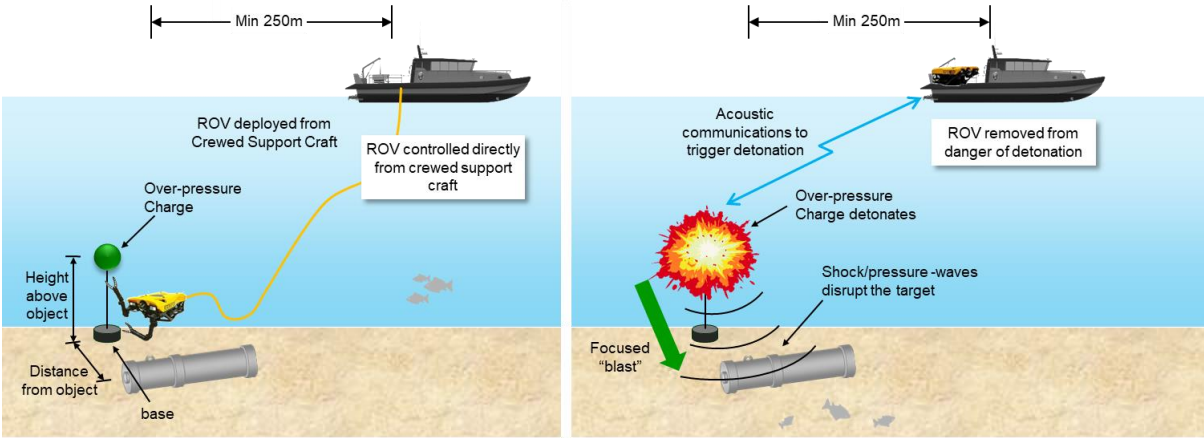


## RCloud Tasking Form – Part B: Statement of Requirement (SoR)

<b>Title of Requirement</b>	User Filled Directional Over Pressure Charge
<b>Requisition No.</b>	1000168779
<b>SoR Version</b>	1.0

<b>1.</b>	<b>Statement of Requirements</b>
<b>1.1</b>	<b>Summary and Background Information</b>
	<p>Dstl is conducting research to develop a user-filled, directional, over-pressure charge for use underwater by a remote operated vehicle to neutralise thin-skinned unexploded ordnance.</p> <p>Unexploded ordnance (UXO) found on the seabed should be neutralised (rendered safe) in place or, if that is not possible, it must be removed to a location where it can be safely carried out. Various methods can be used to neutralise a UXO depending on its type and location. One method, being addressed by this statement of requirement, is to use an over-pressure (OP) charge.</p> <p>An OP charge is usually used if the UXO is thin skinned (e.g. a mine, depth-charge, rocket, missile or torpedo) and has to be moved. An OP charge works by subjecting the UXO to sudden shock and pressure which causes the casing or body of the UXO to distort or rupture. The aim is to flood the areas of the UXO that contain the safety, arming and fusing unit and any other electrical systems with water. This will, over time, render them inoperative and significantly reduce the danger of lifting and moving the UXO to a safe location.</p> <p>The OP charge used by the Royal Navy currently consists of a quantity (up to 5kg) of standard explosive shaped into a block or sphere by the Explosive Ordnance Disposal (EOD) operator and placed inside a cloth bag. The amount of explosive in the OP charge is calculated by the EOD operator and depends on the type of UXO and its location. The OP charge is taken to the UXO by an EOD diver and is normally suspended from a buoy above the UXO to maximise the OP effect. It is initiated by a length of detonation cord from the surface.</p> <p>Due to the design of the OP Charge its effect is omnidirectional and only a small proportion of the shock and blast actually hits the UXO. Therefore a larger quantity of explosive must be used to ensure success. This in turn means that the environmental impact of the explosion on the flora, fauna and seabed will be significant.</p> <p>Dstl is seeking to improve the efficiency and effectiveness and reduce the environmental impact of the OP charge, by reducing the quantity of explosive required. In addition it must be able to be</p>

	delivered by a remote operated vehicle (ROV) to reduce the risk to EOD divers. However, for reasons detailed below, the OP charge must remain user-filled.
1.2	<b>Requirement</b>
	<p>The requirement is to design a new user-filled OP charge that uses less explosive to achieve the same result thereby reducing the impact on the environment. The new OP charge must also be designed to be delivered and emplaced by a ROV. The following diagram illustrates the requirement:</p>  <p>Separately, Dstl is investigating the feasibility of a small, ROV deployable, acoustic firing device which will integrate with the new OP charge.</p> <p>The Key User Requirements (KUR) for the new OP charge are as follows:</p> <ul style="list-style-type: none"><li>• In order not to have to go through the lengthy process of introducing a new weapon system into ship's magazines, the new OP charge must be user-filled and use the standard in-service explosive (currently PE8) and detonators that are carried on board RN ships and readily available in UK armed forces EOD units.</li><li>• The new OP charge must be capable of delivering reliable and repeatable results with different quantities of explosive to enable it to be effective against all types of thin-skinned UXO. The amount of explosive required is to be determined. Dstl will supply details of the shock and blast effects required.</li><li>• To reduce the explosive quantity to a minimum the OP charge must have a directional design that focuses the blast and pressure waves toward the UXO and minimises blast in all other directions.</li><li>• The OP Charge must be designed so that it can be carried to the UXO and set in place at the correct height and distance by a ROV. It should be able to remain in this position in up to a 1 knot current.</li><li>• The OP charge must be capable of deployment and operation at up to 200m depth.</li></ul>

	Dstl is looking for an innovative, elegant, simple and reliable solution that is robust enough to be brought into service if required.
<b>1.3</b>	<b>Options or follow on work</b>
	Not applicable
<b>1.4</b>	<b>Contract Management Activities</b>
	Monthly Checkpoint Meetings
<b>1.5</b>	<b>Health &amp; Safety, Environmental, Social, Ethical, Regulatory or Legislative aspects of the requirement</b>
	No Special requirements

1.6	Deliverables & Intellectual Property Rights (IPR)					
Ref.	Title	Due by	Format	Expected classification (subject to change)	What information is required in the deliverable	IPR Condition
D - 1	Design specification document	31 <sup>st</sup> March 2023	MS Word plus CAD drawings	[Redacted]	Design specifications and engineering drawings for use in MoD publications if required.	
D - 2	Final Report	31 <sup>st</sup> March 2023	MS Word	[Redacted]	Details of: <ul style="list-style-type: none"> <li>• All trials results including any instrumentation data.</li> <li>• Design changes to the charge throughout the research contract.</li> </ul>	
D - 3	User Manual	31 <sup>st</sup> March 2023	MS Word	[Redacted]	Detailed instructions that could form the basis of a future MoD manual.	
D – 4	Monthly Checkpoint Meetings	End of each month	Minutes in MS Word	[Redacted]	First meeting will present the project plan. Future meetings will detail progress to date and planned activity. Minutes to be produced within one week of each meeting.	



<b>1.7</b>	<b>Deliverable Acceptance Criteria</b>
	As per RCloud Terms and Conditions

<b>2</b>	<b>Evaluation Criteria</b>
2.1	Method Explanation
	The proposal must demonstrate sufficient understanding of the requirement in order to provide confidence that the outputs are achievable. The proposal must be affordable.
2.2	Technical Evaluation Criteria
	Non-Competitive – the contractor’s proposal must demonstrate how they are going to meet the requirements e.g. provision of a work break down structure, allocation of resources etc.
2.3	Commercial Evaluation Criteria
	<p>Please submit your full firm price breakdown for all costs to be incurred to fulfil this requirement, including:</p> <ul style="list-style-type: none"> <li>• What rates are being used for what role</li> <li>• Quantity of manpower hours per role</li> <li>• Any Materials costs</li> <li>• Any Facility costs</li> <li>• Any sub-contractor costs</li> <li>• Any travel and subsistence costs</li> </ul> <p>Any other costs.</p> <p>Please note the MOD operates a policy of No Acceptable Price No Contract (NAPNOC). The placing of any contract will depend upon consideration of the proposal received and the Authority reserves the right, at its sole discretion, not to proceed to contract for any part or all of a contractors proposal. And if necessary, not to place any contract as a result.</p>