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## AMRUN Project Draft Maintenance Dredging Management Plan – Port Independent Peer Review

**Document Reviewed:** Maintenance Dredge Management Plan - Port, Draft for Independent Review, 16 November 2017.

**Independent Peer Reviewer:** Dr James Stoddart

**Date of Review:** 21 November 2017

### **Precis:**

The following table provides a peer review of the document specified above (hereafter called the MDMP) against terms of reference approved by the Commonwealth Department of Environment and Energy (DotEE) and appended to this document. This review has been undertaken in compliance with EPBC Approval definitions as follows:

*Independent/ly Peer reviewed/ Independent Peer Reviewer – assessment of the assumptions, calculations, extrapolations, alternate interpretations, methodologies, performance goals and performance criteria, and conclusions pertaining to the management plans/strategies/programs by a person/organisation/technical committee, independent of the approval holder and/or employed in any subsidiary company of the approval holder.*

*This person/organisation/technical committee must have demonstrated expertise in the matter of national environmental significance being reviewed and be approved by the Minister prior to commencement of the review.*

### **Constraints on this Review:**

This review considers the MDMP in context with the following conditions set out in the current MDMP:

- Dredging in any one year will occur for less than 10d and dispose of less than 92,000 cu m of spoil.
- Dredging only occurs between May & Sept (inclusive)

These parameters are significant in evaluating the risk of impacts and the subsequent management and monitoring responses. Were they to be exceeded, parts of this review would be invalid.

**Findings:**

The MDMP as reviewed satisfies the requirements of the conditions set in the terms of reference and generally complies with current best practice management for small volume/short duration maintenance dredging campaigns with characteristics similar to the current proposal. The one area which requires additional action prior to finalising this MDMP would be to undertake a round of consultation with the established Technical Advisory and Consultative Committee (BPDTAG).

While the MDMP cannot at this time specify how conditions which may be imposed by the project's, yet to be obtained, Sea Dumping Permit will be managed, it does make provision for review of those conditions and their future incorporation.

Some minor improvements are suggested in some areas (underlined).

**Non-compliance items:**

Nil

A handwritten signature in blue ink, appearing to read "J Stoddart", enclosed within a blue oval.

James A Stoddart  
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21 November 2017

**TABLE 1: Review comments by Section of the MDMP**

Comment	Relevant Report Section	RTA Responses
<i>1: identifies avoidance and mitigation measures for impacts associated with maintenance dredging activities on the Commonwealth Marine Area, listed turtle species, listed dolphin species, Dugong and Bryde's Whale;</i>		
Section 5.4 provides a review of current knowledge of important marine fauna and how they use the project area, while Section 6.4 addresses the potential impacts which require mitigation. The interpretation of these in Table 13, which identifies potential impacts to marine turtle hatchlings as the only impact with a risk ranking above Low, appears sound.	Section 5.4, 6.4	Noted
Management and monitoring set out in Section 7.4 and Table 14 fulfil the intent of this condition.	Section 7.4	Noted
<i>2: is consistent with relevant management measures contained in relevant threat abatement plans published by the Department of Environment and Energy;</i>		
<p>The only approved relevant threat abatement plan on the DotEE website is the <i>Threat Abatement Plan for the impacts of marine debris on vertebrate marine life</i>, May 2009. An updated draft of that plan (as at April 2017) is in review, and has been used as the compliance target for this review. The area of relevance for this plan would be primarily in waste management practices to minimise the generation of marine debris.</p> <p>Section 7.8 contains a treatment of waste management. As it is unlikely that there would be sewage disposal facilities on land, it is worth <u>spelling out the requirements of MARPOL for sewage discharge at sea</u> as they will relate to the project area – for all project vessels.</p>	Section 7.8	The MARPOL requirements for vessel discharge and waste management have been spelt out in Section 7.8.

Comment	Relevant Report Section	RTA Responses
<i>3: has been prepared in accordance with the most current version of the Australian Government National Assessment Guidelines for Dredging (2009);</i>		
<p>The most current version of the Australian National Assessment Guidelines for Dredging remains the 2009 publication as presented on the DotEE website.</p> <p>General guidance from the NAGD on evaluating disposal alternatives and minimising the need for disposal of spoil at sea are addressed in Section 2.</p> <p>Section 4 of the MDMP presents the results of sediment sampling and analysis undertaken to comply with sediment quality guidelines of the NAGD in preparing an application for a Sea Dumping permit under the <i>Environment Protection (Sea Dumping) Act 1981</i>. Compliance with the NAGD provisions will be subject to final confirmation via the Sea Dumping Permit approval process.</p>	Section 2, Section 4	Noted
<i>4. has been prepared in accordance with the most current version of the Long Term Monitoring and Management Plan Requirements for 10 year Permits to Dump Maintenance Dredge Material at Sea (July 2012);</i>		
<p>The MDMP is not proposed as a Long Term Monitoring and Management Plan, but as an interim document leading to an LTMP. Nevertheless, it has been reviewed against the DotEE's criteria published for preparation of LTMPs. Cells below refer to the requirements listed within the 2012 guidelines. Requirements below have been paraphrased for brevity and should be referred to the original document for more detailed information. Requirements are shown in [ ] with my assessment following each.</p> <p>The LTMP should:</p>		
<a href="#">[- Explain how the plan fits within the overall management of the port:]</a> The longer term need for maintenance dredging in the Port and the transition from this MDMP to a longer term permit and LTMP is set out within a background describing	Section 2.2	Noted

Comment	Relevant Report Section	RTA Responses
the need for dredging and improvement in understanding the local environment.		
<a href="#">[- Describe the dredging activity, the material for disposal and the spoil grounds:]</a> The required volume and location of spoil is presented with the results of past studies characterising the potential spoil and the spoil grounds.	Section 2, Section 4, Section 5	Noted
<p><a href="#">[- Describe the existing environment and potential impacts:]</a> Section 5 describes the existing environment based on studies conducted for the previous capital dredging. As for most dredging projects, the principal impact will be mediated via elevation of suspended sediments during dredging and disposal. While this would typically be modelled to provide predictions of the intensity and extent of impacts, the present assessment uses modelling and actual data from the recent dredging campaign to predict impacts. Given the small size of the proposed campaigns (both in volume and length) relative to the previous dredging, this seems appropriate. A greater content of fines in maintenance dredging spoil, compared to capital dredging spoil, can result in larger impacts per unit of spoil. However, impact predictions used in the MDMP retain a level of conservatism that would allow for greater impacts than a strict pro rata extrapolation from the capital dredging and are unlikely to underestimate realised impacts.</p> <p>In discussing potential impacts, the MDMP establishes the bounds of a 'zone of influence' in Section 6.1 and Figure 14. It would useful to <u>define how that term is being used within this document</u> and whether it aligns with the use of that term in regulatory guidance documents for dredging management.</p>	Section 5, Section 6	A definition of the 'zone of influence' term as used in this MDMP, has been added to Section 6.1 to clarify it's use within the impact assessment. The relationship of the 'zone of influence' to the 'zone of impact' which is used within the Sea Dumping Permit application form is also further explained.
<a href="#">[- Describe the management strategies and actions and how they will be supported by monitoring:]</a> Table 14 provides a consolidated summary of management goals and monitoring to support that. While many of the monitoring programs are not highly specified or formalised the checking and reporting prescriptions are adequate for the level of risk assessed in Table 13. Management measures are set out in Section 7 against the various risks of impact. In several sections, it is difficult to see what additional management measures could be applied beyond those specified already to minimise	Table 14	Noted

Comment	Relevant Report Section	RTA Responses
impacts of normal operations. In those cases, there is a commitment to undertake investigation of the specifics of the problem and identify what management options may be available. For small dredging projects such as this, that represents current industry practice.		
<a href="#">[- Describe contingency plans for emergency dredging and what will happen if additional testing discovers sediments unfit for disposal:]</a> Section 2.4 states that a volume contingency for emergency dredging as a result of cyclones is already included in the 92,000 cu m permit request. Emergency dredging requirements are discussed in Section 2.7. There is a commitment to advise DoEE and DEHP on these requirements. Whether RTW will need to seek approval under the Sea Dumping Permit will depend on the text of the Sea Dumping Permit. It should be noted that ' <u>emergency dredging approval processes will be dependent on the Sea Dumping Permit</u> '. There is no contingency plan for sediments that might be unfit for disposal – but based on past chemistry (and the comment against the following criterion), there seems little chance of this event.	Section 2.4, 2.7	A statement reflecting that the emergency dredging approval processes will be dependent on the Sea Dumping Permit has been added to Section 2.7
<a href="#">[- How will sediment quality information be kept current over the life of the permit and is there an approved SAP:]</a> Section 4.2 suggests that unless there is a release of contaminants, the sediment chemistry is unlikely to change significantly over the life of the permit. If there is a contaminant release, the need for resampling will be reviewed. Given the remote nature of the port and the lack of industrial discharges in the area, this seems an appropriate response.	Section 4.2	Noted
<a href="#">[- Outline a reporting and documentation strategy including actions to report non-compliances:]</a> Internal reporting of non-compliances is set out in Section 8.2 with accountabilities for such reporting established in Section 8.1. External reporting is set out in Section 8.4 and in relevant impact management prescriptions in Section 7. As there is a wide range of reporting and timeframes, dependent on what the non-compliance is, RTW <u>might consider a consolidating table for reporting</u> similar to Table 14.	Section 8.2, 8.4	A new Table 15 has been added to Section 8.4 to identify the consolidated reporting requirements for the MDMP.
<a href="#">[- State when reviews will occur and how the Plan may be improved over time:]</a> The timing and form of review and involving stakeholders via the TACC to ensure continuous improvement through review of this plan is set out in Section	Section 8.6	Noted

Comment	Relevant Report Section	RTA Responses
8.6.		
<a href="#">[- Set out details of the TACC and its operation:]</a> The relevant TACC is the BPDTAG. Its membership and role are described in various sections of the report, in terms of advice and review of the content and effectiveness of the MDMP.	Various	Noted
<a href="#">[- Specify how the Plan is to be published.]</a> The MDMP commits to publish this Plan on the Rio Tinto website within one month of its approval – in compliance with EPBC approval condition 59.	Section 8.4	Noted
<i>5. has generally been prepared to align with the relevant broad principles of the Maintenance Dredging Strategy for Great Barrier Reef World Heritage Area Ports;</i>		
Cells below refer to the principles listed within the 2016 strategy. Principles below have been paraphrased for brevity and should be referred to the original document for more detailed information.		
<a href="#">[Principle 1 – Develop LTDMPs]</a> The MDMP functions as an interim plan in the development of a LTDMP. This seems an appropriate strategy based on the immediate timing requirement for a management plan to cover maintenance dredging and the further accumulation of understanding of management needs and performance in this area needed to support a longer term permit. The current plan commits to consultation with the TACC (BPDTAG) on the implementation of the MDMP and commits to consult with stakeholders in developing a LTDMP. Further, there is a commitment in the DMP Review section 8.6 to include the outcomes of the TACC annual review of the Plan within revisions of the MDMP. However, such consultation avenues have not been implemented in the development of this Plan. To ensure that the current plan has been subject to scrutiny by the TACC, <u>it should commit to a review and revise process, similar to that described for annual review in Section 8.6, prior to finalisation.</u>	Section 2.2, 8.6	A commitment to consult with the BPDTAG prior to approval of this MDMP has been added to Section 2.2. RTAW will provide the MDMP to the relevant BDPTAG members prior to the meeting for

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		consideration.
<i>[Principle 2: Develop the knowledge base]</i> The MDMP is already based on learnings from the capital dredging program and the MDMP sets out the study programs in place to fill knowledge gaps around dredge management and the area's ecology.	Section 2.2	Noted
<i>[Principle 3: Avoid or minimise the need for maintenance dredging]</i> The MDMP recognises the objective of minimising maintenance dredging and sea disposal. While there may be limited opportunities for this post the initial port design, these are investigated and described in Section 2.3.	Section 2.3, 2.5	Noted
<i>[Principle 4: Limit volumes]</i> The MDMP requires that dredging be restricted to the areas and depths to be approved within the Sea Dumping Permit. Section 2.4 sets out a procedure to set dredge targets to minimum required volumes of maintenance only spoil by bathymetric survey. Section 7.1 specifically prohibits any dredging of a capital nature.	Section 2.4, 7.1	Noted
<i>[Principle 5: Maintenance dredging not to be capital dredging]</i> – See above		Noted
<i>[Principle 6: Beneficial reuse]</i> Table 3 in Section 2.5 evaluates the potential for beneficial use (and disposal options other than sea dumping). As might be expected in this isolated area, there are few viable alternatives to the ocean disposal of fine sediments.	Section 2.5	Noted
<i>[Principle 7: Comply with NAGD 2009]</i> The response of the MDMP to NAGD requirements for evaluating whether sea dumping is required and the degree to which it can be minimised are detailed above. Section 4 sets out the works undertaken for the spoil testing and assessment methodology set out in the NAGD. While that section appears to meet NAGD, its acceptability will be subject to greater scrutiny in the Sea Dumping Permit application process.	Section 4	Noted
<i>[Principle 8: Show a consultative, comparative risk-based analysis of maintenance dredging]</i> Consultation to be undertaken with the BPD TAG and indigenous bodies on this proposal is specified in Section 7 and Section 10.	Sections 7, 10, 3 and 6	Noted



Comment	Relevant Report Section	RTA Responses
The outcome of that consultation will be assessed in the application process for a Sea Dumping Permit. The methods used in the risk based approach to impact management are shown in Section 3 and their results are presented in Section 6.10. Based on the small size of the campaigns proposed, the results of the risk assessment appear valid.		
<i>[Principle 9: Justify dredging plant and operational approach]</i> The dredging operational approach is set out in Section 2.6 and aligned to the rapid, low-volume characteristics of this maintenance program. The environmental controls required for the dredge plant are established and compared to the selected dredger ( <i>TSHD Brisbane</i> ) in Section 7.1. Those requirements and the stated ability of the Brisbane to meet them are consistent with current best dredging practice for small projects outside of highly sensitive locations.	Sections 2.6, 7.1	Noted
<i>[Principle 10: New plant or methods must be justified on improved environmental performance]</i> There does not appear to be a contingency plan in the MDMP should the <i>Brisbane</i> be unavailable. A statement confirming that should <u>an alternate dredge be required, it would support similar levels of environmental controls</u> to the <i>Brisbane</i> , might be used to allow replacement of the Brisbane without modifying the MDMP.	Section 7.1	A statement, as indicated in the response comment that if an alternative dredge is required then it would support similar levels of environmental controls, has been added to Section 2.6.
<i>[Principle 11: Identify environmental windows]</i> Environmental windows represent periods in which critical environmental processes may be sensitive to dredging and mitigate against dredging as normal. The potential windows here would be coral spawning, seagrass seed set and turtle nesting. The majority of coral spawning is likely to occur outside the stated dredging period and seagrass beds are not found sufficiently close to	Sections 6.2, 7.1, 7.2, 7.3, 7.4 Table 14	Noted

Comment	Relevant Report Section	RTA Responses
dredging to be of concern. Section 6 and 7 contain a thorough discussion of potential impacts and impact mitigation on turtle nesting. Table 14 contains a commitment to consider avoiding the key nesting period in future dredging programs should monitoring suggest that nesting numbers are being lowered. Given the relatively brief durations of dredging planned, those responses represent an effective level of management.		
<i>[Principle 12: Cumulative impacts, offsets, net benefits]</i> Table 12 considers the potential for cumulative impacts and concludes that it is not material. In this isolated area, that seems an appropriate conclusion. Offset programs resulting from commitments under the Capital Dredging Program are discussed in Section 6.4. The minor nature of maintenance dredging proposed here would be unlikely to warrant further offsets.	Section 6.9	Noted
<i>[Principle 13: risk-based monitoring programs]</i> The risk assessment undertaken within the MDMP, with results in Table 13 has been used to ensure that all identified risks are managed and monitored. Response is generally commensurate to risk.	Table 13, Section 7	Noted
<i>[Principle 14: use adaptive management]</i> In the context of managing the environmental consequences of dredging and disposal, adaptive management is seen as monitoring impacts, reviewing the monitoring data and acting if necessary to amend management on the basis of review outcomes. Section 7 (summarised in Table 14) contains prescriptions for impact monitoring and the implementation of additional measures should monitoring suggest targets are not being met. Section 7.2.3 confirms a commitment to adaptive management. As described in item #4 above, there are many areas where there is a commitment to additional management when additional management actions have been hard to identify. However, many of these are in relatively low risk areas and the commitment to review monitoring outcomes with a view to identifying relevant responses is an appropriate response consistent with current practices.	Section 7	Noted
<i>[Principle 15: make reporting available]</i> Section 8.4 contains commitments to make reporting and data available through online publication.	Section 8.4	Noted

Comment	Relevant Report Section	RTA Responses
<i>[Principle 16: provide stakeholders access to monitoring results]</i> In short campaigns like this (<10 d), there is little point in making monitoring data available in near real time. Section 8.4 commits to make “all survey data, methodologies and related analysis of data” public in August of each year. That should provide sufficient access to parties interested in this data.	Section 8.4	Noted
<i>[Principle 17: Review the GBR maintenance dredging strategy]</i> Not applicable to this MDMP.	N/A	Noted
<i>6: contains a framework to ensure compliance with the conditions of permit(s) obtained under the Environment Protection (Sea Dumping) Act 1981;</i>		
The final paragraph of Section 1.1 sets out the need to review the MDMP against the SDP conditions when these are set. It would be helpful in Section 8 to <u>nominate the person accountable for that process to ensure that this is not missed</u> .	Sect. 1.1	The additional responsibility for review the MDMP once the Sea Dumping Permit is approved has been added to Section 8.1
<i>7: details Traditional Owner employment opportunities, and mechanisms for reporting the number of local indigenous person/s actually employed in the implementation of the Dredge Management Plan – Port (Maintenance Dredging) as per EPBC Approval Condition 42);</i>		
Opportunities for employment of Traditional Owners in implementing the Dredge Management Plan and reporting mechanisms for the results are described in Section 9.	Section 9	Noted
<i>8: adequately identifies publication requirements as per EPBC approval condition 59</i>		
Condition 59 requires that the Plan and Peer Review be published on the proponent’s website within 1 month of approval for the duration of the project. Publication of the MDMP on the Rio Tinto website in accord with that	Section 8.4	Noted

Comment	Relevant Report Section	RTA Responses
condition is specified in Section 8.4. It <u>should be clarified within Section 8.4 that all reviews of the Plan, including this peer review, are also required to be published.</u>		
NOTES		
Sections underlined above represent suggestions for improvements rather than non-compliances with terms of reference.		