

**SUMMARY OF DISCUSSIONS – PRE RESPONSE MEETING EXPENDABLE UNDERWATER TARGET (EUT)**

<b>Ser</b>	<b>Query</b>	<b>Description</b>	<b>Response</b>
<b>M/s Kinetic Engineering</b>			
1	How many pre- programmed runs need to be provided	-	The EUT would be capable of being programmed prior launch for the complete duration of its run
2	What is accuracy or error acceptable in heading and depth of target	-	The OEM is to indicate the accuracy in heading and depth that can be achieved by the EUT developed by them
3	Does the broadband noise generator need to be operated continuously or can be programmed as desired either to function at fixed interval or in response to some active transmission	-	The broadband noise generator should function as per the settings fed in by the operator
4	Is it necessary for originating some signal to indicate end of operating cycle or sinking	-	Envisaged capabilities of EUT have been provided in Para 14 of PSQRs. The same may be used as reference
5	What will be the minimum depth of water in areas where the targets are likely to be deployed or what will the minimum seabed clearance in areas of deployment	-	The same has not been defined in the PSQRs. However, the EUT would not be used in areas with depth < 50 mts
6	Is there any ATP established to evaluate these targets. If yes can this be shared because it may be	-	No ATP is formulated at this stage. Post development of prototype, Trial Methodology would be formulated and shared with concerned stakeholders

Ser	Query	Description	Response
	necessary to for additional equipment to facilitate the requirement for recording the run details for evaluation		
7	Is there any budgetary provision for development and procurement of these targets	-	The project development would be iaw Make II as per Chapter III A of DPP -16
8	Can we suggest a negatively buoyed target (in case of unserviceability at launch), which will have a check and indication comes to indicate its operability? Otherwise a system design can be implemented so that the target disengages from lowering for shackle only once its internal system is energised	-	PSQRs may be referred to. In case of error during launch the body should remain afloat.
9	What is the time schedule available to develop prototypes	-	130 – 156 weeks
<b>M/s Osho Corp</b>			
10	10 EUT would be deployed as a part of prototype development. EUT being an expendable equipment	We request Navy HQs to bring down the protype EUT for trials to 2 Nos only from 10 Nos, as there is huge capital cost involve in the development, if Navy HQs agrees to share the prototype development cost than we can think of providing more EUT for trial. Please clarify your extensive Field Trial process, as this will	Not concurred. Being an expendable target,10 EUT would be required to ascertain the functioning of the prototype

Ser	Query	Description	Response
		help us in designing the EUT to user requirements	
11	10 prototype would be required to ascertain the performance of the EUT through extensive filed trials	-	Same as Ser 10
12	Post successful validation and acceptance of prototype 300 EUTs would be procured (@60 EUT/year)	<p>We request the following delivery plan:-</p> <p>20 Nos – each for 1<sup>st</sup> and 2<sup>nd</sup> year</p> <p>30 Nos – each for 3<sup>rd</sup> and 4<sup>th</sup> year</p> <p>50 Nos – each for 5<sup>th</sup>, 6<sup>th</sup>, 7<sup>th</sup> and 8<sup>th</sup> year to complete the delivery of 300 Nos</p> <p>Above delivery schedule is requested as this will be the 1<sup>st</sup> time it will be manufactured in India and production increase will be gradual and production capacity cannot be increased suddenly</p>	Not concurred. Delivery to be as per the requirement of 60 EUT/year
13	The EUT should be capable of imitating the acoustic signature of a maneuvering submarine. It should have an active sonar echo repeater being triggered by transmissions of sonar and torpedoes. The EUT should be capable of operating in a multiple sonar signal scenario. It should also be capable of transmitting programmed low frequency tonal	<p>The signature can be imitated based on the acoustic signature available.</p> <p>We can only work on the side subject provided we get the signature and domain experts support from Navy HQ</p>	Envisaged capabilities of EUT have been provided in Para 14 of PSQRs. The same may be used as reference

Ser	Query	Description	Response
	discreted suitable of being detected by passive sonars and sonobuoys		
14	Sea State. The EUT should be capable of operating up to sea state 4	As the weight of EUT is below 50 Kg it is very tough to make this work in Sea State 4 that is (1.25 to 2.5 meters). However we can make this work in Sea State 2 and 3	Requirement of Sea State as per PSQRs. To be met.
15	It should have an endurance of more than 4 hours while operating between 3 and 4 Kn for 70 % of the run and 6 and 8 Kt for balance 30 %	We can achieve the endurance of maximum 2 hrs in 3 and 4 kn for 50 – 60 % of the run and balance in 5 to 8 Kn possible	Requirement as per PSQR. To be met.
16	EUT should have a service life of not less than 5 yrs without any requirement of maintenance. The service life of battery should not be less than 5 years to obviate the requirement of changing batteries during its service life	EUT with 5 years' service life possible under following conditions:- (i) In packed condition (ii) On the deck (iii) Service Life for the EUT only  Please note Battery requires maintenance and cannot be part of 5 yrs maintenance free service life	Requirement as per PSQR. To be met.
<b>M/s Larsen &amp; Toubro</b>			
17	Part II Para 2 (c)	The EUT should be capable of operating in multiple Sonar signal scenario. Kindly Clarify if the EUT is supposed to replicate	Envisaged capabilities of EUT have been provided in Para 14 of PSQRs. The same may be used as reference

Ser	Query	Description	Response
		one of the multiple Sonar Signal or all the Sonar Signals	
18	Part II Para 22 (e)	Background noise will be high During Sea State 4 and might affect performance of the package at lower depths. Request clarify the requirement of Sea State 4 – Operations or Survivability	Requirement as per NSQR. To be met.
19	Para II 24 (a)	Usually Hull mounted SONARs operate in the range 4KHZ and above and Towed Sonars operate in the range 2.5 KHZ and above. In view of the same, kindly confirm if the lower band of the frequency range be revised accordingly.	Envisaged capabilities of EUT have been provided in Para 14 of PSQRs. The same may be used as reference
<b>M/s MDNS</b>			
20	We feel that 10 nos prototype is high. It is proposed to offer 03 protos	-	Not concurred. Being an expendable target,10 EUT would be required to ascertain the functioning of the prototype
21	We too feel that the classification should change to 'Buy and Make (i) as none of known firms have a developed product	-	No change of Categorisation envisaged
22	Notwithstanding if we still go by Make II, the time granted is considered fair being a complete integrated system and not a subsystem. Our experience show that even simple subsystem like electronic winch has taken us	-	Concur. Timeline of 130 – 156 weeks would be provided for development of prototype

Ser	Query	Description	Response
	similar time while undertaking design, development, ET/EMI EMC and productionise the equipment		
23	Service life of the equipment should be considered as three years owing to battery limitations being the weakest component	-	Not concurred. Battery life to be 5 years as per PSQRs
<b>M/s BEL</b>			
24	Will classifier libraries be provided by <i>IN</i> for prototype development model	-	No. Envisaged capabilities of EUT have been provided in Para 14 of PSQRs. The same may be used as reference
25	Will <i>IN</i> provide the scenarios for prototype development module	-	No. Envisaged capabilities of EUT have been provided in Para 14 of PSQRs. The same may be used as reference
26	Will <i>IN</i> provide the ship platform to test the EUT prototype at Sea	-	Yes. <i>IN</i> will facilitate trials of fully developed prototype
27	Weather user defined trajectories and acoustic signatures will be provided by <i>IN</i> for prototype development	-	No. Envisaged capabilities of EUT have been provided in Para 14 of PSQRs. The same may be used as reference
28	Does it require any dispensary unit to launch from Helo or will it be launched manually from helo at 50 mtrs height	-	Refer to PSQR. The system should be capable of being deployed from ships and helicopters. No modifications should be required to be undertaken on the vessel from which the EUT is to be launched
29	Whether EUT will be launched from Fixed Wing also	-	The EUT should be capable of being launched from ships and helicopters
30	Whether EUT can be used as a Torpedo Target also	-	Yes. Part II, Para 20 (b) of EOI refers
31	Any repair facility to be provided to EUT	-	No. The equipment is expendable

Ser	Query	Description	Response
32	Does OEM need to provide test facility for the testing of the EUT in dockyard or Naval Schools	-	No. The system is expendable in nature
33	Kindly elaborate the 'multi sonar signal scenario' capability of EUT	-	Envisaged capabilities of EUT have been provided in Para 14 of PSQRs. The same may be used as reference
<b>M/s ELCOME</b>			
34	Para 22 (c) - Submarine signature...low frequency tones discrete suitable of being detected by passive sonars...	This functionality is a challenge, considering small size of vehicle. Subject to final design considerations, we expect the EUT vehicle to weigh approx. 80 Kgs. This may kindly be accepted	Weight to be 50 Kg as per PSQRs. Envisaged capabilities of EUT have been provided in Para 14 of PSQRs. The same may be used as reference
35	Para 23 - Self propelled expendable body..Less than 50 Kg, Length < 1.5 mts, depth rating 150 m		
36	Para 27 - Qualification testing..	Please confirm how and at what stage the various quality standards of the EUT developed by DAs, would be verified by <i>IN</i>	The same would be checked post development of Prototype by DAs
37	Para 28 - Storage (a) Temperature 5 to 55 deg (b) Humidity upto 95 %	Vehicle should be designed for storage in air-conditioned environment. However, it will have the capability to withstand high temperature upto 55 deg temporarily	Requirement as per PSQR. To be met.

Ser	Query	Description	Response
38	Appendix D: Financial and commercial assessment criterion.. Minimum average turnover of last 03 years to be at least Rs 6.726 Cr	It is submitted that a MSME DA with the stipulated level of turnover may not find it viable to invest even upto Rs 3 Cr towards prototype development of EUT, given the level of financial risk in this project. Re – categorisation of the project to Buy and Make (Indian) or Make – I for the prototype development phase would elicit a better response from Indian industry, particularly MSMEs	No change in categorisation is envisaged