

REQUEST FOR INFORMATION FOR LEASE OF UTILITY HELICOPTERS

1. Introduction. The Ministry of Defence (MoD), Government of India (Lessee), intends to lease 24 Helicopters with ground support equipment for five years. This lease will also include all maintenance support ashore including Performance Based Logistics (PBL) and training of aircrew and maintenance crew during the term of the lease.

2. The MoD, Government of India seeks information from helicopter Original Equipment Manufacturers (OEMs) or Authorised Leasing Firms or Government Sponsored Export Agencies (applicable in case of countries where domestic laws do not permit direct export/ Lease by OEM's/ Firms) for participation in the Lease Project in accordance with Chapter IX of DAP 2020.

3. RFI Structure. This Request for Information (RFI) consists of two parts as indicated below: -

- (a) **Part I.** The first part of RFI incorporates the following :-
 - (i) Intended use of leased helicopter and features that should be met by the Lessor. Few important technical parameters of the helicopters sought are also mentioned.
 - (ii) The intended terms of the lease.
- (b) **Part II.** The second part of the RFI states the methodology of seeking response of Lessors. Submission of incomplete response format will not render the lessor liable for rejection.

PART-I

4. Type of Platform and the Capabilities Sought. The helicopter is to be in the weight category of 5 Tons and below and should be able to perform the following roles whilst operating from ships of the Indian Navy and ashore by day and night:-

- (a) Search and Rescue from ships at sea.
- (b) Medical Evacuation (MEDEVAC) from ships at sea.
- (c) Communication Duties to and from ships at sea.
- (d) Low Intensity Maritime Operations.

5. Important Technical Parameters. The helicopter should be twin-engine, piloted by two pilots, having wheeled landing gear and blade fold capability. The helicopter should be capable of operating from ships of the Indian Navy and ashore by day and night. Tripod/ Stand for 7.62mm gun, provided by the User would need to be installed in the helicopters to meet the Low Intensity Maritime Operations role.

Lessors are requested to provide quantified technical, operational and maintenance parameters as queried in **Appendix A**, as per existing/ achievable capabilities (with modification time frame, if required & cost implications).

6. Quantities Required/ Number of Bases. There is a requirement of leasing 24 Helicopters including ground support equipment to operate from two bases (one each on the Western and Eastern seaboard), training of aircrew (including instructors) and technical crew for undertaking 'Operator' level maintenance onboard ships and ashore.

7. Identification of Equipment and Operational Demonstration to Identify the Equipment that Best Meets the Capability Sought. The identification of platform and its operational demonstration will be conducted in accordance with Chap IX of DAP 2020. Lessors may indicate suggested operational demonstration methodology for which evaluation can be done prior formulating Lease Operational Requirement (LOR) and obtaining AoN.

8. Scheduled Delivery Date and Lease Term Including Early Termination or Extension Options. The Lessors are required to indicate the overall time frame of delivery of 24 helicopters for Lease from the date of signing the contract. It should include stage wise break-up of delivery and the entire Lease Project post conclusion of contract. Lessor shall also indicate the possibility of delivering all 24 helicopters within two years from the contract signing date. The training schedule is to be in line with the delivery schedule. The Lessor should indicate readiness for commencement of delivery of the helicopters, support equipment and training. Lessor is to separately indicate with effect on lease cost for buying helicopters (at residual value) at the end of lease term and other implications, if any as well as extending the lease for a period of five years or part thereof.

9. Delivery/ Redelivery Location. The helicopters are required to be delivered along with GSE/ GHE at two locations (one each on the Western and Eastern seaboard) with capability to operate independently as detachment from other locations including embarking and operating from **IN** Ships. The Lessor is required to provide I Level maintenance at the two delivery locations only. Requirement of infrastructure/ space for the same would be provided by **IN** and needs to be indicated. The Lessor is required to provide D Level maintenance at any one place in the country to which the helicopter may be flown for D level Maintenance and flown back on completion. The Lessor is required to indicate intended location for D Level maintenance facility, training of aircrew and maintenance crew. Upon termination of Lease Contract by expiration of the period or otherwise, the helicopters, documentation and spares (if any) will be redelivered to lessor from the same two locations.

10. Delivery Conditions. Lessor shall deliver the helicopters to the Lessee on the Delivery Date in the following condition: -

- (a) Current on and in compliance with manufacturer's recommended inspection and maintenance program, with all calendar and hourly inspections that must be completed on or before the Delivery Date completed without deferment or extension.

(b) Operational and in an airworthy condition with a current and valid Standard Airworthiness Certificate.

(c) With all systems functioning normally in accordance with manufacturer's specifications and in compliance with all applicable certification documents (Airworthiness Directives, manufacturer mandatory service bulletins etc) with compliance dates on or prior to the Delivery Date.

(d) All logbooks shall be legible, complete and continuous in the English language and shall comply in all respects with applicable regulations. Software for maintenance of records as per **IN** maintenance philosophy must be provided.

11. Operating Conditions Including Minimum Life Requirements. The helicopters need to fly a minimum of 360 hrs/ year with monthly flying of 30 hrs per month per helicopter with an option to carry forward/ advance within a respective quarter. In addition the helicopter would require to fly 50 hrs per month of intensive operations for two months (not consecutive) per year. A minimum of 75% serviceability rate is to be ensured by the Lessor at any given time at each of the two locations independently. Availability of GSE/ GHE including specialised helicopter towing equipment for moving helicopter in and out of ship's hangar & POL (excluding fuel) is to be ensured by the Lessor for independent deployment and embarkation for each helo on board ships. The helicopters should be capable of operating from **IN** ships for a duration of not less than 180 days in a year with a maximum of 60 days embarked operations in a 90 day rolling period throughout the period of lease. In addition, the helicopters should be capable of extended operations for 120 days at a stretch from onboard ships once in a year with not more than two helicopters undertaking this at any given time on each coast. Embarked operation would imply the duration the helicopter is away from its I-Level maintenance facility once embarked onboard a ship or on a detachment. The helicopters should have a residual life of minimum 15 years at commencement of lease term with OEM/OEM Authorised MRO agency providing life time support for its maintenance during the 15 years. The helicopters would be subject to inspection by Indian Naval Quality Assurance agency upon delivery and periodically during the lease term.

12. Insurance Requirements. Detailed response to Insurance requirements needs to be provided alongwith the approximate costs both from an Indian and a Foreign Insurance Company as the case may be. The insured amount is to be indicated specifically for each of the types of insurance which the Lessor shall maintain throughout the period of performance of this Contract :-

(a) Comprehensive hull, war and allied perils insurance to cover for any physical damage to, or loss of, the Helicopters, and

(b) Comprehensive liability insurance to cover for any liability (including third-party and direct claims). This also includes loss, damage, injury and death to Third Party and its property.

13. Rent, Deposit/ Commitment Fee, and Other Payments. Payments will be made as per provisions of Chapter IX of DAP 2020. The Lessor is to provide indicative cost for leasing 24 helicopters as per **Appendix B** to this RFI. The Lessor should take into account all aspects of leasing, delivering of helicopters to operate from two bases, insurance, training of aircrew and maintenance crew and Power By Hour (PBH) costing for maintenance. Each Lessor is to indicate PBH cost of minimum number of hours per year for which **IN** would need to pay irrespective of usage. In addition Lessor is to indicate cost of PBH over and above the minimum hrs but under the provision of para 11 and 14 of RFI. Life cycle support and obsolescence management for the lease period and till its life post completion of leasing period including other aspects (if any) need to be mentioned specifically alongwith cost. Annual cost of PBH post lease period till life of the helicopter (minimum of 10 years) is also to be indicated.

14. Maintenance Compensation Mechanism. All O-Level servicing is to be undertaken by **IN** crew on board ships and ashore while responsibility of I-Level maintenance and beyond (including any break down maintenance at any place in India) would rest with the Lessor through the OEM/OEM authorised MRO agency. Agency carrying out PBH is to be indicated. All spares and POL (excluding Fuel only) will be provided by the Lessor. MRLS for the embarked period will also be provided by the Lessor. At any time, POL (excluding fuel) of four months should be made available on each coast. Maintenance costing will be done in accordance with PBH philosophy accounted yearly, with payment being undertaken for a minimum number of fixed hours/ year and for hours flown above the maintenance hours/ year (excluding scheduled maintenance flying). An average 360 hrs of flying per helicopter per year is to be used for calculation of PBH in **Appendix B**. By end of the lease, the helicopters may be bought by **IN** or lease term may be extended for another 05 years, based on the requirement. OEM/ OEM authorised MRO agency would provide life time support for its maintenance. Costing for Life Cycle Support through PBH methodology for residual life post lease period needs to be mentioned separately (including escalation rate) on year on year basis. All vendors are to forward full list of POL for the use by helicopters to ensure commonality with existing POL with **IN**. NATO equivalent of POL is also to be provided.

15. Maintenance, Operations and Records. Lessor will be responsible for providing suitable maintenance software and hard copies for maintaining records as per IN maintenance philosophy and requirement. All O-Level servicing is to be undertaken by **IN** crew on board ships and ashore while responsibility of I-Level maintenance and beyond (including any break down maintenance at any place in India) would rest with the Lessor through the OEM/OEM authorised MRO agency.

16. Airworthiness Compliance Standards, including any AD (Airworthiness Directives). The helicopters should be certified by DGCA or equivalent agency or OEM (incase of foreign Lessor). All equipment and payloads should also be qualified or certified for airborne operations as per latest mil standards or equivalents.

17. Pre/Post-Delivery Modification (and cost sharing). The helicopters should be capable of installing user provided tripods/ stands (one on each side) for crew operated Light Machine Gun (7.62 mm) as a role removable equipment for Low Intensity Maritime Operations. Lessors are to provide willingness, time required and

the cost thereof to integrate user provided V/UHF SDR radio sets, SATCOM and IFF (with military modes and waveforms) instead of the equipment installed on the helicopter.

18. Conditions Precedent (CP) to Effectiveness of the RFP/Contract. Prior to commencement of Lease, training of aircrew and maintenance crew for independent operations of each helicopter in the first batch should have been completed and maintenance organisation of the Lessor and Lessee in both the locations should have been established. Lessors are required to indicate any Condition Precedent desired by them.

19. Regulatory/Registration Regime. The helicopters would be operated under the Military (Indian Navy) regulatory framework. Provision of Military registration of the Leased Helicopter needs to be indicated.

20. Governing Law. The lease will be considered and made in accordance with as well as governed by and interpreted by the Laws of the Republic of India. No interpretation or construction of this RFI shall be made that would require either party to violate any applicable law or regulation of the Republic of India.

21. Confidentiality. Classified information pertaining to the instant case shall not be diverged by Lessor to other agencies.

22. Tentative Time Schedule of the Leasing Process. AoN for the leasing contract is likely to be accorded within 6 months after the RFI is issued and contract conclusion in accordance with the timelines mentioned in DAP 2020.

23. Type of Lease. Lessors need to provide requisite costing information for both Operational as well as Finance lease of the 24 helicopter for a duration of 05 years, 10 years and 15 years towards studying the cost benefit analysis and selection of type of Lease which **IN** would adopt for the instant case. At the end of lease term, or at predetermined times during the term of the lease, the asset(s) may be acquired by the MoD (the Lessee) for an agreed to price set at the beginning of the lease. The cost of acquisition of assets at the end of 2nd, 3rd, 4th and 5th year is to be indicated separately.

24. Rough Order of Magnitude Cost. Lessors are to provide the Rough Order of Magnitude (ROM) cost for lease of 24 helicopters for 05 years with Buy option and also provide a separate ROM cost for lease of 24 helicopters for 05 years with an option to extend the lease for another 05 years as per tables at **Appendix B**. All 24 helicopters should be of the same type/ version/ standard. The cost is to be subdivided into cost of helicopters, cost of GSE/GHE including helicopter towing equipment for moving helicopter in and out of ship's hangar, insurance cost, maintenance/PBL for 05 years with a cost breakdown for Power by the Hour, cost of training aircrew/ maintenance crew and miscellaneous cost (elaborate). In case the Lessor proposes two types of helicopters that can meet the lease requirement, the cost for leasing 24 of each type of helicopter is to be provided separately. Taxes and levies are to be mentioned separately.

25. Scope, Depth and Range of Lease. Lessors are required to provide detailed scope, depth and range of Lease they are willing to provide including details of helicopter(s) being offered, MRO agency(ies) involved, Certification agency(ies) involved, Finance and insurance agency(ies) involved etc so as to enable MoD to have a clear understanding of the entire leasing process being offered. During the tenure of the lease, status reports (details to be decided later) are required to be made to the user.

26. Any Special Conditions of Lease. Lessors are required to indicate in details any special conditions of the Lease including any deviations from Chapter IX of DAP 2020 and detailed reasons thereof.

27. References of Applicable Statutory Law, Rule, Regulations, Including National/Federal Guidelines, as Applicable to the Asset and Conditions of Lease. Lessors are required to provide references of applicable statutory law, rule, regulations, including national/federal guidelines (if any), as applicable to the asset and conditions of lease.

28. Integration of Weapons and Sensors. The Lessor is to indicate experience in integration of customer designated or nominated weapons and sensors while operating on the leased Helicopters. The weapons and sensors integration shall include tripod/ stand for fitment of 7.62 mm Light Machine Gun (LMG) and/or V/UHF SDR, SATCOM and/or IFF. Any reservation regarding integration of weapons and sensors is to be highlighted in unambiguous terms.

29. Service Life of Helicopters. The Residual Minimum Service Life of the Helicopter is required to be 15 years on commencement of lease. The OEM/OEM authorised MRO agency is required to ensure the availability of spare parts and its maintainability throughout the service life of the Helicopters. In addition, vintage of the helicopter also needs to be indicated by the Lessor.

30. Manpower Requirements. The Lessor is to indicate the broad requirements of crew to man the Helicopter for each of the roles mentioned in Para 4, Indian Helicopter Training Team, Operational Maintenance teams, Logistics Establishment staff, etc. Need to keep manpower requirement to minimum commensurate with operational and functional efficiency is to be borne in mind.

31. Training of Crew and Maintenance Personnel. The Lessor is to provide broad plan of training of personnel as applicable (Helicopter crew including Instructors, Certification staff, Maintenance staff, etc). As far as possible the training is to be planned in India and requirements of training abroad are to be minimised. The concept of 'train the trainer' is to be adopted. Instructional clearance is to be provided for Qualified Flying Instructors, and maintenance crew. Availability of simulators for training, training aids such as CBT packages are to be indicated. Lessor is to indicate the minimum number of personnel recommended for training (Aircrew, Certification staff, Maintenance staff). Post initial training, the Indian crew should be in a position to train further personnel.

32. Broad Methodology to be Adopted. Post receipt of the response of the RFI, the methodology adopted to progress the case for leasing of helicopters will be in accordance with Chapter IX of DAP 2020.

33. The Lessors are to furnish details as per the Information Proforma at **Appendix B** including the following :-

- (a) Maintenance and life cycle support to the helicopter during its service life, including Performance Based Logistics, warranty and insurance.
- (b) Lessor to propose trial methodology to assess the suitability of the helicopter for **IN** usage.
- (c) Willingness to provide product support for Life cycle of the platform (15 years), which includes spares and maintenance tools/ jigs/ fixtures for field and component level repairs.
- (d) Willingness to accept all conditions of DAP-2020, if not, which Para or Clause of DAP-2020 is not acceptable is to be indicated.
- (e) Foreign OEMs are to indicate capability and willingness to lease the helicopters through Indian leasing firms.
- (f) An undertaking that business dealing with applicant Entity or any of its allied entities have not been suspended or banned, by MoD/ SHQ or any Government Department or organization (as defined in Guidelines for Penalties in Business Dealings with Entities issued vide Ministry of Defence, D(Vigilance) MoD ID No 31013/I/2006-D(Vig) Vol II dated 21 Nov 2016). None of the Promoters and Directors of applicant entity should be a wilful defaulter.
- (g) An undertaking that the entity is not likely to be under insolvency resolution at any stage of procurement.

34. Earliest date by which the Lessor is willing to give a presentation at IHQ MoD (N)/ DAA, New Delhi is to be indicated. The presentation in person/ through video conference is to be provided by a team of specialists with the required knowledge and mandate for addressing various queries/clarifications made by the Indian Navy.

35. The offers shall be evaluated in accordance with provisions of Chapter IX of DAP-2020. The OEM is liable to be disqualified for any materially false statement.

Part-II**36. Procedure for Response.**

(a) **Format.** Para wise response is required to be made for Part I and **Appendix A** of this RFI. In addition, Lessors are to provide specific inputs sought for requirements as indicated against each of the technical requirements in **Appendix A**. Lessors must also fill the form of response as given in **Appendix B** of RFI. Apart from filling details about the Company, details about the exact helicopter, available infrastructure, past track record etc should be carefully filled. Additional information on the product and product support facilities can be also attached with the form.

(b) **Address for Response.** The filled form and the response (hard and soft copies) should be dispatched to the under mentioned address:-

The Principal Director, Directorate of Aircraft Acquisition
Room No 96, IHQ MoD (Navy), 'A' Block Hutments,
Dara Shukoh Road, New Delhi 110011

(c) **Contact details.**

Fax: 011- 23010528
Telephone: 011- 23010514
Email: daa@navy.gov.in

(d) **Time for Response.** Last date of submission of filled form should not be later than **18 June 2021** (Eight weeks from date of issuance of RFI).

37. The Government of India invites responses to this RFI only from Original Equipment Manufacturers (OEMs) or Authorised Leasing Firms or Third-party Financers or Government Sponsored Agencies (applicable in case of countries where domestic laws do not permit direct export/ Lease by OEM's/ Firms). The end user of the equipment is the Indian Navy.

38. The companies (including an Indian company forming joint ventures and establishing lease on arrangements with OEMs/ authorized leasing firms) likely to respond may acknowledge the receipt of this RFI to the address specified above.

39. Vendor Interaction. A vendor interaction with the companies would be held at Integrated Headquarters, Ministry of Defence (Navy), New Delhi, or through Video conference, if deemed necessary, with the companies who have acknowledged the receipt of the RFI.

40. Reply to this RFI (and further communication on the case, including equipment description, training and documentation) are to be made in English Language only. Response to the RFI is to be provided in hard and soft copy. The

compliance tables to all aspects are required to be provided in editable form (preferably Microsoft excel).

41. This RFI 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 it, should it be so necessary at any stage.

42. The response needs to be detailed with provision of specific or not less than or not exceeding parameters so as to facilitate formulation of Operational Requirements for Lease of helicopters at IHQ MoD(N)/DAA.

43. The Leasing process would be carried out under the provisions of DAP 2020 or as an amended from time to time in future.

-Sd/xx-
(Janak Bevli)
Commodore
Cmde (Aircraft Acquisition)
23 Apr 2021

Appendix: As Above.

Appendix A
(Refers to Para 5 of RFI)

**BROAD IMPORTANT TECHNICAL, OPERATIONAL
AND GENERAL PARAMETERS FOR WHICH INFORMATION IS REQUIRED**

1. The parameters/ specifications mentioned in succeeding paragraphs are required to be replied to in detail, in the response to our Request for Information.

Configuration and Roles of Helicopter

2. **Green Configuration.** For the purpose of this requirement, Green configuration would mean a Utility Helicopter with at least following equipment:-

- (a) Weather Radar and Electro Optic Infra-Red (EO/IR) with I/R search light.
- (b) Instrument Landing System (ILS), VHF Omni Directional Radio Range (VOR), Distance Measuring Equipment (DME), Radio Magnetic Indicator (RMI) and Radio/ Radar Altimeter (RADALT).
- (c) Identification Friend or Foe (IFF) transponder, Automatic Identification System (AIS) receiver, Communication Sets (two VHF & UHF combined sets).
- (d) Solid State Cockpit Voice Recorder, Flight Data Recorder and deployable Emergency Locator Transmitter (ELT).
- (e) Direction Finder, Rescue Hoist and Emergency Floatation Gear.
- (f) Cockpit with Night Vision Goggle (NVG) compatible lighting.
- (g) Standard equipment for flying in IFR conditions in Class 'D' airspace with a crew of two pilots and one winch operator.

3. **Roles.** The helicopter should be capable of undertaking the following missions (one mission at a time, by configuration of respective role equipment):-

- (a) Search and Rescue from ships at Sea.
- (b) Casualty Evacuation from ships at Sea.
- (c) Communication Duties to and from ships at Sea.
- (d) Low Intensity Maritime Operations (LIMO).

4. Conditions of Use.

(a) Indian Reference Atmosphere. Will the Performance requirements of helicopter be met in Indian Reference Atmosphere (IRA) conditions? The relevant parameters of IRA are as under:-	
	(i) Sea level Mean Temperature (°C): International Standard Atmosphere (ISA) +20
	(ii) Reference Temperature for Takeoff and landing(°C) : ISA+20
	(iii) Reference Temp for performance less (ii) above(°C) : ISA+15
	(iv) Lapse Rate : 6.5 °C/Km
	(v) Mean Sea Level Pressure :1005 Hpa
(b) Environmental Conditions. Will the Environmental conditions of operating and storage of helicopter be as per DO 160 or ED14 indice G or MIL STD 810F or Def Stan 00970 or Def Stan 05-123 or equivalent Standard? Equivalent standard to be mentioned.	
(c) Certification or Qualification. Will the helicopter be certified or qualified by Certifying Agency or OEM? Will the equipment and its payload also be qualified or certified for airborne operations as per latest mil standards or equivalents? The certifying Agency/ Mil standards to be mentioned.	

Operational and General Parameters

Sr	Technical Parameters
5.	<p>Capability. (a) Which is/are the helicopter/s on offer for leasing for utility role? It must be twin-engine, having wheeled landing gear, blade fold capability.</p> <p>(b) Will it be capable of operating from ships and ashore by day as well as by night and in Instrument Flight Rules (IFR) conditions?</p> <p>(c) Will it be able to carry out all the roles mentioned at subsequent paragraphs with Maximum All Up Weight up to 5T?</p>
6.	<p>Fatigue / Service Life.</p> <p>(a) Can the components of the helicopter be drawn down to zero life? Will the helicopter have a residual life of at least 15 years on commencement of lease?</p> <p>(b) Utilisation. Can the helicopter be utilised by the user as mentioned below?</p> <p>(i) Normal Operations. At least 30 hours per month with a total of at least 360 hours per year.</p> <p>(ii) Intensive Operations. At least 50 hrs per month for a period of at least two months (not consecutive) in a year with a minimum gap of one month.</p> <p>(iii) Embarked Operations. At least 60 days of embarked period in a</p>

Sr	Technical Parameters
	<p>running period of 90 days and at least 180 days of embarked period per year.</p> <p>(iv) Surge in Embarked Operations. At least once a year an embarked period of 120 days at a stretch for not more than three helicopters independently on either coast.</p>
7.	<p>Role-wise Configuration. Will the helicopter fulfill minimum requirements for undertaking the following missions with two pilots as indicated below? Considering justifiable Role removable Equipment for each role.</p> <p>(a) Search and Rescue (SAR). (i) Will the helicopter have capability to seat two Aircrew divers and recover two survivors with rescue hoist?</p> <p>(ii) Will the helicopter be capable of provisioning Electro Optical/ Infra Red (EO/IR) and search light for undertaking night SAR?</p> <p>(b) Casualty Evacuation (CASEVAC). (i) Will the helicopter have a carrying capacity of a minimum of two stretchers with one patient each and a minimum of one medical attendant in addition?</p> <p>(ii) Will the helicopter be capable of provisioning EO/IR for undertaking night CASEVAC?</p> <p>(c) Communication Duties (one role at a time). Will the helicopter be capable of undertaking the following missions:-</p> <p>(i) Carrying a minimum of six passengers seated on passenger seats. or</p> <p>(ii) Carrying a minimum of 540 Kgs of cargo (inside the cabin). or</p> <p>(iii) Carrying a minimum of 900 Kgs load under slung on cargo hook.</p> <p>(d) Low Intensity Maritime Operations (LIMO). (i) Will the helicopter be capable of integrating one user provided crew operated 7.62 mm machine gun?</p> <p>(ii) Will it have capability to provision 4 commando seats and strong points for attaching rappelling installation? If yes, what will be its specifications?</p> <p>(e) Ship-borne Operations</p> <p>(i) Will the helicopter be capable of operating from ships helo deck by day and night?</p> <p>(ii) What would be the minimum dimensions of the Helicopter for stowing onboard ship? Will this be achieved by folding of Main Rotor Blades and Tail section or only the main rotor blades?</p>

Sr	Technical Parameters	
		(iii) What would be the maximum pitch and roll conditions in which the helicopter is capable of being lashed on the deck of a Frigate size ship and above?
		(iv) What would be the maximum pitch and roll conditions in which the helicopter is capable of operating from Frigate size ship and above?
		(v) When the helicopter is lashed on deck of a ship with rotors engaged prior take off/ post landing, will the ship be able to maneuver unrestricted (within permissible roll pitch limitations) till the helicopter is cleared for takeoff/ shut down?
		(vi) What is the maximum duration the helicopter can operate from ship's deck without hangarage?
	(f) Shore Operations.	
		(i) Will the helicopter be able to operate from surface covered with sand and unprepared surfaces with strap-on active and passive sand filters?
		(ii) What would be the maximum slope conditions of helicopter in terms of nose up, nose down and lateral slope during landing and taking off from shore?
	(g) Availability and Reliability. (i) What would be the average availability of helicopter? (ii) Can the helicopter provide a serviceability rate of over 75% with all maintenance and spares being provided by the Lessor?	
8.	Basic Design Features. Will the helicopter have the following design features:-	
		(a) Capable of operating as independent detachment from remote areas.
		(b) Monitoring system for engine health and airframe usage.
		(c) Will the main/ tail rotor blade be of composite material?
		(d) Provided with Emergency Flotation Gear for exit of aircrew and passengers in case of helicopter ditching over water.
		(e) Provided with lifting points to enable salvage operations.
		(f) Air conditioning in the cockpit to maintain the requisite atmospheric conditions.
		(g) Crashworthy or crash attenuating features as per FAR 29 amendment 16 or equivalent for following?
		(i) Crew seats, safety belts and harness.
		(ii) Airframe, Transmission System and Engine.
		(iii) Cockpit, Cabin and Associated Structures.
9.	Power Plant	
	(a) Requirement. Will the helicopter meet following: -	
		(i) Dual channel cross talking FADEC (Full Authority Digital Engine Control). Will the engine be controllable in case of failure of one FADEC?

Sr	Technical Parameters
	<p>(ii) Self contained starter system without usage of external power when operating from Advanced Landing Grounds.</p> <p>(iii) One Engine Inoperative (OEI) training mode.</p> <p>(b) Contingency Power Rating {Applicable under One Engine Inoperative (OEI) Conditions}.</p> <p>(i) Will the contingency rating be provided in the event of a single engine failure?</p> <p>(ii) Will the OEI level flight be possible at 90% max AUW?</p> <p>(iii) Will there be a positive indication to the pilot when any contingency rating is being used?</p> <p>(c) Maximum Power Rating (TOP-AEO).</p> <p>(i) Will the Max power be available continuously for a period of at least 5 minutes?</p> <p>(ii) Will the engine not require any examination after use of this power rating within the defined limits?</p> <p>(iii) Will the maximum continuous rating be available?</p>
10	<p>Fuel System.</p> <p>(a) What are the types of fuel that can be used to operate helicopter?</p> <p>(b) Will the fuel system of helicopter have the following features: -</p> <p>(i) Will it have capability for gravity fuelling and defueling?</p> <p>(ii) Will it have Facility of low level warning?</p>
11	<p>Flight Controls.</p> <p>(a) Will it be provided with dual digital 4-axis Automatic Flight Control System with redundancy?</p> <p>(b) Will the helicopter be airworthy and controllable in case of auto pilot failure?</p> <p>(c) Will the helicopter have Automatic height control and autonomous/independent Plan Position control in hover?</p> <p>(d) Will the autopilot offer no resistance to pilot initiated override manoeuvres?</p> <p>(e) Will the helicopter have Autopilot coupled modes for navigation, search patterns, coupled approaches to airfield and ships?</p> <p>(f) Will the autopilot be capable of autonomous hover over land and sea including autonomous transition to hover from cruise flight?</p>
12	<p>Gear Box</p> <p>(a) Will the gearbox be certified for FAR 29 standards for 'loss of lubrication'? Will the gear box be certified by DGCA or FAA or EASA or other certification agencies for 'availability of adequate mechanism to avoid loss of lubrication'?</p> <p>(b) Will gear box be corrosion resistant and oil equivalent substitutes be readily available in Indian or International market?</p> <p>(c) Will all gearboxes be provided with suitable means for detecting internal metal particles while in flight? Alternatively, it should be provided with magnetic chip detectors that provide a visual indication of wear of the gears and bearings in the gearboxes by collecting any ferrous particles suspended in the lubricating oil detectable during ground maintenance.</p>

Sr	Technical Parameters
13	<p>Undercarriage</p> <p>(a) Will the helicopter be fitted with a crashworthy wheeled landing gear as per FAR/ DEFSTAN standards or equivalent?</p> <p>(b) Will it be designed to withstand landing rate on a ship as per Federal Aviation Regulations (FAR)/ Defence Standards (DEFSTAN) standards or equivalent related for ship operation?</p> <p>(c) Will the helicopter be provided with emergency floatation system for quick egress of the crew during ditching over water?</p> <p>(d) If the undercarriage is retractable, will following be available?</p> <p>(i) Landing Gear Monitoring facility and warning light.</p> <p>(ii) Emergency system in the event of failure in hydraulic/ electrical systems to allow extension and locking of landing gear.</p>
14	<p>Rotor System</p> <p>(a) Will the main rotor blades of helicopter be foldable for storage and transportation and have a folding mechanism? Will the blade folding mechanism conform to the following:-</p> <p>(i) Operate from IN ships capable of carrying helicopter by day and night.</p> <p>(ii) Able to be operated with a maximum of 04 ground personnel in maximum 10 minutes in Primary mode.</p> <p>(b) Will Rotor brakes be provided?</p> <p>(c) Will the MRB be damage tolerant? Please Elaborate.</p>
15	<p>Cockpit and Cabin. Will the helicopter have following features:-</p> <p>(a) Glass cockpit with multi function colour mission displays.</p> <p>(b) Will the Multi Function Displays (MFD) be sunlight and Night Vision Goggle (NVG) readable and having facility to exchange information between displays?</p> <p>(c) Will the helicopter be flyable and able to return back to base in case of glass cockpit display failure?</p> <p>(d) NVG compatible.</p> <p>(i) Will the helicopter be equipped with suitable panel and cabin lighting compatible with NVG higher than Generation (GEN) III?</p> <p>(ii) Will internal and external lighting be compatible with Generation (GEN) III or better quality NVGs?</p> <p>(iii) Will the helicopter be able to undertake operations with and without NVGs?</p> <p>(e) Emergency Egress over Water.</p> <p>(i) Will all crew doors be jettisonable?</p> <p>(ii) Will other doors and windows have facility for emergency egress?</p>
16	<p>Equipment Fit. Will the avionics equipment, navigation suite and onboard sensors be of standard aeronautic open system architecture based on Commercial off the Shelf (COTS) technology?</p>
17	<p>Internal Communication</p> <p>(a) Will all internal and external communications be routed through the Internal Communication System (ICS)?</p> <p>(b) Will the pilots be able to make external communication whilst on flying controls?</p> <p>(c) Will at least one set of ICS headsets be available for all passengers (six)?</p>

Sr	Technical Parameters								
	(d) Intercom. Will the intercom be capable of providing audio inputs from all communication sets to all stations in the helicopter?								
18	<p>External Communication. (i) Can the helicopter be provided with two communication sets in combined VHF & UHF band (with guard frequencies) and one set in HF band?</p> <p>(ii) Will these sets be provided with Maritime Mobile Band frequencies?</p> <p>(a) Will the communication set be provided with following:-</p> <table border="1" data-bbox="347 488 1406 752"> <tr> <td data-bbox="347 488 384 562"></td> <td data-bbox="384 488 1406 562">(i) Built In Test Facilities. Power ON, Periodic and Initiated BIT facilities.</td> </tr> <tr> <td data-bbox="347 562 384 600"></td> <td data-bbox="384 562 1406 600">(ii) Squelch Facility. Operator selectable and tunable squelch facility.</td> </tr> <tr> <td data-bbox="347 600 384 712"></td> <td data-bbox="384 600 1406 712">(iii) Preset Channels. At least twenty operator settable channels. Channels capable of being preset in air and on ground? Capable of settable when powered by ground supply?</td> </tr> <tr> <td data-bbox="347 712 384 752"></td> <td data-bbox="384 712 1406 752">(iv) Controllable from the cockpit by pilots.</td> </tr> </table> <p>(b) Can a user provided/ nominated V/UHF SDR set and SATCOM with military waveforms be integrated with the helicopter?</p>		(i) Built In Test Facilities. Power ON, Periodic and Initiated BIT facilities.		(ii) Squelch Facility. Operator selectable and tunable squelch facility.		(iii) Preset Channels. At least twenty operator settable channels. Channels capable of being preset in air and on ground? Capable of settable when powered by ground supply?		(iv) Controllable from the cockpit by pilots.
	(i) Built In Test Facilities. Power ON, Periodic and Initiated BIT facilities.								
	(ii) Squelch Facility. Operator selectable and tunable squelch facility.								
	(iii) Preset Channels. At least twenty operator settable channels. Channels capable of being preset in air and on ground? Capable of settable when powered by ground supply?								
	(iv) Controllable from the cockpit by pilots.								
19	<p>Direction Finder. Will a direction finder with following capabilities be provided?</p> <p>(a) Software defined design to receive at least following international distress frequencies :-</p> <table border="1" data-bbox="347 976 1406 1088"> <tr> <td data-bbox="347 976 384 1010"></td> <td data-bbox="384 976 1406 1010">(i) 121.5 MHz and COSPAS-SARSAT (406 MHz)</td> </tr> <tr> <td data-bbox="347 1010 384 1088"></td> <td data-bbox="384 1010 1406 1088">(ii) ARGOS, AIS and Digital Selective Calling (DSC) encoded beacon signals.</td> </tr> </table> <p>(b) Frequency range - 30 to 407 MHz</p> <p>(c) Bearing intrinsic accuracy < 5° over 360° for the whole frequency range (30- 407 MHz).</p>		(i) 121.5 MHz and COSPAS-SARSAT (406 MHz)		(ii) ARGOS, AIS and Digital Selective Calling (DSC) encoded beacon signals.				
	(i) 121.5 MHz and COSPAS-SARSAT (406 MHz)								
	(ii) ARGOS, AIS and Digital Selective Calling (DSC) encoded beacon signals.								
20	Radar. Will it have a weather RADAR capable of indicating weather cell in colour on a digital display to enable penetration? Will the radar have the capability to detect surface targets? If yes, the ranges of detection with RCS to be provided.								
21	Automatic Identification System (AIS) Receiver. Will AIS receiver be provided? Will the AIS be integrated with RADAR? Can the received data be viewed in cockpit on MFD?								
22	IFF Transponder. What will be the specifications of the IFF Transponder provided? Can a user provided/nominated IFF Transponder with military modes be integrated with the helicopter?								
23	SSCVFDR (with embedded Locator Beacon) and ELT. Will the helicopter be fitted with a combined Solid State Cockpit Voice & Flight Data Recorder (SSCVFDR with embedded Locator Beacon) and a deployable Emergency Locator Transmitter (ELT)? What would be the data recording duration for FDR and CVR? Will Data downloading and playing facility be provided?								
24	Underwater Locator Beacon (ULB). Will the helicopter be fitted with Underwater Locator Beacon and will its operation capability be of at least 90 days? Provide specifications of ULB.								
25	<p>Navigation. What will be the type of navigation system? Will the aircraft navigation system have the following specifications?</p> <p>(a) At least one of the onboard navigation systems should be capable of stand-alone operation.</p>								

Sr	Technical Parameters
	<p>(b) One of the navigation systems should be Satellite based Global Positioning System.</p> <p>(c) Redundancy to allow safe and accurate navigation in the event of failure of internal avionics or inputs from external sources.</p> <p>(d) The navigation system coupled with the autopilot providing accurate hover for prolonged duration over sea.</p> <p>(e) The helicopter fitted with a Radio/ Radar Altimeter (RADALT).</p> <p>(f) Will the avionics system include Instrument Landing System (ILS), VHF Omni Directional Radio Range (VOR), Distance Measuring Instrument (DME) and Radio Magnetic Indicator (RMI)?</p>
26	<p>Performance. Hover out of Ground Effect (HOGE) is to be considered for hover performance and all take-offs and landings.</p>
27	<p>Speeds. What following speeds will the helicopter be able to achieve at maximum AUW:-</p> <p>(a) The continuous cruise Indicated Air Speed (IAS) at sea level.</p> <p>(b) Velocity Never Exceed (VNE) at sea level.</p>
28	<p>Service Ceiling. Will Service ceiling of the helicopter be above 10000 feet pressure altitude? Indicate Service ceiling.</p>
29	<p>Range and Endurance. The range and endurance must be calculated with the fuel reserve of 15% or 20 minutes of flying time, whichever is more. What will be the Range of the Helicopter at best cruise speed at 1000 feet altitude:-</p> <p>(a) With two pilots and one aircrew man diver in SAR configuration?</p> <p>(b) With two pilots, one medical attendant and two patients in Ambulance Configuration?</p> <p>(c) With two crew members and four passengers.</p> <p>(d) With two pilots, one aircrew diver and at least 420 Kg internal weight.</p> <p>(e) With two pilots, one aircrew diver and at least 420 Kg under slung load.</p>
30	<p>Maneuverability</p> <p>(a) Will the helicopter be cleared for operations up to instantaneous load factors of at least +2g and -0.2 g at sea level?</p> <p>(b) Will the helicopter be able to execute turns in level flight at bank angles of up to 45 deg at 85% of maximum AUW at sea level?</p>
31	<p>Sideward and Rearward Flight. What will be the capability of the helicopter to execute sideways and rearwards flight? Indicate max speeds.</p>
32	<p>Quick Stop and Hover. From cruise speed at maximum AUW and Centre of Gravity (CG) at maximum permissible forward and rear positions, will it be possible to execute a level flight quick stop and hover?</p>
33	<p>Centre of Gravity. Will the helicopter be able to achieve maximum forward speed in level flight throughout its operating envelope within maximum permissible CG limits? Indicate max fwd speed and max CG limits.</p>
34	<p>Safety Features</p> <p>(a) Will the rotor have sufficient inertia and aerodynamic capability to execute safe touchdown with full directional control at maximum AUW in power off conditions?</p>

Sr	Technical Parameters
	<p>(b) Will the rotor design ensure that in the event of an engine failure, rotor speed decay allows for normal pilot reaction time before the collective is lowered to the flat pitch?</p> <p>(c) Will the helicopter be easily controllable in autorotation from zero speed to maximum permitted speed in autorotation?</p> <p>(d) Will loss of power of one engine not produce abnormal attitude changes?</p> <p>(e) Will the engine have back up control system to take care of the failure of primary engine control system?</p> <p>(f) Will there be any cross-feed fuel system in case of one engine failure?</p>
35	<p>Night Capability.</p> <p>(a) Will the helicopter be capable of night operations from IN ships capable of operating helicopters by night? Will it be equipped with internal and external lighting?</p> <p>(b) Will both the internal and external lighting system be compatible of NVG and non-NVG operations simultaneously?</p> <p>(c) Will landing light be steerable to allow for different types of approach and landing?</p> <p>(d) Will searchlight capable of operating in the visual and IR spectra be provided?</p>
36	<p>Rescue Hoist.</p> <p>(a) Will there be provision for fitment of rescue hoist available on the helicopter?</p> <p>(b) What would be the minimum load capacity of the rescue hoist?</p> <p>(c) What would be the minimum and maximum usable cable length?</p>
37	<p>Cargo Hook. Will the helicopter be fitted with a cargo hook as a role removable fitment, capable of lifting at least 900 kgs?</p>
38	<p>EO/IR FLIR. What will be the capabilities of EO/IR in respect of the following :-</p> <p>(a) Medium Wave Infra-Red (MWIR) Thermal Imager Camera – FOV, continuous zoom, Focal Plain Area (FPA).</p> <p>(b) Short Wave Infra-Red (SWIR)- clarity of picture, FOV.</p> <p>(c) Colour CCD.</p> <p>(d) Control through own handgrip</p> <p>(e) Interface with radar, MFD and Global Positioning System (GPS).</p> <p>(f) On Gimbal IMU facility of FOG technology or better, Geo-pointing & Geo-location/ranging.</p> <p>(g) Accuracy in bearing and elevation.</p>
39	<p>Maintenance. Will the following QRs in aid of Maintenance, Quality Assurance and Product support be met:-</p> <p>(a) All external electrical supply and fuelling connectors and couplings to be of standard NATO type.</p> <p>(b) Access panel for facilitating front line servicing should be fitted with quick release fasteners to facilitate front line maintenance. To reduce the chance of FOD, captive fasteners should be provided in access panels.</p>

Sr	Technical Parameters
	(c) The entire system should have total electro-magnetic compatibility with all equipment on board the helicopter. EMI-EMC, including for system power supply, should conform to MIL STD 461F or 464 or latest FAR or equivalent.
	(d) Software standards as per IEEE 12207 or DO 178B. Software configuration management procedures for upgrades are to be specified.

40. **Additional Information**

(a) Any other relevant information on capability of performing the roles, additional roles possible and maintenance philosophy may also be specified. Lessors are to attach detailed technical specifications and literature of the equipment being offered as response to this RFI.

(b) What functionality/capability does your product offer that is not mentioned in the important characteristics and features mentioned herein may also be brought out.

(c) What features or other factors does your product have that in your opinion make it the most competitive may be indicated.

(d) What kind of Governmental and Commercial clearances/licenses will be required by both the Lessor and the OEM in case of selection of Helicopter including Ground Support Equipment (GSE), Ground Handling Equipment (GHE) including helicopter towing equipment for moving helicopter in and out of ship's hangar, testers & tools and its product support be also indicated.

(e) Foreign OEMs are to state unambiguously that they will obtain and provide requisite formal approval of their Govt. for export of helicopter/equipment.

(f) Lessors are to confirm the compliance of Integrity Pact/ Performance-Cum-Warranty Bond as mandated by DAP-20.

Appendix B
(Refers to Para 34 of RFI)

INFORMATION PROFORMA

1. **Name, Address and Unique ID (if any) of the Vendor/Company/Firm.** _____

(Company profile, in brief, to be attached. In the eventuality of the firm emerging as L1, contract will be concluded in the **name and address** of the firm, as indicated here). Vendors are to submit an undertaking that any subsequent proposal for change in name of firm or address, will be intimated to IHQ MoD(Navy) at the first available opportunity and supporting documents be furnished within five working days of approval by relevant competent authority.

2. **Type (Tick the relevant category).**

Original Equipment Manufacturer (OEM) Yes/No

Government sponsored Leasing Agency Yes/No (Details of registration to be provided)

Authorised Vendor of OEM Yes/No (attach details, if yes)

Others (give specific details) _____

3. **Contact Details.**

Postal Address: _____

City: _____ Province/ State: _____

Country: _____ Pin/Zip Code: _____

Tele: _____ Fax: _____

URL/Web Site: _____ Email: _____

4. **Local Branch/Liaison Office/ Agent (if any).**

Name & Address: _____

Pin code: _____ Tele: _____ Fax: _____

Email: _____

5. **Financial Details.** Category of Industry (Large/Medium/Small Scale): _____

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
GeM			
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: _____
(Indigenous leasing capability be indicated)
(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 Authorised Lessor: _____
- (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) ROM price for leasing of 24 utility helicopters for 05 years with Buy option at the end of the lease period in the following format (not restricted):-

<u>Sr</u>	<u>Item</u>	<u>Unit Cost</u>	<u>Remarks</u>
(i)	Helicopter		
(ii)	GSE / GHE including helicopter towing equipment for moving helicopter in and out of ship's hangar (Nine helicopters embarked on ships at any given time on each coast is to be considered)		
(iii)	Packing & Transportation		
(iv)	Training including training aids, CBT packages & Deputation		
(v)	PBH Cost (aa) Minimum number of annual hours for which IN would need to pay irrespective of usage (ab) Cost of PBH over and above, the minimum hrs flown in compliance with the provisions of para 11 and 14 of RFI		
(vi)	Maintenance Tools and Equipment for 'O' level maintenance.		
(vii)	Operator's Manual and Technical Literature/ Documentation		
(viii)	Additional Support Eqpt		
(ix)	Cost of Insurance (Amount insured to be indicated) (aa) Hull Insurance (ab) Third party insurance (ac) Direct liability		
(x)	Residual cost of helicopters for Buy at end of 2 nd , 3 rd , 4 th and 5 th year of lease.		
(xi)	Annual maintenance cost post lease period as per breakdown at SI (v) above (for 10 years)		
(xii)	Cost of integration (aa) Tripod/ stand for 7.62 mm gun (ab) V/UHF SDR (ac) SATCOM (ad) IFF		
(xiii)	Misc Cost (if any)		

(I) ROM price for leasing of 24 utility helicopters for 05 years with option to extend the lease period to another 05 years in the following format (not restricted):-

<u>Sr</u>	<u>Item</u>	<u>Unit Cost</u>	<u>Remarks</u>
(i)	Helicopter		
(ii)	GSE / GHE including helicopter towing equipment for moving helicopter in and out of ship's hangar (Nine helicopters embarked on ships at any given time on each coast is to be considered)		
(iii)	Packing & Transportation		
(iv)	Training including training aids, CBT packages & Deputation		
(v)	PBH Cost (aa) Minimum number of annual hours for which IN would need to pay irrespective of usage (ab) Cost of PBH over and above, the minimum hrs flown in compliance with the provision of para 11 and 14 of RFI		
(vi)	Maintenance Tools and Equipment for 'O' level maintenance.		
(vii)	Operator's Manual and Technical Literature/ Documentation		
(viii)	Additional Support Eqpt		
(ix)	Cost of Insurance (Amount insured to be indicated) (aa) Hull Insurance (ab) Third party insurance (ac) Direct liability		
(x)	Cost of extension of lease (05 years) (year on year to be indicated)		
(xi)	Residual cost of helicopters for Buy at end of 6 th , 7 th , 8 th , 9 th and 10 th year of lease.		
(xii)	Annual maintenance cost post lease period as per breakdown at SI (v) above (for 10 years)		
(xiii)	Cost of integration (aa) Tripod/ stand for 7.62 mm gun (ab) V/UHF SDR (ac) SATCOM (ad) IFF		
(xiv)	Misc Cost (if any)		
	Total Cost of Project		

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:-
 - (a) The above information is true and any changes will be intimated at the earliest.
 - (b) The _____ (name of firm) has never been banned/de-barred for doing business with MoD/Gol/any other government organisation and that there is no inquiry going on by CBI/ED/ any other government agency against the firm.

Note: - Para 122 and Appendix K of Chapter II of DAP 20 may be referred.

(Authorised Signatory)