

**INDIGENOUS DEVELOPMENT OF EFFECTORS FOR ANTI-TORPEDO  
COUNTERMEASURE SYSTEM UNDER 'MAKE-II'**

1. **Introduction.** The Effector, launched from submarines, is a countermeasure system meant to generate and radiate either an acoustic noise simulating the noise radiated by the target(own submarine) or an acoustic signal simulating the target(own submarine) echo when it receives acoustic pulse from an incoming torpedo.
2. **Brief of the Project.** The project is intended to provide Indian Navy with an indigenous effector compatible with the existing launcher system and capable of performing the intended countermeasure role.
3. **Broad Qualitative Requirements.**
  - (a) MIL Grade specifications for ruggedness.
  - (b) Storage and operational capability under marine conditions.
  - (c) Compatible with existing launchers onboard submarines.
  - (d) EMI/EMC complaint.
  - (e) Operating temperature of -2° to +40°C.
4. **Tentative quantity.** 175
5. **Tentative Development Time.** The store should be offered for user trials after 7 months from date of issue of Project Sanction Order’.
6. **Any Other Information.** Nil.

**QUESTIONNAIRE FOR INDIGENOUS DEVELOPMENT OF EFFECTORS  
FOR ANTI-TORPEDO COUNTERMEASURE SYSTEM**

1. Name of the Company/Vendor/Firm.  
(Company profile, in brief, to be attached).
2. Type(Tick the Relevant Category)
  - (a) Original Equipment Manufacturer (OEM) Yes/No
  - (b) Authorised Vendor of Foreign Firm Yes/No  
(attach details, if yes)
  - (c) Other(give specific details)
3. Contact Details.
4. Contact Details of Local Branch/Liaison Office in Delhi(if any).
5. Financial Details.
  - (a) Category of Industry(large/medium/small scale).
  - (b) Annual Turnover(in INR).
  - (c) Number of Employees in Firm.
  - (d) Details of Manufacturing Infrastructure.
  - (e) Earlier Contracts with Ministry of Defence/Government Agencies:-

<b><u>Contract No</u></b>	<b><u>Equipment</u></b>	<b><u>Quantity</u></b>	<b><u>Cost</u></b>

6. Please provide compliance to industry standards and details of ISO certification.
7. Details of Registration.

<b><u>Agency</u></b>	<b><u>Registration No</u></b>	<b><u>Validity(Date)</u></b>	<b><u>Equipment</u></b>

8. Membership of FICCI/ASSOCHAM/CII or other Industrial Association and Registration number.
9. Provide description of the vendor organisation in terms of R&D of electronic and countermeasure systems including the financial capability and the technical expertise.

10. Provide details regarding major successful projects/products/technologies developed/under development involving R&D in the field of electronic and countermeasure systems.
11. Does the vendor have adequate infrastructure and capability for development, manufacture, testing, qualification and integration of the system? If yes, the details to be provided. If no, what is the source and what would be the timeframe for establishing the same?
12. Provide details of similar item manufactured by the vendor and supplied in India abroad, if any.
13. What are the critical technologies which the vendor has taken from their global partners which is envisaged to be used for the extant development, if any?
14. Does the vendor have the capability to develop an Effector prototype and undertake production of the same?
15. What are the components of the envisaged Effector? Provide brief technical details of components and working of the system.
16. Is vendor aware of the power supply envisaged for the Effector?
17. What is the plan of action of the vendor for replicating the capabilities of the imported Effectors available with the IN?
18. Would the indigenously developed Effector be compatible with the launcher of IN submarines?
19. What are technology gaps envisaged by the vendor in the indigenous development and production of Effectors?
20. Any collaboration/joint venture/co-production/authorised dealer envisaged for indigenous development of the Effector. If yes, provide details.
21. What is the approximate indigenous content the vendor will be able to achieve? Give a breakdown of the indigenous content and the imported technology(both in terms of cost percentages).
22. What are the major components/systems/sub-systems envisaged to be indigenously manufactured by the vendor? What will be the source of acquisition for the remaining components/systems/sub-systems?
23. What are the proprietary technologies envisaged to be incorporated in the Effectors? Are the proprietary technologies indigenous or ex-import? If ex-import, will the foreign vendor transfer the technology? Clarify the issues of Intellectual Property Rights(IPR) for the Effectors.

24. What is the way-ahead planned for Transfer of Technology (ToT) to achieve self-reliance?
25. What are the anticipated timelines (in months) for development of the prototype and production? Specify the timelines separately for each.
26. What will be the likely production capacity per annum?
27. Does the vendor have EMI/EMC test facilities? If no, source of testing to be indicated.
28. What is the likely service life and shelf life of the Effector planned for indigenous development?
29. Does the vendor have the ability to provide technical support for the Effector throughout its life cycle?
30. Does the vendor envisage any Maintenance Tools, Test Equipment, Test Jigs and fixtures that would be required for maintenance support for its life cycle? If yes, list out the tools, equipment, jigs and fixtures.
31. How will the vendor ensure continuous supply of spares for the Effectors, especially for imported components, if any?
32. Any additional details in respect of the proposed development carried out may be provided.

**Contact Details of Project Officer**

Cdr S Dutt Roy  
Dte of Armament Production & Indigenisation (DAPI)  
West Block V, Wing I,  
RK Puram, New Delhi  
Phone: 011 26107491  
Fax: 011 26194273  
Email: [dgnai-navy@gov.in](mailto:dgnai-navy@gov.in)