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Gordon Motherwell
Senior Environmental Officer
Infrastructure and Assessments Branch
Office of Environmental Protection Authority
Locked Bag 10
EAST PERTH WA 6892

24/02/2016

Project No.: 1253_004

Dear Gordon

SUBJECT STATE REFERRAL OF CETO 6 GARDEN ISLAND PROJECT

Carnegie Wave Energy Ltd (Carnegie) is committed to maintaining best-practice approaches to environmental management and has consulted widely with stakeholders and regulators regarding its proposed CETO 6 proposal. Formal consultation was held on the 18 November 2015 with participants from the Office of the Environmental Protection Authority (OEPA), Carnegie and BMT Oceanica Pty Ltd (BMT Oceanica).

Following the consultation process, Carnegie is referring the proposed CETO 6 Garden Island Project for formal environmental assessment at both State and Federal levels (see attached). The Referral is submitted under Carnegie's policy for complete transparency of its CETO operations, which have a demonstrated track record of low to negligible impact on the marine environment.

Carnegie has considered the potential cumulative impacts of the CETO 6 and previous CETO proposals through internal Environmental Risk Assessment (ERA) and Environmental Risk Assessment (EIA) processes and has concluded that the proposal is unlikely to have significant impacts on the relevant environmental factors, and that the residual risks are low.

The attached includes the completed State Referral, the Marine Environmental Management Plan (MEMP) and the outcomes of the internal ERA and EIA processes as appendices to the MEMP. In addition, the level of assessment from the Department of the Environment has been included. Spatial data supplied on first submission of the Referral has not been re-supplied, however; is available on request if required.

Please don't hesitate to contact me should you have any questions in regards to the attached or require further Project related information.

Regards,

Louise Synnot

Experienced Marine Scientist
BMT Oceanica

Attachments

- CETO 6 Garden Island Referral form: CETO6_EP_Act_ReferralForm_Rev1_201600224.doc
- CETO 6 Garden Island Marine Management Plan: CETO6_MEMP_12530031_Rev0_20151222.pdf
- CETO6_DotE_ 2016-7635 referral-decision-notice-160219.pdf

GOVERNMENT OF WESTERN AUSTRALIA

Environmental Protection Authority

EPA REFERRAL FORM

Referral of a Proposal to the Environmental Protection Authority under Section 38 of the *Environmental Protection Act 1986*.

PURPOSE OF THIS FORM

Section 38 of the *Environmental Protection Act 1986* (EP Act) makes provision for the referral to the Environmental Protection Authority (EPA) of a proposal (significant proposals, strategic proposals and proposals under an assessed scheme) by a proponent, a decision making authority (DMA), or any other person.

The purpose of this form is to ensure that EPA has sufficient information about a proposal to make a decision about the nature of the proposal and whether or not the proposal should be assessed under Part IV of the EP Act. Information provided in the referral form must be brief (no more than 30 pages), sharp and succinct to achieve the purposes of this form.

This form does not prevent the referrer from providing a supplementary referral report. Should a referrer choose to submit a supplementary referral report please ensure the following.

i. Information is short, sharp and succinct.
ii. Attachments are below eight megabytes (8 MB) as they will be published on the EPA's website (exemptions apply) for public comment. To minimise file size, "flatten" maps and optimise pdf files.
iii. Cross-references are provided in the referral form to the appropriate section/s in the supplementary referral report.

This form is to be used for all proposals[1] which can be referred to the EPA under section 38 of the EP Act; i.e. referrals from: **proponents** of proposals (significant proposals, strategic proposals, derived proposals, proposals under an assessed scheme); **DMAs** (significant proposals); and **third parties** (significant proposals).

This form is divided into several sections, including; Referral requirements and Declaration; Part A - Information of the proposal and proponent; and Part B Environmental Factors. Guidance on successfully completing this form is provided throughout the form and is also available in the EPA's *Environmental Assessment Guideline for Referral of a Proposal under s38 of the EP Act (EAG 16)*.

Send completed forms to
Office of the Environmental Protection Authority
Locked Bag 10, East Perth WA 6892

or

Email: Registrar@epa.wa.gov.au

Enquiries
Office of the Environmental Protection Authority
Locked Bag 10, East Perth WA 6892
Telephone: 6145 0800
Fax: 6145 0895
Email: info@epa.wa.gov.au
Website: www.epa.wa.gov.au

[1] Please note that this form consolidates and replaces the following forms: *Referral of a Proposal by the Proponent to the EPA under section 38(1) of the EP Act*; *Referral of a Proposal by a third party to the EPA under section 38(1) of the EP Act*; and *Referral of a development proposal to the EPA by the decision making authority*.

Referral requirements and Declaration

The following section outlines the referral information required from a proponent, decision making authority and third party.

(a) Proponents

Proponents are expected to complete all sections of the form and provide GIS spatial data to enable the EPA to consider the referral. Spatial GIS data is necessary to inform the EPA's decision.

The EPA expects that a proponent will address Part B of the form as thoroughly as possible to demonstrate whether or not the EPA's objectives for environmental factors can be met.

If insufficient information is provided the EPA will request more information and processing of the referral will commence once the information is provided or the EPA decides to make a precautionary determination on the available information.

Proponent to complete before submitting form	
Completed all the questions in Part A (essential)	☒ Yes ☐ No
Completed all the questions in Part B	☒ Yes ☐
Completed all other applicable questions	☒ Yes ☐ No
Included Attachment 1 – any additional document(s) the proponent wishes to provide	☒ Yes ☐ No
Included Attachment 2 – confidential information (if applicable)	☐ Yes ☒ No
Enclosed an electronic copy of all referral information, including spatial data and contextual mapping but clearly separating any confidential information	☒ Yes ☐ No
Completed the Declaration	☒ Yes ☐ No
What is the type of proposal being referred? ** a referred proposal seeking to be declared a derived proposal*	☒ significant ☐ strategic ☐ derived* ☐ under an assessed scheme
Do you consider the proposal requires formal environmental impact assessment?	☐ Yes ☒ No
If yes, what level of assessment? *API = Assessment of Proponent Information* *PER = Public Environmental Review*	☐ API Category A ☐ API Category B ☐ PER

NB: The EPA may apply an Assessment on Proponent Information (API) level of assessment when the proponent has provided sufficient information about:

- the proposal;
- the proposed environmental impacts;
- the proposed management of the environmental impacts; and
- when the proposal is consistent with API criteria outlined in the *Environmental Impact Assessment (Part IV Division 1 and 2) Administrative Procedures 2012*.

If an API A formal level of assessment is considered appropriate, please refer to Environmental Assessment Guideline No. 14 *Preparation for an Assessment on Proponent Information (Category A) Environmental Review Document EAG 14* (EAG14).

Declaration

I, Louise Synnot, *(full name)* declare that I am authorised on behalf of Angus Nichols, Carnegie Wave Energy Ltd (being the person responsible for the proposal) to submit this form and further declare that the information contained in this form is true and not misleading.

Signature 		Name (print) Louise Synnot		
Position	Experienced Marine Scientist	Organisation	BMT Oceanica	
Email	louise.synnot@bmtoceanica.com.au			
Address	Level 1 353	Cambridge Street		
	Wembley		W.A.	6014
Date				13/01/2016

(b) Decision-making authority

The EPA expects decision-making authorities to complete applicable sections of Part A of the form and provide the proponent an opportunity to provide additional information in Part B of the form where appropriate.

Wherever possible the DMA should obtain relevant spatial information from the proponent and provide this to the EPA with the referral.

DMA to complete before submitting form	
Completed all the questions in Part A (essential)	☐ Yes ☐ No
Provided Part B to the proponent for completion	☐ Yes ☐ No
Completed all other applicable questions	☐ Yes ☐ No
Included Attachment 1 – any supporting information	☐ Yes ☐ No
Enclosed an electronic copy of all referral information, including spatial data and contextual mapping	☐ Yes ☐ No
Completed the below Declaration	☐ Yes ☐ No
Do you consider the proposal requires formal environmental impact assessment?	☐ Yes ☐ No
What is the type of proposal being referred?	☐ significant proposal ☐ significant proposal under an assessed scheme

Declaration

I, ……, *(full name)* submit this referral to the EPA for consideration of the environmental significance of its impacts.

Signature		Name (print)	
Position		Organisation	
Email			
Address	Street No.	Street Name	
	Suburb	State	Postcode
Date			

(c) Third Party

Third parties are asked to have consideration for the Significance Test outlined in Part A Section 1.5 of this form before referring a significant proposal to the EPA. The EPA will only consider proposals that are likely, if implemented, to have a significant effect on the environment.

Third parties are to provide sufficient information to clearly identify the significant proposal, the proponent, and their reasons for referring the proposal. This can be done by completing as much of Part A of the form as possible, taking into consideration the information available. Third parties may wish to fill in Part B of the form to advance their own views of the significance of the environmental impacts and the need for EPA assessment.

In most cases the EPA will seek additional information from the proponent. This will be to confirm or amend the identity of the proponent, the proposal, and to allow the proponent opportunity to provide its views on the significance of the environmental impacts and the need for EPA assessment.

Third Party to complete before submitting form	
Complete all applicable questions in Part A and B	☐ Yes ☐ No
Completed the Declaration	☐ Yes ☐ No
Do you consider the proposal requires formal environmental impact assessment?	☐ Yes ☐ No

Declaration

I, ……, *(full name)* submit this referral to the EPA for consideration of the environmental significance of its impacts.

Signature		Name (print)		
Email				
Position		Organisation		
Address	Street No.	Street Name		
	Suburb		State	Postcode
Date				

PART A: Information on the proposal and the proponent

All fields of Part A must be completed by the proponent and/or decision-making authority for this document to be processed as a referral. Third party referrers are only expected to fill in the fields they have information for.

1 PROPONENT AND PROPOSAL DESCRIPTION

1.1 The proponent of the proposal

Proponent and/or DMA to complete	
Name of the proponent	Carnegie Wave Energy Ltd (Carnegie)
Joint Venture parties (if applicable)	N/A
Australian Company Number(s)	69 009 237 736
Postal Address *(Where the proponent is a corporation or an association of persons, whether incorporated or not, the postal address is that of the principal place of business or of the principal office in the State)*	Carnegie Wave Energy Limited Suite 5, 4B Mews Road Fremantle WA 6160 **Western Australia**
Key proponent contact for the proposal *Please include: name; physical address; phone; and email.*	**Angus Nichols** Project Manager Suite 5, 4B Mews Road Fremantle WA 6160 Telephone: +61 8 9335 3993 Facsimile: +61 8 9433 5600 Email: anichols@carnegiewave.com
Consultant for the proposal (if applicable) *Please include: name; physical address; phone; and email.*	BMT Oceanica Pty Ltd Louise Synnot (Consultant) PO Box 462 Wembley WA 6913 Telephone: +61 8 6272 0000 Facsimile: +61 8 6272 0099 Email: louise.synnot@bmtoceanica.com.au

1.2 Proposal

Proposal is defined under the EP Act to mean a "project, plan, programme policy, operation, undertaking or development or change of land use, or amendment of any of the foregoing, but does not include scheme". Before completing this section please refer to Environmental Protection Bulletin 17 – Strategic and derived proposals (EPB 17) and Environmental Assessment Guideline for Defining the Key Characteristics of a proposal (EAG 1).

Proponent and/or DMA to complete	
Title of the proposal	CETO 6 Garden Island Project
What project phase is the proposal at?	☐Scoping ☐Feasibility ☒Detailed design ☐Other _____
Proposal type *More than one proposal type can be identified, however for filtering purposes it is recommended that only the primary proposal type is identified.*	☐**Power/Energy Generation** ☐Hydrocarbon Based – coal ☐Hydrocarbon Based – gas ☐Waste to energy ☐Renewable – wind ☒Renewable – wave ☐Renewable – solar ☐Renewable – geothermal ☐**Mineral / Resource Extraction** ☐Exploration – seismic ☐Exploration – geotechnical ☐Development ☐**Oil and Gas Development** ☐Exploration ☐Onshore – seismic ☐Onshore – geotechnical ☐Onshore – development ☐Offshore – seismic ☐Offshore – geotechnical ☐Offshore – development ☐**Industrial Development** ☐Processing ☐Manufacturing ☐Beneficiation ☐**Land Use and Development** ☐Residential – subdivision ☐Residential – development ☐Commercial – subdivision ☐Commercial – development ☐Industrial – subdivision ☐Industrial – development ☐Agricultural – subdivision ☐Agricultural – development ☐Tourism ☐**Linear Infrastructure** ☐Rail ☐Road ☐Power Transmission ☐Water Distribution ☐Gas Distribution

Proponent and/or DMA to complete	
	☐Pipelines ☐**Water Resource Development** ☐Desalination ☐Surface or Groundwater ☐Drainage ☐Pipelines ☐Managed Aquifer Recharge ☐**Marine Developments** ☐Port ☐Jetties ☐Marina ☐Canal ☐Aquaculture ☐Dredging *If other, please state below:* ☐**Other** _____
Proponent and/or DMA to complete	
Description of the proposal – describe the key characteristics of the proposal in accordance with EAG 1.	Refer to Section 1 and Section 2 of the Marine Environmental Management Plan (MEMP) (BMT Oceanica 2015) included in Attachment 1 to this Referral. A summary of the CETO 6 Project is provided below. See Table 2 below for a summary of the CETO 6 Project key characteristics as per Referral requirements of EAG 1. Carnegie, the developer and owner of the CETO wave energy technology, has built the world's first grid-connected wave energy array, the Perth Wave Energy Project (PWEP). The PWEP was built offshore of Garden Island in the Perth metropolitan region of Western Australia (WA) utilising its 5th generation CETO technology with the support of the Federal and State Governments. Carnegie has been granted funding for their next stage of CETO development, the CETO 6 Project (the 'Project'), which will design and demonstrate the next generation of CETO technology. Each CETO 6 unit will generate up to 1 MW of electricity. Carnegie proposes to deploy an array of up to 3 units (totalling 3 MW) south west of Garden Island, WA, in ~30–35 m of water. The Project will be located in Commonwealth waters further offshore from Garden Island than the existing PWEP, at a site that has a higher wave energy resource, and allows for the operation of CETO technology in higher sea states. A surface laid subsea cable will traverse from the Project lease area through State waters and connect up to the high voltage substation on Garden Island. The Project is anticipated to demonstrate a number of technical and commercial innovations that will significantly advance the CETO technology towards commercialisation and expand its potential market.

<table>
<tr><th colspan="2">Proponent and/or DMA to complete</th></tr>
<tr><td></td><td>The Project builds on prior learnings from the PWEP and CETO concept studies. The CETO 6 Unit will have significantly larger capacity and will produce significantly more power than the current CETO 5 units. Additionally, the design will leverage initial offshore power generation trialled for CETO 3, i.e., locating the electrical generation subsea. This will expand the market for the CETO technology by providing the only wave power technology capable of operating both near-shore (using the CETO hydraulic system) and distant-to-shore locations (using the CETO subsea system). The combination of these factors will deliver a significant reduction in the levelised cost of energy when built in large projects

Financially, the CETO 6 Project will be funded via a $13 million grant from the Australian Renewable Energy Agency (ARENA) and a $20 million loan facility from the Commonwealth Bank of Australia. This financial backing exemplifies the market's increasing comfort with the Proponent and advancement of the CETO technology.</td></tr>
<tr><td>Timeframe in which the proposal is to occur (including start and finish dates where applicable).</td><td>Refer to Section 2.2.1 of the MEMP (BMT Oceanica 2015, Attachment 1 to this Referral). The timing of the key activities associated with the CETO 6 Project is provided in Table 1 below.

<u>Table 1 Timing of CETO 6 Garden Island Project key phases</u>

<table>
<tr><th>Project phase</th><th>Key characteristics</th><th>Completion date</th></tr>
<tr><td rowspan="4">Design</td><td>Requirements and concept design completed</td><td>31 October 2015</td></tr>
<tr><td>Preliminary design completed</td><td>31 December 2015</td></tr>
<tr><td>Critical/detailed design completed</td><td>30 June 2016</td></tr>
<tr><td>Approvals, consents and permits completed</td><td>30 June 2016</td></tr>
<tr><td rowspan="4">Construction and Operation</td><td>Foundations installed</td><td>31 December 2016</td></tr>
<tr><td>Project commissioned (operation commenced)</td><td>31 December 2017</td></tr>
<tr><td>Completion of 12 months operation</td><td>31 December 2018</td></tr>
<tr><td>Decommissioning complete</td><td>31 December 2019</td></tr>
</table></td></tr>
<tr><td>Details of any staging of the proposal.</td><td>There will not be any staging associated with the CETO 6 Proposal.</td></tr>
</table>

Proponent and/or DMA to complete	
What is the current land use on the property, and the extent (area in hectares) of the property?	The combined area total of the CETO 6 Project subsea infrastructure footprint is 1.2 hectares (ha). The area of the CETO 6 units, junction box, floating umbilical cables to the junction box is ~0.19 ha and occurs in Commonwealth waters. The export cable routing from the junction box to Garden Island predominantly traverses the seabed in State waters is ~1.08 ha and proposed to be contained within an easement area (subject to Department of Lands (DoL) approval). Note a 1 m buffer has been considered around the umbilical cables and export cable to generate a polygon layer for calculation of areas and habitat loss. The subsea infrastructure in Commonwealth waters will be within an offshore lease area with dimensions of 400 m by 600 m yielding a total of 240,000 m^2 (24 ha). Refer to GIS shapefiles associated with this Referral for spatial data detailing the proposed Project infrastructure, associated buffers around infrastructure and lease boundary. This project area, which partially occurs in State waters, is currently a General Use area. The coastal waters around Garden Island are designated controlled naval waters under the Control of Naval Waters Act 1918. The purpose of the Control of Naval Waters Act 1918 is to ensure suitable control over declared Naval Waters to facilitate their ongoing utility for naval operations. The terrestrial component of the CETO 6 Garden Island Project is located on Garden Island, under the jurisdiction of the Department of Defence (DoD), and as such does not form part of this Referral. Carnegie has signed a formal licence with the DoD that provides for onshore tenure and approval to work within Naval waters.
Have pre-referral discussions taken place with the OEPA? If yes, please provide the case number. If a case number was not provided, please state the date of the meeting and names of attendees.	Yes. On the 18 November 2015 consultation with the OEPA, the Proponent and BMT Oceanica occurred at the BMT Oceanica office. Gordon Motherwell, Senior Environmental Officer from the Infrastructure Assessments Branch of the OEPA attended the consultation. Refer to Section 4 of MEMP (BMT Oceanica 2015, Attachment 1 to this Referral) for further information on the outcomes of this consultation.

Proponent and/or DMA to complete	
DMA (Responsible Authority) to complete	
For a proposal under an assessed scheme (as defined in section 3 of the EP Act, applicable only to the proponent and DMA) provide details (in an attachment) as to whether: • *The environmental issues raised by the proposal were assessed in any assessment of the assessed scheme.* • *The proposal complies with the assessed scheme and any environmental conditions in the assessed scheme.*	

Table 2 Key characteristics of the CETO 6 Garden Island Project as per EAG 1

Summary of the Proposal		
Proposal title	CETO Garden Island Project	
Proponent name	Carnegie Wave Energy Ltd	
Short description	Carnegie proposes to design, build and operate a wave energy array using up to three CETO 6 units for power production southwest of Garden Island. This new generation of the CETO technology will provide a step-change in CETO development by introducing subsea generation and further increasing power capacity. The units will be connected to a shore-based substation, from where the power generated by the CETO 6 array would be distributed to the HMAS Stirling Defence Base on Garden Island.	
Physical Elements		
Element	**Location**	**Proposed Extent Authorised**
Offshore CETO units	Refer to Figures 2.2-2.4 in the CETO 6 MEMP (BMT Oceanica 2015) and associated GIS shapefiles. Note the proposed location of the units occur in Commonwealth waters.	Installation of up to three CETO units, foundations, junction box and cable routing. CETO units, junction box and umbilicals are proposed to be within a 24 ha offshore Lease Area within Commonwealth waters. Export cable routing is 1.08 ha through predominantly State waters to be within a proposed Easement Area (subject to planning and development approvals). Refer to attached GIS spatial data and Figures within MEMP for CETO 6 Project conceptual design and layout (BMT Oceanica 2015).

Export cable route: cable routing from the junction box in Commonwealth waters traversing the seabed to Garden Island.	Refer to Figures 2.2-2.4 of the CETO 6 MEMP (BMT Oceanica 2015) and associated GIS shapefiles	Loss of benthic primary producer habitats not exceeding cumulative loss guidelines as defined by EPA (2009) for placement of Project subsea infrastructure. Note – direct and indirect losses are considered for installation of subsea infrastructure. See Section 5.3.1 for calculation of benthic habitat loss as per EPA (2009) included within the Environmental Impact Assessment (EIA) as Appendix A of the MEMP (BMT Oceanica 2015). In addition, see Part B of the Referral form showing loss in State waters only.
Onshore power generation facility	Refer to Figure 2.3 of the CETO 6 MEMP and Figure 4.3 of the CETO 6 EIA included as Appendix A of the MEMP (BMT Oceanica 2015)	Not the Subject of this Referral, however; within the proposed onshore Department of Defence (DoD) tenure area located close nearshore within a disused and pre-disturbed quarry.
Operational Elements		
Element	**Location**	**Proposed Extent Authorised**
No significant operational elements of extraction or emissions	Not applicable	Not applicable

1.3 Strategic / derived proposals

Complete this section if the proposal being referred is a strategic proposal or you are seeking the proposal to be declared a derived proposal. Note: Only a proponent may refer a strategic proposal and seek a proposal to be declared a derived proposal.

Proponent to complete	
Is this referred proposal a strategic proposal?	☐ Yes ☒ No
Are you seeking that this proposal be declared a derived proposal?	☐ Yes ☒ No
If you are seeking that this proposal be declared a derived proposal, what is the Ministerial Statement number (MS #) of the associated strategic proposal?	MS #: _____

1.4 Location

Proponents and DMAs must provide spatial data. Please refer to EAG 1 for more detail.

Proponent, DMA and Third Party to complete	
Name of the Local Government Authority in which the proposal is located.	Proposal not located in any Local Government Authority, however; adjacent to City of Rockingham and, as such, planning applications will be submitted to Rockingham to Western Australian Planning Commission (WAPC).
Location: a) street address; lot number; suburb; and nearest road intersection; or b) if remote the nearest town; and distance and direction from that town to the proposal site.	Terrestrial component of the Project is located on Garden Island (see Figure 4.3 of Appendix A to the attached MEMP (BMT Oceanica 2015, Attachment 1 of this Referral). The marine component extends from the south west nearshore waters of Garden Island to approximately 8-10 km offshore of Garden Island in 30-35 m of Commonwealth waters where CETO units and foundations will be installed.
Have maps and figures been included with the referral (consistent with EAG 1 where appropriate)? *The types of maps and figures which need to be provided (depending on the nature of the proposal) include:* • *maps showing the regional location and context of the proposal; and* • *figures illustrating the proposal elements.*	☒ Yes ☐ No Please refer to the MEMP (BMT Oceanica 2015, Attachment 1 of this Referral) for Project maps and figures as well as attached GIS spatial data to this Referral.
Proponent and DMA to complete	
Have electronic copies of spatial data been included with the referral? ***NB:*** *Electronic spatial (GIS or CAD) data, geo-referenced and conforming to the following parameters:* • *GIS: polygons representing all activities and named;* • *CAD: simple closed polygons representing all activities and named;* • *datum: GDA94;* • *projection: Geographic (latitude/longitude) or Map Grid of Australia (MGA);* • *format: ESRI geodatabase or shapefile, MapInfo Interchange Format, Microstation or AutoCAD.*	☒ Yes ☐ No See attached GIS spatial information.

1.5 Significance test and environmental factors

Proponent, DMA and Third Party to complete	
What are the likely significant environmental factors for this proposal?	☒ Benthic Communities and Habitat ☒ Coastal Processes ☒ Marine Environmental Quality ☒ Marine Fauna ☐ Flora and Vegetation ☐ Landforms ☐ Subterranean Fauna ☐ Terrestrial Environmental Quality ☐ Terrestrial Fauna ☐ Hydrological Processes ☐ Inland Waters Environmental Quality ☐ Air Quality & Atmospheric Gases ☒ Amenity ☒ Heritage ☐ Human Health ☐ Offsets ☐ Rehabilitation and Decommissioning
Having regard to the Significance Test (refer to Section 7 of the *EIA Administrative Procedures 2012*) in what ways do you consider the proposal may have a significant effect on the environment and warrant referral to the EPA?	*Please outline in two paragraphs or less.* It is noted as per EAG 16 (EPA 2015a) Section 4.3, only significant factors should be included within the Referral. The potential environmental impacts associated with the CETO 6 Project are expected to be negligible and, as such, no "likely significant impacts" are anticipated for this Referral. However; Part B of this Referral has been completed for OEPAs review of the level of significance for applicable factors. To date, prior to the submission of environmental Referrals, Carnegie has engaged BMT Oceanica, a Western Australia specialist Marine Environmental Consultancy, to prepare an Environmental Risk Assessment (ERA), Environmental Impact Assessment (EIA) and associated MEMP for the CETO 6 Garden Island Project. In addition, Carnegie has engaged a specialist terrestrial independent consultant, namely Dr Boyd Wykes, to prepare a Terrestrial Environmental Management Plan (TEMP) for the terrestrial component of the Project managed under DoD jurisdiction. All risk assessments were based on the combined likelihood and consequence of each potential residual risk occurring; that is, the potential likelihood and consequence of the potential impact or risk occurring following management and/or mitigation actions being

Proponent, DMA and Third Party to complete	
	implemented. Those risks with medium or high residual risk ratings after management options were considered were presented to key stakeholder groups with the view to potentially inform better management if possible. The community consultation project component involved representatives from the both the OEPA and Department of the Environment. A summary of the community consultation feedback is provided in Section 4 of the MEMP (BMT Oceanica 2015, Attachment 1 to this Referral). Medium residual risks ratings after management options were considered were in relation to maritime safety and bushfire management (see EIA as Appendix A to the MEMP). All remaining environmental risks were considered low after appropriate management and mitigation measures were implemented as detailed in the MEMP and associated ERA. Both the ERA and EIA are provided as appendices to the MEMP (Attachment 1 to this Referral). Section 5 of the EIA identifies the environmental impact assessment and significance of the Project.

1.6 Confidential information

All information will be made publically available unless authorised for exemption under the EP Act or subject to the Freedom of Information Act 1992.

Proponent to complete	
Does the proponent request that the EPA treat any part of the referral information as confidential? *Ensure all confidential information is provided in a separate attachment in hard copy.*	☐ Yes ☒ No The proposed Project has been referred to the DotE and information contained within including the relevant MEMP will be published on the DotE website.

2 REGULATORY CONSIDERATIONS

This section applies to the Local, State and Commonwealth regulatory considerations for the referred proposal.

2.1 Government approvals

2.1.1 State or Local Government approvals

DMA to complete	
What approval(s) is (are) required from you as a decision-making authority?	
Is rezoning of any land required before the proposal can be implemented? If yes, please provide details.	☐ Yes ☐ No

2.1.2 Regulation of aspects of the proposal

Complete the following to the extent possible.

Proponent to complete	
Do you have legal access required for the implementation of all aspects of the proposal? *If yes, provide details of legal access authorisations / agreements / tenure.* *If no, what authorisations / agreements / tenure is required and from whom?*	☐ Yes ☒ No In the process of applying for legal access to relevant authorities. Environmental approval from the DotE has been received to date.

Outline both the existing approvals and approvals that will be / are being sought as a part of this proposal.

Proponent to complete			
Export cable laying in State waters	Easement area for cable routing	Land Administration Act 1997	DoL
Marine infrastructure installation in State waters	Planning development approval for marine elements of the Project to be installed in State (Coastal) Waters		City of Rockingham/WAPC
Clearing in State waters	Native Vegetation Clearing Permit	EP Act 1986 – Part V	DER
Navigational safety in State waters	Maritime safety approval to install objects in navigable waters	Navigational Waters Regulations 1958 Navigation Act 2012	WA Department of Transport (DoT) and Australia Maritime Safety Authority (AMSA)

Environmental Approvals (Commonwealth waters only)	Environmental approval for offshore marine elements of the Project to be installed in Commonwealth Waters	EPBC Act 1999	Australian Government Department of the Environment
Offshore lease area (Commonwealth waters only)	Planning approval for offshore lease area delineated to contain the CETO Units in Commonwealth waters		Australian Government Department of the Environment
Installation of export cable through to substation on Garden Island (Commonwealth lands only)	Planning and environmental approval for terrestrial elements of the Project being installed on Commonwealth (Defence) land. These approvals are under the jurisdiction of the Department of Defence and therefore do not form part of this Referral.	Defence Act 1903	Australian Department of Defence

**e.g. mining, processing, dredging*

2.1.3 Commonwealth Government *Environment Protection and Biodiversity Conservation Act 1999* approvals

Refer to the assessment bilateral agreement between the Commonwealth of Australia and the State of Western Australia for assistance on this section.

Proponent to complete	
1. Does the proposal involve an action that may be or is a controlled action under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)?	☒ Yes ☐ No *If no continue to Part A section 2.1.4.*
2. What is the status of the decision on whether or not the action is a controlled action?	☐ Proposal not yet referred ☐ Proposal referred, awaiting decision ☐ Assessed – controlled action ☒ Assessed – not a controlled action
3. If the action has been referred, when was it referred and what is the reference number (Ref #)?	Date: 12/01/2016 Ref #: 2016/7635
4. If the action has been assessed, provide the decision in an attachment. Has an attachment been provided?	☒ Yes ☐ No
5. Do you request this proposal to be assessed under the bilateral agreement?	☐ Yes ☒ No

Complete the following to the extent possible for the Public Comment of EPBC Act referral documentation.

Proponent to complete	
6. Have you invited the public to comment on your referral documentation?	☒ Yes ☐ No The Proposal is automatically published on the DotE website for public comment is by default when Referred. Referral to the DotE occurred on the 12/01/2016
7. How was the invitation published?	☐ newspaper ☒ website
8. Did the invitation include all of the following?	
(a) brief description of the action	☒ Yes ☐ No
(b) the name of the action	☒ Yes ☐ No
(c) the name of the proponent	☒ Yes ☐ No
(d) the location of the action	☒ Yes ☐ No
(e) the matters of national environmental significance that will be or are likely to be significantly impacted	☒ Yes ☐ No
(f) how the relevant documents may be obtained	☒ Yes ☐ No
(g) the deadline for public comments	☒ Yes ☐ No
(h) available for public comment for 14 calendar days	☒ Yes ☐ No
(i) the likely impacts on matters of national environmental significance	☒ Yes ☐ No
(j) any feasible alternatives to the proposed action	☐ Yes ☒ No
(k) possible mitigation measures	☒ Yes ☐ No
9. Were any submissions received during the public comment period?	☒ Yes ☐ No
10. Have public submissions been addressed? If yes provide atachment.	☒ Yes ☐ No

2.1.4 Other Commonwealth Government Approvals

Proponent, DMA and Third Party to complete			
Is approval required from other Commonwealth Government/s for any part of the proposal?		☐ Yes ☒ No *If yes, please complete the table below.*	
Agency / Authority	Approval required	Application lodged?	Agency / Local Authority contact(s) for proposal
		☐ Yes ☐ No	
		☐ Yes ☐ No	

3. SUPPORTING INFORMATION

Please attach copies of any relevant information on the proposal, supporting evidence and / or existing environmental surveys, studies or monitoring information undertaken and list the documents below.

Proponent, DMA and Third Party to complete			
Attachment 1	CETO 6 Garden Island Marine Environmental Management Plan	BMT Oceanica	Marine Environmental Management Plan for the CETO 6 Garden Island Project. The plan includes management and mitigation measures for relevant environmental factors. The Environmental Risk Assessment and Environmental Impact Assessment have been included as appendices to this document and address the EPA's environmental factors. The residual environmental risk ratings were low for the relevant marine environmental factors, excluding amenity for maritime safely due to the risk of the units in Commonwealth waters as a navigational safety issue. A navigational safety plan has been developed for the CETO 6 Project and reviewed by WA DoT and AMSA. No other significant environmental impacts are anticipated for the CETO 6 Project.

Carnegie has studied the Garden Island Project area extensively and numerous technical reports have been produced. Reports in relation to past studies in the Reference List of Attachment 1 can be made available upon request to BMT Oceanica.

PART B: ENVIRONMENTAL FACTORS

In accordance with EAG 16 Section 4.3, Part B of this Referral requires the likely level of *significant* impact for each environmental factor to be considered. The potential environmental impacts associated with the CETO 6 Project are expected to be negligible and, as such, no "likely significant impacts" are anticipated in this Referral. However; Part B of this Referral has been completed for OEPAs review of the level of significance for applicable factors.

To reduce the risk of any potential environmental impact, the potential environmental risks associated with the proposed Project have been identified and assessed within the ERA and EIA, and specific measures to avoid or reduce environmental effects will be implemented through the MEMP (BMT Oceanica 2015, Attachment 1 of this Referral).

Monitoring results collected to date under past CETO iterations, and more recently the PWEP have demonstrated no significant environmental impact to environmental factors (see Section 5 of EIA, Appendix A to Attachment 1 of this Referral). No environmental impact is anticipated to environmental factors associated with CETO 6 Project after implementation of the MEMP (BMT Oceanica, Attachment 1 to this Referral).

The EPA has prepared *Referral of a Proposal under s38 of the EP Act EAG No.16 - Appendix A* (Appendix A) to assist in identifying factors and completing the below table. Further guidance can be found in the guidance and policy documents cited in Appendix A under each factor.

How to complete Part B

For each environmental factor, that is likely to be significantly impacted by the implementation of the proposal, make a copy of the table below and insert a summary of the relevant information relating to the proposal. The table can be broken down into more than one table per factor, if the need arises. For example the hydrological processes factor can be presented in two separate tables, one for surface water and one for groundwater, or similarly one for construction and one for operations.

For complex proposals a supplementary referral report can be provided in addition to the referral form. If this option is chosen the table must still be completed (summaries are acceptable) to assist the Office of the EPA with statistical reporting and filtering proposals for processing.

Proponents expecting an API level of assessment must provide information in accordance with the EPA's *Environmental Assessment Guideline for Preparation of an API-A environmental review document* (EAG 14).

For each of the significant environmental factors, complete the following table (Questions 1 – 10).

The purpose of Part B is to assist the EPA to determine the significance of the likely environmental impacts of the proposal in accordance with the EPA's Environmental Assessment Guideline for Environmental factors and objectives (EAG 8) and Environmental Assessment Guideline for Application of a significant framework in the EIA process (EAG 9). Referrers completing Part B should refer closely to EAG 8 and EAG 9.

Benthic Primary Producer Habitat

Proponent to complete. DMA and Third Party to complete to the best of their knowledge.		
1	Factor, *as defined in EAG 8*	Benthic Primary Producer Habitat (BPPH)
2	EPA Objective, *as defined in EAG 8*	To maintain the structure, function, diversity, distribution and viability of benthic communities and habitats at local and regional scales.
3	Guidance - what established policies, guidelines, and standards apply to this factor in relation to the proposal?	Environmental Assessment Guideline (EAG) No. 3 Protection of Benthic Primary Producer Habitats in Western Australia's Marine Environment (EPA 2009).

Proponent to complete. DMA and Third Party to complete to the best of their knowledge.		
4	Consultation - outline the need for consultation and the outcomes of any consultation in relation to the potential environmental impacts	Carnegie has undertaken extensive community consultation and environment studies as part of the development of CETO technology. Community consultation for CETO technology has been an ongoing process since early 2008 regarding seabed and land tenure, environmental issues, permits and approvals requirements. To ensure continued best practice, a Community Consultation Plan (CCP, included as an Appendix to Appendix A of Attachment 1 to this Referral) has been prepared for the CETO 6 Project, providing a strategic approach and detailed engagement plan with clear objectives, activities and process evaluation specific to the CETO 6 Project. The CCP identifies the engagement and feedback process for community consultation, integrating social and community components in line with key planning phases and Project milestones. Throughout the consultation period for the CETO 6, the majority of feedback received has been very positive. Very few concerns were raised about environmental issues due to the information provided during the community consultation process. Furthermore, management for the CETO 6 Project is similar to management processes and responses implemented for the PWEP whereby previous feedback provided by stakeholders had been incorporated and applied to CETO 6. All queries were answered with appropriate information and potential management processes, if required. Suggested management and mitigation measures provided by primary stakeholders in relation to the environment, flora and fauna, and maritime safety were considered and included where relevant within the MEMP. Carnegie will maintain communications with relevant agencies, commercial and recreational groups, and other key stakeholders to ensure they are kept informed of Project activities and any changes which may affect other users of the area. This community consultation will be ongoing throughout the Project. Further information for community consultation can be found in Section 7 of BMT Oceanica (2015a), included Attachment to this Referral. Meeting minutes and outcomes have been included within the appendices of Attachment 1.

Proponent to complete. DMA and Third Party to complete to the best of their knowledge.		
5	Baseline information - describe the relevant characteristics of the receiving environment.	Habitats of the CETO 6 Project area were mapped in August 2015 (BMT Oceanica 2015b) during preliminary environmental studies. To support this habitat mapping, a geophysical survey was also completed MGS Consulting which captured side-scan sonar, multi-beam echo sounder and magnetometer data for the Project footprint (BMT Oceanica 2015b, included as Appendix A to Attachment 1 of this Referral). Results of the surveys showed inshore marine habitats were dominated by bare sandy areas and limestone reefs dominated by macroalgae species (BMT Oceanica 2015b). The Five Fathom Bank area is clearly delineated by higher-relief limestone reef, and has a high percentage covering of *Ecklonia radiata* and *Sargassum* spp (BMT Oceanica 2015b, included as Appendix A to Attachment 1 of this Referral). The coastal geomorphology of the south-west coast of Garden Island is characterised by sandy shorelines, embayments separated by rocky headlands and near-shore reef outcrops. The headlands and reef outcrops strongly influence the direction and degree of hydrodynamic forcing on the shorelines and therefore the shoreline orientation. The CETO 6 Project is proposed to follow the same shoreline crossing and conduit as the existing PWEP cable route. The area of crossing is characterised by a sandy shoreline on the south-west coast of Garden Island. The shoreline is bordered by a high-relief rocky headland to the south (Baudin Point) and is backed by a steep dune ridge. At the top of the dune ridge, the topography flattens and extends inland before dropping into a quarry that is the site of Carnegie's proposed onshore facility BMT Oceanica 2015b, included as Appendix A to Attachment 1 of this Referral). Further detailed information for the baseline characteristics of the receiving environment can be found in Section 4 of Appendix A to Attachment 1 of this Referral (BMT Oceanica 2015b).
6	Impact assessment - describe the potential impact/s that may occur to the environmental factor as a result of implementing the proposal.	Impacts to BPPH are likely to occur during construction of the CETO 6 Project, from anchoring, and placement of subsea infrastructure. Impacts may also occur in the decommissioning phase of the Project; however; these will be limited to the same extent and areas as any construction impacts. Potential impacts to BPPH include both direct (i.e. direct loss from placement of subsea infrastructure) and indirect loss (i.e. creation of turbid plumes associated with surface cable laying). The potential impact to BPPH within State waters is limited to surface laying of the subsea cable. There may be some localised scouring or 'halo' effects associated with the cable due to possible changes to currents and the capture of sand and/or wrack against the unburied cable. The cable will be armoured and secured with grout bags to negate movement across the seafloor. Halo effects from the CETO 5 pipeline installation have been shown to be very localised from recent habitat mapping (BMT Oceanica 2015b). Additional potential impacts may occur from deteriorated water quality and subsequent flow on effects to BPPH as a result hydraulic fluid leaks, spills or pollution. Impacts to BPPH must be assessed in the context of *Environmental Assessment Guideline (EAG) No. 3 Protection of Benthic Primary Producer Habitats in Western Australia's Marine Environment* (EPA 2009). BPPH is defined as seabed communities within which algae (e.g. macroalgae, turf and benthic microalgae), seagrass, mangroves, corals or mixtures of these groups

Proponent to complete. DMA and Third Party to complete to the best of their knowledge.

are prominent components, and also include areas of seabed that support these communities EPA (2009).

Habitat loss calculations for State waters are shown in Table 0.1, including potential impacts from both the CETO 5 and CETO 6 Projects. A total of 617 Ha of BPPH were mapped, with the proportion of habitat impacted by both of the CETO developments ranging from 0.09% to 3.15% (for macroalgae dominated reef and sand or sand inundated reef with sparse macroalgae and seagrass, respectively) (Table 0.1). All loss calculations were within the 5% cumulative loss guideline stipulated by EAG 3 for category D – non designated areas (EPA 2009). Risks to benthic communities and habitats are considered low as the total cumulative habitat loss of CETO 5 and CETO 6 is less than the 5% cumulative loss guideline for Category D non-designated areas. This is due to utilizing pre-existing disturbance corridors and the shore-crossing conduit installed for CETO 5 where possible. The likelihood of turbid plumes indirectly impacting local BPPH associated with cable laying is considered low as the site is located in a highly energetic environment and it is anticipated any localised plume will be quick dissipated.

Please note the EIA will be updated with these loss calculations to separate Commonwealth and State waters upon receipt of final comments from the regulators.

Table 0.1 Cumulative BPPH loss calculations for State waters

Habitat	Area Mapped (Ha)			Direct Loss Calculations (Ha)			
	CETO6	CETO5	Total	CETO 6	CETO 5	Cumulative Impact	% of Habitat
Macroalgae Dominated Reef	96.90	50.18	147.07	0.14	0.00	0.14	0.09
Sand inundated reef with Macroalgae Present (< 20m)	91.74	6.05	97.79	0.09	0.01	0.10	0.11
Sand or Sand Inundated Reef With Sparse Macroalgae and Seagrass Present	0.00	0.32	0.32	0.00	0.01	0.01	3.15
Macroalgae Dominated Reef (seagrass present)	0.11	0.00	0.11	0.00	0.00	0.00	0.00

Note:

1. Bare sand habitat is not included, as per EPA (2009)

Proponent to complete. DMA and Third Party to complete to the best of their knowledge.		
		Further information for the impact assessment for BPPH is provided in Section 5.3.1 of BMT Oceanica (2015b) included as Appendix A to Attachment 1 of this Referral.
7	Mitigation measures - what measures are proposed to mitigate the potential environmental impacts?	As outlined in BMT Oceanica (2015a) Attachment 1 to this Referral, the following management and mitigation measures are proposed for Benthic Primary Producer Habitat: • The requirements for anchoring of vessels to ensure minimal impact to BPPH is to be addressed in the Construction Management Plan for contractors • Design of cable installation and stabilisation to address cable movement and shore-crossing conduit, taking in account for reefs and BPPH and avoiding where possible • Project design of the cable routes and CETO unit location to minimise direct loss and proximity to BPPH where possible based on the location of BPPH from habitat mapping • Minimise disturbance utilising existing disturbed corridors from PWEP where possible • Adherence to DER Native Vegetation Clearing Permit requirements • Logging of environmental incidents involving loss of BPPH, including spatial estimate of loss • Ensure CETO 6 meeting the EPAs objectives as described in EPA (2009) • Careful consideration of Project design and selection of bearing materials to reduce leakage rates (see Section 2.2.2 of Appendix A, Attachment 1 to this Referral, BMT Oceanica 2015a) • Verification of impact assessment via a post-construction seabed visual survey to ensure no impacts have occurred to BPPH outside of the cable route corridor and CETO 6 unit(s) footprint • All non-buried infrastructure, including substation, will be removed during the decommissioning phase • Ensure CETO 6 Project is meeting the EPAs objectives as described in EPA (2009) during all Project phases Refer to Section 6.1.2 and Section 6.2.1 of Attachment 1 for further management details throughout Project phases pertaining to BPPH (BMT Oceanica 2015a).
8	Residual impacts – review the residual impacts against the EPA objectives. .	There is unlikely to be any residual impacts to Marine Benthic Producer Habitat from the CETO 6 Project. All loss calculations were within the 5% cumulative loss guideline stipulated by EAG 3 for category D – non designated areas (EPA 2009). Risks to benthic communities and habitats are considered low as the total cumulative habitat loss of CETO 5 and CETO 6 is less than the 5% cumulative loss guideline for Category D non-designated areas. Given there were no negative residual impacts to BPPH from the installation of the pipelines for the PWEP offshore from Garden Island, it is anticipated similar results for the CETO 6 Project that has a smaller cable diameter (~80 mm) in comparison to the PWEP pipeline. No cumulative impacts are anticipated for the CETO 6 Project-see Section 5.2.1 of Appendix A to Attachment 1 of this Referral form for further details on cumulative impact assessment.

Proponent to complete. DMA and Third Party to complete to the best of their knowledge.		
9	EPA's Objective – from your perspective and based on your review, which option applies to the proposal in relation to this factor? *Refer to EAG 9*	☒ *meets the EPA's objective* ☐ *may meet the EPA's objective* ☐ *is unlikely to meet the EPA's objective*
10	Describe any assumptions critical to your conclusion (in Question 9).	All management and mitigation commitments outlined in BMT Oceanica (2015a) included as Attachment 1 to this Referral are implemented throughout all Project phases.

Coastal Processes

Proponent to complete. DMA and Third Party to complete to the best of their knowledge.		
1	Factor, *as defined in EAG 8*	Coastal processes
2	EPA Objective, *as defined in EAG 8*	To maintain the morphology of the subtidal, intertidal and supratidal zones and the local geophysical processes that shape them.
3	Guidance - what established policies, guidelines, and standards apply to this factor in relation to the proposal?	No guidance/policies for Coastal Processes applicable to this Project Referral. EP18 – Sea level rise is not considered to be applicable to this Project Referral.

Proponent to complete. DMA and Third Party to complete to the best of their knowledge.		
4	Consultation - outline the need for consultation and the outcomes of any consultation in relation to the potential environmental impacts, including:	Carnegie has undertaken extensive community consultation and environment studies as part of the development of CETO technology. Community consultation for CETO technology has been an ongoing process since early 2008 regarding seabed and land tenure, environmental issues, permits and approvals requirements. To ensure continued best practice, a Community Consultation Plan (CCP, included as an Appendix to Appendix A of Attachment 1 to this Referral) has been prepared for the CETO 6 Project, providing a strategic approach and detailed engagement plan with clear objectives, activities and process evaluation specific to the CETO 6 Project. The CCP identifies the engagement and feedback process for community consultation, integrating social and community components in line with key planning phases and Project milestones. Throughout the consultation period for the CETO 6, the majority of feedback received has been very positive. Very few concerns were raised about environmental issues due to the information provided during the community consultation process. Furthermore, management for the CETO 6 Project is similar to management processes and responses implemented for the PWEP whereby previous feedback provided by stakeholders had been incorporated and applied to CETO 6. All queries were answered with appropriate information and potential management processes, if required. Suggested management and mitigation measures provided by primary stakeholders in relation to the environment, flora and fauna, and maritime safety were considered and included where relevant within the MEMP. Carnegie will maintain communications with relevant agencies, commercial and recreational groups, and other key stakeholders to ensure they are kept informed of Project activities and any changes which may affect other users of the area. This community consultation will be ongoing throughout the Project. Further information for community consultation can be found in Section 7 of BMT Oceanica (2015a), included Attachment to this Referral. Meeting minutes and outcomes have been included within the appendices of Attachment 1.
5	Baseline information - describe the relevant characteristics of the receiving environment.	The coastal geomorphology of the south-west coast of Garden Island is characterised by sandy shorelines, embayments separated by rocky headlands and near-shore reef outcrops. The headlands and reef outcrops strongly influence the direction and degree of hydrodynamic forcing on the shorelines and therefore the shoreline orientation (BMT Oceanica 2015b, included as Appendix A to Attachment 1 of this Referral). The dominant coastal processes occurring along the south-west coastline of Garden Island and at the cable crossing beach can be inferred from historical shoreline information, aerial photography, and the general dynamics of the near-shore and offshore bathymetry, coastal geomorphology, and wave climate information. The general coastal geomorphology identified in the 1916 historic map is still prominent in recent aerial imagery; therefore the south-west coastline of Garden Island is considered to be relatively stable. Visual assessment of imagery from 1967–2008 indicates that there have been no significant morphological changes along the south-west coast of Garden Island (or in the vicinity of Quarry Road Beach) in the last 45 years (BMT Oceanica 2015b, included as Appendix A to Attachment 1 of this Referral).

Proponent to complete. DMA and Third Party to complete to the best of their knowledge.		
		The CETO 6 Project is proposed to follow the same shoreline crossing and conduit as the existing PWEP cable route. The area of crossing is characterised by a sandy shoreline on the south-west coast of Garden Island. The shoreline is bordered by a high-relief rocky headland to the south (Baudin Point) and is backed by a steep dune ridge. At the top of the dune ridge, the topography flattens and extends inland before dropping into a quarry that is the site of Carnegie's proposed onshore facility (BMT Oceanica 2015b, included as Appendix A to Attachment 1 of this Referral). The main coastal geomorphic components of the cable crossing site are: 1. Limestone headland 2. Beach 3. Vegetated dune 4. Sub tidal reef 5. Intertidal reef 6. Cuspate shore projection The near-shore zone off the south-west coast of Garden Island has subtidal and intertidal reef. The near-shore profile of the proposed cable crossing beach has a gentle slope with bare sand interspersed with subtidal and intertidal reef outcrops. The subtidal reef outcrops are submerged and rarely exposed. The intertidal reef outcrops directly offshore of Baudin Point and the northern end of the cable crossing beach are periodically exposed and wave breaking occurs over these features (BMT Oceanica 2015b, included as Appendix A to Attachment 1 of this Referral). The near-shore bathymetry of the cable crossing beach is complex as a result of these numerous subtidal and intertidal reef outcrops. These varying water depths increase the dissipation of incoming wave energy in the near-shore zone. The dissipation of wave energy over the intertidal reef at the northern end of the cable crossing beach has caused a cuspate shore projection to form. As a result of the reduced sediment transport capacity of the waves, sand has been deposited in the lee of the intertidal reef. Over time, this sand has accumulated and the shoreline has built seawards to form a small shore projection that effectively borders the northern end of the cable crossing beach (BMT Oceanica 2015b, included as Appendix A to Attachment 1 of this Referral). See Section 5.3.2 of BMT Oceanica (2015a) included as Appendix A to Attachment 1 of this Referral for further information.

Proponent to complete. DMA and Third Party to complete to the best of their knowledge.		
6	Impact assessment - describe the potential impact/s that may occur to the environmental factor as a result of implementing the proposal.	It is anticipated the potential impact of the CETO 6 Project on coastal processes will be negligible to those for the CETO 5 Project as the same shoreline crossing conduit for PWEP cable will be used for the CETO 6 with enough cable to be installed through to the substation on Garden Island. It is important to note that monitoring results indicate that there has been no significant impact on beach and dune stability due to the presence of the buried conduit at the Quarry Road Beach (BMT Oceanica 2015b, included as Appendix A to Attachment 1 of this Referral). It is anticipated that the potential impacts to beach and dune stability during the operations phase of the CETO 6 Project will be low, provided that the structural design and installation of the cables minimises the potential for exposure and that management measures are adhered to in the event of cable exposure. It is unlikely that natural longshore sediment transport will be interrupted from the surface laid cable along the seafloor. The cable is relatively thin ~80 mm diameter and will be secured by clump weights and grout bags. Given the small size of the cable and the high energy environment, it is unlikely that there will be an accumulation of sand or downdrift erosion in the vicinity of the cable, furthermore; surface laid pipelines with larger diameter from the CETO 5 Project have shown no known effects to sediment processes in the Project vicinity (BMT Oceanica 2015b, included as Appendix A to Attachment 1 of this Referral). The beach profile at the proposed cable shore-crossing undergoes significant seasonal erosion and accretion. These seasonal beach profile changes could potentially expose the cable depending on burial depth. The cable could also become exposed during storm events where the shoreline experiences high energy wave conditions, elevated water levels and increased erosion. If the conduit became exposed across the beach or in the near-shore area there could be localised changes to the beach profile and interruption of longshore sediment transport. This could result in changes to the near-shore currents and wave regime and also may affect the structural integrity of the cable (BMT Oceanica 2015b, included as Appendix A to Attachment 1 of this Referral).). Further information for the impact assessment for Coastal Processes is provided in Section 5.3.2 of BMT Oceanica (2015b) included as Appendix A to Attachment 1 of this Referral.
7	Mitigation measures - what measures are proposed to mitigate the potential environmental impacts?	As outlined in BMT Oceanica (2015a) included as Attachment 1 to this Referral, the following management and mitigation measures are proposed for Coastal Processes: • The Project design will minimise the direct disturbance to the seabed and shore-crossing for cable installation by using industry design standards and best practice • Where possible, the near shore surface cable laying will follow the pre-existing PWEP pipeline route and utilise the existing shore-crossing conduit through to the substation on Garden Island

Proponent to complete. DMA and Third Party to complete to the best of their knowledge.		
		• Project design of cable installation and stabilisation to address cable movement and shore-crossing conduit taking account for currents and water movement • Project designed with small cable in limited geographical area of high sediment movement • If the buried shore-crossing conduit is found to be exposed along any section of the near-shore and/or onshore cable crossing, the site will be surveyed to determine whether the exposed conduit is having an effect on the coastal sediment transport, beach profile and dune stability • The implementation of additional stability measures could be required if there is a risk to the structural integrity of the conduit • Following the cable installation, visual assessments will be undertaken to examine the beach profile and coastal geomorphology along cable routes • All buried infrastructure, as well as offshore foundations, will remain in place to avoid re-disturbance of surrounding vegetation, dune and beach areas See Section 6.1.3, Section 6.2.2 and Section 6.3 of BMT Oceanica (2015a) included as Attachment 1 to this Referral for further information.
8	Residual impacts – review the residual impacts against the EPA objectives. .	No residual impacts to Coastal Processes are anticipated from the CETO 6 Project. All buried infrastructure, including the buried conduit will remain in place to void coastal instability. It is important to note that monitoring results indicate that there has been no significant impact on beach and dune stability due to the presence of the buried conduit at the Quarry Road Beach. Surface laid pipelines for PWEP with larger diameter than the proposed CETO 6 surface cable have shown no impacts associated with coastal erosion/accumulation. Furthermore, the Project has a relatively short operational period of 12 months with a design life of ~4 years (BMT Oceanica 2015b, included as Appendix A to Attachment 1 of this Referral).
9	EPA's Objective – from your perspective and based on your review, which option applies to the proposal in relation to this factor? *Refer to EAG 9*	☒ *meets the EPA's objective* ☐ *may meet the EPA's objective* ☐ *is unlikely to meet the EPA's objective*

Proponent to complete. DMA and Third Party to complete to the best of their knowledge.		
10	Describe any assumptions critical to your conclusion (in Question 9). *e.g. particular mitigation measures or regulatory conditions.*	All management and mitigation commitments outlined in BMT Oceanica (2015a) included as Attachment 1 to this Referral are implemented throughout all Project phases

Marine Environmental Quality

Proponent to complete. DMA and Third Party to complete to the best of their knowledge.		
1	Factor, *as defined in EAG 8*	Marine Environmental Quality
2	EPA Objective, *as defined in EAG 8*	To maintain the quality of water, sediment and biota so that the environmental values, both ecological and social, are protected.
3	Guidance - what established policies, guidelines, and standards apply to this factor in relation to the proposal?	• ANZECC/ARMCANZ (2000) guidelines for fresh and marine water quality • WA Department of Fisheries (DoF) National System for the Prevention and Management of Marine Pest Incursions • DoF (2012) Western Australian Marine Pest Management Guidelines • Environmental Assessment Guideline 15 (EAG 15) – (EPA 2015b) • Environmental Assessment Guideline 15 (EAG 3) – (EPA 2009)
4	Consultation - outline the need for consultation and the outcomes of any	Carnegie has undertaken extensive community consultation and environment studies as part of the development of CETO technology. Community consultation for CETO technology has been an ongoing process since early 2008 regarding seabed and land tenure, environmental issues, permits and approvals requirements. To ensure continued best practice, a Community Consultation Plan (CCP, included as an Appendix to Appendix A of Attachment 1 to this Referral) has been prepared for the CETO 6 Project, providing a strategic approach and detailed engagement plan with clear objectives,

Proponent to complete. DMA and Third Party to complete to the best of their knowledge.		
	consultation in relation to the potential environmental impacts	activities and process evaluation specific to the CETO 6 Project. The CCP identifies the engagement and feedback process for community consultation, integrating social and community components in line with key planning phases and Project milestones. Throughout the consultation period for the CETO 6, the majority of feedback received has been very positive. Very few concerns were raised about environmental issues due to the information provided during the community consultation process. Furthermore, management for the CETO 6 Project is similar to management processes and responses implemented for the PWEP whereby previous feedback provided by stakeholders had been incorporated and applied to CETO 6. All queries were answered with appropriate information and potential management processes, if required. Suggested management and mitigation measures provided by primary stakeholders in relation to the environment, flora and fauna, and maritime safety were considered and included where relevant within the MEMP. Carnegie will maintain communications with relevant agencies, commercial and recreational groups, and other key stakeholders to ensure they are kept informed of Project activities and any changes which may affect other users of the area. This community consultation will be ongoing throughout the Project. Further information for community consultation can be found in Section 7 of BMT Oceanica (2015a), included Attachment to this Referral. Meeting minutes and outcomes have been included within the appendices of Attachment 1.

Proponent to complete. DMA and Third Party to complete to the best of their knowledge.		
5	Baseline information - describe the relevant characteristics of the receiving environment.	Refer to information presented above for Benthic Primary Producer Habitat and Coastal Processes for a general description of the receiving marine environment. Refer to Section 4 of Appendix A to Attachment 1 of this Referral for further information of the environmental setting. Recent water quality monitoring associated with post-commissioning surveys for PWEP showed marine infrastructure has not significantly impacted surrounding water quality and is not anticipated to significantly impact on sediment quality (note a post-decommissioning survey is planned for early 2016). The pre-construction sediment survey for PWEP showed no existing contaminants within marine sediments in the vicinity of the Project area (BMT Oceanica 2015b included as Appendix A to Attachment 1 of this Referral form). Regular routine monitoring is undertaken at the nearby Sepia Depression Ocean Outlet landline (SDOOL) outfall. The SDOOL discharges secondary treated wastewater into the Sepia Depression and monitoring is undertaken to determine any environmental impacts associated with SDOOL with compliance reports made publicly available. Annual monitoring in 2014 indicated that SDOOL contaminants were below the ANZECC/ARMCANZ (2000) 99 % species protection levels following initial dilution, and hydrocarbons were undetectable in the water column. Further information on the Project baseline environment can be found in Section 5.3.3 of BMT Oceanica (2015b) included as Appendix A to Attachment 1 of this Referral.
6	Impact assessment - describe the potential impact/s that may occur to the environmental factor as a result of implementing the proposal.	Potential impacts to marine water and sediment quality associated with the CETO 6 Project may be associated with vessels, spills, waste disposal, drilling and/or potential leakage from the CETO units during normal operation, however; this is anticipated to be negligible given the units are located in Commonwealth waters and following initial dilution contaminant levels are unlikely to be undetected (BMT Oceanica 2015b included as Appendix A to Attachment 1 of this Referral form). Potential impacts to Marine Environmental Quality may also occur from biofouling associated with installation of subsea cables and introduced marine pests associated with construction/operation and decommissioning vessels (BMT Oceanica 2015b, included as Appendix A to Attachment 1 of this Referral). During the installation of the CETO 6 units' foundations, there may be small amounts of grouting fluids that are unavoidably released to the seabed. Grouting fluids consist of cement, seawater and various additives including surfactants, defoamers, lignins, inorganic salts and bentonite. Given the small amount, and the high wave energy environment in which the CETO 6 unit foundations are being installed, it is unlikely that these will be impacts to sediment quality (BMT Oceanica 2015b, included as Appendix A to Attachment 1 of this Referral).. If drilling is required, drill fluids may be used to reduce friction between the drill and substrate. Drilling fluids may consist of seawater and/or drilling muds. Drilling muds are typically comprised of hydrocarbons, which have potential to contaminate the sediments. Where possible, biodegradable drilling muds with low environmental toxicity will be sourced for foundation

Proponent to complete. DMA and Third Party to complete to the best of their knowledge.		
		installation. If pile installation is the chosen method for foundation installation, it is unlikely drill cuttings that may remain in suspension for prolonged periods given the high energy environment the Project is located, ~125m^3 of cuttings are expected to be generated per pile with up to three piles proposed for installation, however this is localised to Commonwealth waters only and any cuttings are expected to be rapidly dispersed (BMT Oceanica 2015b, included as Appendix A to Attachment 1 of this Referral). Small, localised turbidity plumes may be generated from surface cable laying within State waters, however; this is considered negligible given the high energy environment the Project is located (BMT Oceanica 2015b, included as Appendix A to Attachment 1 of this Referral). Further information for the impact assessment for Marine Environmental Quality can be found in Section 5.3.3 of BMT Oceanica (2015b), included as Appendix A to Attachment 1 of this Referral.
7	Mitigation measures - what measures are proposed to mitigate the potential environmental impacts?	As outlined in BMT Oceanica (2015a) Attachment 1 to this Referral, the following management and mitigation measures are proposed for Marine Environmental Quality: **1. Turbidity** • Use of existing PWEP infrastructure where possible for cable installation including the shoreline crossing conduit to minimise disturbance • Project design in limited geographical area, temporary construction operations in high energy environment **2. Spills and waste** • Project design to reduce potential for hydraulic fluid release, majority of fluid contained within in a closed circuit and external seals to reduce leakage to negligible levels • Project design of CETO unit(s) are secured with a secondary tether in the event of unit detachment as a result of catastrophic failure • Hydraulic fluid selected to avoid potential significant impacts in line with industry standards and with as low toxicity as possible (as per CEFAS ratings using least toxic possible, see Safety Data Sheet (SDS) • Ensure antifouling materials' storage, application methods, equipment and storage of equipment are in line with industry standards, to prevent excess material shedding in water during re-applications • Project design and equipment to limit use of antifouling coatings • All hazardous materials to be handled, used and stored in accordance with the SDS and industry standards • SDS sheets to be made available for all hazardous products required throughout the construction phase

Proponent to complete. DMA and Third Party to complete to the best of their knowledge.		

		• All vessel operators will ensure potentially hazardous materials and/or waste is secured appropriately on board in accordance with Dangerous Goods requirements, including storage in bunded drums for licensed on-shore disposal
		• Supplier contracts shall require adherence to national/international legislative requirements for oil spill prevention
		• All spills will be immediately contained, cleaned up and disposed of appropriately
		• Spill kits appropriate to the nature, type and amount of material(s) will be maintained on board each vessel, with personnel appropriately trained in spill kit use
		• Waste shall be disposed of and stored in secured, lidded bins for appropriate onshore disposal
		• Mechanical/hydraulic equipment, fuel pumps, tanks and storage areas will be regularly inspected
		• Lifting equipment shall be certified and crane operation shall be to Department of Commerce WorkSafe requirements to ensure safe operation and no loss of equipment/materials
		
		3. Drilling
		• The release of grouting fluids to the marine environment will be minimised for foundation installation (dependant on weather)
		• Low volume of drill cuttings released as Project is small and construction is temporary
		• Estimated time requirements for foundation installation (dependent on weather windows)
		  • Pile driving, approx 24 h pile driving over 1-5 days per pile with maximum of 3 piles
		  • Drill and grout est.5-10 days per pile with maximum of 3 piles
		  • Gravity base: 5-10 days tow and install per unit
		• If required, drilling muds will be selected from biodegradable fluids with low environmental toxicity
		
		4. Introduced marine pests
		• Vetting of vessels and suppliers (including vessel operational history, fouling control coating and ballast/trim water details)
		• Use domestic vessels where possible
		• Reference to regulations outlined within the *Biosecurity Act 2016*
		• Reference to Department of Agriculture biofouling guidelines for commercial vessels
		• Reference to the WA Department of Fisheries state-wide vessel-tool checklist
		• Carnegie to arrange construction vessels for clearance of marine pests if suspected risk, as soon as possible
		Subject to the perceived risk and/or uncertainties presented by the vessel an inspection may be undertaken by a suitable qualified marine pest surveyor prior to mobilisation

Proponent to complete. DMA and Third Party to complete to the best of their knowledge.		
		5. Biofouling • Project design and equipment to limit use of antifouling coatings • Selection antifouling product to avoid potential significant impacts in line with industry standards and regulations and with as low environmental toxicity as possible • SDS sheets to be made available for the antifouling applications/products • Antifouling materials' storage, application methods, and storage of equipment with antifouling materials applied will adhere with industry standards, to prevent excess material shedding in water during re-applications • Vetting of maintenance vessels and suppliers (including vessel operational history, fouling control coating and or and ballast/trim water details) • Use domestic vessels where possible • Reference to regulations outlined within the *Biosecurity Act 2016* • Reference to Department of Agriculture biofouling guidelines for commercial vessels • Reference to the WA Department of Fisheries state-wide vessel-tool checklist • Carnegie to arrange operational vessels for clearance of marine pests if suspected risk as soon as possible See Section 6.1.4, Section 6.2.3, Section 6.3 and Section 7 of BMT Oceanica (2015a) included as Attachment 1 to this Referral for further information surrounding management and mitigation measures for Marine Environmental Quality.
8	Residual impacts – review the residual impacts against the EPA objectives	There is unlikely to be any residual impacts to Marine Environmental Quality from the CETO 6 Project. Residual impacts may occur in the very unlikely event of an uncontrolled hydrocarbon leak from the Project infrastructure. See Section 7 of Attachment 1 to this Referral for Emergency Response Plan detailing procedures in the event of accidental release of hydraulic fluid. There have been no known impacts associated with the previous iteration of the CETO technology, CETO 5 and given the short deign and operational life the Project no residual impacts are anticipated. No cumulative impacts are anticipated for the CETO 6 Project-see Section 5.2.1 of Appendix A to Attachment 1 of this Referral form for further details on cumulative impact assessment.

Proponent to complete.		DMA and Third Party to complete to the best of their knowledge.
9	EPA's Objective – from your perspective and based on your review, which option applies to the proposal in relation to this factor? *Refer to EAG 9*	☒ *meets the EPA's objective* ☐ *may meet the EPA's objective* ☐ *is unlikely to meet the EPA's objective*
10	Describe any assumptions critical to your conclusion (in Question 9).	All management and mitigation commitments outlined in BMT Oceanica (2015a), included as Attachment 1 to this Referral are implemented throughout all Project phases.

Marine Fauna

Proponent to complete.		DMA and Third Party to complete to the best of their knowledge.
1	Factor, *as defined in EAG 8*	Marine Fauna
2	EPA Objective, *as defined in EAG 8*	To maintain the diversity, geographic distribution and viability of fauna at the species and population levels.
3	Guidance - what established policies, guidelines, and standards apply to this factor in relation to the proposal?	No EPA guidance considered applicable for potential impacts to Marine Fauna associated with the CETO 6 Project in State waters. EPBC Act Policy Statement 2.1 - Interaction between offshore seismic exploration and whales: Industry guidelines (Commonwealth) is applicable to CETO 6 project phases in Commonwealth waters and has been implemented as a management document in Commonwealth waters.

Proponent to complete.		DMA and Third Party to complete to the best of their knowledge.
4	Consultation - outline the need for consultation and the outcomes of any consultation in relation to the potential environmental impacts, including: • *anticipated level of public interest in the impact;* • *consultation with regulatory agencies; and* • *consultation with community.*	Carnegie has undertaken extensive community consultation and environment studies as part of the development of CETO technology. Community consultation for CETO technology has been an ongoing process since early 2008 regarding seabed and land tenure, environmental issues, permits and approvals requirements. To ensure continued best practice, a Community Consultation Plan (CCP, included as an Appendix to Appendix A of Attachment 1 to this Referral) has been prepared for the CETO 6 Project, providing a strategic approach and detailed engagement plan with clear objectives, activities and process evaluation specific to the CETO 6 Project. The CCP identifies the engagement and feedback process for community consultation, integrating social and community components in line with key planning phases and Project milestones. Throughout the consultation period for the CETO 6, the majority of feedback received has been very positive. Very few concerns were raised about environmental issues due to the information provided during the community consultation process. Furthermore, management for the CETO 6 Project is similar to management processes and responses implemented for the PWEP whereby previous feedback provided by stakeholders had been incorporated and applied to CETO 6. All queries were answered with appropriate information and potential management processes, if required. Suggested management and mitigation measures provided by primary stakeholders in relation to the environment, flora and fauna, and maritime safety were considered and included where relevant within the MEMP. Carnegie will maintain communications with relevant agencies, commercial and recreational groups, and other key stakeholders to ensure they are kept informed of Project activities and any changes which may affect other users of the area. This community consultation will be ongoing throughout the Project. Further information for community consultation can be found in Section 7 of BMT Oceanica (2015a), included Attachment to this Referral. Meeting minutes and outcomes have been included within the appendices of Attachment 1.
5	Baseline information - describe the relevant characteristics of the receiving environment.	Refer to information presented above for Benthic Primary Producer Habitat and Coastal Processes for a general description of the receiving marine environment. Refer to Section 4 of Appendix A to Attachment 1 of this Referral for further information of the environmental setting (BMT Oceanica 2015b). Section 4.2.2 of BMT Oceanica (2015b) included as Appendix A to Attachment 1 of this Referral lists the marine fauna species that may potentially interact with the CETO 6 Project.

Proponent to complete.		DMA and Third Party to complete to the best of their knowledge.
6	Impact assessment - describe the potential impact/s that may occur to the environmental factor as a result of implementing the proposal.	No potential impacts to marine fauna are anticipated in State waters via drilling operations and/or foundation installation as a result of grouting fluid and/or sediment deposition from drilling during the construction phase of the CETO 6 Project. There may be minimal disturbance to marine fauna in State waters from surface laid cables and secondary potential impacts associated with generation of potential turbidity, vessel strikes, potential spills and vessel noise (BMT Oceanica 2015b, included as Appendix A to Attachment 1 of this Referral). No impact is anticipated with toxicants from grouting fluids in State waters to demersal fin-fish and/or migrating western rock lobster given that the presence of chemical toxicants will be restricted to the grouting phase of construction in Commonwealth waters and be rapidly diluted in the high energy environment, it is unlikely these chemicals will impart acute and/or sub-lethal toxicity effects to marine benthic organisms. Additionally, grouting works are anticipated to occur over a very short term period, likely spanning several days as per the CETO 5 installation. Impacts in association with vessel spills, pollution and waste are impact assessed and indirectly managed under Marine Environmental Quality (BMT Oceanica 2015b, included as Appendix A to Attachment 1 of this Referral). The CETO 6 site experiences highly variable turbidity due to changes in surge activity so it is likely that resident demersal fauna (including crustaceans and fin-fish) are accustomed to turbidity, including when levels are naturally elevated such as during storm events. There is a low risk of sediment deposition and turbidity as a result of surface laid cables impacting upon local demersal fin-fish or upon the annual migration of the western rock lobster (BMT Oceanica 2015b, included as Appendix A to Attachment 1 of this Referral). Given that demersal fin-fish are highly mobile and able to move away from affected areas, it is unlikely that short-term increases in turbidity will have any impact upon these species. It is unlikely that temporary and short-term increases in turbidity from surface cable laying will have any significant impact upon western rock lobster migration or survivorship. There is a low risk that the presence of cables may disrupt the migration of the western rock lobster whites phase by acting as a boundary to the lobsters. However, the presence of the surface is unlikely to have any impact upon lobsters, particularly given their small Project footprint. The cable is relatively small (~80 mm diameter) and it is anticipated that lobsters would likely be able to negotiate directly or navigate around, as similar scale objects are also naturally occurring in the vicinity (BMT Oceanica 2015b, included as Appendix A to Attachment 1 of this Referral). The small footprint of the Project subsea surface cable means that mobile fauna (such as fish, sharks, mammals, reptiles and birds) will likely not be impacted during any phase of the Project. However, during the construction, efforts should be make to avoid vessel strikes with slow-moving mammals and reptiles (whales and turtles). During operations, it is anticipated that all fauna will be able to navigate around infrastructure (BMT Oceanica 2015b, included as Appendix A to Attachment 1 of this Referral).

Proponent to complete.		DMA and Third Party to complete to the best of their knowledge.
		Underwater noise is likely to be generated during the construction phase of the Project in State waters from support vessel movements. Underwater noise generated through support vessel movements, does not have the intensity or characteristics likely to cause physiological damage to sensitive marine fauna. Noise generated by vessels during the construction phase is likely to be of short duration and similar to that of other vessels passing through the Garden Island area (BMT Oceanica 2015b, included as Appendix A to Attachment 1 of this Referral). The cable design itself is small (~80 mm diameter) in a limited geographical area. The cable will be surface laid on the seabed with movement restricted by the weight of the cable protection, grout bags and clump weights. There is a low risk of electromagnetic field emission (EMF) significantly impacting marine fauna, the cable protection armouring and shielding will limit exposure to EMF emissions (BMT Oceanica 2015b, included as Appendix A to Attachment 1 of this Referral). Further information on the impact assessment of Marine Fauna can be found in Section 5.3.4 of BMT Oceanica (2015b) included as Appendix A to Attachment 1 of this Referral.
7	Mitigation measures - what measures are proposed to mitigate the potential impacts?	As outlined in BMT Oceanica (2015a) Attachment 1 to this Referral, the following management and mitigation measures are proposed for Marine Fauna: • Project design in limited geographical area, temporary construction operations in high energy environment • Avoidance of species high migratory periods where possible • Desktop investigation of both marine MNES and local species usage of the area, e.g., seabirds and/or cetaceans migratory paths and periods, feeding areas, etc. • System in place to record boat/deck searches and presence and location of protected marine fauna • Minimal lighting only will be used overnight for security and maritime safety purposes • Reduce potential interactions of marine fauna with subsea infrastructure through Project design • Marine equipment and boats shall be operated by qualified personnel • Vessel movements during the construction works, particularly during the offshore construction components, will be limited to speeds appropriate for the nature of work being undertaken • There will be no interaction with marine fauna and/or fishing by Carnegie contractors • Coastal construction activities (i.e. pulling the cable through the shore-crossing conduit) will be managed to minimise risk to local fauna (penguins, pinnipeds etc.)

Proponent to complete.		**DMA and Third Party to complete to the best of their knowledge.**
8	Residual impacts – review the residual impacts against the EPA objectives..	It is not anticipated that there will be any residual impacts to Marine Fauna in State waters from the CETO 6 Project. There have been no known impacts associated with the previous iteration of the CETO technology, CETO 5 and given the short design and operational life the Project, no residual impacts are anticipated.
9	EPA's Objective – from your perspective and based on your review, which option applies to the proposal in relation to this factor? *Refer to EAG 9*	☒ *meets the EPA's objective* ☐ *may meet the EPA's objective* ☐ *is unlikely to meet the EPA's objective*
10	Describe any assumptions critical to your conclusion (in Question 9). *e.g. particular mitigation measures or regulatory conditions.*	All management and mitigation commitments outlined in BMT Oceanica (2015a) included as Attachment 1 to this Referral are implemented throughout all Project phases.

Amenity

Proponent to complete. DMA and Third Party to complete to the best of their knowledge.		
1	Factor, *as defined in EAG 8*	Amenity
2	EPA Objective, *as defined in EAG 8*	To ensure that impacts to amenity are reduced as low as reasonably practicable.
3	Guidance - what established policies, guidelines, and standards apply to this factor in relation to the proposal?	No EPA guidance is considered applicable for potential impacts to Amenity associated with the CETO 6 Project in State waters.

Proponent to complete. DMA and Third Party to complete to the best of their knowledge.		
4	Consultation - outline the need for consultation and the outcomes of any consultation in relation to the potential environmental impacts,	Carnegie has undertaken extensive community consultation and environment studies as part of the development of CETO technology. Community consultation for CETO technology has been an ongoing process since early 2008 regarding seabed and land tenure, environmental issues, permits and approvals requirements. To ensure continued best practice, a Community Consultation Plan (CCP, included as an Appendix to Appendix A of Attachment 1 to this Referral) has been prepared for the CETO 6 Project, providing a strategic approach and detailed engagement plan with clear objectives, activities and process evaluation specific to the CETO 6 Project. The CCP identifies the engagement and feedback process for community consultation, integrating social and community components in line with key planning phases and Project milestones. Throughout the consultation period for the CETO 6, the majority of feedback received has been very positive. Very few concerns were raised about environmental issues due to the information provided during the community consultation process. Furthermore, management for the CETO 6 Project is similar to management processes and responses implemented for the PWEP whereby previous feedback provided by stakeholders had been incorporated and applied to CETO 6. All queries were answered with appropriate information and potential management processes, if required. Suggested management and mitigation measures provided by primary stakeholders in relation to the environment, flora and fauna, and maritime safety were considered and included where relevant within the MEMP. Carnegie will maintain communications with relevant agencies, commercial and recreational groups, and other key stakeholders to ensure they are kept informed of Project activities and any changes which may affect other users of the area. This community consultation will be ongoing throughout the Project. Further information for community consultation can be found in Section 7 of BMT Oceanica (2015a), included Attachment to this Referral. Meeting minutes and outcomes have been included within the appendices of Attachment 1.

Proponent to complete. DMA and Third Party to complete to the best of their knowledge.		
5	Baseline information - describe the relevant characteristics of the receiving environment.	Refer to information presented above for Benthic Primary Producer Habitat and Coastal Processes for a general description of the receiving marine environment. Refer to Section 4 of Appendix A to Attachment 1 of this Referral for further information of the environmental setting. Recreational activities occur on all accessible beaches in the area, by both DoD personnel and the general public. Public access to Garden Island is only allowed via private vessel during daylight hours, and is prohibited around naval installations including the Helicopter Support Facility (HSF) adjacent to the quarry area. Department of Defence personnel are granted access to the beach immediately north of the quarry along the access road that runs along the northern boundary of the HSF (BMT Oceanica 2015b, included as Appendix A to Attachment 1 of this Referral). Surfing is known to occur on the western side of Garden Island, away from the Project location. Snorkelling and kayaking are popular along the shallow limestone reefs fringing Garden Island. Recreational SCUBA diving is also known to occur over the deeper reefs off Garden Island and Five Fathom Bank (BMT Oceanica 2015b, included as Appendix A to Attachment 1 of this Referral). There is limited commercial fishing in State waters where surface cable laying will occur. The sub-tidal reefs along the western side of Garden Island are popular amongst recreational fishers (BMT Oceanica 2015b, included as Appendix A to Attachment 1 of this Referral). Further information on the Project baseline environment can be found in Section 5.4 of BMT Oceanica (2015b) included as Appendix A to Attachment 1 of this Referral.

Proponent to complete. DMA and Third Party to complete to the best of their knowledge.		
6	Impact assessment - describe the potential impact/s that may occur to the environmental factor as a result of implementing the proposal.	Potential impacts that were assessed for the Amenity environmental objective were fisheries, recreational activities, maritime safety and existing infrastructure. It is highly unlikely that recreational or commercial fisheries in State waters will be negatively impacted upon as a result of the CETO 6 Project. The western rock lobster fishery is the only commercial fishery that may operate within the wider Project area. Lobsters are usually only in the proposed area during the whites phase of their migration phase, when they are moving from onshore reefs to offshore spawning grounds. Given the short temporary construction activities and avoidance of high migratory periods where possible and depending on scheduled project timeframes, it is expected the impact to the western rock lobster to be minimal. (BMT Oceanica 2015b, included as Appendix A to Attachment 1 of this Referral). Temporary disturbances to visual amenity may be caused during cable laying activities in the onshore area (i.e. up to ~500 m offshore of Garden Island). It is anticipated that cable laying would be likely to occur during calmer conditions in summer, and at this time recreational visitors to Garden Island (both land and boat users) are more prevalent. There may be a minor risk of anchoring and/or fishing hazards associated with the presence of export cable. In terms of anchoring, there is little shelter along the region of coast within which the Project sits, other than in very calm conditions and in close proximity to shore. No commercial fishing (i.e. that would require anchors to be deployed from vessels) occurs specifically within the proposed Project area, and only light recreational fishing equipment would be used. The cable route will be marked on navigational charts and provided as a Temporary Notice To Mariners (TNTM). The 80 mm diameter cable constructed from armoured steel with a heavy weighing capacity and is likely to be too heavy to be picked up by small- to medium-sized vessels. Furthermore, the cables will be installed within a conduit already in place across the shoreline to ~5 m water depth, and then surface laid directly onto the seabed, sitting ~80 mm proud of the seabed (BMT Oceanica 2015b, included as Appendix A to Attachment 1 of this Referral). There is a potential risk relating to maritime safety associated with installation and removal of the surface cable, foundations and CETO 6 units, including the loss of materials from the CETO units and/or from the barge(s) carrying them and disturbance to the navigation of other vessels in the area (BMT Oceanica 2015b, included as Appendix A to Attachment 1 of this Referral). Further information for the impact assessment of Amenity can be found in Section 5.3.8 of BMT Oceanica (2015b) included as Appendix A to Attachment 1 of this Referral.
7	Mitigation measures - what measures are proposed to	As outlined in BMT Oceanica (2015a) included as Attachment 1 to this Referral, the following management and mitigation measures are proposed for Amenity: **1. Fisheries** • Project designed to minimise potential for disturbance of existing sea users with small Project area

Proponent to complete. DMA and Third Party to complete to the best of their knowledge.		
	mitigate the potential environmental impacts?	• Short temporary construction activities • Avoidance of high migratory periods where possible and depending on scheduled project timeframes, • Community consultation will continue to be undertaken by Carnegie, including with members of the general public as per the CETO 6 CCP See Section 6.1.6 and Section 6.2.5 of BMT Oceanica (2015a) Attachment 1 to this Referral for further details of fisheries management throughout the Project. **2. Recreational activities** • Project designed with in limited geographical area ~8-10 km offshore to minimise potential for disturbance of existing sea users • Issuing of TNTM (WA DoT) and chart notifications outlining location of Project subsea infrastructure for the life of the Project • Community consultation will continue to be undertaken by Carnegie, including with members of the general public as per the CETO 6 CCP • Management of local boating activities during construction will be an integral part of the, and will be developed by Carnegie in consultation with Rockingham Volunteer Sea Rescue Group (RVSRG), the WA DoT and any other relevant stakeholder identified during the consultation process **3. Maritime safety** • Consultation with key stakeholders, including AMSA, AFMA, WA DoT, DoD, WA DoF, commercial and recreational fishing peak bodies • Project designed to minimise potential for disturbance of existing sea users with small Project area • All materials and CETO unit components will be thoroughly secured during mobilisation to the Project site • In the unlikely event that materials or components are lost during mobilisation, they will be retrieved in a timely and safe manner either by suitably qualified Carnegie personnel, or contractors under the direct supervision of Carnegie personnel • Issuing of TNTM (WA DoT) and chart notifications outlining location of Project subsea infrastructure • Project designed to minimise potential for disturbance of existing sea users, small geographical location for cable laying • Marine equipment and boats shall be operated by qualified personnel • Guidance relating to maritime safety will be detailed by Carnegie in the CETO 6 Construction Management Plan and Emergency Management Plan to be prepared

Proponent to complete. DMA and Third Party to complete to the best of their knowledge.		
		• Carnegie has prepared a Maritime Safety Plan reviewed by WA DoT and AMSA • Design decommissioning to minimise disturbance of existing sea users • Implement permanent exclusion areas/safety zones to reduce the potential for vessel collision • The safety zone will exclude all vessels, other than those undertaking decommissioning activities • A guard vessel will be engaged by Carnegie to assist with providing warnings to approaching vessels of the decommissioning activities and requirement for all vessels to remain clear of the safety zone • Carnegie will continue to implement effective community consultation with all key stakeholders and the wider community **4. Existing infrastructure** • Carnegie will ensure the precise locations of existing infrastructure are identified and marked up on all drawings and charts used for CETO 6 installation • Buffer of at least 50 m from all known location of existing infrastructure • Project design to avoid installed infrastructure and minimise potential for disturbance See Section 6.1.6 and Section 6.2.5 of BMT Oceanica (2015a) included as Attachment 1 to this Referral for further information for management commitments in relation to Amenity. Section 7 details management commitments for Emergency Response Management.
8	Residual impacts – review the residual impacts against the EPA objectives.	There are unlikely to be any residual impacts to Amenity following the decommissioning of the CETO 6 Project infrastructure. Buried infrastructure will remain in place and non-buried infrastructure will be removed during the decommissioning project phase as per proposed management outlined above. There have been no known impacts to Amenity associated with the previous iteration of the CETO technology, CETO 5, and given the short design and operational life the Project, no residual impacts are anticipated.
9	EPA's Objective – from your perspective and based on your review, which option applies to the proposal in relation to this factor? *Refer to EAG 9*	☒ *meets the EPA's objective* ☐ *may meet the EPA's objective* ☐ *is unlikely to meet the EPA's objective*

Proponent to complete. DMA and Third Party to complete to the best of their knowledge.		
10	Describe any assumptions critical to your conclusion (in Question 9)	All management and mitigation commitments outlined in BMT Oceanica (2015a), included as Attachment 1 to this Referral are implemented throughout all Project phases.

Heritage

Proponent to complete. DMA and Third Party to complete to the best of their knowledge.		
1	Factor, *as defined in EAG 8*	Heritage
2	EPA Objective, *as defined in EAG 8*	To ensure that historical and cultural associations are not adversely affected.
3	Guidance - what established policies, guidelines, and standards apply to this factor in relation to the proposal?	Aboriginal Heritage Enquiry System (Department of Aboriginal Affairs) GS 41 – Assessment of Aboriginal Heritage Western Australian Museum Shipwreck Database (available at http://museum.wa.gov.au/maritime-archaeology-db/wrecks/map)

Proponent to complete.		DMA and Third Party to complete to the best of their knowledge.
4	Consultation - outline the need for consultation and the outcomes of any consultation in relation to the potential environmental impacts.	Carnegie has undertaken extensive community consultation and environment studies as part of the development of CETO technology. Community consultation for CETO technology has been an ongoing process since early 2008 regarding seabed and land tenure, environmental issues, permits and approvals requirements. To ensure continued best practice, a Community Consultation Plan (CCP, included as an Appendix to Appendix A of Attachment 1 to this Referral) has been prepared for the CETO 6 Project, providing a strategic approach and detailed engagement plan with clear objectives, activities and process evaluation specific to the CETO 6 Project. The CCP identifies the engagement and feedback process for community consultation, integrating social and community components in line with key planning phases and Project milestones. Throughout the consultation period for the CETO 6, the majority of feedback received has been very positive. Very few concerns were raised about environmental issues due to the information provided during the community consultation process. Furthermore, management for the CETO 6 Project is similar to management processes and responses implemented for the PWEP whereby previous feedback provided by stakeholders had been incorporated and applied to CETO 6. All queries were answered with appropriate information and potential management processes, if required. Suggested management and mitigation measures provided by primary stakeholders in relation to the environment, flora and fauna, and maritime safety were considered and included where relevant within the MEMP. Carnegie will maintain communications with relevant agencies, commercial and recreational groups, and other key stakeholders to ensure they are kept informed of Project activities and any changes which may affect other users of the area. This community consultation will be ongoing throughout the Project. Further information for community consultation can be found in Section 7 of BMT Oceanica (2015a), included Attachment to this Referral. Meeting minutes and outcomes have been included within the appendices of Attachment 1.
5	Baseline information - describe the relevant characteristics of the receiving environment.	Refer to information presented above for Benthic Primary Producer Habitat and Coastal Processes for a general description of the receiving marine environment. Refer to Section 4 of Appendix A to Attachment 1 of this Referral for further information of the environmental setting. There are 13 Historic Wrecks greater than 75 years old that are unaccounted for around the broader Garden Island area. Hydrographic surveys commissioned out by Carnegie have not identified evidence of shipwreck relics within the Project location.

Proponent to complete.		DMA and Third Party to complete to the best of their knowledge.
6	Impact assessment - describe the potential impact/s that may occur to the environmental factor as a result of implementing the proposal.	A geophysical survey undertaken by MGS Consulting commissioned by Carnegie has not identified evidence of shipwreck relics within the Project location. An Aboriginal Heritage Inquiry Search showed no known Aboriginal heritage sites within the Project area. Nevertheless, best practice and surveying will be undertaken during the construction phase to ensure protection of maritime heritage. Further information on the impact assessment for Heritage can be found in Section 5.3.9 of BMT Oceanica (2015b) included as Appendix A to Attachment 1 of this Referral.
7	Mitigation measures - what measures are proposed to mitigate the potential environmental impacts?	As outlined in BMT Oceanica(2015a) included as Attachment 1 to this Referral, the following management and mitigation measures are proposed for Heritage: • Aboriginal Heritage Inquiry Search undertaken and no known heritage areas within the Project area • The locations of all known shipwrecks within close proximity to the Project are will be clearly identified and marked on maps (including navigational maps) prior to the commencement of cable laying and installation of CETO 6 unit(s) • Project designed to avoid identified heritage values • Any previously unknown shipwrecks or historical relics encountered during the course of the Project will be immediately reported to DotE as required by, and in accordance with the *Historic Shipwrecks Act 1976*
8	Residual impacts – review the residual impacts against the EPA objectives.	It is not anticipated that there will be any residual impacts to Heritage within State waters as a result of the CETO 6 Project. Results from hydrographic surveys showed no known shipwreck relics in the Project area. Additionally, there are no known Aboriginal heritage sites within the Project area.
9	EPA's Objective – from your perspective and based on your review, which option applies to the proposal in relation to this factor? *Refer to EAG 9*	☒ *meets the EPA's objective* ☐ *may meet the EPA's objective* ☐ *is unlikely to meet the EPA's objective*

Proponent to complete.		DMA and Third Party to complete to the best of their knowledge.
10	Describe any assumptions critical to your conclusion (in Question 9). *e.g. particular mitigation measures or regulatory conditions.*	All management and mitigation commitments outlined in BMT Oceanica (2015a) (Attachment 1 to this Referral) are implemented throughout all Project phases.

References:

BMT Oceanica (2015a) CETO 6 Garden Island Marine Environmental Management Plan. Prepared for Carnegie Wave Energy Limited by BMT Oceanica Pty Ltd, Report No. 1253_003/1_Rev0, Perth, Western Australia, December 2015

BMT Oceanica (2015b) CETO 6 Garden Island Environmental Impact Assessment. Prepared for Carnegie Wave Energy Limited by BMT Oceanica Pty Ltd, Report No. 1253_002/1_Rev1, Perth, Western Australia, December 2015

EPA (2009) Environmental Assessment Guidelines No 3 – Protection of Benthic Primary Producer Habitats in Western Australia's Marine Environment. Environmental Protection Authority, Western Australia, December 2009

EPA (2015a) Environmental Assessment Guideline for Referral of a proposal under s38 of the Environmental Protection Act 1986. Environmental Protection Authority, Report No. EAG 16, Perth, Western Australia, January 2015

EPA (2015b) Environmental Assessment Guideline for Protecting the Quality of Western Australia's Marine Environment. Environmental Protection Authority, Report No. EAG 15, Perth, Western Australia, March 2015

Attachment 1
CETO 6 Garden Island Marine Environmental Management Plan and Appendices

Attachment 1
Department of the Environment Referral Decision Notice for CETO 6 Garden Island