legal rights and obligations.

6. Lodgement of financial assurance

The required financial assurance must be lodged with the Department of Natural Resources and Mines (DNRM) by 28 March 2017. Please contact the Mining Registrar DNRM for assistance with lodgement of the financial assurance.

IMPORTANT NOTE: The required financial assurance must be lodged before activities are carried out, or allowed to be carried out, under the environmental authority. Failure to comply with this requirement may attract a fine or result in the cancellation or suspension of your environmental authority.

sch4p4(6) Personal Information

Signature

28 February 2017

Date

Stacey McLennan
Department of Environment and Heritage Protection
Delegate of the administering authority
Environmental Protection Act 1994

Enquiries:
Business Centre (Coal)
Department of Environment and Heritage
Protection
PO Box 3028
EMERALD QLD 4720
Phone: (07) 4987 9320
Email: CRMining@ehp.qld.gov.au

Attachments

Information sheet: Internal review and appeals (ESR/2015/1742)

From: [sch4p4(6) Personal Information]@ensham.com.au]
Sent: Friday, 7 April 2017 10:06 AM
To: BENNINK Kate; COPP Rachel; MARSHALL Michelle
CC: ENS EMD Environmental Mine Record; Neil Dale; Paul Martinkus; Daniel Yates; Paul Green
Subject: RE: Ensham EA - Condition G17

thanks Kate.

Regards

[h4p4(6) Personal Information]

Manager - HSET Systems
Health Safety Environment Training



P - (07) 4987 3615

M - [p4(6) Personal Information]

E - [p4(6) Personal Information]@ensham.com.au

From: BENNINK Kate [mailto:Kate.Bennink@ehp.qld.gov.au]

Sent: Friday, 7 April 2017 10:05 AM

To: [p4(6) Personal Information] COPP Rachel; MARSHALL Michelle

Cc: ENS EMD Environmental Mine Record; [sch4p4(6) Personal Information]

Subject: RE: Ensham EA - Condition G17

Hi [Personal]

We are working to have our review to you next week.

I will give yourself or [Personal] a call later today.

Cheers

Kate

Kate Bennink

Manager Environmental Services



Business Centre (Coal) | Coal and Central Queensland Compliance

Department of Environment and Heritage Protection

P 07 4987 9384 M [p4(6) Personal Information]

99 Hospital Road, Emerald QLD 4720

PO Box 3028, Emerald QLD 4720



...make the move

From: [redacted] [mailto:[redacted]@ensham.com.au]

Sent: Friday, 7 April 2017 8:59 AM

To: COPP Rachel <Rachel.Copp@ehp.qld.gov.au>; MARSHALL Michelle <Michelle.Marshall@ehp.qld.gov.au>

Cc: ENS EMD Environmental Mine Record <EnvironmentalMineRecord@ensham.com.au>; [redacted]

[redacted]@ensham.com.au>; [redacted]@idemitsu.com.au>; [redacted]

<[redacted]@idemitsu.com.au>; [redacted]@ensham.com.au>; BENNINK Kate <Kate.Bennink@ehp.qld.gov.au>

Subject: RE: Ensham EA - Condition G17

Importance: High

Good morning Rachel,

are you in a position to provide an update on the status of your review of the Terms of Reference (EA condition – G17) please.

Regards

[redacted]

Manager - HSET Systems

Health Safety Environment Training



P - (07) 4987 3615

M - [redacted]

E - [redacted]@ensham.com.au

From: COPP Rachel [mailto:Rachel.Copp@ehp.qld.gov.au]

Sent: Friday, 17 March 2017 9:10 AM

To: [redacted]; MARSHALL Michelle

Cc: ENS EMD Environmental Mine Record; [redacted]

[redacted]

BENNINK Kate

Subject: RE: Ensham EA - Condition G17

Good morning [redacted]

Thank you for your email. The department acknowledges receipt of the Terms of Reference.

Kind regards,

Rachel Copp

Senior Environmental Officer (Assessment)

Business Centre (Coal) | Coal and Central QLD Compliance

Department of Environment and Heritage Protection



P 07 4987 9345

99 Hospital Road, Emerald QLD 4720

PO Box 3028, Emerald QLD 4720



...make the move

From: [redacted] [mailto:[redacted]@ensham.com.au]

Sent: Wednesday, 15 March 2017 3:27 PM

To: MARSHALL Michelle <Michelle.Marshall@ehp.qld.gov.au>

Cc: ENS EMD Environmental Mine Record <EnvironmentalMineRecord@ensham.com.au>; [redacted] [redacted]@ensham.com.au>; [redacted] [redacted]@idemitsu.com.au>; [redacted] [redacted]

<[redacted]@idemitsu.com.au>; [redacted] [redacted]@ensham.com.au>; COPP Rachel <Rachel.Copp@ehp.qld.gov.au>; BENNINK Kate <Kate.Bennink@ehp.qld.gov.au>

Subject: Ensham EA - Condition G17

Importance: High

Afternoon Michelle,

as required by condition G17 of our EA (EPML00732813) please find attached for your review and comment the Terms of Reference for the Residual Void Project. We are happy to provide additional explanation on the schedule attachments if you require.

Please feel free to contact me if you have any queries regarding the TOR document and we look forward to your comments.

Regards

[redacted]

Manager - HSET Systems

Health Safety Environment Training



P - (07) 4987 3615

M - [redacted]

E - [redacted]@ensham.com.au

The information in this email together with any attachments is intended only for the person or entity to which it is addressed and may contain confidential and/or privileged material. There is no waiver of any confidentiality/privilege by your inadvertent receipt of this material.

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From: [sch4p4(6) Personal Information]@idemitsu.com.au]
Sent: Friday, 12 May 2017 5:24 PM
To: BENNINK Kate
CC: [p4(6) Personal Informa]
Subject: Draft Ensham ToR
Attachments: ToR - Final Voids Project - 12 May 2017.doc

Hello Kate,
I trust this email finds you well?

Please find attached the revised draft Ensham ToR following review of the feedback provided by DEHP on the 2nd of May 2017.
We look forward to the meeting on Monday to discuss the same.

Kindest regards

[p4(6) Personal Informa]

Group Manager – Health, Safety & Environment
Idemitsu Australia Resources Pty Ltd



P: (07) 3222 5673
M: [p4(6) Personal Informa]
E [p4(6) Personal Informa]@idemitsu.com.au

Level 1, 60 Albert Street
Brisbane QLD 4000



Ensham

R E S O U R C E S

Residual Void Project

Ensham Coal Mine

Terms of Reference

May 2017

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RTI Act 2009

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1 Introduction

The Ensham Coal Mine is operated under Environmental Authority EPML00732813, dated 28 February 2017 (EA). Ensham Resources Pty Limited (ABN 23 011 048 678) (**Ensham**) is the operator of the Ensham Coal Mine (**Ensham Mine**).

The Holders of the EA are Bligh Coal Limited (ABN 20 010 186 393), Idemitsu Australia Resources Pty Ltd (ABN 45 010 236 272), and Natural Resources Investment (Australia) Pty Ltd (ABN 12 002 806 831).

In February 2017, the Department of Environment and Heritage Protection (**DEHP**) amended the Ensham Mine EA, by agreement with the Holders of the EA. The main changes to the EA were associated with the "Land" conditions contained in Section G, focussing on the rehabilitation requirements relative to Residual Voids.

The conditions of the EA set out the process for the identification of the residual voids outcome, including a scientific study (the residual void study) to be completed over the next two (2) years to determine the rehabilitation success criteria for the final voids (Conditions G9 – G24 of the EA).

The scientific study is to consider a number of options for meeting the requirements of condition G4 – Rehabilitation Success Criteria, including but not limited to possibly backfilling of voids within the footprint of the Probable Maximum Flood.

The outcomes of the scientific study will inform the determination of the Rehabilitation Success Criteria which are required to satisfy Condition G4 – Rehabilitation Success Criteria and Condition 15 – Residual Voids.

G4	Rehabilitation success criteria All surface areas significantly disturbed by mining activities must be rehabilitated to a safe, stable and non-polluting landform, with a self-sustaining vegetation cover in accordance with Appendix 4: Rehabilitation success criteria . Underground workings must be rehabilitated to be safe, stable and non-polluting.
-----------	--

G15	Residual voids Residual voids must not cause any serious environmental harm to land, surface waters or any recognised groundwater aquifer, other than the environmental harm constituted by the existence of the residual void itself and subject to any other condition within this environmental authority.
------------	---

2 Purpose

This document has been prepared by Ensham, on behalf of the Holders of the EA and sets out the Terms of Reference (**ToR**), including the purpose, structure, scope and timing of the Residual Void Project (**RV Project**), compliant with Conditions G15 to G24.

The RV Project will be carried out in accordance with the ToR.

3 Scope

This ToR is limited to residual voids and associated infrastructure that currently protect the residual voids at Ensham Mine, not covered by existing approved Rehabilitation Success Criteria.

The scope of the RV Project is to:

- a) investigate the options for rehabilitation of the final voids in accordance with conditions G15 to G24 inclusive; and
- b) develop a final landform design for voids, to meet condition G15.
- c) develop and provide rehabilitation success criteria for voids located both within and outside of the Nogoia River Floodplain.

Schedules showing the estimated timing of planned project activities including EA reporting deadlines and the various technical and scientific investigations are attached at **Appendix A**.

The Project will include consideration of, but not limited to, the matters referred to in Condition G20 of the EA.

4 Structure of the RV Project

To assist in this process and to clearly identify each phase, the RV Project has been categorised into four (4) distinct stages (**the Stages**):

1. Stage 1 - Project Definition and Options Identification;
2. Stage 2 - Preferred Options Technical Studies;
3. Stage 3 - Preferred Options Detail Design; and
4. Stage 4 – Most Preferred Option Identification and Regulatory documentation.

How each stage combines to deliver compliance to Condition G20 is detailed further below.

4.1 Stage 1 - Project Definition and Options Identification

Undertake a broad review of initial options available for rehabilitating the residual voids based on summary descriptions for each option. The review of options should be prepared having regard to the feasibility of the options and the purpose of the RV Project, as described in Section 2.

Each summary should include, to the extent relevant, current information pertaining to:

- a) Topography;

- b) Hydrological interactions (surface and groundwater);
- c) Geotechnical stability;
- d) Soil quantity, quality and type;
- e) Waste rock characterisation;
- f) Infrastructure;
- g) Cross sections detailing the current height, width, depth, slope, area and volume; and
- h) Flood extent including probable maximum flood.

This information will be used to inform a triple bottom line risk based analysis process (or comparative alternative assessment method) of the initial options, which will be ranked in order of most preferred to least preferred.

Ensham will take the two (2) most preferred options and also include the option of backfilling of the voids to PMF level (**the Preferred Options**) to Stage 2, the Preferred Options Technical Studies (in parallel).

4.2 Stage 2 - Preferred Options Technical Studies

This Stage will build on Stage 1 to provide the technical information required to understand specific impacts for each of the Preferred Options.

Consideration of impacts must include, but not be limited to Condition G20 of the EA and the social impacts (positive and negative) on affected communities and the economic impacts that may arise from implementation.

From a social and economic perspective, technical studies should (where appropriate) provide details of the risk to social and economic values for each of the Preferred Options. This should include potential risks to people and property that may be associated with each of the Preferred Options.

From an environment perspective, impacts of residual voids (if any) on environmental values (**EV**) should be identified. This includes describing the EVs for the existing residual voids and an assessment of the potential impacts on EV's for each of the Preferred Options. EVs are defined in Section 9 of the *Environmental Protection Act 1994*, Environmental Protection Policies and other relevant documents such as the Australian Water Quality Guidelines for Fresh and Marine Waters (ANZECC and ARMCANZ, 2000).

These EVs should be described referring to background information and studies to industry standards and included in relevant study reports. The RV Project must discuss available techniques and environmental protection measures, to control and manage impacts on identified EVs. Describe any computational model used to make predictions of impacts and or outcomes of mitigation measures. The description should address the inputs, assumptions, limitations, sensitivities, accuracy and precision of the model.

In accordance with Condition G20 of the EA, assessment should consider potential impacts on water, land, climate and biodiversity EVs.

The age and reliability of information used in each study should be considered in determining suitability for use as should any uncertainties in the information and any assumptions made.

The technical study of the Preferred Options should be supported by a risk assessment that identifies the hazards relative to the study, analyses these hazards and qualifies the risk, including residual risk.

Unacceptable risks (if any) shall have control strategies developed and documented. Control strategies shall be prioritised on the basis avoiding, mitigating or managing the unwanted risk. This shall be done in a manner that documents the assessment of the overall acceptability either quantitatively or qualitatively.

On completion of each study Ensham shall arrange for the Report documenting the study and any associated documentation to be peer reviewed by a suitably qualified and experienced person. On completion of this work the Study, associated documents and the peer reviewer's report shall be forwarded to the regulator for consideration and feedback. Feedback shall be addressed in each Study.

This stage will determine which Options will be considered for detailed design with the overall output being a series of documented studies for each of the Preferred Options that details how each study will combine to achieve the purpose of the RV Project.

4.3 Stage 3 - Preferred Options Detail Design

This Stage takes the technical studies for the Preferred Options and uses peer reviewed information to develop the detailed designs.

In addition to the requirements contained in Condition G20 each design (through the life of the mine and at mine closure) shall include a detailed description of the Preferred Options and an indicative timing for when rehabilitation works will commence and be completed.

As a minimum the description of each of the Preferred Options will include:

- a) final topography for all voids;
- b) post-mining land use for all voids;
- c) cross sections detailing the height, width, depth, slope, area and volume for all voids;
and
- d) design drawings of sufficient quality to inform a quantity survey and pricing for required works identified in the technical studies.

Each Preferred Option Detailed Design shall be underpinned by a risk assessment that identifies the environmental hazards for the option, analyses these hazards and qualifies the risk of each hazard.

Identified risks with the potential to cause significant environmental harm shall have control strategies developed and documented in the detailed design. Control strategies shall be prioritised on the basis avoiding, mitigating or managing the unwanted risk. The reliability of information used in the design stage should be considered in determining suitability for use as should any uncertainties in the information and any assumptions made.

4.4 Stage 4 – Final Option Identification and Regulatory documentation

When Stages 1, 2 and 3 have been completed. Ensham will determine the Final Option for submission to the regulator. Selection of the Final Option will be determined having regard to the following:

- a) it must not cause any serious environmental harm to land, surface water or any recognised groundwater aquifer, other than the environmental harm constituted by the existence of the residual void itself and subject to any other condition within this environmental authority;
- b) the financial implications; and
- c) delivery of a post mining use and ownership in preference to relinquishment to the government.

Details of how the Final Option will be implemented, managed and maintained will be documented in this Stage including:

- d) the sequencing and staging of activities;
- e) new or altered works, structures and infrastructure necessary at all stages of development, whether on or off the mining leases or rights of way; and
- f) rehabilitation works to be undertaken.
- g) rehabilitation success criteria for residual voids

Ensham are to provide details of regulatory approvals that may be required for implementation of the outcome of the RV Project.

Appendix A - Project schedules

Appendix A contains the following:

- 1. Page 1 - Master schedule for the RV Project;
- 2. Page 2 - Preferred Options Technical Studies schedule (Stage 2); and
- 3. Page 3 - Preferred Option Detail Design schedule (Stage 3).

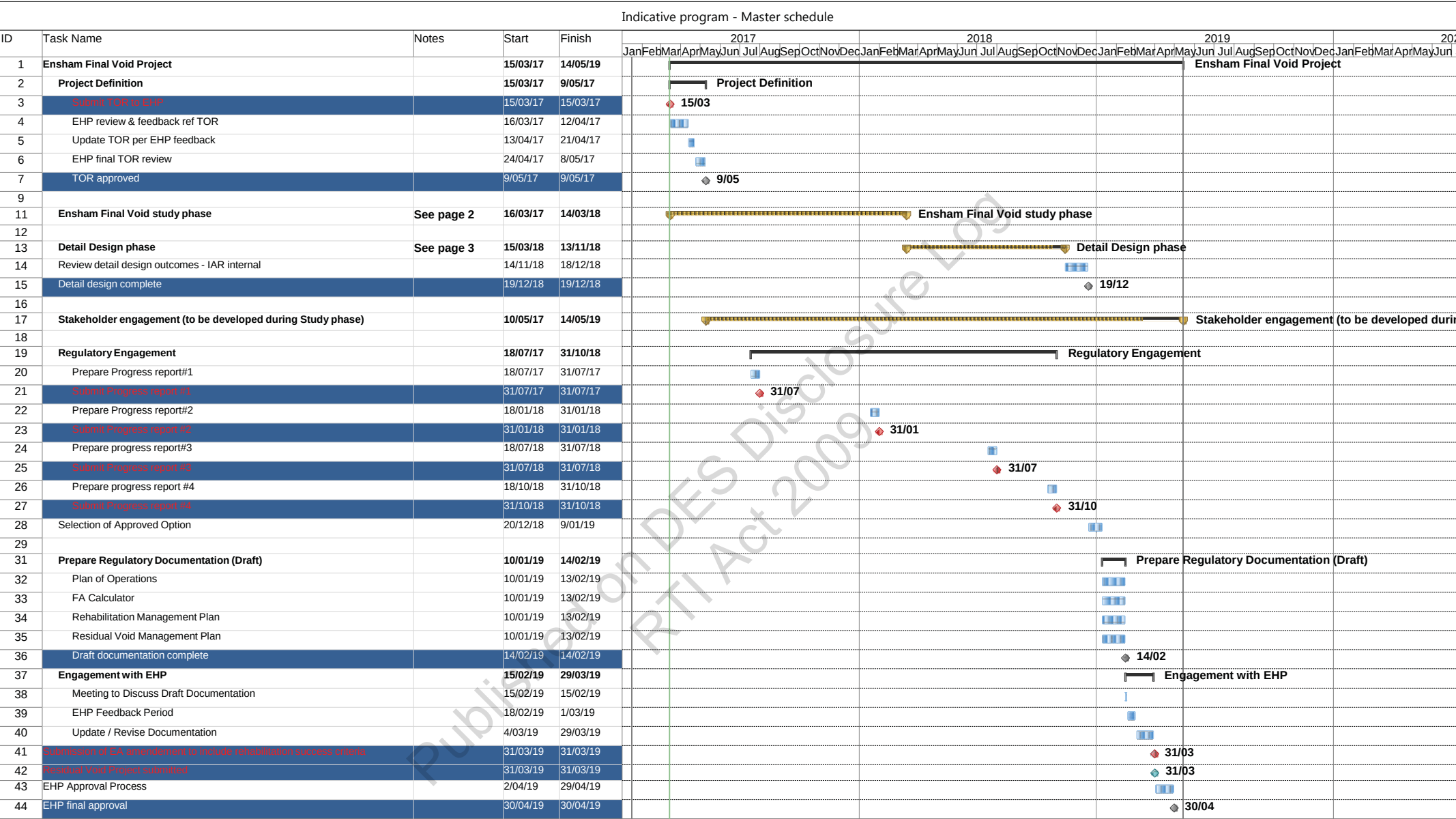
Program for the RV Project

Successful completion of each activity in each Stage may vary due to additional investigation requirements or unforeseen circumstances. All timelines within the RV Project may be changed at the discretion of Ensham, except for regulatory enforceable timelines under the conditions of the EA, which can only be changed with the agreement of DEHP.

Items identified in red in Appendix A represent enforceable timelines. Requests to alter regulatory enforceable timelines must be based on the merits at the time and approval must not be unreasonably withheld, particularly where the circumstances are reasonable or beyond the reasonable control of the Holder.

With the above stated it is the intention of Ensham to have the Project completed by **31 March 2019**, in accordance with Condition G16 of the EA.

Progress reports will be provided in accordance with condition G21 of the EA.



Manual Summary Rollup

Manual Summary

Start-only

Finish-only

External Tasks

External Milestone

Deadline

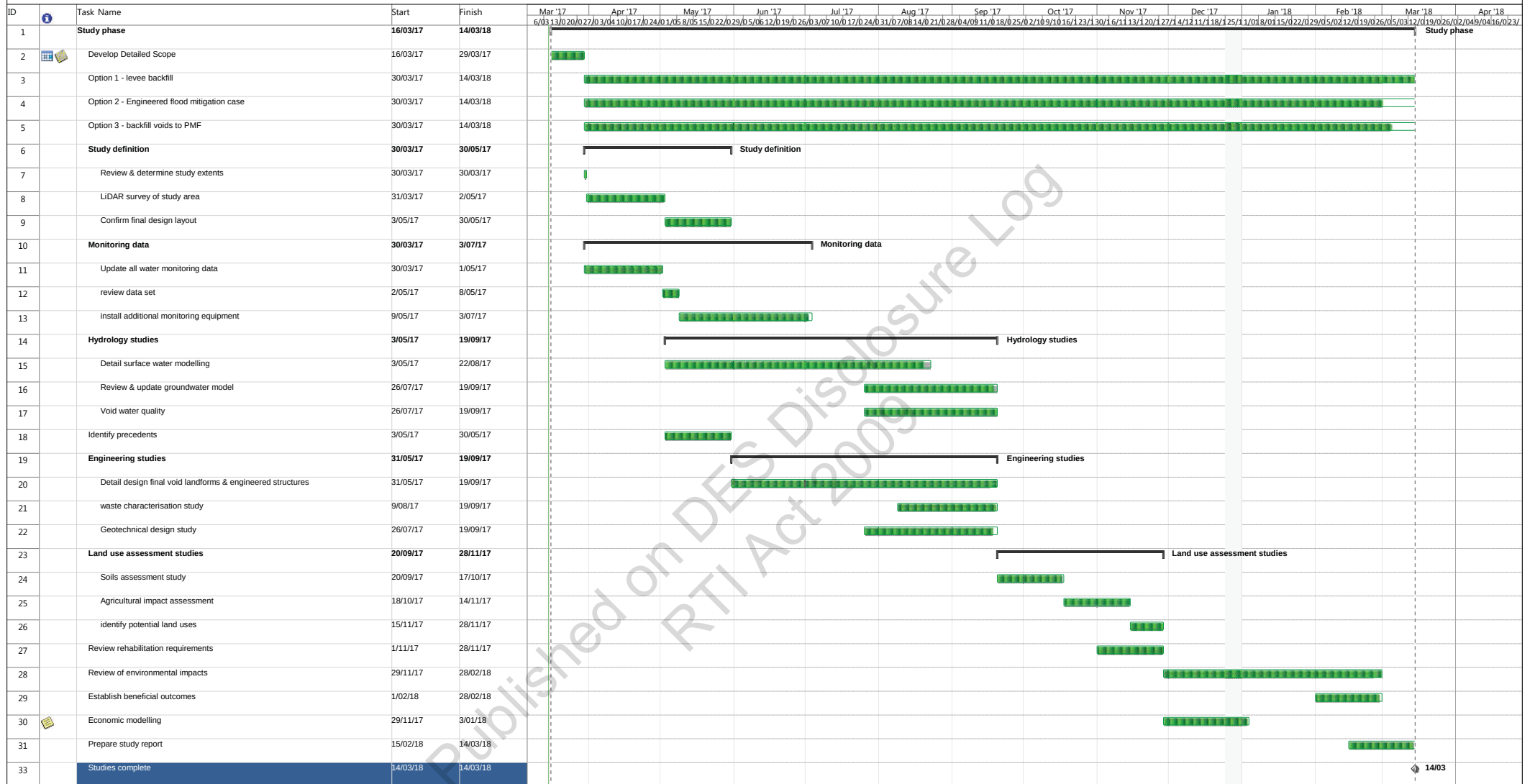
Progress

Manual Progress

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15/03/17 1:44 PM

8



Task
Split
Milestone
Summary

Project Summary
Inactive Task
Inactive Milestone
Inactive Summary

Manual Task
Duration-only
Manual Summary Rollup
Manual Summary

Start-only
Finish-only
External Tasks
External Milestone

Deadline
Progress
Manual Progress

Progress
Manual Progress

2 **Develop Detailed Scope**

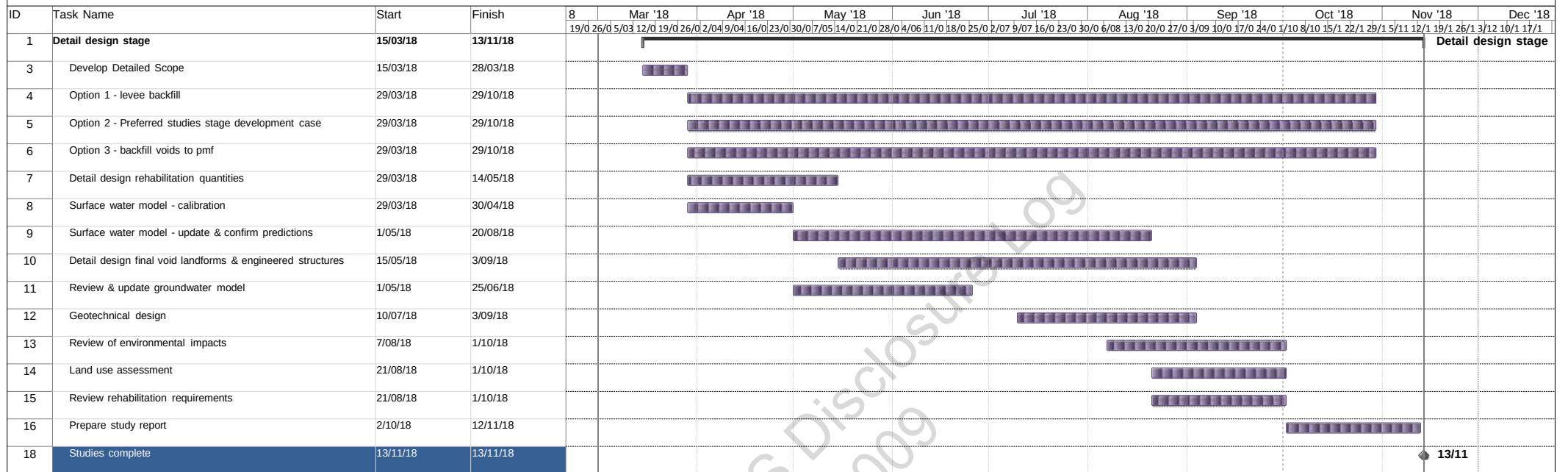
Options to investigate for Residual Voids in floodplain are to include but not necessarily be limited to identified options. Options should consider minimising final void area and volume or otherwise to avoid causing serious environmental harm other than the existence of the Residual Void itself.

30 **Economic modelling**

Economic modelling includes:

- the initial cost of the option;
- ongoing operating costs (if any) including the potential to generate income to self fund costs;
- feasibility of option, and
- any social costs

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Task Split



Inactive Task

Milestone



Inactive Milestone

Summary



Inactive Summary

Project Summary



Manual Task



Manual Summary Rollup



Manual Summary



Start-only



Finish-only



External Tasks



External Milestone



Deadline



Progress



Manual Progress

From: BENNINK Kate [Kate.Bennink@des.qld.gov.au]
Sent: Monday, 5 June 2017 4:44 PM
To: [redacted] 4p4(6) Personal Information
CC: COPP Rachel; [redacted] 4p4(6) Personal Information
Subject: RE: Draft Ensham ToR
Attachments: 20170605 Final ToR Residual Void Project Ensham Coal Mine.doc

Hi [redacted] Personal

Please find attached tracked changes to your revised TOR for your consideration. We have made the tracked changes to include several aspects of the TOR that we consider are necessary to ensure that the EA conditions and objectives of the RV Project are achieved.

Given the timeliness of finalising these TOR, I would like to consider this tracked changed version as the final for approval, subject to reasonable comments. If you are able to provide comments by 19 June or sooner? Or if you could please advise me of another date asap. Please let me know if you would like to meet to discuss any of the comments.

Thank you for your continued cooperation with this matter.

Cheers
Kate

Kate Bennink

Manager Environmental Services

Business Centre (Coal) | Coal and Central Queensland Compliance

Department of Environment and Heritage Protection

P 07 4987 9384 M [redacted] 4p4(6) Personal Information

99 Hospital Road, Emerald QLD 4720

PO Box 3028, Emerald QLD 4720



...make the move

From: [redacted] 4p4(6) Personal Information [mailto:[redacted] 4p4(6) Personal Information@idemitsu.com.au]

Sent: Friday, 12 May 2017 5:24 PM

To: BENNINK Kate <Kate.Bennink@ehp.qld.gov.au>

Cc: [redacted] sch4p4(6) Personal Information [redacted]@ensham.com.au>

Subject: Draft Ensham ToR

Hello Kate,
I trust this email finds you well?

Please find attached the revised draft Ensham ToR following review of the feedback provided by DEHP on the 2nd of May 2017. We look forward to the meeting on Monday to discuss the same.

Kindest regards

4p4(6) Personal Informa

Group Manager – Health, Safety & Environment
Idemitsu Australia Resources Pty Ltd



P: (07) 3222 5673

M: 4p4(6) Personal Informa

E: 4p4(6) Personal Inform@idemitsu.com.au

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Brisbane QLD 4000

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Ensham

R E S O U R C E S

Residual Void Project

Ensham Coal Mine

Terms of Reference

May 2017

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1 Introduction

The Ensham Coal Mine is operated under Environmental Authority EPML00732813, ~~dated 28 February 2017~~ (EA). Ensham Resources Pty Limited (ABN 23 011 048 678) (Ensham) is the operator of the Ensham Coal Mine (Ensham Mine).

Comment [BK1]: Superseded by recent amendment

The Holders of the EA are Bligh Coal Limited (ABN 20 010 186 393), Idemitsu Australia Resources Pty Ltd (ABN 45 010 236 272), and Natural Resources Investment (Australia) Pty Ltd (ABN 12 002 806 831).

As a result of extensive consultation, ~~in~~ on 28 February 2017, the Department of Environment and Heritage Protection (DEHP) amended the Ensham Mine EA, by agreement with the Holders of the EA. The main changes to the EA were associated with the "Land" conditions contained in Section Schedule G, and included the addition of a schedule of progressive rehabilitation and commissioning of a 2 year Residual Void Project (RV Project), focussing on the rehabilitation requirements relative to Residual Voids. The objective of the RV project is to nominate the final landform design for voids, both inside and outside the floodplain, including design objectives and rehabilitation success criteria.

The conditions of the EA set out the process for the identification of the residual voids outcome, including a scientific study (the residual void study) to be completed over the next two (2) years to determine the rehabilitation success criteria for the final voids (Conditions G9 – G24 of the EA).

The scientific study is to consider a number of options for meeting the requirements of condition G4 – Rehabilitation Success Criteria, including but not limited to possibly backfilling of voids within the footprint of the Probable Maximum Flood.

The outcomes of the scientific study will inform the determination of the Rehabilitation Success Criteria and final landform design which are required to satisfy Condition G4 – Rehabilitation Success Criteria and Condition 15 – Residual Voids.

G4	Rehabilitation success criteria
	All surface areas significantly disturbed by mining activities must be rehabilitated to a safe, stable and non-polluting landform, with a self-sustaining vegetation cover in accordance with Appendix 4: Rehabilitation success criteria .
	Underground workings must be rehabilitated to be safe, stable and non-polluting.

G15	Residual voids
	Residual voids must not cause any serious environmental harm to land, surface waters or any recognised groundwater aquifer, other than the environmental harm constituted by the existence of the residual void itself and subject to any other condition within this environmental authority.

2 Purpose

This document has been prepared by Ensham, on behalf of the Holders of the EA and sets out the Terms of Reference (ToR), ~~including the purpose, structure, scope and timing of the Residual Void Project (RV Project), compliant with Conditions G15 to G24, required by Condition G16 of EPML00732813 dated 28 February 2017, as detailed below:~~

Condition G16 – Residual Void Project

A Residual Void Project must be completed and submitted to the administering authority for review and comment by 31 March 2019, and must be comprised of the following at a minimum:

a. Terms of Reference;

b. Residual Void Study;

c. Progress Reports;

a. —Rehabilitation success criteria for voids.

~~The RV Project will be carried out in accordance with the ToR. These ToR have been developed in accordance with the requirements of EA EPML0000732813, specifically conditions G15 – G24. Consequently, the RV project is to be undertaken in accordance with these ToR, and approved by the administering authority.~~

3 Scope

~~As per Condition G17 of EA EPML00732813, the ToR is limited to the Residual Void Project required by Condition G16. This ToR is limited to the Residual Void Project required by condition G16, which is residual voids and associated infrastructure that currently protect the residual voids at Ensham Mine, not covered by existing approved Rehabilitation Success Criteria, as per the condition G17.~~

4 Objectives

~~The scope objectives of the RV Project are to:~~

- a) ~~Develop a final landform design for voids, which achieves compliance with EA EPML00732813 dated 28 February 2017, specifically investigate the options for rehabilitation of the final voids in accordance with condition G4 and conditions G15 to G24 inclusive; and~~
~~develop a final landform design for voids, to meet condition G15.~~
- b) ~~develop and provide rehabilitation success criteria for voids located both within and outside of the Nogoa River Floodplain in accordance with the requirements of condition G4, condition G16 and condition G20, and Appendix 4.~~

Schedules showing the estimated timing of planned project activities including EA reporting deadlines and the various technical and scientific investigations are attached at **Appendix A.**

~~The Project will include consideration of, but not limited to, the matters referred to in Condition G20 of the EA.~~

54 Structure of the RV Project

To assist in this process and to clearly identify each phase, the RV Project has been categorised into ~~sixfour~~ (46) distinct stages (the Stages):

1. Stage 1 – Site Description and Current Environmental Values
- ~~1-2~~ Stage 1-2 - Project Definition and Options Identification;
- ~~2-3~~ Stage 2-3 - Preferred Options Technical Studies;
- ~~3-4~~ Stage 3-4 - Preferred Options Detail Design; and
5. Stage 4-5 – Most Preferred Option Identification and Regulatory documentation; and
- ~~4-6~~ Stage 6 – Peer Review

Comment [CR2]: Ensham originally only included 4 stages for the structure of the RV Project. EHP have included additional stages to ensure that details on the site description and current EVs are included, as well as ensuring that the final document is peer reviewed to ensure that it meets the objectives of the RV Project.

How each stage combines to deliver compliance to Condition G20 is detailed further below.

4.1 Stage 1 - ~~Project Definition and Options Identification~~ Site Description and Current Environmental Values

Provide a description of the area within and surrounding the mining lease boundary that includes:

a) Pre-mining description of the area including:

- i. Topography and geomorphology;
- ii. Land use;
- iii. Vegetation type;
- iv. Water use;
- v. Flood extent including probable maximum flood;
- vi. Hydrological interactions (surface and groundwater); and
- vii. Hydraulic interactions

b) Current detailed description for each void including:

- i. Topography;
- ii. Hydrological interactions (surface and groundwater);
- iii. Geotechnical stability;
- iv. Soil quantity, quality and type;
- v. Waste rock characterisation;
- vi. Infrastructure;
- vii. Cross sections detailing the current height, width, depth, slope, area and volume; and
- viii. Flood extent including probable maximum flood, and mapping detailing where each void is in relation to the floodplain and PMF.

c) Provide current impacts of voids on environmental values (EV):

- i. Describe the existing EVs of the area including values and areas that may be affected by any cumulative impacts;
- ii. Explain how the EVs were derived, such as by citing published documents or by following a recognised procedure to derive the values; and
- iii. Details of the potential for hydraulic links between voids and any watercourses, waterways, drainage lines and other surface water features within and surrounding the mining lease boundaries and any identified groundwater interactions

Comment [BK3]: It is necessary to provide a site description and current environmental values of the Ensham Coal Mine as this will inform the initial options identification and following stages.

Comment [BK4]: This has been moved up to this stage from the options stage below.

Stage 2 – Project Definition and Options Identification

Comment [CR5]: The initial options must be identified in consideration of the purpose, objectives, site description and current environmental values.

The project definition must demonstrate how the management and rehabilitation of all voids located within the mine footprint is consistent with best practice environmental management. During the development of the project definition, consideration must be given to the *Guideline: Rehabilitation requirements for mining projects (EM1122)* the preferred hierarchy for managing likely impacts is: (a) to avoid; (b) to minimise or mitigate; and (c) if necessary, and possible, to offset.

Undertake a broad review of initial options available for rehabilitating the residual voids based on summary descriptions for each option achieving the requirements of the RV Project. The description of initial options should contain enough information to determine if the options are feasible based on the site description and current environmental values detailed Stage 1 and to assess the option against the RV Project objectives in Section 4 of the ToR. The review of options should be prepared having regard to the feasibility of the options and the purpose of the RV Project, as described in Section 2.

Each summary should include, to the extent relevant, current information pertaining to:-

- Topography;
- Hydrological interactions (surface and groundwater);
- Geotechnical stability;
- Soil quantity, quality and type;
- Waste rock characterisation;
- Infrastructure;
- Cross sections detailing the current height, width, depth, slope, area and volume; and
- Flood extent including probable maximum flood.

Comment [BK6]: Moved to new Stage 1

This information detailed in Stage 1 will be used to inform a triple bottom line risk based analysis process (or comparative alternative assessment method) of the initial options, which will be ranked in order of most preferred to least preferred.

Approvals Process

Provide details of the approvals required under current legislative frameworks for each option to be implemented and exist in perpetuity, including but not limited to approvals required by the below. Additionally, demonstrate how the approvals will be legally obtained.

Comment [BK7]: The approvals process needs to be considered as this forms part of the feasibility of the options. If the regulatory approval is not available for a specific option, then that option should not be taken forward.

- Environmental Protection Act 1994;
- Mineral Resources Act 1989;
- Water Act 2000;
- Queensland Health;
- Local council;
- Regional Interests Planning Act 2014;
- Environmental Offsets Act 2014;
- Native Title;
- Beneficial Use Agreements or End of Waste approvals under the Waste Recycling and Reduction Act 2011.

Community Consultation

Describe how public consultation will be undertaken for the RV project including:

- How interested parties and key stakeholders will be identified and informed of the RV project;
- When and how EHP will be consulted with and how the department can provide comment on the RV project;
- How public consultation will be undertaken and timing of public consultation; and
- How interested parties and stakeholders can provide comment on the RV project.

Consultation must be undertaken with the relevant emergency management authorities, including the Local Disaster Management Group.

Provide a flow chart indicating where the opportunities for public consultation and comment will occur.

Comment [BK8]: As there has been community concern in relation to previous flooding at Ensham Coal Mine and concerns around MAW releases, it is important that public consultation is undertaken for the project.

Ensham will take the two (2) most preferred options and also include the option of backfilling of the voids to PMF level (**the Preferred Options**) to Stage 32, the Preferred Options Technical Studies (in parallel). Note that the option of backfilling of the voids on the floodplain to PMF will be taken through all stages of the RV Project.

4.2—Stage 2-3 - Preferred Options Technical Studies

This Stage will build on Stage 1-2 to provide the technical information required to understand specific impacts for each of the Preferred Options.

Provide details of all studies that will be undertaken for each option including:

- A summary of each study;
- How each study will contribute to achieving the objectives of the RV project; and
- A schedule of when the studies will commence and be finalised.

All available baseline information relevant to the environmental risks of the option should be determined and included in the option description. Details are to be included about the quality of the information provided, in particular: the source of the information; how recent the information is; how the reliability of the information was tested; any uncertainties in the information and any assumptions made during the studies.

Consideration of impacts must include, but not be limited to Condition G20 of the EA and the social impacts (positive and negative) on affected communities and the economic impacts that may arise from implementation.

From a social and economic perspective, technical studies should (where appropriate) provide details of the risk to social and economic values for each of the Preferred Options. This should include potential risks to people and property that may be associated with each of the Preferred Options.

From an environment perspective, impacts of residual voids (if any) on environmental values (EV) should be identified. This includes describing the EVs for the existing residual voids and an assessment of the potential impacts on EV's for each of the Preferred Options. EVs are defined in Section 9 of the *Environmental Protection Act 1994*, *Environmental Protection Policies and other*

Comment [BK9]: The technical studies must include an environmental impact assessment for each option. Information detailed within the environmental impact assessment will help to inform the detailed design of the preferred options.

Comment [BK10]: This has been moved up to new Stage 1

relevant documents such as the Australian Water Quality Guidelines for Fresh and Marine Waters (ANZECC and ARMCANZ, 2000).

These EVs should be described referring to background information and studies to industry standards and included in relevant study reports. The RV Project must discuss available techniques and environmental protection measures, to control and manage impacts on identified EVs. Describe any computational model used to make predictions of impacts and/or outcomes of mitigation measures. The description should address the inputs, assumptions, limitations, sensitivities, accuracy and precision of the model.

In accordance with Condition G20 of the EA, assessment should consider potential impacts on water, land, climate and biodiversity EVs.

The age and reliability of information used in each study should be considered in determining suitability for use as should any uncertainties in the information and any assumptions made.

The technical study of the Preferred Options should be supported by a risk assessment that identifies the hazards relative to the study, analyses these hazards and qualifies the risk, including residual risk.

Unacceptable risks (if any) shall have control strategies developed and documented. Control strategies shall be prioritised on the basis avoiding, mitigating or managing the unwanted risk. This shall be done in a manner that documents the assessment of the overall acceptability either quantitatively or qualitatively.

On completion of each study Ensham shall will arrange for the Report documenting the study and any associated documentation to be peer reviewed in accordance with Stage 6 of the ToR, by a suitably qualified and experienced person. On completion of this work the Study, associated documents and the peer reviewer's report shall be forwarded to the regulator for consideration and feedback. Feedback shall be addressed in each Study.

This stage will determine which Options will be considered for detailed design with the overall output being a series of documented studies for each of the Preferred Options that details how each study will combine to achieve the purpose requirements of the RV Project.

Environmental Impact Assessment

Provide a detailed assessment of the potential impacts to EVs that may occur from the Preferred Options.

The RV project must describe the existing EVs of the area that may be affected by each Preferred Options, as detailed in the subheadings below. EVs are defined in section 9 of the Environmental Protection Act 1994, Environmental Protection Policies and other documents such as the Australian Water Quality Guidelines for Fresh and Marine Waters (ANZECC and ARMCANZ, 2000). EVs should be described referring to background information and studies, which should be included as appendices to the RV Project.

The RV project must describe the potential adverse and beneficial impacts of the Preferred Options on the identified EVs.

The RV project must examine viable alternative strategies for managing impacts. These alternatives should be presented and compared in consideration of the project objectives and any other identified standards to be achieved.

The RV project must discuss available techniques, including best practice, to control and manage impacts to the project objectives. This section should also detail the environmental protection measures

Comment [BK11]: The requirements of the EV assessment are spelt out in detail in the included information below.

Comment [CR12]: In order for the Preferred Options to be understood in their entirety it is important to perform an environmental impact assessment of the potential impacts to EVs that may occur from the options.

The assessment is not based on the impacts from residual voids, the assessment is based on the potential impacts from the options themselves.

This will also help to inform the detailed design stage and outcomes of the RV Project.

to be used in the planning, construction, operations, rehabilitation and decommissioning stages of each option investigated by the RV project and any associated works. Measures to prevent, or where prevention is not possible, minimise environmental harm and maximise environmental benefits of the Preferred Options should be described.

Describe any computational model used to make predictions of impacts and/or outcomes of mitigation measures. The description should address the inputs, assumptions, limitations, sensitivities, accuracy and precision of the model.

Any maps or figures showing the position of features or boundaries should use latitudes and longitudes on the GDA94 datum. Latitudes and longitudes on the GDA94 datum should also be used in the text to describe the locations of any features or boundaries that may be relevant to subsequent approvals.

To achieve this, a range of issues should be considered for each EV listed below.

Water

Provide an assessment on the potential impacts to water EVs.

General:

- Describe quantitatively the likely impacts of the project on the identified EVs of the area, including:
 - o a detailed assessment of the nature and extent of the likely short term and long term impacts;
 - o a statement about whether any impacts are likely to be unknown, unpredictable or irreversible;
 - o an analysis of the significance of the impacts; and
 - o any technical data and other information used or needed to make a detailed assessment of the impacts.

In particular:

- Provide details of any proposed impoundment, extraction, discharge, injection, use or loss of surface water or groundwater. Detail any significant diversion or interception of overland flow required. Include maps of suitable scale showing the location of diversions and other water-related infrastructure.
- Detail the chemical and physical characteristics of surface waters and groundwater within the area that may be affected and provide details of how each option investigated by the RV project may affect these properties.
- Identify the quantity, quality and location of all potential releases of water and waste-water, whether as point or diffuse sources (such as seepage or runoff). Assess the potential impacts of any releases on the quality and quantity of receiving waters taking into consideration the assimilative capacity of the receiving environment. Assess the potential impacts on downstream water quality and users.
- Provide details of the potential for hydraulic links between voids and any watercourses, waterways, drainage lines and other surface water features within and surrounding the mining lease boundaries and any identified groundwater interactions.
- Provide details of the likelihood and history of flooding, including the extent, levels and frequency of floods in and around the project site. Flood studies must include a range of annual exceedance probabilities for potentially affected waterways, based on observed data if available or use appropriate modelling techniques and conservative assumptions if there are no suitable observations. The flood modelling assessment must include local flooding due to short duration events from contributing catchments on-site, as well as larger scale regional flooding including the Nogoa River and associated catchments and watercourses downstream.

Provide management/mitigation strategies to be implemented to protect or enhance water EVs.

- Describe the practices and procedures that would be used to avoid or minimise impacts to the assimilative capacity of the receiving environment.
- Provide details of the risk to the EVs in the area including downstream water uses and users.

- Provide details of the risk to downstream water quality from each option investigated by the RV project
- Provide details of consideration of long-term monitoring required to ensure the proposed management/mitigation strategies are effective.

Describe the proposed measures to avoid or minimise impacts to the environment and any infrastructure associated with each option.

- Provide details of the risk to the environment and the integrity of the final landform for each option due to flooding.
- The assessment should include how each option may potentially impact on values away the project site (e.g. changing flooding characteristics).

Land

Provide an assessment on the potential impacts to land EVs.

General:

- Describe quantitatively the likely impacts of the project on the identified EVs of the area, including:
 - o a detailed assessment of the nature and extent of the likely short term and long term impacts
 - o a statement about whether any impacts are likely to be unknown, unpredictable or irreversible
 - o an analysis of the significance of the impacts
 - o any technical data and other information used or needed to make a detailed assessment of the impacts.

In particular:

- Describe methods to prevent or control erosion with regard to the long term stability of each proposed landform. Describe the prevention of soil loss in order to maintain land capability/ suitability, and the prevention of significant degradation of local waterways by suspended solids.
- Provide details of how each proposed landform will be safe, stable and non-eroding over time. Describe the final drainage and seepage control systems. Describe and illustrate each option in relation to flood levels up to and including the 'probable maximum flood level' based on the Bureau of Meteorology's 'probable maximum precipitation' forecast for the locality. Show the proposed final topography of the site on suitably scaled maps. Illustrate the proposed final land uses. Describe rehabilitation success criteria that would be used to measure progress and completion.
- Describe any proposals to divert creeks for each option. Describe the potential impacts of interfering with flow on the quantity and quality of water resources, and the final drainage and seepage control systems.

Provide details of the risk to the EVs in the area.

- Provide management/mitigation strategies to be implemented to protect or enhance land EVs.
- Provide details of consideration of long-term monitoring required to ensure the proposed management/mitigation strategies are effective.

Flora and Fauna

Provide an assessment on the potential impacts to biodiversity EVs.

General:

- Describe quantitatively the likely impacts of the project on the identified EVs of the area, including:
 - o a detailed assessment of the nature and extent of the likely short term and long term impacts

- o a statement about whether any impacts are likely to be unknown, unpredictable or irreversible
- o an analysis of the significance of the impacts
- o any technical data and other information used or needed to make a detailed assessment of the impacts.

The assessment should include, but not be limited to, the following key elements:

- Matters of state environmental significance and national environmental significance
- Terrestrial and aquatic ecosystems (including groundwater-dependent ecosystems) and their interaction
- Biological diversity including listed flora and fauna species and regional ecosystems
- The integrity of ecological processes, including habitats of threatened, near-threatened or special least-concern species
- The integrity of landscapes and places, including wilderness and similar natural places
- Chronic, low-level exposure to contaminants or the bio-accumulation of contaminants
- Impacts on native fauna due to water released, particularly those related to any form of toxicants.

Provide details of the risk to the EVs in the area.

- The assessment should include potential wildlife hazards.
- Provide management/mitigation strategies to be implemented to protect or enhance flora and fauna EVs.
- Provide details of consideration of long-term monitoring required to ensure the proposed management/mitigation strategies are effective.

Social and Economic

Provide details of the likely social impacts (positive and negative) on affected communities and the likely economic impacts arising from the implementation of the RV project. Quantify economic impacts where suitable data and methodology can be applied. Otherwise, these should be assessed qualitatively. Provide details of any economic gain or loss from any change in land use.

Provide details of the risk to social and economic values for each option.

- Describe the potential risks to people and property that may be associated with each option. The assessment should include potential hazards, accidents, spillages, fire and abnormal events that may occur, including estimated probabilities of occurrence.
- Provide details on the safeguards that would reduce the likelihood and severity of hazards, consequences and risks to persons, within and adjacent to the project area(s). Identify the residual risk following application of mitigation measures. Present an assessment of the overall acceptability of the impacts of the project in light of the residual uncertainties and risk profile.

Climate

Describe how the site's climate patterns may affect each option investigated by the RV project and how the impacts have been considered in the detailed design.

Describe the risk of water accumulation from rainfall, runoff, overland flow etc., and how this will be managed and/or disposed of.

The assessment should include potential wildlife hazards, natural events (for example, cyclone, storm tide inundation, flooding, and bushfire) and implications related to climate change.

Risk Assessment and Residual Risk

Complete a comprehensive risk assessment of the proposed Preferred Options based on consideration of the impacts to EV's identified in this stage. Include the following:

- Identify all risks, and their respective risk rating, currently associated with voids;
- Determine the risk rating associated with the option(s);
- The mitigation measure(s) or design feature(s) to address all identified risk(s);
- The residual risk(s), and their respective risk rating, following implementation of the design/mitigation measure.

Residual Risk is defined in the *Environmental Protection Act 1994* to include the risk that:

- Apparently satisfactory rehabilitation will, in the foreseeable future, fail to perform as predicted and require repair, replacement or maintenance;
- The area will require ongoing maintenance (commencing immediately); and
- Contaminants will be released and potentially cause environmental harm that will require monitoring or maintenance work.

Calculation of residual risk must be undertaken, in addition to the environmental risk assessment. Identify the residual risk following the application of mitigation measures. Present an assessment of the overall acceptability of the impacts for each option investigated by the project in light of the residual uncertainties and risk profile. -The Guideline Rehabilitation requirements for mining projects (EM1122) outlines the relationship between completion criteria and residual risk.

Although the administering authority will ultimately decide on the residual risk payment, the RV project shall determine the final residual risks and outline the ways in which the nominated outcome minimises any necessary residual risk payment.

4.3 Stage 3.4 - Preferred Options Detail Design

This Stage takes the technical studies for the Preferred Options and uses peer reviewed information to develop the detailed designs.

Preferred options investigated by the RV project should be described in sufficient detail to establish confidence in regard to the long term stability of the final landform, safety of access to the site after surrender of the lease, and the residual risks that would be transferred to either the subsequent landholder or to the state.

Provide a projected description for each Preferred Option, including:

- a) Staged design over the life of mine and into perpetuity;
- b) Timing of when rehabilitation works will commence and be completed;
- c) Final topography;
- d) Post-mining land use;
- e) Post-mining hydrological interactions (surface and groundwater);
- f) Geotechnical stability;
- g) Infrastructure;
- h) Cross sections detailing the height, width, depth, slope, area and volume;
- Flood extent including probable maximum flood.

Provide a flow chart indicating the key regulatory approvals for each Preferred Option.

~~In addition to the requirements contained in Condition G20 each design (through the life of the mine and at mine closure) shall include a detailed description of the Preferred Options and an indicative timing for when rehabilitation works will commence and be completed.~~

~~As a minimum the description of each of the Preferred Options will include:~~

~~final topography for all voids;~~

~~post mining land use for all voids;~~

~~cross sections detailing the height, width, depth, slope, area and volume for all voids; and~~

~~design drawings of sufficient quality to inform a quantity survey and pricing for required works identified in the technical studies.~~

~~Each Preferred Option Detailed Design shall be underpinned by a risk assessment that identifies the environmental hazards for the option, analyses these hazards and qualifies the risk of each hazard.~~

~~Identified risks with the potential to cause significant environmental harm shall have control strategies developed and documented in the detailed design. Control strategies shall be prioritised on the basis avoiding, mitigating or managing the unwanted risk. The reliability of information used in the design stage should be considered in determining suitability for use as should any uncertainties in the information and any assumptions made.~~

4.4 Stage 4.5 – Final Most Preferred Option Identification and Regulatory documentation

When Stages 1, 2, 3 and 3.4 have been completed, Ensham will determine the Final Most Preferred Option for submission to the regulator administering authority for approval by 31 March 2019.

Selection of the Final Option will be determined having regard to the following:

- ~~it must not cause any serious environmental harm to land, surface water or any recognised groundwater aquifer, other than the environmental harm constituted by the existence of the residual void itself and subject to any other condition within this environmental authority;~~
- ~~the financial implications; and~~
- ~~delivery of a post mining use and ownership in preference to relinquishment to the government.~~

Details of how the Final Most Preferred Option will be implemented, managed and maintained will be documented in this Stage including:

- a) the sequencing and staging of activities;
- b) new or altered works, structures and infrastructure necessary at all stages of development, whether on or off the mining leases or rights of way; and
- c) rehabilitation works to be undertaken.

- ~~rehabilitation success criteria for residual voids~~

~~Ensham are to provide details of regulatory approvals that may be required for implementation of the outcome of the RV Project. This submission must include:~~

~~a) The Residual Void Study;~~

~~b) The project timeline, including project milestones and progress reporting schedule;~~

c) Rehabilitation success criteria for voids.

Additionally, the RV project submission must be accompanied by the peer review, required by Stage 6 below.

Stage 6 – Peer Review of RV Project

Discuss the process by which the RV project will be reviewed by an independent suitably qualified third party.

All reports generated as part of the RV project must be peer reviewed by an independent suitably qualified third party, i.e. a person whose professional training or experience is relevant to the matters being considered.

When complete, a peer review must provide a report on the findings of the RV project and include a statutory declaration stating:

a) The extent to which the RV project complies with the conditions of the EA EPML0000732813, specifically condition G4, and Conditions G15 – G26 inclusive;

b) The extent to which the objectives outlined in the ToR have been achieved; and

c) The appropriateness of the **most** preferred option in achieving the objectives of the RV project.

Appendix A - Project schedules

Appendix A contains the following:

1. Page 1 - Master schedule for the RV Project;
2. Page 2 - Preferred Options Technical Studies schedule (Stage 2); and
3. Page 3 - Preferred Option Detail Design schedule (Stage 3).

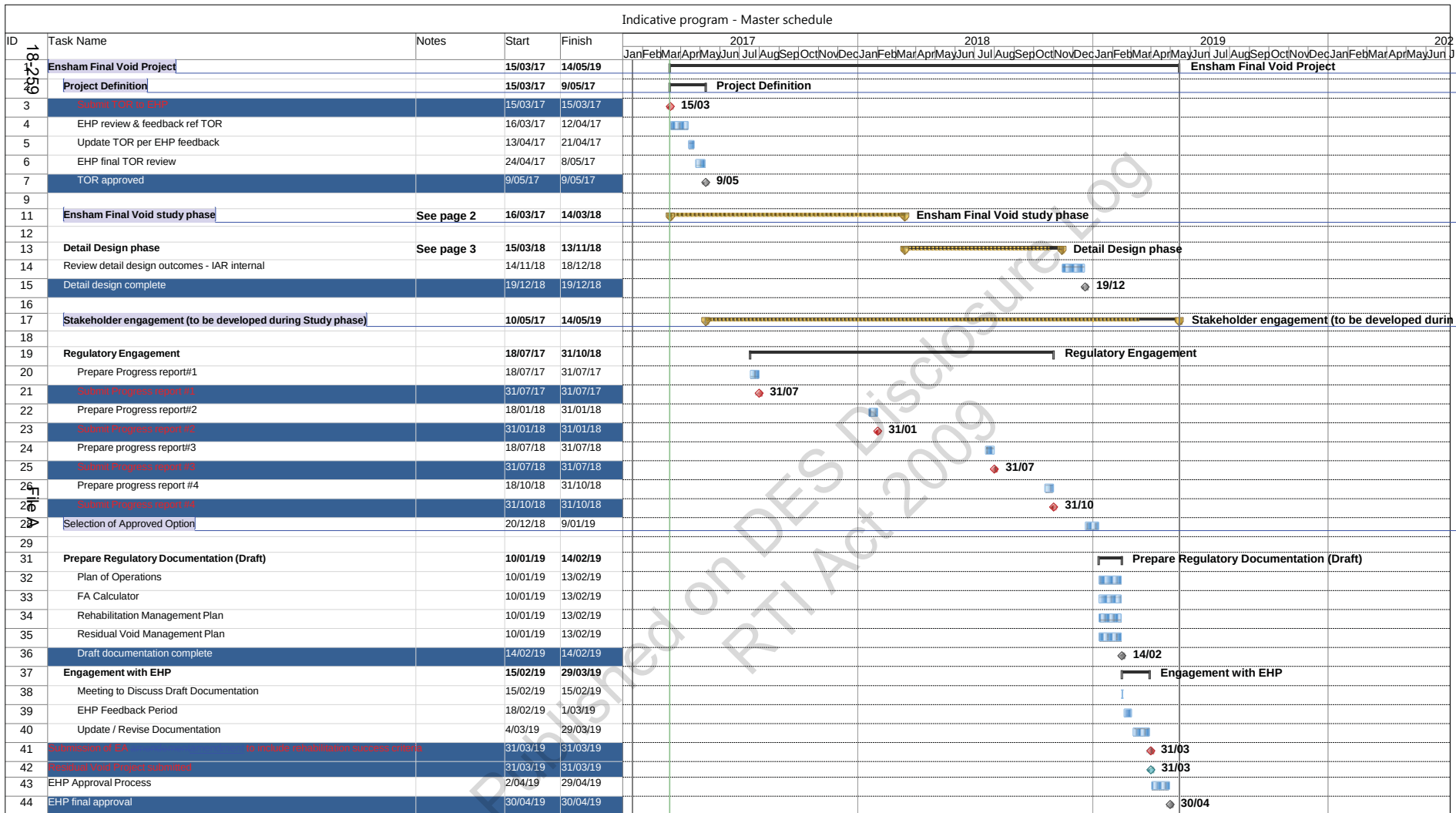
Program for the RV Project

Successful completion of each activity in each Stage may vary due to additional investigation requirements or unforeseen circumstances. All timelines within the RV Project may be changed at the discretion of Ensham, except for regulatory enforceable timelines under the conditions of the EA, which can only be changed with the agreement of DEHP.

Items identified in red in Appendix A represent enforceable timelines. Requests to alter regulatory enforceable timelines must be based on the merits at the time and approval must not be unreasonably withheld, particularly where the circumstances are reasonable or beyond the reasonable control of the Holder.

With the above stated it is the intention of Ensham to have the Project completed by **31 March 2019**, in accordance with Condition G16 of the EA.

Progress reports will be provided in accordance with condition G21 of the EA.



Comment [CR13]: This should be renamed as the Residual Void Project.

Comment [CR14]: This should be re-examined after the ToR has been approved as this is contained within the ToR.

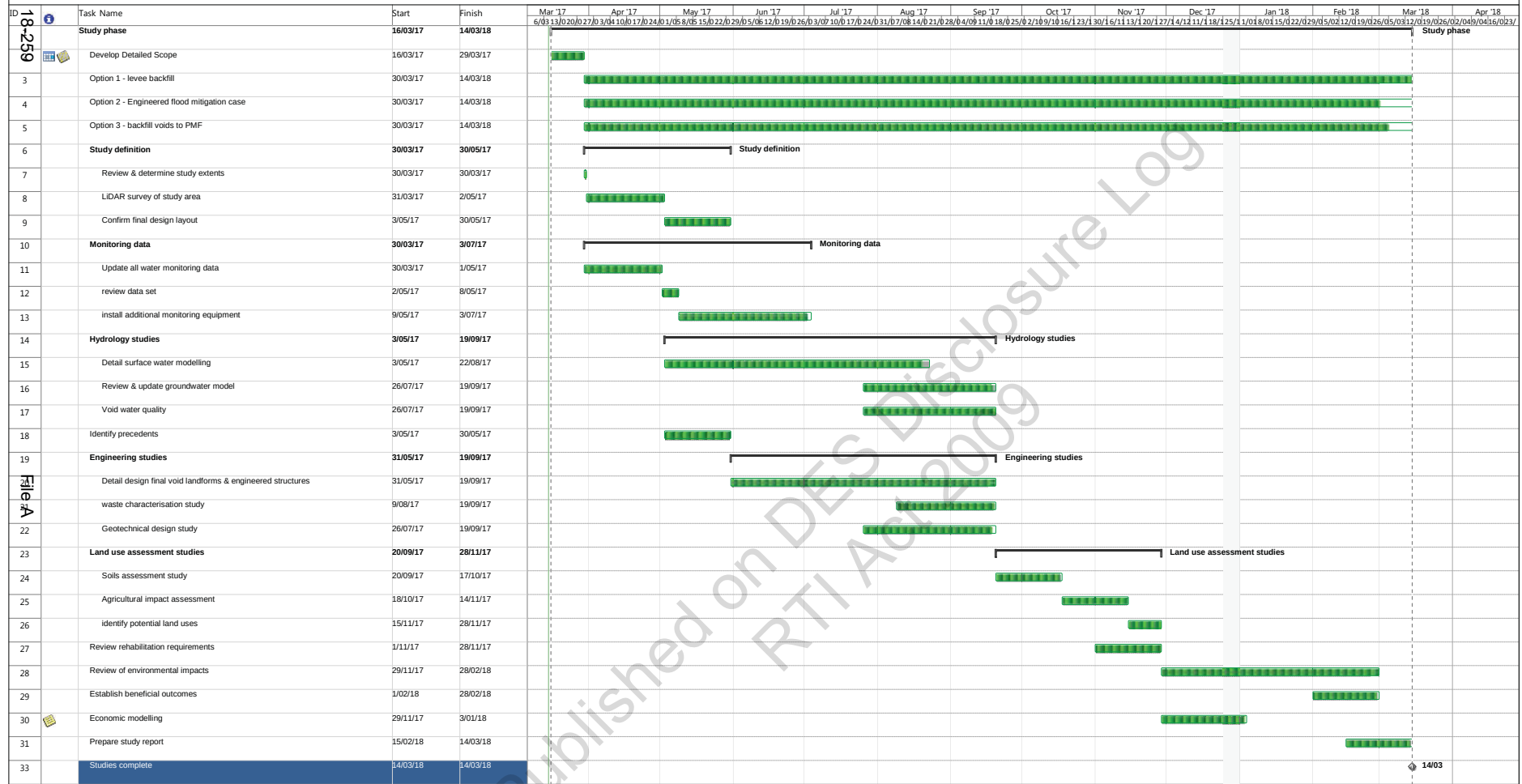
Comment [CR15]: Terminology should match that used throughout the ToR. Assume this is the technical studies stage?

Comment [CR16]: This should include community consultation. Or community consultation should be added as a separate line item.

Comment [CR17]: Assume this is selection of the most preferred Option?



Task Split		Inactive Task		Manual Summary Rollup		External Milestone	
Milestone		Inactive Milestone		Manual Summary		Deadline	
Summary		Inactive Summary		Start-only		Progress	
Project Summary		Manual Task		Finish-only		Manual Progress	
		Duration-only		External Tasks			



Task		Project Summary		Manual Task		Start-only		Finish-only		External Tasks		External Milestone
Split		Inactive Task		Duration-only		Manual Summary Rollup		Manual Summary		Manual Progress		
Milestone		Inactive Milestone										
Summary		Inactive Summary										

48-2568

Develop Detailed Scope

Options to investigate for Residual Voids in floodplain are to include but nor necessarily be limited to ~~identified~~ options. Options should consider minimising final void area and volume or otherwise to avoid causing serious environmental harm other than the existence of the Residual Void itself.

Economic modelling

Economic modelling includes:

- the initial cost of the option;
- ongoing operating costs (if any) including the potential to generate income to self fund costs;
- feasibility of option, and
- any social costs

Comment [CR18]: This will also need to include residual risk as detailed within the ToR.

File A

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Comment [CR19]: This needs to be consistent with the requirements and details within the ToR.

From: [redacted] sch4p4(6) Personal Information [redacted]@idemitsu.com.au]
Sent: Thursday, 15 June 2017 9:49 AM
To: BENNINK Kate; COPP Rachel
Subject: Darft Ensham ToR
Attachments: TOR - Final Voids project - edited final_13Jun2017.docx

[redacted] p4(6) Personal Informa

Group Manager – Health, Safety & Environment
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Published on DES Disclosure Log
RTI Act 2009



Ensham

R E S O U R C E S

Residual Void Project

Terms of Reference

June 2017

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1 Introduction

The Ensham Coal Mine is operated under Environmental Authority EPML00732813 (EA). Ensham Resources Pty Limited (ABN 23 011 048 678) (Ensham) is the operator of the Ensham Coal Mine (Ensham Mine).

The Holders of the EA are Bligh Coal Limited (ABN 20 010 186 393), Idemitsu Australia Resources Pty Ltd (ABN 45 010 236 272), and Natural Resources Investment (Australia) Pty Ltd (ABN 12 002 806 831).

On the 28 February 2017, the Department of Environment and Heritage Protection (DEHP) amended the Ensham Mine EA, by agreement with the Holders of the EA. The main changes to the EA were associated with the "Land" conditions contained in Schedule G, which included the commissioning of a Residual Void Project (RV Project), focussing on the rehabilitation requirements relative to Residual Voids.

The conditions of the EA set out the process for the identification of the residual voids outcome, including a scientific study (the residual void study) to be completed over the next two years to determine the rehabilitation success criteria for the final voids (Conditions G9 – G24 of the EA).

The scientific study is to consider several options for meeting the requirements of condition G4 – Rehabilitation Success Criteria, including but not limited to possibly backfilling of voids within the footprint of the Probable Maximum Flood (PMF).

The outcomes of the scientific study will inform the determination of the Rehabilitation Success Criteria which are required to satisfy Condition G4 – Rehabilitation Success Criteria and Condition G15 – Residual Voids (reproduced below).

G4	Rehabilitation success criteria All surface areas significantly disturbed by mining activities must be rehabilitated to a safe, stable and non-polluting landform, with a self-sustaining vegetation cover in accordance with Appendix 4: Rehabilitation success criteria . Underground workings must be rehabilitated to be safe, stable and non-polluting.
G15	Residual voids Residual voids must not cause any serious environmental harm to land, surface waters or any recognised groundwater aquifer, other than the environmental harm constituted by the existence of the residual void itself and subject to any other condition within this environmental authority.

2 Purpose

The purpose of this document is to detail the actions required to be completed as part of the Terms of Reference (ToR) as required by Condition G17 of EPML00732813 dated 28 February 2017, as detailed below:

Condition G16 – Residual Void Project

A Residual Void Project must be completed and submitted to the administering authority for review and comment by 31 March 2019, and must be comprised of the following at a minimum:

- a. *Terms of Reference;*
- b. *Residual Void Study;*
- c. *Progress Reports; and*
- d. *Rehabilitation success criteria for voids.*

3 Scope

This ToR is limited to the Residual Void Project required by condition G16, which is residual voids and associated infrastructure that currently protect the residual voids at Ensham Mine, not covered by existing approved Rehabilitation Success Criteria.

4 Objective

The objective of the RV project is to:

- Identify the rehabilitation criteria for the residual open cut mining voids at Ensham Mine to allow the mine to submit an EA amendment request in compliance with condition G24 and G15.

5 Structure of the RV Project

To assist in this process and to clearly identify each phase, the RV Project has been categorised into four distinct stages (**the Stages**):

- a. Stage 1 - Project Definition and Options Identification;
- b. Stage 2 - Preferred Options Technical Studies;
- c. Stage 3 - Preferred Options Detail Design; and
- d. Stage 4 – Most Preferred Option Identification and Regulatory documentation.

How each stage combines to deliver compliance to Condition G20 is detailed further in the schedules showing the estimated timing of planned project activities including EA reporting deadlines and the various technical and scientific investigations are attached at **Appendix A**.

5.1 Stage 1 – Project Definition and Options Identification

Undertake a broad review of initial options available for rehabilitating the residual voids based on summary descriptions for each option. The review of options should be prepared having regard to the feasibility of the options and the purpose of the RV Project, as described in Section 2.

Each summary should include, to the extent relevant, current information pertaining to:

- Topography;
- Hydrological interactions (surface and groundwater);
- Geotechnical stability;
- Soil quantity, quality and type;
- Waste rock characterisation;
- Infrastructure;
- Cross sections detailing the current height, width, depth, slope, area and volume; and
- Flood extent including PMF.

The information detailed will be used to inform a triple bottom line risk based analysis process (or comparative alternative assessment method) of the initial options, which will be ranked in order of most preferred to least preferred.

Approvals Process

Provide details of all approvals required under current legislative frameworks for the option being submitted by 30 March 2019. This includes how the approvals will be obtained.

Stakeholder Consultation

Describe how stakeholder consultation will be undertaken for the RV project including:

- How key stakeholders will be identified and informed of the RV project;
- When and how EHP will be consulted with and how the department can provide comment on the RV project;
- How stakeholders can provide comment on the RV project.

Comment [BK1]: As there has been community concern in relation to previous flooding at Ensham Coal Mine and concerns around MAW releases, it is important that public consultation is undertaken for the project.

Ensham will take the three most preferred options (**the Preferred Options**), including the option of backfilling of the voids to PMF level to Stage 3, being the Preferred Options Technical Studies (in parallel).

5.2 Stage 2 – Preferred Options Technical Studies

This Stage will build on Stage 1 to provide the technical information required to understand specific impacts for each of the Preferred Options.

Consideration of impacts must include, but not be limited to Condition G20 of the EA and the social impacts (positive and negative) on affected communities and the economic impacts that may arise from implementation.

From a social and economic perspective, technical studies should (where appropriate) provide details of the risk to social and economic values for each of the Preferred Options. This should

include potential risks to people and property that may be associated with each of the Preferred Options.

From an environment perspective, the impacts of residual voids (if any) on environmental values (EV) should be identified measured against the EVs for the existing voids.

Comment [BK2]: This has been moved up to new Stage 1

The age and reliability of information used in each study should be considered in determining suitability for use as should any uncertainties in the information and any assumptions made.

Comment [BK3]: The requirements of the EV assessment are spelt out in detail in the included information below.

The technical study of the Preferred Options should be supported by a risk assessment that identifies the hazards relative to the study, analyses these hazards and qualifies the risk, including residual risk.

On completion of each study Ensham shall arrange for the Report documenting the study and any associated documentation to be peer reviewed by a suitably qualified and experienced person. On completion of this work the Study, associated documents and the peer reviewer's report shall be forwarded to the regulator for consideration and feedback. Feedback shall be addressed in each Study.

This stage will determine which Options will be considered for detailed design with the overall output being a series of documented studies for each of the Preferred Options that details how each study will combine to achieve the requirements of the RV Project.

5.3 Stage 3 – Preferred Options Detail Design

This Stage takes the technical studies for the Preferred Options, including the output of the peer review process, to develop the detailed designs.

Preferred options investigated in this stage should be described in sufficient detail to inform a risk assessment on each option. Each risk assessment should include as a minimum the long-term stability of the final landform, safety of access to the site after surrender of the mining lease, and the residual risks that would be transferred to either the subsequent landholder or to the state.

The output of this stage for each Preferred Option should include where appropriate:

- a. Staged design over the life of mine, and into perpetuity where the land is being handed back to the State;
- b. Timing of when rehabilitation works will commence and be completed;
- c. Final topography;
- d. Post-mining land use;
- e. Post-mining hydrological interactions (surface and groundwater);
- f. Geotechnical stability;
- g. Infrastructure;
- h. Cross sections detailing the height, width, depth, slope, area and volume; and
- i. Flood extent including PMF.

Provide a flow chart indicating the key regulatory approvals required for each Preferred Option post approval of the EA amendment required by Condition G24.

The above works will be supported by a comprehensive risk assessment for each Preferred

Option as required by EM 1122 *Rehabilitation requirements for mining resource activities*.

5.4 Stage 4 – Final Option Identification and Regulatory documentation

When Stages 1, 2 and 3 have been completed. Ensham will determine the Final Option for submission to the administering authority for approval by **31 March 2019**.

Selection of the Final Option will be determined having regard to the following:

1. it must not cause any serious environmental harm to land, surface water or any recognised groundwater aquifer, other than the environmental harm constituted by the existence of the residual void itself and subject to any other condition within this environmental authority;
2. the financial implications; and
3. delivery of a post mining use and ownership in preference to relinquishment to the government.

Details of how the Final Option will be implemented, managed and maintained will be documented in this Stage including:

- a. the sequencing and staging of activities;
- b. new or altered works, structures and infrastructure necessary at all stages of development, whether on or off the mining leases or rights of way; and
- c. rehabilitation works to be undertaken.

The submission required by Condition G16 must include:

- a. The Residual Void Study;
- b. All reports required in Stages 1, 2 & 3 including any Peer review reports
- c. A Life of Mine Rehabilitation Management Plan, including the product of this Study; and
- d. Rehabilitation success criteria for voids.

Appendix A – Project schedules

Appendix A contains the following:

1. Page 1 - Master schedule for the RV Project;
2. Page 2 - Preferred Options Technical Studies schedule (Stage 2); and
3. Page 3 - Preferred Option Detail Design schedule (Stage 3).

Program for the RV Project

Successful completion of each activity in each Stage may vary due to additional investigation requirements or unforeseen circumstances. All timelines within the RV Project may be changed at the discretion of Ensham, except for regulatory enforceable timelines under the conditions of the EA, which can only be changed with the agreement of DEHP.

Items identified in red in Appendix A represent enforceable timelines. Requests to alter regulatory enforceable timelines must be based on the merits at the time and approval must not be unreasonably withheld, particularly where the circumstances are reasonable or beyond the reasonable control of the Holder.

With the above stated it is the intention of Ensham to have the Project completed by **31 March 2019**, in accordance with Condition G16 of the EA.

Progress reports will be provided in accordance with Condition G21 of the EA.

From: [redacted]@idemitsu.com.au]
Sent: Thursday, 15 June 2017 12:48 PM
To: BENNINK Kate; COPP Rachel
Subject:
Attachments: TOR - Final Voids project - edited final_15Jun2017 (2).docx

[redacted]

Group Manager – Health, Safety & Environment
Idemitsu Australia Resources Pty Ltd



P: (07) 3222 5673
M: [redacted]
E: [redacted]@idemitsu.com.au

Level 1, 60 Albert Street
Brisbane QLD 4000

Published on DES Disclosure Log
RTI Act 2009



Ensham

R E S O U R C E S

Residual Void Project

Terms of Reference

June 2017

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1 Purpose

The purpose of this document is to detail the actions required to be completed as part of the Residual Void Project (RV Project). ~~as required by Condition G17 of EPML00732813 dated 28 February 2017, as detailed below:~~

Condition G16 – Residual Void Project

~~A Residual Void Project must be completed and submitted to the administering authority for review and comment by 31 March 2019, and must be comprised of the following at a minimum:~~

2 Scope

The scope of the RV Project is detailed in Condition G16 of EPML00732813 dated 28 February 2017, as detailed below:

Condition G16 – Residual Void Project

~~A Residual Void Project must be completed and submitted to the administering authority for review and comment by 31 March 2019, and must be comprised of the following at a minimum:~~

- ~~a. Terms of Reference;~~
- ~~b. Residual Void Study;~~
- ~~c. Progress Reports; and~~
- ~~d. Rehabilitation success criteria for voids.~~

3 Objective

The objective of the RV project is to deliver the requirements in Condition G20, such that Ensham Mine can comply with Condition G24 of EPML00732813 dated 28 February 2017.

4 Structure of the RV Project

To assist in this process and to clearly identify each phase, the RV Project has been categorised into four distinct stages (the Stages):

- ~~a. Stage 1 - Project Definition and Options Identification;~~
- ~~b. Stage 2 - Preferred Options Technical Studies;~~
- ~~c. Stage 3 - Preferred Options Detail Design; and~~
- ~~d. Stage 4 – Most Preferred Option Identification and Regulatory documentation.~~

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How each stage combines to deliver the RV Project is detailed further in the schedules showing the estimated timing of planned project activities including EA reporting deadlines and the various technical and scientific investigations are attached at **Appendix A**.

4.1 Stage 1 – Project Definition and Options Analysis

Undertake an analysis of the options available for rehabilitating the residual voids, based on summary descriptions for each option. The analysis of options should be based on a triple bottom line risk based analysis process (or comparative alternative assessment method).

The output of this Stage is a report which details the options from most preferred to least preferred, allowing Stage 2 to commence.

4.2 Stage 2 – Preferred Options Technical Studies

Ensham will take the two most preferred options, plus the option of Backfilling of the Voids to PMF, through Stages 2, 3 and 4. These 3 options will be known as the Preferred Options for the RV Project.

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Each summary should include, to the extent relevant, current information pertaining to:

- Topography;
- Hydrological interactions (surface and groundwater);
- Geotechnical stability;
- Soil quantity, quality and type;
- Waste rock characterisation;
- Infrastructure;
- Cross sections detailing the current height, width, depth, slope, area and volume; and
- Flood extent including PMF.

Approvals Process

Provide details of all approvals required under current legislative frameworks for the option being submitted by 30 March 2019. This includes how the approvals will be obtained.

Stakeholder Consultation

Describe how stakeholder consultation will be undertaken for the RV project including:

- How key stakeholders will be identified and informed of the RV project;
- When and how EHP will be consulted with and how the department can provide comment on the RV project;
- How stakeholders can provide comment on the RV project.

Comment [BK1]: As there has been community concern in relation to previous flooding at Ensham Coal Mine and concerns around MAW releases, it is important that public consultation is undertaken for the project.

This Stage will build on Stage 1 to provide the technical information required to understand specific impacts for each of the Preferred Options.

Consideration of impacts must include, but not be limited to Condition G20 of the EA

and the social impacts (positive and negative) on affected communities and the economic impacts that may arise from implementation.

From a social and economic perspective, technical studies should (where appropriate) provide details of the risk to social and economic values for each of the Preferred Options. This should include potential risks to people and property that may be associated with each of the Preferred Options.

From an environment perspective, the impacts of residual voids (if any) on environmental values (EV) should be identified measured against the EVs for the existing voids.

Comment [BK2]: This has been moved up to new Stage 1

The age and reliability of information used in each study should be considered in determining suitability for use as should any uncertainties in the information and any assumptions made.

Comment [BK3]: The requirements of the EV assessment are spelt out in detail in the included information below.

The technical study of the Preferred Options should be supported by a risk assessment that identifies the hazards relative to the study, analyses these hazards and qualifies the risk, including residual risk.

On completion of each study Ensham shall arrange for the Report documenting the study and any associated documentation to be peer reviewed by a suitably qualified and experienced person. On completion of this work the Study, associated documents and the peer reviewer's report shall be forwarded to the regulator for consideration and feedback. Feedback shall be addressed in each Study.

This stage will determine which Options will be considered for detailed design with the overall output being a series of documented studies for each of the Preferred Options that details how each study will combine to achieve the requirements of the RV Project.

4.3 Stage 3 – Preferred Options Detail Design

This Stage takes the technical studies for the Preferred Options, including the output of the peer review process, to develop the detailed designs.

Preferred options investigated in this stage should be described in sufficient detail to inform a risk assessment on each option. Each risk assessment should include as a minimum the long-term stability of the final landform, safety of access to the site after surrender of the mining lease, and the residual risks that would be transferred to either the subsequent landholder or to the state.

The output of this stage for each Preferred Option should include where appropriate:

- a. Staged design over the life of mine, and into perpetuity where the land is being handed back to the State;
- b. Timing of when rehabilitation works will commence and be completed;
- c. Final topography;
- d. Post-mining land use;
- e. Post-mining hydrological interactions (surface and groundwater);
- f. Geotechnical stability;
- g. Infrastructure;
- h. Cross sections detailing the height, width, depth, slope, area and volume; and

- i. Flood extent including PMF.

Provide a flow chart indicating the key regulatory approvals required for each Preferred Option post approval of the EA amendment required by Condition G24.

The above works will be supported by a comprehensive risk assessment for each Preferred Option as required by *EM 1122 Rehabilitation requirements for mining resource activities*.

4.4 Stage 4 – Final Option Identification and **Regulatory documentation**

When Stages 1, 2 and 3 have been completed. Ensham will determine the Final Option for submission to the administering authority for approval by **31 March 2019**.

Selection of the Final Option will be determined having regard to the following:

1. it must not cause any serious environmental harm to land, surface water or any recognised groundwater aquifer, other than the environmental harm constituted by the existence of the residual void itself and subject to any other condition within this environmental authority;
2. the financial implications; and
3. delivery of a post mining use and ownership in preference to relinquishment to the government.

Details of how the Final Option will be implemented, managed and maintained will be documented in this Stage including:

- a. the sequencing and staging of activities;
- b. new or altered works, structures and infrastructure necessary at all stages of development, whether on or off the mining leases or rights of way; and
- c. rehabilitation works to be undertaken.

The submission required by Condition G16 must include:

- a. The Residual Void Study;
- b. All reports required in Stages 1, 2 & 3 including any Peer review reports
- c. A Life of Mine Rehabilitation Management Plan, including the product of this Study; and
- d. Rehabilitation success criteria for voids.**

Regulatory documentation

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Appendix A – Project schedules

Appendix A contains the following:

1. Page 1 - Master schedule for the RV Project;
2. Page 2 - Preferred Options Technical Studies schedule (Stage 2); and
3. Page 3 - Preferred Option Detail Design schedule (Stage 3).

Program for the RV Project

Successful completion of each activity in each Stage may vary due to additional investigation requirements or unforeseen circumstances. All timelines within the RV Project may be changed at the discretion of Ensham, except for regulatory enforceable timelines under the conditions of the EA, which can only be changed with the agreement of DEHP.

Items identified in red in Appendix A represent enforceable timelines. Requests to alter regulatory enforceable timelines must be based on the merits at the time and approval must not be unreasonably withheld, particularly where the circumstances are reasonable or beyond the reasonable control of the Holder.

With the above stated it is the intention of Ensham to have the Project completed by **31 March 2019**, in accordance with Condition G16 of the EA.

Progress reports will be provided in accordance with Condition G21 of the EA.

From: [redacted] sch4p4(6) Personal Information [redacted]@idemitsu.com.au]
Sent: Thursday, 15 June 2017 2:16 PM
To: COPP Rachel; BENNINK Kate
Subject:
Attachments: TOR - Final Voids project - edited final_15Jun2017 (2).docx

[redacted] p4(6) Personal Informa

Group Manager – Health, Safety & Environment
Idemitsu Australia Resources Pty Ltd



P: (07) 3222 5673
M: [redacted] p4(6) Personal Informa
E: [redacted] p4(6) Personal Informa [redacted]@idemitsu.com.au

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Brisbane QLD 4000

Published on DES Disclosure Log
RTI Act 2009



Ensham

R E S O U R C E S

Residual Void Project

Terms of Reference

June 2017

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1 Purpose

The purpose of this document is to detail the actions required to be completed as part of the Residual Void Project (RV Project). ~~as required by Condition G17 of EPML00732813 dated 28 February 2017, as detailed below:~~

Condition G16 – Residual Void Project

~~A Residual Void Project must be completed and submitted to the administering authority for review and comment by 31 March 2019, and must be comprised of the following at a minimum:~~

2 Scope

The scope of the RV Project is detailed in Condition G16 of EPML00732813 dated 28 February 2017, as detailed below:

Condition G16 – Residual Void Project

~~A Residual Void Project must be completed and submitted to the administering authority for review and comment by 31 March 2019, and must be comprised of the following at a minimum:~~

- a. ~~Terms of Reference;~~
- b. ~~Residual Void Study;~~
- c. ~~Progress Reports; and~~
- d. ~~Rehabilitation success criteria for voids.~~

3 Objective

The objective of the RV project is to deliver the requirements in Condition G20, such that Ensham Mine can comply with Condition G24 of EPML00732813 dated 28 February 2017.

4 Structure of the RV Project

To assist in this process and to clearly identify each phase, the RV Project has been categorised into four distinct stages (**the Stages**):

- ~~a-~~ Stage 1 - Project Definition and Options Identification;
- ~~b-~~ Stage 2 - Preferred Options Technical Studies;
- ~~c-~~ Stage 3 - Preferred Options Detail Design; and
- ~~d-~~ Stage 4 – Most Preferred Option Identification and Regulatory documentation.

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How each stage combines to deliver the RV Project is detailed further in the schedules showing the estimated timing of planned project activities including EA reporting deadlines and the various technical and scientific investigations are attached at **Appendix A**.

4.1 Stage 1 – Project Definition and Options Analysis

Undertake an analysis of the options available for rehabilitating the residual voids, based on summary descriptions for each option. The analysis of options should be based on a triple bottom line risk based analysis process (or comparative alternative assessment method).

The output of this Stage is a report which details the options from most preferred to least preferred, allowing Stage 2 to commence.

Ensham will take the two most preferred options (from Stage 1), plus the option of Backfilling of the Voids to Probable Maximum Flood level (PMF), through Stages 2, 3 and 4. For Stages 2 and 3 these 3 options will be known as the Preferred Options for the RV Project.

4.2 Stage 2 – Preferred Options Technical Studies

~~Ensham will take the two most preferred options (from Stage 1), plus the option of Backfilling of the Voids to Probable Maximum Flood level (PMF), through Stages 2, 3 and 4. For Stages 2 and 3 these 3 options will be known as the Preferred Options for the RV Project.~~

Stage 2 will start with an Environmental Values Workshop. The purpose of the workshop will be to identify which EV's are and are not impacted by each Preferred Option. Where an Environmental Value is:

- not impacted by the Preferred Option the reasons for this will be discussed in the Environmental Values Workshop Report.
- impacted by the Preferred Option the matter will be covered in a study. The relevant study must:
 - o provide a description of how the environmental value is likely to be affected by the Preferred Option; and
 - o detail any emissions or releases likely to be generated by the Preferred Option; and
 - o describe the risk and likely magnitude of impact on the environmental value; and
 - o detail the potential impacts that need to be managed for each Preferred Option. These management practices will be detailed in Stage 3: Preferred Options Detail Design.

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Stage 2 will include a series of individual studies covering, as a minimum, the below aspects. Each summary should include, to the extent relevant, current information pertaining to:

- Topography;
- Hydrological interactions (surface and groundwater);
- Geotechnical stability;
- Soil quantity, quality and type;
- Waste rock characterisation;
- Infrastructure;

- Cross sections detailing the current height, width, depth, slope, area and volume; and
- Flood extent including PMF.

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Each individual study should detail the current information pertaining to the aspect,

Approvals Process

Provide details of all approvals required under current legislative frameworks for the option being submitted by 30 March 2019. This includes how the approvals will be obtained.

Stakeholder Consultation

Describe how stakeholder consultation will be undertaken for the RV project including:

- How key stakeholders will be identified and informed of the RV project;
- When and how EHP will be consulted with and how the department can provide comment on the RV project;
- How stakeholders can provide comment on the RV project.

Comment [BK1]: As there has been community concern in relation to previous flooding at Ensham Coal Mine and concerns around MAW releases, it is important that public consultation is undertaken for the project.

This Stage will build on Stage 1 to provide the technical information required to understand specific impacts for each of the Preferred Options.

Consideration of impacts must include, but not be limited to Condition G20 of the EA and the social impacts (positive and negative) on affected communities and the economic impacts that may arise from implementation.

From a social and economic perspective, technical studies should (where appropriate) provide details of the risk to social and economic values for each of the Preferred Options. This should include potential risks to people and property that may be associated with each of the Preferred Options.

From an environment perspective, the impacts of residual voids (if any) on environmental values (EV) should be identified measured against the EVs for the existing voids.

Comment [BK2]: This has been moved up to new Stage 1

The age and reliability of information used in each study should be considered in determining suitability for use as should any uncertainties in the information and any assumptions made.

Comment [BK3]: The requirements of the EV assessment are spelt out in detail in the included information below.

The technical study of the Preferred Options should be supported by a risk assessment that identifies the hazards relative to the study, analyses these hazards and qualifies the risk, including residual risk.

On completion of each study Ensham shall arrange for the Report documenting the study and any associated documentation to be peer reviewed by a suitably qualified and experienced person. On completion of this work the Study, associated documents and the peer reviewer's report shall be forwarded to the regulator for consideration and feedback. Feedback shall be addressed in each Study.

This stage will determine which Options will be considered for detailed design with the overall output being a series of documented studies for each of the Preferred Options that details

how each study will combine to achieve the requirements of the RV Project.

4.3 Stage 3 – Preferred Options Detail Design

This Stage takes the technical studies for the Preferred Options, including the output of the peer review process, to develop the detailed designs.

Preferred options investigated in this stage should be described in sufficient detail to inform a risk assessment on each option. Each risk assessment should include as a minimum the long-term stability of the final landform, safety of access to the site after surrender of the mining lease, and the residual risks that would be transferred to either the subsequent landholder or to the state.

The output of this stage for each Preferred Option should include where appropriate:

- a. Staged design over the life of mine, and into perpetuity where the land is being handed back to the State;
- b. Timing of when rehabilitation works will commence and be completed;
- c. Final topography;
- d. Post-mining land use;
- e. Post-mining hydrological interactions (surface and groundwater);
- f. Geotechnical stability;
- g. Infrastructure;
- h. Cross sections detailing the height, width, depth, slope, area and volume; and
- i. Flood extent including PMF.

Provide a flow chart indicating the key regulatory approvals required for each Preferred Option post approval of the EA amendment required by Condition G24.

The above works will be supported by a comprehensive risk assessment for each Preferred Option as required by EM 1122 *Rehabilitation requirements for mining resource activities*.

4.4 Stage 4 – Final Option Identification and **Regulatory documentation**

When Stages 1, 2 and 3 have been completed. Ensham will determine the Final Option for submission to the administering authority for approval by **31 March 2019**.

Selection of the Final Option will be determined having regard to the following:

1. it must not cause any serious environmental harm to land, surface water or any recognised groundwater aquifer, other than the environmental harm constituted by the existence of the residual void itself and subject to any other condition within this environmental authority;
2. the financial implications; and
3. delivery of a post mining use and ownership in preference to relinquishment to the government.

Details of how the Final Option will be implemented, managed and maintained will be documented in this Stage including:

- a. the sequencing and staging of activities;

- b. new or altered works, structures and infrastructure necessary at all stages of development, whether on or off the mining leases or rights of way; and
- c. rehabilitation works to be undertaken.

The submission required by Condition G16 must include:

- a. The Residual Void Study;
- b. All reports required in Stages 1, 2 & 3 including any Peer review reports
- c. A Life of Mine Rehabilitation Management Plan, including the product of this Study; and
- d. Rehabilitation success criteria for voids.



Regulatory documentation

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Appendix A – Project schedules

Appendix A contains the following:

1. Page 1 - Master schedule for the RV Project;
2. Page 2 - Preferred Options Technical Studies schedule (Stage 2); and
3. Page 3 - Preferred Option Detail Design schedule (Stage 3).

Program for the RV Project

Successful completion of each activity in each Stage may vary due to additional investigation requirements or unforeseen circumstances. All timelines within the RV Project may be changed at the discretion of Ensham, except for regulatory enforceable timelines under the conditions of the EA, which can only be changed with the agreement of DEHP.

Items identified in red in Appendix A represent enforceable timelines. Requests to alter regulatory enforceable timelines must be based on the merits at the time and approval must not be unreasonably withheld, particularly where the circumstances are reasonable or beyond the reasonable control of the Holder.

With the above stated it is the intention of Ensham to have the Project completed by **31 March 2019**, in accordance with Condition G16 of the EA.

Progress reports will be provided in accordance with Condition G21 of the EA.

From: BENNINK Kate [Kate.Bennink@des.qld.gov.au]
Sent: Friday, 30 June 2017 12:56 PM
To: 4p4(6) Personal Informa
CC: COPP Rachel
Subject: ToR
Attachments: 20170630 TOR - Final Voids project - EHPv2.docx

Hi Personal I

As discussed yesterday, please see edited version of the ToR.

Cheers

Kate

Kate Bennink

Manager Environmental Services



Business Centre (Coal) | Coal and Central Queensland Compliance

Department of Environment and Heritage Protection

P 07 4987 9384 M 4(6) Personal Inform

99 Hospital Road, Emerald QLD 4720

PO Box 3028, Emerald QLD 4720



...make the move



Ensham

R E S O U R C E S

Residual Void Project

Terms of Reference

June 2017

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1 Purpose

The purpose of this document is to detail the actions to be completed as part of the Residual Void Project (RV Project) required by the Ensham Coal Mine Environmental Authority (EA) EPML00732813.

2 Scope

The scope of the RV Project is detailed in Condition G16 of EA EPML00732813 dated 26 May 2017, as detailed below:

Condition G16 – Residual Void Project

A Residual Void Project must be completed and submitted to the administering authority for review and comment by 31 March 2019, and must be comprised of the following at a minimum:

- a. Terms of Reference;*
- b. Residual Void Study;*
- c. Progress Reports; and*
- d. Rehabilitation success criteria for voids.*

3 Objective

The objective of the RV project is to deliver the requirements detailed in Condition G20 of the EA, such that Ensham Mine can achieve compliance with Condition G24 of EA EPML00732813 with the take effect date of 26 May 2017.

Condition G20:

*The Residual Void Project required by **Condition G16** must include, but not be limited to, the following:*

- a. options available for minimising final void area and volume;*
- b. design objectives for rehabilitation of final voids;*
- c. void hydrology, addressing the long-term water balance in the voids, connections to groundwater resources and water quality parameters in the long term;*
- d. pit wall stability, considering the effects of long-term erosion and weathering of the pit wall and the effects of significant hydrological events;*
- e. options available for minimising risk of flood interaction for all flood events up to and including the Probable Maximum Flood level;*
- f. void capability to support native flora and fauna; and*
- g. void rehabilitation success criteria and final void areas and volumes to meet the outcomes in **Condition G4**.*

Condition G24:

*Prior to **31 March 2019** the environmental authority holder must submit an Environmental Authority amendment application to populate **Appendix 4: Rehabilitation Success Criteria** with rehabilitation success criteria for voids and residual void areas and volumes.*

4 Stakeholder consultation

Ensham Mine must establish a Community Reference Group (CRG) for the purpose of stakeholder engagement. The CRG must provide an independent forum for open discussion between representatives of the community, local government, other relevant stakeholder groups and representatives of the EA holders and Ensham Mine on issues directly relating to the RV Project.

The CRG must provide a forum to at a minimum:

- Discuss the RV Project and raise any concerns with the Preferred Options;
- Review the reports and studies undertaken for the RV Project;
- Provide comments on the reports and studies undertaken for the RV Project;
- Discuss community concerns with the RV Project and Preferred Options.

Ensham Mine must recruit an independent chairperson for the CRG who must convene, organise and run meetings and other matters associated with the CRG. The chairperson must be supported by a secretariat funded by Ensham Mine. The CRG must run under a published charter that sets out:

- The purpose of the CRG;
- Membership;
- Functions of the CRG;
- Frequency, timing and location of meetings; and
- The Code of Conduct, to be administered by the Chair.

The charter must be provided to the administering authority for review and comment. Any comments made by the administering authority must be addressed and the charter resubmitted to the administering authority for approval. The approved charter must be made available on the Ensham Mine website.

Reports and documents developed throughout all stages of the RV Project must be provided to the CRG for review and comment. Evidence must be provided to the administering authority as to how the comments from the CRG are incorporated into the RV Project.

Minutes must be maintained for all CRG meetings. The minutes must record all discussions, issues raised, actions to be taken, when the actions are to be completed and by whom. Ensham Mine must ensure that a copy of each meetings minutes will be made available on the Ensham Mine's website and provided to the administering authority within 20 business days of each meeting.

5 Structure of the RV Project

To assist in this process and to clearly identify each phase, the RV Project is categorised into five distinct stages (**the Stages**):

Stage 1 - Project Definition and Options Identification;

Stage 2 - Preferred Options Technical Studies;

Stage 3 - Preferred Options Detail Design;

Stage 4 - Most Preferred Option Identification; and

Stage 5 - Regulatory documentation.

How each stage combines to deliver the RV Project is detailed in the following sections. Gantt charts showing the estimated timing of planned project activities including EA reporting deadlines and the various technical and scientific investigations are attached at Appendix A.

Stage 1 – Project definition and options analysis

In Stage 1 the EA holder must undertake an analysis of the options available for achieving the objective of the RV Project, based on summary descriptions for each option.

The summary descriptions must as a minimum include current information pertaining to:

- Topography;
- Hydrological interactions (surface and groundwater);
- Geotechnical stability;

- Soil quantity, quality and type;
- Waste rock characterisation;
- Infrastructure;
- Flood extent including PMF;
- Regulatory approvals.

The analysis of options must be a triple bottom line (TBL) risk based analysis process (or comparative alternative assessment method).

The output of Stage 1 must be a report that details the options from most preferred to least preferred including for each option:

- Summary description, and
- Risk assessment (from analysis using TBL or comparative alternative assessment method).

On completion, the Stage 1 report must be peer reviewed by an independent suitably qualified third party (i.e. a person whose professional training or experience is relevant to the matters being considered) before submission to administering authority for review and comment.

Ensham must take the two most preferred options (from Stage 1), plus the option of backfilling voids (to Probable Maximum Flood level (PMF) for those located in the floodplain), through Stages 2, 3 and 4. For Stages 2 and 3, these three options will be known as the Preferred Options for the RV Project.

Stage 2 – Preferred Options technical studies

Stage 2 must commence with an environmental values (EVs) workshop. The workshop must identify the EVs in the immediate and surrounding area of Ensham Mine and determine which EVs are likely to be affected by each Preferred Option.

Where it is determined that an EV is not likely to be affected by a Preferred Option, the reasons for this must be discussed and explained in the EVs workshop report.

Where it is determined that an EV is likely to be affected by a Preferred Option, an environmental assessment, including any necessary technical studies, must be completed for each EV. The level of detail in each environmental assessment must be consistent with **Appendix B** and:

- o provide a description of the EV that is likely to be affected by a Preferred Option; and
- o detail any emissions or releases likely to be generated by a Preferred Option relative to the EV; and
- o describe the risk and likely magnitude of impacts of a Preferred Option on the EV; and
- o describe the management practices to be implemented to prevent or minimise the potential impacts for a Preferred Option.

On completion, each environmental assessment, and any associated technical study report, must be peer reviewed by an independent suitably qualified third party (i.e. a person whose professional training or experience is relevant to the matters being considered) before submission to administering authority for review and comment.

Stage 3 – Preferred Options detail design

This stage utilises the technical studies completed in Stage 2 to develop the detailed designs required to prevent or minimise the potential impacts to EVs from each Preferred Option.

Detailed designs for each Preferred Option must be of sufficient quality and specification to inform a risk assessment on each Preferred Option.

Each risk assessment must include, as a minimum, the long-term stability of the final landform, safety of access to the site, and the residual risks as per the *Environmental Protection Act 1994* that the Preferred Option presents.

The output of this stage must be a report for each Preferred Option that evidences how designed management practices will be effectively implemented for each impact EV.

Each Preferred Option report must include:

- a staged implementation plan for the life of mine, and
- a flow chart indicating all regulatory approvals required for each Preferred Option post approval.
- On completion, each Preferred Option report will be peer reviewed by an independent suitably qualified third party (i.e. a person whose professional training or experience is relevant to the matters being considered) before submission to administering authority for review and comment.

Stage 4 – Final Option selection

In this stage Ensham Mine must use the output of stages 1, 2 and 3 to conduct a detailed TBL assessment to determine the Final Option for submission to the administering authority.

On completion, the TBL assessment must be peer reviewed by an independent suitably qualified third party (i.e. a person whose professional training or experience is relevant to the matters being considered) before submission to administering authority.

Stage 5 - Regulatory documentation

Details of how the selected Final Option will be implemented, managed and maintained will be documented for submission to the administering authority. The submission, as required by Condition G16, must include:

- a. The Residual Void Study;
- b. All reports required in stages 1, 2, 3 and 4 including peer review reports;
- c. A Life of Mine rehabilitation management Plan, including the product of this study; and
- d. Rehabilitation success criteria for voids as per Appendix 4: Rehabilitation Success Criteria.

Appendix A – Project schedules

Appendix A contains the following:

1. Page 1 - Master schedule for the RV Project;
2. Page 2 - Preferred Options technical studies schedule (Stage 2); and
3. Page 3 - Preferred Option detail design schedule (Stage 3).

Comment [BK1]: Gantt charts to be inserted for Appendix A

Program for the RV Project

Successful completion of each activity in each stage may vary due to additional investigation requirements or unforeseen circumstances. All timelines within the RV Project may be changed at the discretion of Ensham. However, all timeframes detailed within the conditions of the EA are not subject to change. Items identified in red in Appendix A represent enforceable timelines. Requests to alter enforceable timelines must be based on the merits at the time and approval must not be unreasonably withheld, particularly where the circumstances are reasonable or beyond the reasonable control of the Holder.

The RV Project will be completed by **31 March 2019**, in accordance with Condition G16 of the EA.

Progress reports will be provided in accordance with Condition G21 of the EA.

Appendix B – Environmental Assessment

Site description

Provide real property descriptions of the project land and adjacent properties, any easements, any existing underlying resource tenures, and identification number of any resource activity lease for the project land that is subject to the environmental assessment.

Describe and illustrate with scaled maps the key infrastructure in and around the site, including state-controlled and local roads, rail lines and loading yards, airfields, weirs and other waterway infrastructure, electricity transmission infrastructure, pipelines, and any other infrastructure in the region relevant to the project.

Describe and illustrate the topography of the project site and surrounding area, and highlight any significant features shown on the maps. Map the location and boundaries of the project's footprint including all infrastructure elements and development associated with the project. Show all key aspects including excavations, stockpiles, areas of fill, services infrastructure, plant locations, water or tailings storages, buildings, bridges and culvert, haul and access roads, causeways, stockpile areas, and any areas of bed levelling. Include discussion of any environmental design features of these facilities including bunding of storage facilities.

Describe and map in plan and cross-sections the geology and terrestrial landforms of the project area. Indicate the boundaries of water catchments that are significant for the drainage of the site. Show geological structures, such as aquifers, faults and economic resources that could have an influence on, or be influenced by, the project's activities.

Describe and illustrate the precise location of the project in relation to any designated and protected areas and waterbodies. This is to include the location of any buffers surrounding the working areas; and lands identified for conservation, either through retention in their current natural state or to be rehabilitated.

Describe, map and illustrate soil types and profiles of the project area at a scale relevant to the site. Identify soils that require particular management due to wetness, erosivity, depth, acidity, salinity or other feature, including acid sulfate soils.

Environmental matters

The environmental assessment must identify and describe the relevant environmental values, assess potential adverse and beneficial environmental, economic and social impacts of the project; and outline the management, monitoring, planning and other measures proposed to minimise any adverse environmental impacts of the project.

This must be addressed within the scope of the following requirements:

Environmental values

- i. Identify and describe the environmental values that must be protected for all the relevant matters. For the purposes of the environmental assessment process, 'environment' is defined in section 8 of the EP Act. Environmental values are specified in the EP Act, the EP Regulation (e.g. environmental objectives and performance outcomes as defined in schedule 5, part 3, tables 1 and 2), the *Vegetation Management Act 1999*, the *Nature Conservation Act 1992*, the *Regional Planning Interests Act 2014*, environmental protection policies (EPPs) and other relevant guidelines .
- ii. Consider all available baseline information relevant to the environmental risks of the project, including seasonal variations. Describe the quality of all information, in particular the source of the information, how recent the information is, how the reliability of the information was tested, and any uncertainties in the information.

Environmental assessment

- iii. Assess the impacts of the project on environmental values. Environmental assessment must address:
 - both short- and long-term scenarios, and state whether any relevant impacts are likely to be irreversible.

- consider when determining the scale of an impact, the impact's intensity, duration, cumulative effect, irreversibility, the risk of environmental harm, management strategies and offsets provisions.
- the potential for unforeseen impacts and the risks associated with unlikely but potentially major impacts should address direct, indirect, secondary
- cumulative, short, medium and long-term, permanent, temporary, positive and negative effects as well as impact interactions.

Cumulative impacts

- iv. Assess the cumulative impacts of the project on environmental values. Every effort should be made to find information from all sources relevant to the assessment of cumulative impacts. This must outline ways in which the cumulative environmental assessment and management could subsequently be progressed further on a collective basis. Environmental assessment must address cumulative impacts, including but not limited to:
- environmental values of land, air and water, public health and the health of terrestrial and aquatic ecosystems.

Management:

- v. Propose and describe avoidance, mitigation and management strategies for the protection or enhancement of identified environmental values. Proposed strategies must:
- Adhere to EHP's management hierarchy: (a) to avoid; (b) to minimise or mitigate; once (a) and (b) have been applied (c) if necessary and possible, to offset.
 - include an adaptive management approach to provide confidence that, based on current technologies, the impacts can be effectively managed over the long-term.
 - For unproven elements of the project (technology or activity), identify and describe any global leading practice environmental management that would apply.
- vi. Demonstrate that the design of the project and its predicted outcomes:
- meet the environmental objectives and outcomes listed in Table 1 and the performance outcomes stated in Schedule 5 of the EP Regulation.
 - are consistent with best practice environmental management.
 - meet all statutory and regulatory requirements of the Commonwealth, state and local government, including any relevant plans, strategies, policies and guidelines.

Table 1. The environmental objectives and outcomes relevant to the project (from Schedule 5 of EP Regulation and/or derived from current best practice environmental management)

Matter	Environmental objective and outcomes [#]
Land	<p>The activity is operated in a way that protects the environmental values of land including soils, subsoils, landforms and associated flora and fauna.</p> <p>The project avoids or minimises serious environmental harm on areas of high conservation value and special significance and sensitive land uses at adjacent places.</p> <p>The project protects all environmental values relevant to adjacent sensitive use.</p> <p>The design of the project is in accordance with best practice environmental management.</p>
Water	<p>The project will protect environmental values of waters.</p> <p>The project will protect the environmental values of groundwater and any associated surface ecological systems.</p> <p>The project will prevent or minimise adverse effects on wetlands.</p>
Water resources	<p>With regard to water resources, the project should meet the following objectives:</p> <ul style="list-style-type: none"> • equitable, sustainable and efficient use of water resources

	<ul style="list-style-type: none"> • maintenance of environmental flows and water quality to support the long term condition and viability of terrestrial, riverine, wetland, lacustrine, estuarine, coastal and marine ecosystems • maintenance of the stability of beds and banks of watercourses, and the shores of waterbodies, estuaries and the coast • maintenance of supply to existing users of surface and groundwater resources.
Flooding	The project will ensure that the risk and potential adverse impacts from flooding are avoided, minimised or mitigated to protect people, property and the environment.
Flora and fauna	<p>The project will protect the environmental values of land including soils, subsoils, landforms and associated flora and fauna.</p> <p>There will be no potential or actual adverse effect on a wetland from the project.</p> <p>The project minimises serious environmental harm on areas of high conservation value and special significance and sensitive land uses at adjacent places.</p> <p>The project protects all environmental values relevant to adjacent sensitive use.</p> <p>The project manages the impacts on the environment by seeking to achieve ecological sustainability, including, but not limited to, protected wildlife and habitat.</p> <p>Critical habitat receives special management considerations and protection through a management plan for the project.</p> <p>The project avoids significant residual impacts to matters of national environmental significance (MNES) and matters of state environmental significance (MSES), mitigates impacts where they cannot be avoided, and offsets any residual impacts.</p> <p>The project must be consistent with all statutory and regulatory requirements of the Commonwealth, state and local government and be consistent with their relevant plans, strategies, policies and guidelines that relate to the terrestrial and aquatic ecological environment.</p>
Biosecurity	<p>The project must ensure:</p> <ul style="list-style-type: none"> • the introduction and spread of weeds, pests and disease, pathogens and contaminants are avoided or minimised • existing weeds and pests are controlled, including biosecurity threats and their management • the performance outcomes correspond to the relevant policies, legislation and guidelines, and that sufficient evidence is supplied (through studies and proposed management measures) to show these outcomes can be achieved.
Air	The project will protect the environmental values of air.
Noise	The project will protect the environmental values of the acoustic environment.
Waste	Any waste is managed in a way that protects all environmental values.
Hazards and safety	<p>The project must ensure:</p> <ul style="list-style-type: none"> • the risk of, and the adverse impacts from, natural and man-made hazards are avoided, minimised or mitigated to protect people and property • the community's resilience to natural hazards is maintained or enhanced • the project prevents or minimises the production of hazardous contaminants and waste
Social and economic matters	<p>The project must aim to:</p> <ul style="list-style-type: none"> • avoid or mitigate adverse social and economic impacts arising from the project • capitalise on opportunities potentially available to affected communities for capable local industries and communities where this does not have a significant negative impact

	on the project or reduce net economic benefits to the state.
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1. Climate

Describe the project area's climate patterns that are relevant to the environmental assessment, with particular regard to discharges to water and air, and the propagation of noise. Climate data should be provided, as a minimum, in both statistical and descriptive form, and include long-term averages and extreme values.

Assess the vulnerability of the project to natural and induced hazards, including floods, bushfires and cyclones. Consider the relative frequency and magnitude of events together with the risk they pose to the project. Measures that would be taken to minimise the risks of these events should be described.

Assess the project's vulnerabilities to climate change (e.g. changing patterns of rainfall, hydrology, temperature and extreme weather events). Describe possible adaptation strategies (preferred and alternative) based on climate change projections for the region.

2. Land

Describe potential impacts of the project to land uses taking into consideration the proposed measures that would be used to avoid or minimise impacts. The impact prediction must address the following matters:

- Changes to the landscape and its associated visual amenity in and around the project area.
- Other resource tenements overlying or adjacent to the project site.
- Temporary and permanent changes to land uses of the project site and adjacent areas, considering actual and potential agricultural uses, regional plans and local government planning schemes, and any Key Resources Areas that were identified as containing important extractive resources of state or regional significance¹².
- Identify any existing or proposed incompatible land uses within and adjacent to the project, and include the impacts on economic resources.
- Identify any infrastructure proposed to be located within, or which may have impacts on, the Stock Route Network³⁴ and the *Stock Route Management Act 2002*.
- Propose suitable measures to avoid or minimise impacts related to land use.

Demonstrate that the project considers the requirements of the *Regional Planning Interests Act 2014*⁵, including any relevant Regional Plan. Further advice is provided in the '*DILGP Companion guide – A guide for state agencies and proponents on the requirements of the Regional Planning Interests Act 2014 in the planning and development process*' (Department of Infrastructure, Local Government and Planning, July 2016⁶) and the *DAFF Environmental assessment Companion Guide* (Department of Agriculture, Fisheries and Forestry, August 2014⁷).

¹ <https://www.business.qld.gov.au/industry/mining/quarries/key-resource-areas>

² <http://www.statedevelopment.qld.gov.au/resources/guideline/spp/spp-guideline-mining-extractive-resources.pdf>

³ <https://www.qld.gov.au/environment/land/stock-routes/about/>

⁴ https://www.dnrm.qld.gov.au/_data/assets/pdf_file/0010/99622/stock-route-management-strategy.pdf

⁵ <http://www.dilgp.qld.gov.au/planning/regional-planning/regional-planning-interests-act.html>

⁶ <http://www.dilgp.qld.gov.au/planning/regional-planning/rpi-act-forms-guidelines-and-fact-sheets.html>

⁷ <https://publications.qld.gov.au/dataset/daff-environmental-impact-assessment-companion-guide/resource/7b1825c4-5e42-4cf8-aa2d-7fa55c2f5e4c>

Show how the land form during and after disturbance will be stable over time and will meet any requirements of project or property plans under the *Soil Conservation Act 1986*.

Detail any known or potential sources of contaminated land from the project. Describe how any proposed land use may result in land becoming contaminated.

Identify existing or potential native title rights and interests possibly impacted by the project and the potential for managing those impacts by an Indigenous Land Use Agreement or other measure in accordance with the *Native Title (Queensland) Act 1993* and consistent with the Queensland Government *Native Title Work Procedures*⁸.

3. Rehabilitation

Conduct environmental assessment in accordance with the EHP's *environmental assessment information guideline—Rehabilitation* and EHP's *Rehabilitation requirements for mining resource activities*⁹.

The environmental assessment, as a minimum, should provide information based on relevant guidelines, current best practice approaches and legislative requirements about the strategies and methods for progressive and final rehabilitation of the environment disturbed by the project.

Develop a rehabilitation strategy that demonstrates how the site will be rehabilitated progressively over time, including the timing for successfully achieving the rehabilitation goals. Minimise the amount of land disturbed at any one time, and minimise the residual loss of land and water bodies with ecological or productive value. The goals and timing of the progressive rehabilitation strategy are to be presented in a table as milestones that must be met during the progressive rehabilitation of the project site, and how completion requirements can be measured, for the life of the project.

Illustrate and describe the expected final topography of the project site and proposed final land uses. Maps of the proposed final topography should have contours at suitable intervals, and as a minimum, show waste dumps, any residual voids, and any dams that would not be removed and rehabilitated. The maps should also illustrate flood levels up to and including the 'probable maximum flood level' based on the Bureau of Meteorology's 'probable maximum precipitation' forecast for the locality.

Provide a detailed description of the topsoil resource on site and how topsoil storage will be quantitatively and qualitatively managed for the life of the project to prevent topsoil loss from any disturbance areas and to ensure successful revegetation and rehabilitation. The description must include an inventory of topsoil and detail how topsoil will be stockpiled and used in progressive rehabilitation.

Describe rehabilitation completion criteria that would be used to measure progress and completion in relation to the final land uses and wildlife habitat areas. Describe how the achievement of the objectives would be monitored, audited and reported, and how corrective actions would be managed.

Notwithstanding that management techniques may improve over the life of the project, the environmental assessment needs to give confidence that all elements of the project are capable of being managed and rehabilitated to achieve acceptable land suitability, to be safe, stable, non-polluting and self-sustaining, and to prevent upstream and downstream surface and groundwater contamination.

4. Water quality

Conduct environmental assessment in accordance with the EHP's *environmental assessment information guideline—Water*.

⁸ <https://www.dnrm.qld.gov.au/land/indigenous-land/queensland-government-native-title-work-procedures>

⁹ <https://www.ehp.qld.gov.au/assets/documents/regulation/rs-gl-rehabilitation-requirements-mining.pdf>

With reference to the Environmental Protection (Water) Policy 2009 and section 9 the EP Act, identify the environmental values of surface waters within the project area and immediately downstream that may be affected by the project, including any human uses of the water and any cultural values.

Define the relevant water quality objectives applicable to the environmental values, and demonstrate how these will be met by the project.

Detail the chemical, physical and biological characteristics of surface waters and groundwater within the area that may be affected by the project and at suitable reference locations using sufficient data to define natural variation.

Describe the quantity, quality, location, duration and timing¹⁰ of all potential and/or proposed releases of contaminants. Releases may include controlled water discharges to surface water streams, uncontrolled discharges when the design capacity of storages is exceeded, spills of products during loading or transportation, contaminated run-off from operational areas of the site (including seepage from waste rock dumps), or run-off from disturbed acid sulphate soils.

Assess the likely impact of any releases from point or diffuse sources on all relevant environmental values of the receiving environment. The assessment should consider the quality and hydrology of receiving waters and the assimilative capacity of the receiving environment.

Describe how water quality objectives would be achieved and environmental impacts would be avoided or minimised through the implementation of management strategies that comply with the management hierarchy and management intent of the Environmental Protection (Water) Policy 2009. Appropriate management strategies may include the use of erosion and sediment control practices, and the separation of clean storm water run-off from the run-off from disturbed areas of the site.

Describe how monitoring would be used to demonstrate that objectives were being assessed, audited and met. For example, provide measureable criteria, standards and/or indicators that will be used to assess the condition of the ecological values and health of surface water environments. Propose corrective actions to be used if objectives are being met.

5. Water resources

Conduct environmental assessment in accordance with the EHP's *environmental assessment information guidelines—Water*.

Describe present and potential users and uses of water in areas potentially affected by the project, including municipal, agricultural¹¹, industrial, recreational and environmental uses of water.

Provide details of any proposed changes to, or use of, surface water or groundwater. Specifically address whether or not the project would take water from, or affect recharge to, aquifers of the Great Artesian Basin. Identify any applicable approval or allocation that would be needed under the *Water Act 2000* and the *Forestry Act 1959*.

Include maps of suitable scale showing the location of diversions and other water-related infrastructure in relation to the project. Detail any significant diversion or interception of overland flow.

Describe the options for supplying water to the project and assess any potential consequential impacts in relation to the objectives of any water plan and resource operations plan that may apply.

Describe how 'make good' provisions would apply to any water users that may be adversely affected by the project.

Describe the proposed supply of potable water for the project, including temporary demands. Also describe on-site storage and treatment requirements for waste water from accommodation and/or offices and workshops during the life of the project.

¹⁰ Duration and timing are important aspects of the risk characteristics that affect the impacts of mine water releases; e.g. for how long will water be released in total and when will it occur with respect to existing 'natural' flows

¹¹ <https://publications.qld.gov.au/dataset/daff-environmental-impact-assessment-companion-guide/resource/7b1825c4-5e42-4cf8-aa2d-7fa55c2f5e4c>

Describe the practices and procedures that would be used to avoid or minimise impacts on water resources.

Describe watercourse diversion design, operation and monitoring based on current engineering practice and the Department of Natural Resource Mines' (DNRM's) Guideline *Works that interfere with water in a watercourse—watercourse diversions*¹².

6. Flooding

Describe current flood risk for a range of annual exceedence probabilities up to the probable maximum flood for the project. Use flood modelling to assess how the project may potentially change flooding and run-off characteristics on-site and upstream and downstream of the site. The assessment should consider all infrastructure associated with the project including, as a minimum, levees, roads, and linear infrastructure, and all proposed measures to avoid or minimise impacts.

Describe and illustrate where any residual voids would lie in relation to the extent of the probable maximum flood.

Assess the project's vulnerabilities to climate change (e.g. changing patterns of rainfall, hydrology, temperature and extreme weather events). Describe possible adaptation strategies (preferred and alternative) based on climate change projections for the project.

7. Flora and fauna

Describe the potential direct and indirect impacts on the biodiversity and natural environmental values of affected areas arising from the project. Take into account any proposed avoidance and/or mitigation measures. The environmental assessment should provide information based on relevant guidelines, including but not limited to EHP's environmental assessment information guidelines that cover flora and fauna, aquatic ecology, coastal issues, ground-dependent ecosystems, water, matters of national environmental significance, and biosecurity. The assessment should include the following key elements:

- identification of all significant ecological species and communities, including MSES and MNES, listed flora and fauna species, and regional ecosystems, on the project's site and in its vicinity
- terrestrial and aquatic ecosystems (including groundwater-dependent ecosystems) and their interactions
- biological diversity
- the integrity of ecological processes, including habitats of listed threatened, near threatened or special least-concern species
- connectivity of habitats and ecosystems
- the integrity of landscapes and places, including wilderness and similar natural places
- chronic, low-level exposure to contaminants or the bio-accumulation of contaminants
- impacts (direct or indirect) on terrestrial and aquatic species and ecosystems whether due to: vegetation clearing; hydrological changes; discharges of contaminants to water, air or land; noise; etc.
- impacts of waterway barriers on fish passage.
- Describe any actions of the project that require an authority under the *Nature Conservation Act 1992*, and/or would be assessable development for the purposes of the *Vegetation Management Act 1999*, the *Regional Planning Interests Act 2014*, the *Fisheries Act 1994* and

¹² https://www.dnrm.qld.gov.au/data/assets/pdf_file/0015/212424/guideline-watercourse-diversions.pdf

the *Planning Act 2016*¹³. Features to consider include regional ecosystems, environmentally sensitive areas, wetlands, nature refuges, protected areas and strategic environmental areas.

Propose measures to avoid, minimise, mitigate and/or offset direct or indirect impacts on ecological environmental values. Assess how the nominated quantitative indicators and standards may be achieved for nature conservation management. In particular, address measures to protect or preserve any listed threatened, near-threatened or special least concern species.

Propose measures that would avoid the need for waterway barriers.

Assess the need for buffer zones and the retention, rehabilitation or planting of movement corridors. The assessment should take account of the role of buffer zones in maintaining and enhancing riparian vegetation to enhance water quality and habitat connectivity.

Propose rehabilitation success criteria, in relation to natural values, that would be used to measure progressive rehabilitation. Describe how the achievement of the objectives would be monitored and audited, and how corrective actions would be managed. Proposals for the rehabilitation of disturbed areas should incorporate, in suitable habitat, provision of nest hollows and ground litter.

Specifically address any obligations imposed by State or Commonwealth legislation or policy or international treaty obligations, such as the China–Australia Migratory Bird Agreement, Japan–Australia Migratory Bird Agreement, or Republic of Korea–Australia Migratory Bird Agreement.

8. Biosecurity

Conduct environmental assessment in accordance with the EHP's *environmental assessment information guideline—Biosecurity*.

Propose detailed measures to remove, control and limit the spread of pests, weeds disease, pathogens and contaminants on the project site and any areas under the proponent's control, particularly declared plants and animals under Queensland's *Biosecurity Act 2014*, the Commonwealth *Biosecurity Act 2015* and weeds of national significance (WONS). Weed and pest animal management measures should be aligned with local government pest management priorities.

Detail a monitoring program that would audit the success of measures, whether objectives have been met, and describe corrective actions to be used if monitoring shows that objectives are not being met.

9. Air

Describe the existing air environment at the project site and the surrounding region.

Provide an emissions inventory and description of the characteristics of contaminants or materials that would be released from point and diffuse sources and fugitive emissions when carrying out the project.

Predict the impacts of the releases from the activity on environmental values of the receiving environment using established and accepted methods and in accordance with the EP Regulation, Environmental Protection (Air) Policy 2008 (EPP (Air)), and EHP's *environmental assessment information guideline—Air*. The description of impacts should take into consideration the sensitivity and assimilative capacity of the receiving environment and the practices and procedures that would be used to avoid or minimise impacts. The impact prediction must address the cumulative impact of the release with other known releases of contaminants, materials or wastes associated with existing development and possible future development in the area (as described by approved plans and existing project approvals). It should also quantify the human health risk and amenity impacts associated with emissions from the project for all contaminants whether or not they are covered by the National Environmental Protection (Ambient Air Quality) Measure or the EPP (Air).

¹³ This is notwithstanding that the *Vegetation Management Act 1999* does not apply to mining projects. Refer also to <https://www.qld.gov.au/environment/land/vegetation/clearing/>

Describe the proposed mitigation measures and how the proposed activity will be consistent with best practice environmental management. The environmental assessment must address the compatibility of the project's air emissions with existing or potential land uses in surrounding areas. Potential land uses might be gauged from the zonings of local planning schemes, or State Development Areas, etc.

Describe how the objectives would be achieved, monitored, audited and reported, and how corrective actions would be managed for the project.

10. Noise and vibration

Describe and illustrate the locations of any sensitive receptors that are listed in Schedule 1 of the Environmental Protection (Noise) Policy 2008. Also describe any other environmental values that could be impacted by emissions from the project.

Fully describe the sources and characteristics of noise and vibration that would be emitted during the project. Conduct any noise and vibration environmental assessment in accordance with the EHP's environmental assessment *information guideline—Noise and vibration*. The assessment must address low-frequency (<200 Hz) noise emissions and potential cumulative impact of the project with other emissions of noise from any existing developments and known possible future development in the area.

Describe how the project would be managed to be consistent with best practice environmental management for noise and vibration. The environmental assessment must address the compatibility of the project's noise emissions with existing or potential land uses in surrounding areas. Potential land uses might be gauged from the zonings of local planning schemes, or State Development Areas, etc.

Describe how the environmental management objectives would be achieved, monitored, audited and reported, and how corrective actions would be managed.

11. Waste management

Conduct environmental assessment in accordance with the EHP's *environmental assessment information guidelines—Waste management*.

Describe all the expected waste streams from the project. Describe the quantity, and physical and chemical characteristics of each significant waste, any attributes that may affect its dispersal in the environment, and its associated risk of causing environmental harm.

Define and describe the objectives and practical measures for protecting or enhancing environmental values from impacts by wastes.

Assess and describe the proposed management measures against the preferred waste management hierarchy, namely: avoid and reduce waste generation; cleaner production; reduce; recycle; reuse; reprocess and reclaim; waste to energy; treatment; disposal. This includes the generation and storage of waste.

Describe how nominated quantitative standards and indicators may be achieved for waste management, and how the achievement of the objectives would be monitored, audited and managed.

Detail waste management planning for the project especially how measures have been applied to prevent or minimise environmental impacts due to waste.

Use a material/energy flow analysis to provide details of natural resource use efficiency (such as energy and water), integrated processing design, and any co-generation of power and by-product reuse.

Identify the quantity, quality and location of all potential discharges of water and contaminants (including treated wastewater/sewage) by the project. Describe whether the discharges would be from point sources (whether uncontrolled and controlled discharges) or diffuse sources (such as irrigation to land of treated wastewater/sewage effluent), and describe the receiving environment (such as land or surface waters).

Provide a risk assessment of the potential impacts on surface waters (in the near-field or far-field) due to any controlled or uncontrolled discharges from the site. The environmental assessment should address the following matters with regard to every potential discharge of contaminated water:

- Describe the circumstances in which controlled and uncontrolled discharges might occur.

- Provide stream flow data and information on discharge water quality (including any potential variation in discharge water quality) that will be used in combination with proposed discharge rates to estimate in-stream dilution and water quality. Chemical and physical properties of any waste water (including concentrations of constituents) at the point of entering natural surface waters should be discussed along with toxicity of effluent constituents to human health, flora and fauna.
- Provide an assessment of the available assimilative capacity of the receiving waters given existing background levels and other potential point source discharges in the catchment. Options for controlled discharge at times of natural stream flow should be investigated to ensure that adequate flushing of waste water is achieved.
- Provide water quality limits that are appropriate to maintain background water quality and protect water uses.
- Describe the necessary streamflow conditions in receiving waters under which controlled discharges will be allowed.

Identify beneficial use options under the *Waste Reduction and Recycling Act 2011*. The uses might include aquaculture, coal washing, dust suppression, construction, landscaping and revegetation, industrial and manufacturing operations, research and development and domestic, stock, stock intensive and incidental land management.

12. Hazards and safety

Describe the potential risks to people and property that may be associated with the project in the form of a risk assessment for all components of the project and in accordance with relevant standards. The assessment should address the following matters:

- potential hazards, accidents, spillages, fire and abnormal events that may occur during the project, including estimated probabilities of occurrence
- hazard analysis and risk assessment in accordance with *AS/NZS ISO 31000:2009 Risk management—principles and guidelines* and with *HB203:2006 Environmental risk management principles and processes*
- demonstrate that any major hazard facility involving dangerous and hazardous materials is appropriately located in accordance with *Planning Act 2016, State Development Assessment Provisions, Module 13*
- identify all hazardous substances and any explosives to be used, transported, stored, processed or produced and the rate of usage; evaluate the risks associated with the secure storage, use and transportation of explosives to ensure the risks are within an acceptable standard in accordance with *Australian Standard AS2187.1*¹⁴
- potential wildlife hazards, including a development of a mosquito management plan in accordance with Queensland Health guidelines¹⁵, natural events (e.g. cyclone, storm tide inundation, flooding, bushfire) and implications related to climate change and adaptation
- describe natural hazards that may affect the site with at least a 1% annual exceedance probability (AEP) or 100 year average reoccurrence interval (ARI) level, including mapping of the potential hazard areas at the site
- how siting, layout and operation of the development will avoid or mitigate the risks, particularly with regard to the release of hazardous materials during natural hazard events

¹⁴ Australian Standard AS 2187, Explosives-storage transport and use

¹⁵ E.g. Queensland Health – *Guidelines to minimise mosquito and biting midge problems in new developments*, available from <http://www.health.qld.gov.au/ph/documents/cdb/14804.pdf>

Provide details on the safeguards that would reduce the likelihood and severity of hazards, consequences and risks to persons, within and adjacent to the project area(s). Identify the residual risk following application of mitigation measures. Present an assessment of the overall acceptability of the impacts of the project in light of the residual uncertainties and risk profile.

Provide an outline of the proposed integrated emergency management planning procedures (including evacuation plans, if required) for the range of situations identified in the risk assessment developed in this section.

Outline any consultation undertaken with the relevant emergency management authorities, including the Local Disaster Management Group.

13. Social and economic

In accordance with the Coordinator-General's *Social environmental assessment guideline*¹⁶, assess the potential adverse and beneficial social impacts on affected communities, and the proposed mitigation measures for adverse impacts. The environmental assessment should at least address community and stakeholder engagement, workforce management, housing and accommodation, local business and industry content, health, and community well-being.

Also assess the potential adverse and beneficial economic impacts of the project. Quantify economic impacts where suitable data and methodology can be applied; otherwise, qualitatively assess the impacts.

If applicable, describe the strategies for accommodating the workforce resulting from the project.

¹⁶ <http://www.statedevelopment.qld.gov.au/resources/guideline/social-impact-assessment-guideline.pdf>

From: [sch4p4(6) Personal Information]@idemitsu.com.au]
Sent: Friday, 30 June 2017 2:43 PM
To: BENNINK Kate
CC: COPP Rachel
Subject: RE: ToR

Hello Kate,

Thank you for sending this through. I will take a day or two to work through the document in detail so I can provide dot point feedback as requested. In the interim I can advise that IAR do not agree with the changes made to this document.

Personally, I must admit to being surprised by the number of changes in this version given I thought we had in principle agreement to the contents before we left the room on the Thurs afternoon. As a 1st step to furthering our discussions I am keen to understand why the changes?

With respects to Condition G16 and the submission date of 31 March 2019. Up until now I have been able to do some minor work on the RV Project however the uncertainty generated by not having a finalised ToR means that I have been unable to progress the RV Project on the timeline initially contemplated to comply with the submission date of 31 march 2019, this date being 2 years from the approval of the EA requiring the RV Project. An extension of the submission date will need to be discussed at our next meeting. Idemitsu is of the thought that it is reasonable to move the submission date to reflect 2 years from the date of the agreed ToR. This would be consistent with the intent of the EA discussions, which never considered a significant delay in finalising the ToR and allowing the business to commence the RV Project.

To this end can I recommend that we book some time for next Wed, Thurs or Fri when I am back up in Emerald to sit down and work through this draft?

Regards
Dan

From: BENNINK Kate [mailto:Kate.Bennink@ehp.qld.gov.au]
Sent: Friday, 30 June 2017 12:57 PM
To: [4(6) Personal Inform
Cc: COPP Rachel
Subject: ToR

Hi [Personal

As discussed yesterday, please see edited version of the ToR.

Cheers
Kate

Kate Bennink

Manager Environmental Services

Business Centre (Coal) | Coal and Central Queensland Compliance

Department of Environment and Heritage Protection

P 07 4987 9384 M [sch4p4(6) Personal Inform

99 Hospital Road, Emerald QLD 4720

PO Box 3028, Emerald QLD 4720





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From: [sch4p4(6) Personal Information]@idemitsu.com.au]

Sent: Friday, 14 July 2017 1:32 PM

To: BENNINK Kate; COPP Rachel

Subject: draft Ensham ToR

Attachments: TOR - Final Voids project - final.pdf

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Ensham

R E S O U R C E S

Residual Void Project

Ensham Coal Mine

Terms of Reference

15 March 2017

Contents

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1 Purpose

Condition G16 of the Ensham Coal Mine Environmental Authority (EPML00732813) (EA) requires that a “Residual Void Project” (the Project) must be completed and submitted to the administering authority for review and comment. This document, the Terms of Reference (ToR), provides detail on the scope, structure and timing of the project studies.

The output of the Project is the identification of Completion Criteria for Residual Voids at end of mine life to meet Condition G15 of the EA so that *"residual voids must not cause any serious environmental harm to land, surface waters or any recognised groundwater aquifer, other than the environmental harm constituted by the existence of the residual void itself and subject to any other condition within this environmental authority"* and for Residual Voids to be safe, stable and non-polluting.

2 Scope

This study is limited to the mining Residual Voids and associated infrastructure that currently protect the Residual Voids at Ensham Coal Mine.

Schedules showing planned project activities including EA reporting deadlines and the various technical and scientific investigations are attached at Appendix A.

The Project will include consideration of the matters referred to in Condition G20 of the EA.

3 Structure

The attached schedules provide indicative details on the structure and timing of the project activities. Structure of the project is as follows:

- Project definition phase;
- Study phase;
- Detail design phase, and
- Regulatory documentation phase.

The schedules in Appendix A show the interaction and identified components of each phase.

4 Timeframe

The attached project schedules show the planned timeframes for each project activity. It should be noted that the planned activities and timeframes are dependent upon the

successful completion of preceding steps and timeframes for Project activities may vary due to additional investigation requirements or unforeseen circumstances or because of time delays in receiving comments from the administering authority.¹ Pages 2 and 3 of Appendix A set out the indicative program for studies forming part of the Project.

It is the intention of the Holder to have the Project completed by 31 March 2019, in accordance with Condition G16 of the EA. Progress reports will be provided in accordance with condition G21 of the EA.

5 Amendment to Terms of Reference

Amendments to these ToR may be made with the agreement of DEHP based on the merits at the time of any request, which request will not be unreasonably withheld and particularly, where the circumstances are reasonable or beyond the reasonable control of the Holder.

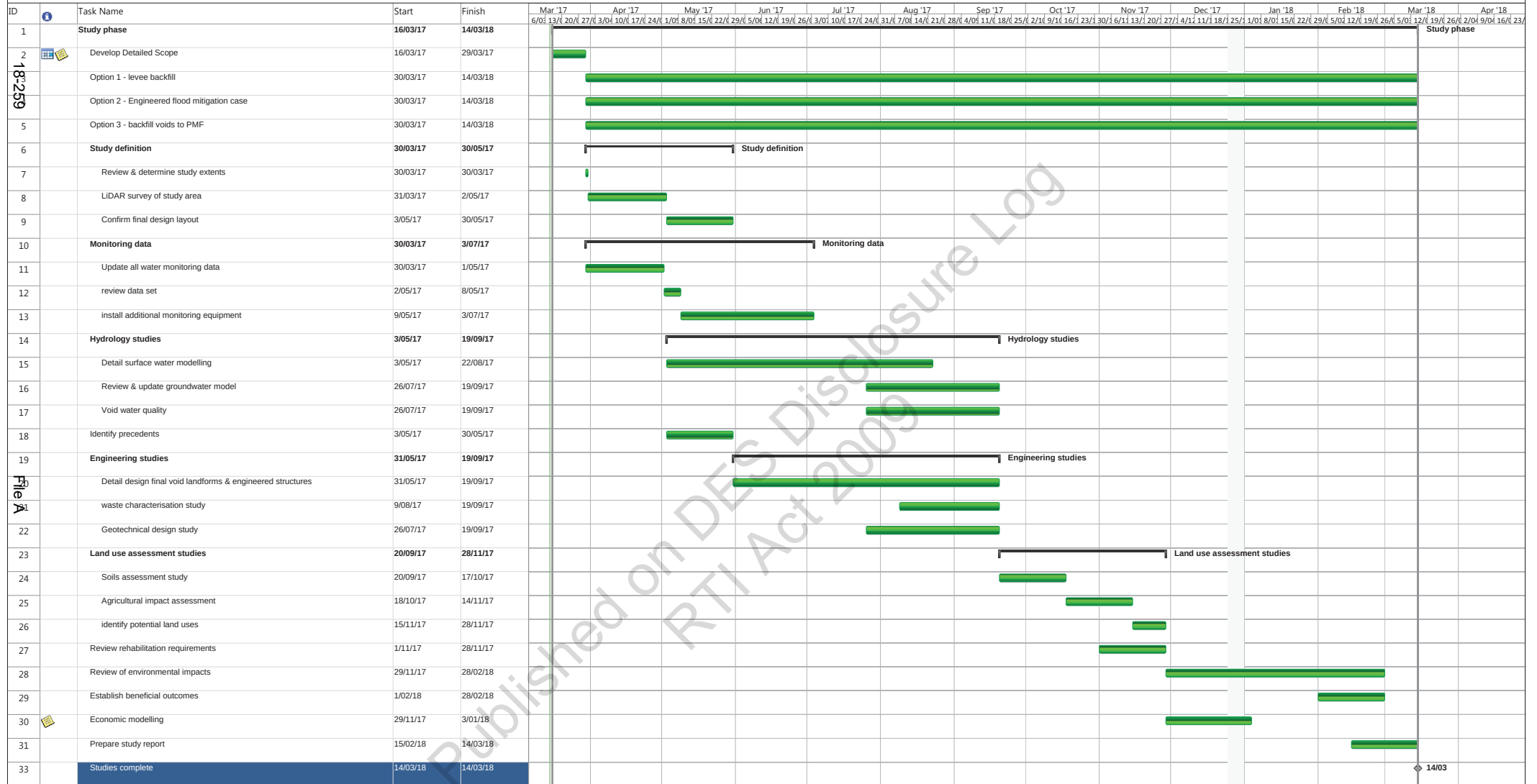
¹ the program has assumed response by administering authority in accordance

Appendix A – Project schedules

1. Indicative program - Master schedule
2. Indicative program of studies schedule
3. Indicative design stage schedule

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					Indicative program - Master schedule																																															
ID	Task Name	Notes	Start	Finish	2017												2018												2019												2020											
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	Ensham Final Void Project		15/03/17	14/05/19	Ensham Final Void Project																																															
2	Project Definition		15/03/17	9/05/17	Project Definition																																															
3	Submit TOR to EHP		15/03/17	15/03/17	15/03																																															
4	EHP review & feedback ref TOR		16/03/17	12/04/17																																																
5	Update TOR per EHP feedback		13/04/17	21/04/17																																																
6	EHP final TOR review		24/04/17	8/05/17																																																
7	TOR approved		9/05/17	9/05/17	9/05																																															
9																																																				
11	Ensham Final Void study phase	See page 2	16/03/17	14/03/18	Ensham Final Void study phase																																															
12																																																				
13	Detail Design phase	See page 3	15/03/18	13/11/18	Detail Design phase																																															
14	Review detail design outcomes - IAR internal		14/11/18	18/12/18																																																
15	Detail design complete		19/12/18	19/12/18	19/12																																															
16																																																				
17	Stakeholder engagement (to be developed during Study phase)		10/05/17	14/05/19	Stakeholder engagement (to be developed durin																																															
18																																																				
19	Regulatory Engagement		18/07/17	31/10/18	Regulatory Engagement																																															
20	Prepare Progress report#1		18/07/17	31/07/17																																																
21	Submit Progress report #1		31/07/17	31/07/17	31/07																																															
22	Prepare Progress report#2		18/01/18	31/01/18																																																
23	Submit Progress report #2		31/01/18	31/01/18	31/01																																															
24	Prepare progress report#3		18/07/18	31/07/18																																																
25	Submit Progress report #3		31/07/18	31/07/18	31/07																																															
26	Prepare progress report #4		18/10/18	31/10/18																																																
27	Submit Progress report #4		31/10/18	31/10/18	31/10																																															
28	Selection of Approved Option		20/12/18	9/01/19																																																
29																																																				
31	Prepare Regulatory Documentation (Draft)		10/01/19	14/02/19	Prepare Regulatory Documentation (Draft)																																															
32	Plan of Operations		10/01/19	13/02/19																																																
33	FA Calculator		10/01/19	13/02/19																																																
34	Rehabilitation Management Plan		10/01/19	13/02/19																																																
35	Residual Void Management Plan		10/01/19	13/02/19																																																
36	Draft documentation complete		14/02/19	14/02/19	14/02																																															
37	Engagement with EHP		15/02/19	29/03/19	Engagement with EHP																																															
38	Meeting to Discuss Draft Documentation		15/02/19	15/02/19																																																
39	EHP Feedback Period		18/02/19	1/03/19																																																
40	Update / Revise Documentation		4/03/19	29/03/19																																																
41	Submission of EA amendment to include rehabilitation success criteria		31/03/19	31/03/19	31/03																																															
42	Residual Void Project submitted		31/03/19	31/03/19	31/03																																															
43	EHP Approval Process		2/04/19	29/04/19																																																
44	EHP final approval		30/04/19	30/04/19	30/04																																															
<div><div><div></div></div><div><div>Task</div><div>Split</div><div>Milestone</div><div>Summary</div><div>Project Summary</div></div><div><div><div></div><div></div><div></div><div></div><div></div></div><div><div>Inactive Task</div><div>Inactive Milestone</div><div>Inactive Summary</div><div>Manual Task</div><div>Duration-only</div></div></div><div><div><div></div><div></div><div></div><div></div><div></div></div><div><div>Manual Summary Rollup</div><div>Manual Summary</div><div>Start-only</div><div>Finish-only</div><div>External Tasks</div></div></div><div><div><div></div><div></div><div></div><div></div><div></div></div><div><div>External Milestone</div><div>Deadline</div><div>Progress</div><div>Manual Progress</div></div></div><div><div><div></div><div></div><div></div><div></div><div></div></div></div></div>																																																				
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15/03/17 1:44 PM																																																				



2 **Develop Detailed Scope**

Options to investigate for Residual Voids in floodplain are to include but nor necessarily be limited to identified options. Options should consider minimising final void area and volume or otherwise to avoid causing serious environmental harm other than the existance of the Residual Void itself.

18-259

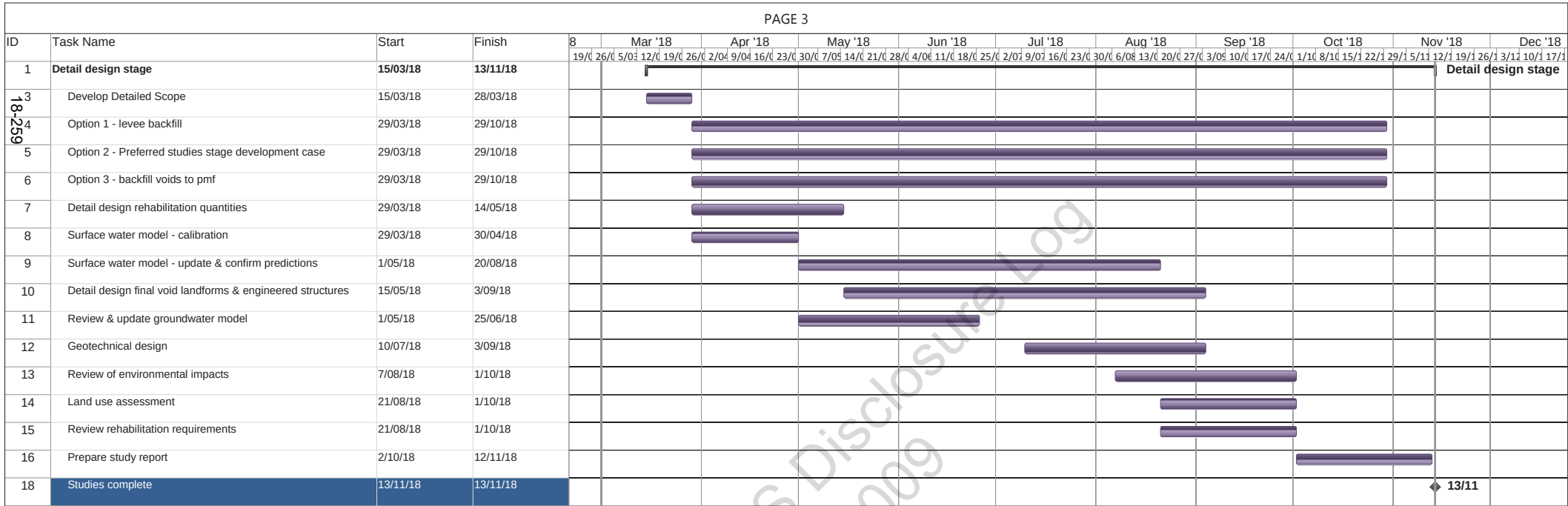
Economic modelling

- Economic modelling includes:
- the initial cost of the option;
 - ongoing operating costs (if any) including the potential to generate income to self fund costs;
 - feasibility of option, and
 - any social costs

File A

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File A



Task		Inactive Task		Manual Summary Rollup		External Milestone
Split		Inactive Milestone		Manual Summary		Deadline
Milestone		Inactive Summary		Start-only		Progress
Summary		Manual Task		Finish-only		Manual Progress
Project Summary		Duration-only		External Tasks		

From: BIRCH Kerynne [Kerynne.Birch@des.qld.gov.au]
Sent: Wednesday, 9 August 2017 11:06 AM
To: [p4(6) Personal Informa@idemitsu.com.au]
CC: ALLAN Charissa; COPP Rachel; BENNINK Kate
Subject: Residual Void Project Progress report additional information

Good morning [Personal]

Thank you for your time on the phone just now. As discussed, we have agreed to a due date of 30 August 2017 for you to provide the information requested by Charissa to support the Residual Void Progress Report. This is 15 business days considering the Ekka show public holiday.

As discussed, please contact Charissa to work through the detail of the request and I encourage you to maintain an open dialogue with Charissa regarding the negotiation of any future due dates or information requirements associated with the Residual Void Project.

Kind regards

Kerynne

Kerynne Birch

Director

Business Centre Coal I Coal and Central Qld Compliance

Department of Environment and Heritage Protection



P 07 4987 9343 M [p4(6) Personal Informa]
99 Hospital Road, Emerald QLD 4720
PO Box 3028, Emerald QLD 4720

From: COPP Rachel [Rachel.Copp@des.qld.gov.au]
Sent: Thursday, 26 October 2017 5:06 PM
To: [redacted] Personal Information ALLAN Charissa
CC: [redacted] Personal Information BENNINK Kate
Subject: RE: Residual Void Project Progress Report - Ensham Coal Mine

Good afternoon [redacted] Personal

Thank you for your email.

With respect to your comments, the department does not consider the scope of the definition of “independent” as unreasonably broad, nor would it unreasonably impact the implementation of the RV Project. The department considers prior involvement in the RV Project to negate a person’s independence from the EA holders and the RV Project. It is on this basis that the department does not consider Dr Cherie McCullough as an independent, third party, suitably qualified peer reviewer.

The department acknowledges that there is an existing definition in the Ensham EA for a “Suitably qualified person” in relation to rehabilitation, which means: one who holds relevant professional qualifications to the satisfaction of the administering authority; AND demonstrated knowledge, experience and expertise in relevant fields as set out below:

- a) rehabilitation practices for resource activities; and
- b) a total of five years of suitable experience and demonstrated expertise in the following categories:
 - I. coal mine site rehabilitation;
 - II. development of rehabilitation management plans and monitoring programs; and
 - III. Assessment of rehabilitation performance indicators in the resources industry.

This department considers that this definition should be used when considering the suitably qualified third party for the peer reviewer as this is consistent with the example provided in the ToR i.e. “a person who has professional training or experience relevant to the matters being considered.” However, the EA definition does not incorporate the requirement for the suitably qualified third party to be independent. As such, the department considers that for the peer reviewer to be accepted as “independent” this person must meet the below criteria:

- a person who is not a current employee of any of the environmental authority holders, including Bligh Coal Limited, Idemitsu Australia Resources Pty Ltd and Natural Resources Investment (Australia) Pty Ltd, or their subsidiary companies;
- a person who is not an employee at Ensham Coal Mine during the term of the RV Project;
- a person whose current employer (if not self-employed) will not be engaged in any aspect of the RV Project;
- a person whose current employer (if not self-employed) will not be engaged in any work associated with rehabilitation or closure at Ensham Coal Mine during the term of the RV Project; and
- a person who has not been involved in any aspect of the current, or previous, RV Project(s).

The department is committed to working with Idemitsu to ensure it meets its environmental obligations and commitments.

Kind regards,

Rachel Copp
Team Leader
Business Centre (Coal) | Coal and Central QLD Compliance
Department of Environment and Heritage Protection



P 07 4987 9339
99 Hospital Road, Emerald QLD 4720

From: [redacted] [mailto:[redacted]@idemitsu.com.au]
Sent: Monday, 16 October 2017 3:43 PM
To: COPP Rachel <Rachel.Copp@ehp.qld.gov.au>; ALLAN Charissa <Charissa.Allan@ehp.qld.gov.au>
Cc: [redacted]@ensham.com.au>; [redacted]@ensham.com.au>
Subject: RE: Residual Void Project Progress Report - Ensham Coal Mine

Good afternoon Rachel,

Thank you for recognising that [redacted] meets the criteria for the independent Chairperson for the Community Reference Group.

With respects to your comments regarding [redacted] and your reference of what the Department considers an "independent, third party, suitably qualified person for peer reviewer" as required by the agreed Terms of Reference. We note that "suitably qualified and experienced person" is defined in the EA with further guidance available from the "Assessing a suitably qualified person Guideline".

With respect, we do not accept the "independent expert" criteria you have proposed as there is no apparent legal grounding for the Department's interpretation of "independent": In particular:

- The Environmental Authority, Environmental Protection Act 1994 and Terms of Reference do not provide a definition of "independent expert".
- The Terms of Reference only state that an independent, suitably qualified person is "a person whose professional training or experience is relevant to the matters being considered".
- The scope of the definition of an "independent" expert provided is so broad that it would unreasonably impact the implementation of the RV Project by:
 - ruling out anyone that has been employed (which has not been defined) by any of the EA holders or their subsidiaries. This would excessively limit the relatively small pool of experts with relevant experience available to be an independent expert, as this would also extend to experts that have been engaged in other projects or had any involvement with any of the EA holders or their subsidiaries. There is only a finite number of experts with relevant experience in this field.
 - ruling out anyone who has worked at or for Ensham Coal Mine previously or during the term of the RV Project. This rules out those that have had no interest, relationship or involvement with the RV Project.
 - ruling out anyone whose current employer is engaged in any aspect of the RV Project may be impractical and does not take into account standard practices for information barriers. It may also impact those that have been sub-contracted for a discreet and separate project by an employer in the past.
 - ruling out anyone that has been involved in any aspect of a previous RV Project is unreasonable to the extent that they have not been involved in the events currently at issue with the RV Project.

A person should not be precluded as an independent, third party, suitably qualified person for peer reviewer because they have had previous involvement with the Ensham project or even the RV Project, so long as their interest is disclosed and they are able to confirm that there is no existing relationship or interest that would jeopardise their ability to apply independent thinking and inform an independent judgment.

In order to ensure reasonable and proper implementation of the RV Project I can offer the below draft definition for an independent, third party, suitably qualified person for peer reviewer (below).

An independent, third party, suitably qualified person for peer reviewer, as required by the agreed Terms of Reference, is:

- a person who is not a current employee of any of the environmental authority (EA) holders or Ensham mine;
- a person who has no existing relationship with or interest in the RV Project, that would inhibit them from providing or forming an independent and impartial judgment or opinion;
- a person whose current employer (if not self-employed) has not engaged in work at or for Ensham Coal Mine or who will be engaged in any work at Ensham Coal Mine during the term of the RV Project unless this is disclosed;

We welcome further discussion.

Regards

(b) Personal Information

From: COPP Rachel [<mailto:Rachel.Copp@ehp.qld.gov.au>]

Sent: Friday, 15 September 2017 12:15 PM

To: (b) Personal Information <[sch4p4\(6\)@idemitsu.com.au](mailto:sch4p4(6)@idemitsu.com.au)>; ALLAN Charissa <Charissa.Allan@ehp.qld.gov.au>

Cc: (b) Personal Information <[sch4p4\(6\)@ensham.com.au](mailto:sch4p4(6)@ensham.com.au)>; (b) Personal Information <[sch4p4\(6\)@ensham.com.au](mailto:sch4p4(6)@ensham.com.au)>

Subject: RE: Residual Void Project Progress Report - Ensham Coal Mine

Good afternoon (b) Personal Information

I write in regards to the Progress Report for the Residual Void Project (RV Project) submitted on 31 July 2017 and the additional information provided on 11 August 2017 following the request for additional information on the appointments of (b) Personal Information

(b) Personal Information as the Chairperson for the Community Reference Group and (b) Personal Information as the peer reviewer for the RV Project.

The department considers that an independent, third party, suitably qualified person for peer reviewer, as required by the agreed Terms of Reference, is:

- a person who has no previous or current history of employment with any of the environmental authority (EA) holders, including Bligh Coal Limited, Idemitsu Australia Resources Pty Ltd and Natural Resources Investment (Australia) Pty Ltd, or their subsidiary companies;
- a person who has not worked at or for Ensham Coal Mine previously or who will be working at or for Ensham Coal Mine during the term of the RV Project;
- a person whose current employer (if not self-employed) has been or will be engaged in any aspect of the RV Project;
- a person whose current employer (if not self-employed) has not engaged in work at or for Ensham Coal Mine or who will be engaged in any work at Ensham Coal Mine during the term of the RV Project;
- a person who has not been involved in any aspect of the current, or previous, RV Project(s); and
- a person who has professional training or experience relevant to the matters being considered.

As stated on page 4 of the RV Project Progress Report No. 1 submitted to the department on 31 July 2017, and the additional information provided on 11 August 2017, (b) Personal Information has not performed any work for Ensham Coal Mine in a Peer Review capacity, however, has assisted Ensham in identifying precedents in accordance with Line Item 16 of the Stage 2 Gantt Chart. It is on this basis that the department does not consider (b) Personal Information as an independent, suitably qualified, third party peer reviewer. The department highly recommends that Ensham appoint an alternative candidate as the independent, suitably qualified, third party peer reviewer. As per condition G21(e), please provide a progress report that includes a response to the department's concerns within 28 business days, which is 26 October 2017.

Please be advised that the department is satisfied that (b) Personal Information meets the criteria for the Chairperson for the Community

Reference Group.

Kind regards,

Rachel Copp

Team Leader

Business Centre (Coal) | Coal and Central QLD Compliance

Department of Environment and Heritage Protection

P 07 4987 9339

99 Hospital Road, Emerald QLD 4720

PO Box 3028, Emerald QLD 4720

From: ALLAN Charissa

Sent: Friday, 11 August 2017 1:47 PM

To: [redacted] <[redacted]@idemitsu.com.au>

Cc: COPP Rachel <[redacted]@ehp.qld.gov.au>; [redacted] <[redacted]@ensham.com.au>; [redacted] <[redacted]@ensham.com.au>

Subject: RE: Residual Void Project Progress Report - Ensham Coal Mine

Hi [redacted]

Thank you for your email and the attached response to the department's request for further information.

I will review the response and should I have any questions, I will be in contact.

Kind Regards,

Charissa Allan

Principal Environmental Officer

Business Centre (Coal) | Coal and Central Queensland Compliance

Department of Environment and Heritage Protection

P 07 4987 9339

99 Hospital Road, Emerald QLD 4720

PO Box 3028, Emerald QLD 4720

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We encourage you to do business with us online and register to become a Connect customer. Please visit our website at www.ehp.qld.gov.au/connect.

If you are an existing EHP customer, your details are already in Connect and you can get your Connect EHP Customer Reference by emailing connecthelp@ehp.qld.gov.au.

From: [redacted] 4(6) Personal Information [mailto:[redacted] 4(6) Personal Information@idemitsu.com.au]

Sent: Friday, 11 August 2017 1:36 PM

To: ALLAN Charissa <Charissa.Allan@ehp.qld.gov.au>

Cc: COPP Rachel <Rachel.Copp@ehp.qld.gov.au>; [redacted] sch4p4(6) Personal Information @ensham.com.au [redacted] sch4p4(6) Personal Information [redacted] 4(6) Personal Information @ensham.com.au>

Subject: RE: Residual Void Project Progress Report - Ensham Coal Mine

Hello Charissa,

Further to your email below please see attached Ensham Mines response to DEHP's request for further information. If I can offer any further clarification or subsequent information please do not hesitate to call me.

Best regards

[redacted] Personal Information

From: ALLAN Charissa [mailto:Charissa.Allan@ehp.qld.gov.au]

Sent: Tuesday, 8 August 2017 11:12 AM

To: [redacted] sch4p4(6) Personal Information @ensham.com.au>

Cc: [redacted] sch4p4(6) Personal Information @idemitsu.com.au>; COPP Rachel <Rachel.Copp@ehp.qld.gov.au>

Subject: Residual Void Project Progress Report - Ensham Coal Mine

Hi [redacted] Personal Information

The Department of Environment and Heritage Protection (the department) acknowledges receipt of the Residual Void Project (RV Project) Progress Report for Ensham Coal Mine, submitted on 31 July 2017.

Please see below for comments requiring your consideration:

1. As per the criteria listed in section 4 of the RV Project Terms of Reference (ToR), provide evidence to demonstrate [redacted] Personal Information [redacted] 4(6) Personal Information has met the criteria for the chairperson for the Community Reference Group; and,
2. As per criteria listed in section 5 of the RV Project ToR, provide evidence to demonstrate that [redacted] sch4p4(6) Personal Information has met the criteria for an independent suitably qualified third party.

As per condition G21 of the Ensham Coal Mine EA, Ensham have 28 business days to provide an update to the department. A response is therefore required by **COB 15 August 2017**.

Should you wish to discuss any of the comments, please do not hesitate in contacting the department.

Kind Regards,

Charissa Allan
Principal Environmental Officer



Business Centre (Coal) | Coal and Central Queensland Compliance

Department of Environment and Heritage Protection

P 07 4987 9339

99 Hospital Road, Emerald QLD 4720

PO Box 3028, Emerald QLD 4720



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We encourage you to do business with us online and register to become a Connect customer. Please visit our website at www.ehp.qld.gov.au/connect.

If you are an existing EHP customer, your details are already in Connect and you can get your Connect EHP Customer Reference by emailing connecthelp@ehp.qld.gov.au.

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