

ENVIRONMENTAL MANAGEMENT PLAN

DRAFT ADDENDUM

**Namibian Marine Phosphate (Pty)
Ltd**

2016

Tables indicating where the particular requests of MFMR and SAIEA are accommodated in the current EMP 2014 (prepared with the Verification Report), and the **EMP draft addendum 2016 for Benthic Sampling and Baseline of Additional Requirements**, to accommodate additional requirements / recommendations.

SAIEA Review report. October 2015

SAIEA No.	EMP 2014	EMP addendum 2016
# 1	✓	
# 2		✓
# 3	✓	
# 4	✓	
# 5	✓	
# 6	✓	
# 7	✓	
# 8	✓	
# 9	✓	
# 10		✓
# 11	✓	
# 12	✓	
# 13	✓	
# 14	✓	
# 15	✓	
# 16	✓	
# 17	✓	
# 18	✓	
# 19	✓	
# 20	✓	
# 21	✓	
# 22	✓	
# 23	✓	

MFMR Letter to the Environmental Commissioner April 2015

MFMR No.	EMP 2014	EMP addendum 2016
# 1	N/A	N/A
# 2	N/A	N/A
# 3	✓	
# 4	✓	
# 5		✓
# 6		✓
# 7	✓	
# 8	✓	
# 9	✓	
Auxiliary 1	✓	
Auxiliary 2	✓	
Auxiliary 3		✓

NOTE:

1. The requests of MFMR relate to their letter of 22 April 2015 addressed to the Environmental Commissioner.
2. The requests of SAIEA relate to their review (October 2015) of the Verification Studies. The review being undertaken at the request of the Environmental Commissioner.

3. The EMP addendum 2016 (below) shows the inclusion of an environmental sampling survey to be completed 1 year prior to commencement of dredging incorporating the proposed additional activities (listed in bold and underlined)
4. The 2016 EMP Addendum of **Benthic Sampling and Baseline of Additional Requirements**, is intended as a new activity to be inserted into the 2014 EMP after Pg 19, Pre-Dredging Baseline Assessment/verification Survey and before Pg 20, Monitoring: Surficial Sediments – Chemistry, Fauna and Thiobacteria, Post Dredging Year 3.



Environmental Management Plan Draft Addendum 2016
Dredging of marine phosphate from target area SP-1 in ML 170

VESSEL: DREDGING OPERATIONS (ADDENDUM 2016)

Activity	Aspect	Impact	Management Requirement	Responsibility	Duration
Dredging of the deposit	Biodiversity	Removal of sediments, destruction of benthos and disturbance to the sedimentary environment	<p>Benthic sampling and baseline of additional requirements For each of the target areas prior to commencement of year 1 dredging activities, the following sample / data collection and or assessments are required:</p> <ul style="list-style-type: none"> • <u>Collection of a fresh set of representative macrofaunal assemblages</u> • <u>Collection of shell debris for examination for the presence of goby eggs</u> • <u>Samples collected to determine a geo-accumulation index relative to average marine shale. (to determine if there is a preferential deposition of trace and heavy metals in the area)</u> • <u>Collection of samples for the establishment of a baseline profile of radionuclides</u> • Marine mammal, seabird and other marine fauna observations • Integrate output information into adjustments of the planned (ecological) recovery surveys; • Revise EIA and assumptions as appropriate; • Retain data and interpretations on an environmental database system 	<ul style="list-style-type: none"> • Mine Manager • Environmental Manager 	<p><u>Pre Year-1 dredging</u></p> <p>Repeat in accordance with EMP commitments as described 2014.</p>



Environmental Management Plan Draft Addendum 2016

Dredging of marine phosphate from target area SP-1 in ML 170

			<p>Mitigation: To aid recovery of benthic faunal assemblages.</p> <p>Recovery:</p> <ul style="list-style-type: none"> • Leave a residual layer of sediment over the clay footwall • Leave areas ('slivers') of sediment profile un-dredged. 	<ul style="list-style-type: none"> • Mine Manager • Vessel Master • Environmental Manager 	Ongoing with dredging
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COMMUNICATION AND PARTICIPATION

Performance Objectives

- NMP commits to engage in multi-sectorial workshops arranged by the authorities and, in so doing, assist the authorities and marine users to establish and develop monitoring indicators to contribute to understanding and determining cumulative impacts, and through such a process establish threshold levels of marine resource utilisation / extraction.

