REQUEST FOR INFORMATION (RFI) FOR CONSTRUCTION OF SIX NEXT GENERATION OFFSHORE PATROL VESSELS (NGOPVs) FOR INDIAN NAVY

1. The Ministry of Defence, Government of India, intends to procure **Six** Next Generation Offshore Patrol Vessels (NGOPVs) class of ships from Indian Shipyards.

2. This Request for Information (RFI) consists of two parts as indicated below. Submission of incomplete response format will render the Shipyard liable for rejection:-

(a) **Part I.** The first part of the RFI incorporates operational characteristics and features that should be met by the NGOPVs. A few important technical parameters of the proposed NGOPVs are also mentioned.

(b) **Part II.** The second part of the RFI states the methodology of seeking response of Indian Shipyards..

PART- I

3. **The Intended Use of NGOPVs (Operational Requirements)**. Next Generation Offshore Patrol Vessels (NGOPVs) should be capable of Protection of Offshore Assets, Maritime Interception Operations (MIO) and Visit, Board, Search and Seizure (VBSS) operations, Presence-cum-surveillance Missions, Mine Warfare (through modular payload) Helo Operation and Support of Special Operations. Details are specified in the Operational/Technical Requirements placed at **Appendix A** of this document.

4. **Quantity Required and Anticipated Delivery Timeframes**. Six NGOPVs are proposed to be acquired. Vendors may indicate build period and timelines for delivery.

5. **Important Technical Parameters**. Important Technical Parameters are specified in the brief requirements placed at **Appendix A** of this document. The following details are to be submitted as a part of response:-

(a) Feasibility to build the Next Generation Offshore Patrol Vessels (NGOPVs) with the enclosed Operational/Technical Requirements (**Appendix A**). Any modification to the specifications can be suggested by the shipyard with suitable justification.

(b) Budgetary quotes with breakup of cost including factors such as equipment cost, labor cost, Annual Maintenance Contract (AMC), product support package, training etc.

(c) Build Period.

(d) Experience in building similar vessels along with client details.

(e) Memorandum of Understanding, if any, with respect to design aspects.

(f) Willingness for Option clause, including the duration for which the Option Clause would be valid.

(g) Whether the Shipyards would be able to comply with all provisions of DPP 2016. If not, Para/Clause of DPP 16 not agreed to need to be indicated with reasons.

(h) Shipyard may consider RFI as advance information to obtain requisite government clearances.

(j) The tentative delivery schedule for supply of the NGOPVs after conclusion of the contract.

(k) Acceptability of terms of payment as per DPP.

5. **Additional Specifications**. The aim of seeking this RFI is also to finalise the specifications for the said vessels with inputs from vendors. Accordingly, the questionnaire is placed at **Appendix B** also needs to be answered in response to this RFI.

6. The vendor should confirm that the following process for acquisition in accordance with DPP-16 is acceptable:-

(a) Solicitation of offers will be as per 'Single Stage-Two Bid System'. It would imply that a 'Request for Proposal' would be issued soliciting the technical and commercial offers together, but in two separate sealed envelopes. The validity of commercial offers would be at least 18 months from the last date of submitting of offers.

(b) The technical offers would be evaluated by a Technical Evaluation Committee (TEC) to check its compliance with RFP as per Para 55 of Chapter II of DPP 16.

(c) Amongst the Shipyards cleared by TEC, a Contract Negotiations Committee (CNC) would decide the lowest cost bidder (L1) and conclude the appropriate contract.

(d) The Shipyards would be bound to provide product support for time period specified in the RFP, which includes spares and maintenance tools/jigs/fixtures/documentation for training for field and component level repairs.

(e) The Shipyards would be required to accept the general conditions of contract given in the Standard Contract Document at **Chapter VI of DPP 2016** placed on **www.mod.nic.in**.

(f) **Integrity Pact.** An Integrity Pact along with IPBG is a mandatory requirement. (refer Annexure I to Appendix M of Schedule I to chapter II of DPP16).

(g) **Performance-cum-Warranty Bond**. A Performance-cum-Warranty Bond equal to 10% of value of the contract ie 5% each for performance and warranty is required to be submitted after signing of contract.

PART-II

7. **Procedure for Response**.

(a) The Shipyards must fill the form of response, as given in **Appendix B** to **Chapter II of DPP-16** and ***Appendix D of this document***. Apart from exact details about Shipyard, details about the exact vessel meeting the mentioned operational / technical specifications (**Appendix A** and **Appendix B of this document**) should also be carefully filled. Additional literature on the vessel can also be attached with the form.

(b) The filled form should be dispatched to the under mentioned address: -

The Principal Director of Ship Production
Directorate of Ship Production
IHQ-MoD(N), 9th Floor, Chanakya Bhavan,
Chanakyapuri
New Delhi - 110021.
India.
Tele: 0091-11-26886427
Fax : 0091-11-26886426

E-Mail: dsp-navy@nic.in

(c) Last date of acceptance of filled forms along with details sought is 19 Feb 18 **(Six weeks from the date of uploading of RFI on MoD website)**. The Shipyards short listed for issuance of RFP would be intimated.

9. The Government of India invites responses to this request only from Indian Shipyards who qualify the criteria specified in **Appendix E**. The end user of the NGOPVs is the Indian Navy.

10. This information is being issued with no financial commitment and the Ministry of Defence reserves the right to change or vary any part thereof at any stage. The Government of India also reserves the right to withdraw the case should it be so necessary at any stage. The acquisition process would be carried out under the provisions of **DPP 2016** available on **www.mod.nic.in**.

Appendix A

OPERATIONAL / TECHNICAL SPECIFICATIONS FOR

NEXT GENERATION OFFSHORE PATROL VESSELS (NGOPVs)

Section A – General		
1.	**Aim of RFI**	To finalise the specifications of Next Generation Offshore Patrol Vessels (NGOPVs) to meet the Indian Navy's requirements.
2.	**Functions of NGOPVs**	NGOPV should be capable of fulfilling the following roles:- (a) **Seaward Defence**:- (i) Protection of Offshore Assets. (ii) MIO and VBSS Operations. (iii) Presence-cum-Surveillance Missions. (iv) Mine Warfare (through modular payload). (v) Support of Special Operations. (b) 'Out of Area' Contingency Ops (OOAC). (c) Non-Combatant Evacuation Ops (NEO). (d) Convoy Operations/ Anti-Piracy Missions. (e) Counter Infiltration Ops. (f) Anti-Poaching/ Anti-Trafficking. (g) HADR. (h) Search and Rescue Missions. (j) Hospital Ship. (k) Fleet Maintenance Support. (l) COMINT Ship. (m) Helo Operations.
3.	**Dimensions**	(a) Length – As per design. (b) Beam – As per design. (c) Displacement - About 2500 tons (±10%) (d) Draught - less than 5m

4.	**Hull Form**	The ship is to be of a proven design either existing in Service or supported by model testing to prove the efficacy of design. Any deviation from existing proven design should be repeat model tested in presence of *IN* reps. The Lines Plan of the ship should be frozen post Model Test. The hull form should be an efficient design to minimise resistance and optimise the sea keeping parameters.
5.	**Complement**	Accommodation for approx 20 officers (including 4 women officers) and 130 sailors is to be catered.
6.	**Speed and Range**	(a) Max Speed should not be less than 25 kn. (b) Max Sustained Speed should not be less than 20 kn. (c) Economical Speed should not be less than 14 kn. (d) Ability to operate economically at low speed for sustained durations. Restriction in engine hours should not be an overbearing consideration. (e) The ship should have a range of not less than 8500 nm at 14 kn (Economical Speed).
7.	**Endurance**	The ship should be able to sustain at sea for at least 60 days.
8.	**Planned Ship Life**	Not less than 30 Years
9.	**Propulsion**	(a) 2 x Diesel Engines, CPP (Controlled Pitch Propellers) with Twin Rudder. (b) Bow Thrusters.
10.	**Auxiliaries**	Auxiliary Systems like AC, Refrigeration and Ventilation, Fire Main, Salvage, Ballast, OWS and other relevant Auxiliary Systems, as per Class Requirements, and considered necessary for meeting operational requirements, are to be provided. Continuous fresh water supply should be provided through provision of auxiliary systems like RO plant and Fresh Water Hydrophore System. (a) **<u>Air Conditioning</u>**. Air Conditioning Plants using non-CFC gas, utilising contemporary technology compressors should be used. The capacity of AC plants should meet the required heat load plus 100% reserve capacity. The design should address the need of additional heat generation in equipment compartments. Close down in NBC attack conditions to be achieved by closing access doors and hatches.

		(b) **Refrigeration**. The Refrigeration Plant must be capable of maintaining -22^{o}C to -18^{o}C in Cold Rooms/ Blast Chillers and 3^{o}C to 7^{o}C in Cool Rooms as appropriate. The Refrigeration Plant should use non-CFC refrigerant and must have 100% redundancy. (c) **Air Compressors**. Air Compressors, both motor driven and diesel driven, of adequate capacity with 100% redundancy to be provided. The compressed air should be free of moisture and filtered. (d) **Steering Gear**. Electro Hydraulic Steering Gear with VME based controls, capable of steering the ship from remote, local and emergency positions to be provided. Auto-Pilot facility to be available on steering consoles.
11.	**IPMS**	The Integrated Platform Management System (IPMS) for controlling, monitoring and surveillance of main propulsion, DAs, auxiliaries and Damage Control Systems should comprise of Integrated Machinery Control System (IMCS), Automatic Power Management System (APMS), Battle Damage Control system (BDCS) and online oil monitoring and analysing feature, using a dual redundant Gigabit Ethernet Network. The control architecture should be based on open architecture. Adequate IPMS displays should be provided for operation and monitoring. IPMS should be capable of imparting onboard training for personnel through Onboard Training Simulator (OBTS).
12.	**APMS/Power Generation and Distribution**	Automatic Power Management System (APMS) is to be provisioned for automated power generation, control, monitoring and power distribution. APMS is a standalone system and is to be suitably interfaced with IPMS. Auxiliary Switch Board is to be provided for redundancy. Operation of 'Emergency Stop' and placing of generators on standby for APMS should be available in MCR (preferably hardwired). (a) The Electrical System, machinery and associated equipment should conform to Classification Society Rules. (b) Suitable numbers of unmanned 415V AC, 3 Phase, 50Hz, 3 wire Diesel Generators with 100% reserve power and conforming to Classification Society Rules shall be provided. Generators should be suitable for unattended parallel operation and to cater for 100% reserve power and redundancy vis-à-vis maximum electrical load envisaged at any operating regime of the ship, assuming an ideal loading of generators to 80% of the normal rating. Growth margin is to be catered as per

<table>
<tr><td></td><td></td><td>*IN* Policy, subject to a minimum 10% of the estimated value.

(c) The following power supplies are to be made available onboard the ship:-

<table>
<tr><th>Ser</th><th>Voltage</th><th>Freq</th><th>Phase</th><th>Remarks</th></tr>
<tr><td>(i)</td><td>415V</td><td>50 Hz</td><td>3 Phase</td><td>Main Supply</td></tr>
<tr><td>(ii)</td><td>230V AC</td><td>50 Hz</td><td>3 Phase/ 1 Phase</td><td>3 wire/ 2 wire</td></tr>
<tr><td>(iii)</td><td>230V AC</td><td>50 Hz</td><td>1 Phase</td><td>4 wire for domestic and portable equipment</td></tr>
<tr><td>(iv)</td><td>24V</td><td>DC</td><td>-</td><td></td></tr>
<tr><td>(v)</td><td>Converted Supplies</td><td colspan="3">As per requirement</td></tr>
</table>
</td></tr>
<tr><td>13.</td><td>Emergency DA</td><td>Emergency Diesel Alternator of suitable rating, conforming to EED-Q-242 (R2) is to be provided to cater for emergency supplies for communication equipment and navigational lights.</td></tr>
<tr><td>14.</td><td>Conversion Machinery</td><td>Suitable conversion machinery/ equipment to provide requisite quality converted supplies to be provided as per *IN* Policy.</td></tr>
<tr><td>15.</td><td>RO Plant</td><td>The ship should be fitted with RO plants of atleast 30 TPD capacity and have water storage capacity of atleast 60 tons.</td></tr>
<tr><td>16.</td><td>Cold Room/ Blast Chillers and Cool Rooms</td><td>Cold Room/ Blast Chillers and Cool Rooms to carry fresh victuals for at least 30 days and dry provision store to keep rations for at least 60 days should be provided.</td></tr>
<tr><td>17.</td><td>Classification Society Approval</td><td>The ship should be built under the Naval rules and regulations of IHQ MoD (N) approved Classification Societies, as per extant IMO Code of Safety/ International Standards.</td></tr>
<tr><td>18.</td><td>Sewage Treatment Plant and Toilet System</td><td>Two Sewage Treatment Systems and Plants of adequate capacity capable of performing the following functions are to be provided :-

(a) Integrated Vacuum Toilet and Sewage Treatment System are to be provided for treatment of Black Water only.

(b) Incinerator for disposal of solid garbage.

(c) The STP Compartment should be provided with adequate ventilation and fixed H_2S gas sensor with audio visual alarm.

(d) Type Test Certificate of STP and MARPOL</td></tr>
</table>

		Compliance Certificate by Class Society specifying the validity is to be submitted.
19.	**High Power Water Guns**	4 x High Power Water Guns (two on Foxle and two on Helo Hangar) with remote control are to be fitted with following arrangements:- (a) 360 degree training and elevation from +80 to - 30 degrees. (b) Throw Length more than 50 m.
<u>Section B - Stealth Features</u>		
20.	**Radar Cross Section (RCS)**	(a) The design of the ship should incorporate stealth features to minimise RCS. (b) The stealth feature should also incorporate appendages like flagstaff, ensign staff, stump mast etc to be flush with the deck and be operated electro-hydraulically.
21.	**IR Signatures**	(a) IR Signatures of hot spots should be reduced to the extent feasible. (b) IR Suppression Material should also be an integral part of the design.
22.	**Acoustic Signatures**	(a) Low noise propellers and machinery. (b) High efficiency mufflers and efficient damping mountings. (c) The machinery mounting arrangements should achieve very low structural and air borne noise. (d) All clamps, brackets, hooks, stoppers and other holding and securing arrangements for pipes, door, hatches, and other permanent and portable fittings, which generate vibrations are to have adequate internal rubber lining/ other modern material lining to minimise transmission of vibration. (e) Stealth fittings like stealth mountings and shock standards for vital systems should be used.
<u>Section C – Weapons and Sensors</u>		
23	**EW Suite**	(a) 01 x EW Suite (ESM only) with capability of detecting emitters in the frequency range from 0.175 to 40 GHz and it should be integrated with the following:- (i) Combat Management System (CMS).

		(ii) Chaff Fire Control System (FCS). (iii) Radar. (iv) Gyro. (v) GPS. (b) The blanking inputs to the ESM are to be provided from all the onboard radars.
24	**EOIRST and FCS**	(a) Provisioning of 02 x lynxU2. (b) 01 x SRGM integrated with Lynx U2. (c) 02 x AK 630 integrated with Lynx U2. (d) EOIRST for primary surveillance and track, and FCS to control Guns from Bridge. (e) The System should be able to control MR Gun and AK 630, and give TD to 12.7 mm SRCG. (f) 02 x EOIRST integrated with CMS and capable of providing TD to LynxU2 and SRCG. The System should also be integrated with the CMS.
25.	**MR Gun**	1 x SRGM controlled by EOIRST along with FCS.
26.	**AMD**	(a) 2 x AK 630 controlled by EOIRST along with FCS. (b) 2 x VSHORADS.
27.	**LIMO**	(a) 2 x 12.7 mm SRCG with TD from EOIRST. (b) 2 x Acoustic Warning Device. (c) 2 x Pedestal Mounted High Power Binoculars. (d) 2 x High Power Search Lights location controlled from Bridge.
28.	**Chaff**	1 x Kavach Mod 1 System with Combined MR and SR Launchers.
29.	**Small Arms**	As per Allowance List of NOPVs.
30.	**ASW Weapons/ Sensors**	The following should be fitted onboard:- (a) Underwater Telephone. (b) Torpedo Decoy Maareech (NA).

		(c) XBT with Prosper.
31.	**Helo Launched Weapon**	The ship should be capable of storing Light Weight Torpedoes for helicopter.
32.	**Armoury**	A separate compartment for storing small arms is to be provided in the vicinity of small arms magazine.
33.	**Aviation Facilities**	(a) The aviation facilities should include day and night helicopter and Remote Piloted Aircraft (RPA) operating capability with deck strength for 15 ton AUW Helicopter. (b) The facilities would include a Rail-Less Traversing System, Night Vision Goggles (NVG) compatible lighting and Landing Aid Suite, maintenance/ technical facilities for helicopter and RPA and refueling facilities. (c) Requirements for RPAs and associated control facilities are to be provided as per IHQ MoD(N)/ DNAS Note AO/8051 dated 22 Mar 16.
Section D - Miscellaneous		
34.	**Composite Communication System**	The ship should have an Advanced Composite Communication Suite (ACCS) integrating all communication equipment to the Communication Data Bus. The ACCS should be fully compatible with the Data Link equipment. The ACCS should have following features:- (a) Full integration of external communications including digital sets and Software Defined Radio. (b) Security of Voice and Data Management System. (c) Centralised Management System. (d) Increased reliability through duplication of critical equipment in different areas of ships. (e) One Integrated DAT Recorder (Multi-channel Recorder) for online recording of communication including MMB.
35.	**IBS**	(a) 1 x IBS (Integrated Bridge System). All Navigation Radars, ECDIS, GPS Receivers, RLGs, AIS, BNWAS and VDR are to be included in deliverables for IBS. (b) Additional MFCs and MFDs for Flyco, Emergency Control Post (ECP), Aft steering Post (ASP) etc as required. Numbers to be finalised later. (c) Summator Displays. MFDs of atleast 12” size for displaying SHHD information on Bridge Top and Bridge Wings, as part of IBS.

36.	**Combat Management System**	The ship is to be equipped with an indigenous CMS.
37.	**Op Cycle**	The operational duration of the ship between two consecutive refits is to be minimum 30 months.
38.	**Degaussing**	The ship should have computerised Tri-axial Degaussing System catering for automatic compensation integrated with ship's RLG, automatic compensation for ship's heading, and manual latitude correction up to 70 deg N/S latitude should be catered.
39.	**Sea Worthiness**	(a) Operational Role – upto Sea State 5. (b) Helo Operations – upto Sea State 4. (c) Transit on all headings – upto Sea State 6. (d) Survivability – upto Sea State 8.
40.	**Stability**	The vessel should satisfy the stability requirements for both intact and damaged conditions, including 'growth margin' as per the latest version of NES 109 for naval vessels in military role.
41.	**Habitability**	(a) The latest ship design concepts, with respect to ergonomics/ functional aspects and crew comfort, are to be adopted. Sound insulation is to be provided to all accommodation, work spaces etc. Modern modular accommodation spaces need to be provided in the ship. The design for the habitability of the ship should meet the requirements, regarding lighting, noise and vibration. Layout of bed/ bunks to cater for minimising discomfort due to ships roll/ pitch. (b) Equipment is to be sited, so as to cause the least disturbance to crew, in operational compartments and in living spaces. Noisy equipment, such as motors, pumps and converters should not be fitted inside compartments such as Bridge and Operations Room. (c) Design should allow easy accessibility to machinery/ equipment. Shipping IN and OUT routes for all equipment including Galley equipment and stores should be catered. (d) Doors, hatches and ladders are to be of modern design, to ensure easy and safe closing/ opening and speedy movement of personnel, equipment and stores within the ship. (e) COTS technology is to be incorporated to the maximum extent feasible. Light weight composite materials may also be used. (f) Automation in domestic services, ship husbandry, maintenance, logistics and management services is to be

		maximised. Modular concept should be followed as far as possible. (g) Automation of Power Management is to be provided. (h) Stainless steel mirrors to be provided in messes, cabins and bathrooms.
42.	**Boats**	(a) Two 7 m RHBs. (Rigid Hull Boat) (b) RHBs are to be capable of being hoisted/ lowered whilst underway at speed upto 12 kn. (c) RHBs to be re-configurable for LIMO Role and should be fitted for LMG/ MMG. (d) Routine starting arrangements for the boat on chocks to be provided on boat deck. (e) Two inflatable gemini crafts with suitable stowage arrangement, two OBMs with stowage arrangement and testing tank are to be provided.
43.	**GMDSS Equipment**	(a) 01 x VHF MMB Tx/ Rx with DSC (with battery backup/ UPS). (b) 02 x SARTs. (c) 01 x INMARSAT 'C' Terminal with EGC and printer (with battery backup/ UPS). (d) 01 x EPIRB (406 MHz).
44.	**SATCOM Equipment**	INMARSAT Terminals and latest technology SATCOM equipment in UHF, S, C and Ku Bands operating on indigenous satellites with throughputs to meet requirements of voice, video and data in support of NCO.
45.	**INMARSAT Terminals**	INMARSAT Terminals for high speed data as per latest INMARSAT standards.
47.	**Boat Davits**	Davits are to be provided to hoist and lower ship's boats whilst underway. Manual hoisting arrangements on Davits are to be catered.
48.	**Sanitary & Ablution Facilities**	(a) Separate and adequate WCs and shower facilities with provision of hot and cold water, in vicinity of accommodation for officers (both men & women), senior sailors and junior sailors are to be provided. (b) WCs in the vicinity of the Bridge to be provided. (c) Modern and efficient sanitary arrangements are to be provided with provision for keeping the wet spaces dry. (d) Integrated Sanitary System with Sewage Treatment

		Plants to be provided. (e) Garbage Disposal Units to be provided in all galleys. (f) All wash basins are to be with cabinets. There should be separate deck drains and separate white LED light for each WC cubicle. (g) Anti-rodent/ cockroach devices are to be provided in all accommodation areas, wardroom, messes, galleys, pantries and victualing / provision storerooms.
49.	**Provision Stores**	Cold Rooms and/ or Blast Chillers and Cool Rooms to carry fresh victuals for at least 30 days and dry provision store to keep rations for at least 60 days should be provided. 'Man Trapped Alarm' should be provided in each of the Cold/ Cool Room with the indication at Bridge, DCHQ and Duty Officer's Room. The Blast Chillers/ Cold Rooms and Cool Rooms are to be just below the galleys and adjacent to victualling store rooms for easy transfer of provisions.
50.	**Fleet Maintenance Support**	Spaces should be catered in Fleet Maintenance Role for the following:- (a) Storing critical spares. (b) Setting up repair workshops (c) Transporting stores. (d) Carrying MT vehicles for HADR requirements. (e) Cranes with 15 ton load carrying capacity. Adequate operating and swinging space for the derrick is to be catered. (f) Dedicated lifts for movement of stores from upper-decks to store rooms. (g) Provision for MHE onboard, for movement of stores/ victuals.
51.	**Shipping/ Unshipping Routes**	The shipping/ unshipping route of each machinery and system should be well defined. Use of soft patches for main propulsion and power generation equipment is recommended. The shipping/ unshipping route should not affect the ship's structure.
52.	**EMI/ EMC**	Standard procedures on EMI/ EMC, grounding, bonding and shielding are to be followed. Following issues are to be addressed during Design Stage:- (a) Mathematical simulation studies for antenna location.

		Antenna to ensure electromagnetic compatibility between equipment and provide adequate protection against RADHAZ. (b) Scale model studies. (c) Consideration of guidelines for construction of CAT 'A' compartments. (d) Consideration of existing EMC standards, specifications and guidelines for grounding, bonding, shielding, filtering and cabling. (e) High power transmitting and sensitive receiving equipment should be housed in screened compartments.
53.	**Electrical Equipment Specifications**	Electrical equipment and systems provided onboard should conform to the contemporary naval specifications pertaining to documentation, generators, motors, starters and control panels, switchboards, cables, light fittings, transformers, rectifiers, EMI/ EMC etc. Latest/ revised version of the specifications prevailing at the time of finalising the ships design/ RFP would be provided by IHQ MoD(N)/ DEE.
54.	**Diving Store**	One Air-conditioned Diving Store of size 10 ft x 12 ft adjacent to/ below Quarter Deck with necessary stowage arrangements. An Air Charging Panel with Purifier Filters (to remove CO_2, CO and moisture), HP Reducers, Relief Valve, HP Hoses with Pipe and Charging Adaptors for charging of diving sets from Air Bank/ Compressors to be provided.
55.	**POL Storage Space**	One RU locker at Quarter Deck/ site of launching Inflatable Crafts for storing of POL used for OBMs and Compressors.
56.	**Davit/ Crane**	For hoisting/ lowering of inflatable craft and OBM next to the roller.
<u>SECTION E - NBCD and Fire Fighting</u>		
	DCHQ	DCHQ and Alternate DCHQ (DCHQ II) with Section Bases, Battle DC System, AFDS and AFWS.
57.	**Fire Fighting**	(a) Contemporary fixed Fire Fighting System(s) are to be provided for Machinery Compartments, Main Propulsion Plant and associated spaces, magazines, armoury, paint store etc. (b) Latest major FF system is to be provided with necessary environmental safeguards. (c) Automatic and Manual Deluge System is to be provided in galleys and deep fat fryers for containing galley fires.

		(d) Contemporary Fire Suppression System (such as nano particle based) should be provided along the entire length of high tension cables and switch boards.
58.	**Aviation Fire Fighting Facility**	(a) Twin Agent Unit (TAU) System. (b) Helicopter Crash Rescue and Fire Fighting Position (HCRFF) with remote operating control and FF facilities.
59.	**Damage Control**	De-watering and salvage arrangements are to be provided with dedicated fixed piping arrangement.
60.	**NBC**	(a) The ship is to be built with capability to sustain and operate in Nuclear Biological Chemical (NBC). (b) The ship is to be built up of multi citadels that shall include MCR, operation rooms, living and work spaces with adequate NBC monitoring arrangements. (c) Adequate redundancy for floatation is to be incorporated in design. (d) Pre-wetting System for entire exposed deck.
SECTION F - MEDICAL		
61.	**Medical Requirements**	A Sickbay at suitable location with separate air conditioning and OT facilities.

QUESTIONNAIRE FOR NEXT GENERATION OFFSHORE VESSELS (NGOPVs)

1. What will be the displacement / dimensions of the ships?

2. What are the comments on proposed Delivery Schedule of the vessel?

3. What is the capacity/ infrastructure of the shipyard to meet the delivery schedule?

4. What would be the approximate cost of the vessel and shipyards financial capability to undertake the project?

5. What is the past experience of shipyard in similar projects?

6. What are your order book status?

7. Details to be submitted for generating/ refining/ rationalizing the SQRs prior issuance of RFP (Appendix A).

8. Furnish details that go into determining the cost of the scheme, including factors such as Annual maintenance Contract (AMC), product support package, training, etc.

9. Furnish details of capability clearance certificate to indigenously design and develop the required equipment/ platform.

10. What are the applicable key technologies and materials required for manufacturing of the equipment/ system/ platform and the extent of their availability or accessibility in case they are not available in India?

11. What is the approximate cost estimation and suggestions for alternatives to meet the same objective as mentioned in RFI?

12. What are the capabilities of Indian Shipyards to Indigenously Design, Develop and Manufacture (IDDM) the required equipment?

13. Availability of the equipment/system/platform in the Indian market, level of indigenization, delivery capability, maintenance support, life time support etc.

Appendix C

INFORMATION PROFORMA
(INDIAN SHIPYARDS)

1. **Name of the Shipyards/Company/Firm/Shipyard**

_____
_____
_____
(Company profile, in brief, to be attached).

2. **Type (Tick the relevant category)**
Original Equipment Manufacturer (OEM) - Yes/No
Authorised Shipyards of foreign Firm/ - Yes/No
(attach Shipyards details, if yes)
Others (give specific details)_____
_____
_____

3. **Contact Details**
Postal Address : _____
_____
_____
City :_____ State :_____
Pin Code: _____ Tele :_____
Fax : _____ URL/Web Site:_____

4. **Local Branch/Liaison Office in Delhi (if any)**
Name & Address _____
_____
Pin Code:_____ Tele:_____ Fax:_____

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 Indian Ministry of Defence/Government agencies:-

Contract Number	Equipment	Quantity	Cost

6. **Certification by Quality Assurance Organisation**

Name of Agency	Certification	Applicable from (Date & Year)	Valid till (Date & Year)

7. **Details of Registration**

Agency	Registration No.	Validity (Date)	Equipment
DGS&D			

DGQA/DGAQA/ DGNAI			
OFB			
DRDO			
Any other Government Agency			

8. **Membership of FICCI/ ASSOCHAM/ CII or other Industrial Associations**

Name of Organisation	Membership Number

9. **Equipment/ Product Profile (to be submitted for each product separately).**

(a) Name of Product: _____
(IDDM Capability be indicated against the product)
(Should be given category wise for e.g. all products under night vision devices to be mentioned together)

(b) Description (attach technical literature): _____
_____

(c) Whether OEM or Integrator: _____

(d) Name and address of Foreign collaborator (if any): _____
_____

(e) Industrial Licence Number: _____

(f) Indigenous component of the product (in percentage):_____

(g) Status (in service/design & development stage): _____
_____

(h) Production capacity per annum: _____

(j) Countries/ agencies where equipment supplied earlier (give details of quantity supplied):_____
_____

(k) Estimated price of the equipment.

10. Alternatives for meeting the objectives of the equipment set forth in the RFI.

11. Any other relevant information: _____
_____

12. **Declaration** It is certified that the above information is true and any changes will be intimated at the earliest.

(Authorised Signatory)

Appendix D

ADDITIONAL INFORMATION PROFORMA (INDIAN SHIPYARDS)

1	Year Established							
2	Type Of Organisation Size/Classification Of Yard							
3	Organisation Setup And Availability Of Skilled Manpower							
4	Details Of Design, Planning and Production Facilities/ Infrastructure Including Slipways/Drydocks and Wet Basin/Water Front (Attach Brochures Etc)							
5	Annual Build Capacity (In Tonnage)							
6	Details of Future Expansion and Business Development Planned							
7	Vessels delivered in last 05 years. (Attach previous order copies for flotsam recovery barges / similar vessels only)							
	Yard no	Customer	Type of Vessel	DWT, GRT	Order date	Start Prod-uction	Contractual Delivery	Actual Delivery
8	Orders In Hand (Attach order copies for similar vessel only)							
	Yard no	Customer	Type of vessel	DWT, GRT	Order Date	Start Prod-uction	% completed	Expected delivery
9	Financial Information (in INR for Indian Shipyards and in us dollars for foreign Shipyards)							
	(A)	Annual Turnover In The Last Three Financial Years (Year Wise)						
	(B)	Profits Made						
	(C)	Net Worth =Equity + Reserves						
	(D)	Debt/Equity Ratio						
	(E)	Quick Ratio=(Current Assets Long Term Debts)/Current Liabilities						
	(F)	Attach copies of certified published annual report showing turnover and financial status in support of above information.						
10	Detailed specifications of MPV offered to meet the specified requirements and build period from date of order							
11	Detailed specifications of commercially off the shelf (cots) MPV if available for outright purchase, if any.							

Appendix E

MINIMUM QUALIFYING CRITERIA FOR ISSUE OF RFP TO SHIPYARDS FOR PROCUREMENT OF NEXT GENERATION OFFSHORE PATROL VESSELS (NGOPVs)

1. Should be a shipyard who has built vessel(s) of similar specifications in the past.

2. Financial status should meet the delivery period.

3. Possess infrastructure and capacity (considering the existing and future work load) for undertaking the construction of the Vessels.

4. Is the shipyard in possession of Warship Production License, details be provided.