



Government of India  
Ministry of Defence  
Defence Research & Development Organisation (DRDO)  
गैस टरबाइन अनुसंधान स्थापन, बेंगलूरु-560 093  
GAS TURBINE RESEARCH ESTABLISHMENT,  
BENGALURU-560 093

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Last Date for Receipt of Applications : 09<sup>th</sup> -April-2024

(with 21 days closing duration)

**Engagement of Retired Government Employees as 'Consultant' in GTRE, Bangalore on contract basis**

1. DRDO/GTRE invites applications from Retired employees from Central Government/State Government/PSU/Autonomous Bodies having considerable experience of functioning in Central Government Ministries/Departments for engagement as Consultant on short term contract basis as per Post Specific Terms of Reference (TOR). The relevant details and eligibility criteria are given below.

2. **Brief Description about the Requirement:-**

| Post Code            | No. of Posts | Pay Level of Retired official                               | Category  | TOR (Term of Reference)               | Contract duration / period                | Location  |
|----------------------|--------------|---|-----------|---------------------------------------|---|-----------|
| <b>2024/GTRE/204</b> | 01           | Level -12 of Pay Matrix as per approved 7 <sup>th</sup> CPC | Technical | Enclosed <a href="#">Annexure I</a>   | One (01) year and extendable as per norms | Bengaluru |
| <b>2024/GTRE/205</b> | 01           | Level -12 of Pay Matrix as per approved 7 <sup>th</sup> CPC | Technical | Enclosed <a href="#">Annexure II</a>  | One (01) year and extendable as per norms | Bengaluru |
| <b>2024/GTRE/206</b> | 01           | Level -11 of Pay Matrix as per approved 7 <sup>th</sup> CPC | Technical | Enclosed <a href="#">Annexure III</a> | One (01) year and extendable as per norms | Bengaluru |

|               |    |   |           |                                      |   |           |
|---------------|----|---|-----------|--------------------------------------|---|-----------|
| 2024/GTRE/207 | 01 | Level -11 of Pay Matrix as per approved 7 <sup>th</sup> CPC | Technical | Enclosed <a href="#">Annexure IV</a> | One (01) year and extendable as per norms | Bengaluru |
|---------------|----|---|-----------|--------------------------------------|---|-----------|

3. **Eligibility Criteria:**

- The applicants, who have retired from Central / State Govts, PSUs, Autonomous Bodies, Universities, Govt. R&D Organizations and possessing practical knowledge, adequate experience in the field relevant to the functioning for which applying (**as per annexed TOR for each post code**).
- Persons possessing experience of having worked with DRDO would be accorded preference during selection/appointment.
- Possessing effective communication (both oral and written) and interpersonal skills with a strong flair for in-depth examination of his/her areas of work.
- The applicant must have had unblemished Service record.
- No retired Government Servant shall be eligible for appointment as a Consultant unless there is a gap of fifteen (15) days between his/her retirement and appointment as consultant.
- The applicant must have retired at prescribed PAY LEVEL as mentioned above.

4. **Age Limit:** The maximum age limit of the applicant shall not be more than **63 years** as on the closing date for receipt of the application.

5. **Procedure for Appointment:-**

- The applications received by the **Closing Date** shall be preliminarily scrutinized /examined, as regards fulfillment of Basic Eligibility Criteria and the TOR, by a locally-constituted Committee. Subsequently, a duly-constituted Screening Committee shall scrutinize the applications to assess the suitability of the candidates, and short-list the applicants, keeping in view the eligibility criteria, requirements (TOR), GFR provisions and the relevant Guidelines.
- The merit-wise panel recommended by the Screening Committee for appointment, including wait-listed candidates, shall be valid for six (06) months.
- The Offer of Appointment, containing the Terms & Conditions of engagement, shall be issued by the Directorate of Personnel, DRDO HQ after obtaining the approval of the Competent Authority on the recommendations of the Screening Committee.
- On receipt of the 'Offer of Appointment', the 'Consultant' shall be required to submit the following documents:-
  - Letter of Consent;
  - Contract Agreement, duly signed, in the prescribed pro forma (enclosed);
  - Non-Disclosure Agreement – Confidential Clause with the Government of India, and Ethics & Integrity Clause (proforma of both enclosed), both duly signed;
  - An undertaking towards acceptance of the Terms & Conditions contained in the Offer of Appointment.
- Before the Contract Agreement is executed, the employing office shall carry-out the pre-appointment activities of verification of relevant documents like PPO, Medical Fitness Certificate, Police Verification, etc.
- The selected candidate shall be required to sign the Contract Agreement and Non- Disclosure Agreement (03 copies, each) on a Non-Judicial Stamp Paper of Rs. 500/- with the employing office (**as per the proforma prescribed**).

6. **Terms & Conditions governing the Engagement:-**

- a. The "Consultant" shall perform the job(s)/task(s) as per the Terms of Reference (TOR) enclosed herewith at [ANNEXURE- I to IV](#) for each post separately.
- b. The engagement of a retired Government servant as 'Consultant' shall not be construed as a case of 're-employment'.
- c. The 'Consultant' shall not exercise any statutory, legal or financial power(s).
- d. The appointment as 'Consultant' shall be of a temporary (non-official) nature against the specific job(s), and the 'Consultant' shall not be entitled for any benefit/compensation/absorption/regularization of service with DRDO.
- e. ***The engagement as 'Consultant' shall be initially for the contractual duration of one (1) year only (from the date of engagement), unless extended.***
- f. The 'Consultant' appointed shall, in no case, represent or give opinion or advice to others in any manner which is adverse to the interests of the Ministry of Defence/Department of Defence R&D/DRDO, nor will he/she indulge in any activity outside the terms of the contractual assignment. Further, in the course of execution of his/her duties under the contract, he/she shall declare the arising 'conflict(s) of interest' (if any) and shall refrain from advising/influencing on any such matters.
- g. The 'Consultant' shall, under no circumstances, share data and information with any bilateral agency/multilateral agency or with any person/institution without the specific prior approval of the Chairman DRDO / Secretary DD (R&D) to that effect.
- h. The 'Consultant' shall not publish any article based on the data, inputs & information obtained during the course of his/her official assignment, without obtaining specific prior approval of the Chairman DRDO / Secretary DD (R&D).
- i. The Intellectual Property Rights (IPR) of the data & deliverables shall be the exclusive property of DRDO only.
- j. The 'Consultant' shall hand-over the entire set of records of the assignment to DRDO before expiry of the contract and before release of the final payment, whichever is earlier.
- k. If the 'Consultant' fails to perform/address the assigned jobs/tasks or if the quality of the delivered output is not to the satisfaction of the employing office or if the laid- down time-schedule is not adhered to by the 'Consultant' or if the 'Consultant' is found lacking in honesty & integrity or is unauthorised absent from work, or at any time without assigning any reason, the contract entered into may be terminated by the Competent Authority, by giving a prior written notice of one (1) week.
- l. The 'Consultant' may also resign from the assignment by giving a prior notice of one (1) month. Payment of one (1) month's remuneration, in lieu of notice period, by either side, may be considered at the discretion of the Competent Authority.
- m. The Competent Authority for settling any dispute arising out of the terms & conditions of the Contract or for interpreting any of the terms & conditions of the Contract or for any uncovered condition(s) shall be DG (HR), DRDO, whose decision shall be final & binding upon the 'Consultant'.
- n. Periodic Monitoring of Performance & Deliverables shall be carried-out by the employing office in accordance with the provisions contained in the relevant Guidelines.
- o. The detailed General Terms & Conditions, enclosed herewith at [APPENDIX-'B'](#) shall be applicable.

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7. **Remuneration:** A fixed monthly amount shall be admissible, arrived at by deducting the basic pension from the pay drawn at the time of retirement. The amount so fixed shall remain unchanged for the term of the contract. There will be no annual increment/ percentage increase during the contract period:-

| Category       | Remuneration  | Conveyance Allowance                       |
|----------------|---|--|
| Pensioners     | Pay drawn at the time of retirement less Basic Pension being drawn.   | (i) Rs. 3000/- upto pay level - 11         |
| Non-Pensioners | (i) <b>Pay Level - 11</b> of the above post code - Rs.50,000/-<br>(ii) <b>Pay Level - 12</b> of the above post code - Rs.60,000/- | (ii) Rs. 5,000/- for pay level 12 & above. |

8. **Allowances:** Consultants shall not be entitled to any kind of allowance/benefit such as Dearness Allowance, Transport Facility, Residential Accommodation, Personal Staff, CGHS, Medical reimbursement, reimbursement of telephone/internet resources etc. However, should they require to travel inside the country in connection with the official work of the organization, he would be entitled to TA/DA at the rate commensurate with his/her Grade Pay/Pay Level (as may be applicable) from which he/she retired.
9. The 'Consultant' shall follow the normal working hours of the employing office. However, as work exigencies may demand, he/she may be required to work beyond the stipulated working hours.
10. **Drawal of Pension:** A retired Govt. official appointed as a consultant shall continue to draw pension and the dearness relief on pension during the period of his engagement as a consultant. His/her engagement as consultant shall not be construed as a case of re-employment.
11. **Leave :** Paid Leave of absence, at the rate of 1.5 days for each completed month of service, is admissible. However, no accumulation of leave beyond a calendar year may be allowed.
12. Interested eligible retired officials of Central Government/State Government/PSU/Autonomous Bodies may submit their applications in the enclosed **FORMAT (APPENDIX – 'A')** with all the requisite supporting documents received at the following address or by email to [director.gtre@gov.in](mailto:director.gtre@gov.in)
- The Director,  
Gas Turbine Research Establishment,  
Government of India, Ministry of Defence,  
Defence Research & Development Organisation  
C.V Raman Nagar, Post No. 9302,  
Bengaluru -560093.
13. Applications received after closing date will be rejected automatically without any intimation to the applicant. DRDO reserves the right to cancel this advertisement, and to not to proceed in the matter for engagement of consultant, at any stage, and accept or reject any or all applications, without assigning any reason whatsoever.
14. **Cutoff date** for receipt of application is **21 days from the publication of Advertisement.**

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Appendix – ‘A’

**PROFORMA OF APPLICATION FOR ENGAGEMENT AS CONSULTANT IN DRDO**

|     |   |   |
|-----|---|---|
| 1.  | Post Code:  |   |
|     | Advertisement No.:  | <b>DRDO/GTRE/HRD/Consultants/001/2024</b> |
| 2.  | Name in Full:<br>(in Block letters)                               |   |
| 3.  | Date of superannuation:<br>(DD-MMM-YYYY)                          |   |
| 4.  | Designation at the time<br>of Superannuation                      |   |
| 5.  | Basic Pay & Grade Pay/ Pay Level at the<br>time of Superannuation |   |
| 6.  | Name of the Organization last served<br>with address              |   |
| 7.  | Date of birth<br>(DD-MMM-YYYY)                                    |   |
| 8.  | Age (As on closing date of<br>advertisement):                     |   |
| 9.  | Gender:   | Male/Female                               |
| 10. | Address for correspondence :                                      |   |
|     | E-mail :  |   |
|     | Contact No.:  | Mobile No:<br><br>Landline:               |
| 11. | Educational Qualification<br>(Graduation onwards):                |   |
| 12. | Areas of Research :<br>(for Scientific / Technical posts)         |   |
|     | Area of Specialization :<br>(for Admin. posts)                    | -NA-                                      |

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|     |  |             |           |                                    |
|-----|--|-------------|-----------|------------------------------------|
| 13. | Complete record of services rendered in Organizations / Estts before superannuation:<br><i>(with special reference to the experience in the level of post for which application is made)</i> |             |           |                                    |
|     | <b>Post Held with Pay Level</b>  | <b>From</b> | <b>To</b> | <b>Subjects Handled (in brief)</b> |
|     |  |             |           |                                    |
|     |  |             |           |                                    |
|     |  |             |           |                                    |
|     |  |             |           |                                    |
|     |  |             |           |                                    |
| 14. | Complete list of published books / monographs Research papers etc. <i>(for Scientific / Technological posts only)</i>  |             |           |                                    |
| 15. | Details of Knowledge of Computer   |             |           |                                    |
| 16. | Any other relevant information <i>(please enclose separate sheet, if required)</i>   |             |           |                                    |

**Declaration**

I hereby declare that the particulars furnished above are true and correct to the best of my knowledge and belief. I understand and agree that in the event of any information being found false OR incorrect/incomplete or ineligibility being detected at any time before or after selection, my candidature is liable to be rejected and I shall be bound by the decision of the Department. I have read this circular and ready to accept all the terms and conditions ([Appendix -'B'](#)) for engagement of Consultants.

(Signature of the Applicant)

Date:

**Following documents are to be enclosed by the applicant**

1. Identity Proof
2. Proof of Address
3. Copy of P.P.O
4. Copy of proofs of Educational Qualification
5. Copy of Service Verification Certificate

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Appendix – 'B'

**TERMS AND CONDITIONS**  
**FOR ENGAGEMENT AS CONSULTANT IN THE LABS/ESTTS/ UNITS OF DRDO**

1. The consultant shall perform the services as per Terms of Reference and the task/ jobs assigned to him/her by the Director of the concerned Lab/Estt/Unit, where he is engaged.
2. The working hours would be that of the working hours of the lab/estt/unit where he/she is engaged.
3. Under special circumstances, the Consultant could be called for services on holidays or beyond normal working hours for which no other benefits/ leave will be granted.
4. The consultancy will start for a period of one year from the date he / she enters into the contract Agreement with DRDO.
5. The consultant shall be paid remuneration and conveyance allowance as per Para 6 of Government of India, Ministry of Defence letter No. DHRD/DRDO CONSULANT/GUIDELINES/E/685/D(R&D)/2022 dated 06<sup>th</sup> July 2022 , issued under Govt letter No.DHRD/76682/Consultant/C/M/01 dated 27<sup>th</sup> July 2022, subject to ceiling that remuneration plus pension drawn by the consultant shall not be more than the last pay drawn by him / her at the current rate of DA. Mandatory deduction, if any, will be made. The remuneration for services rendered in a month shall be payable in subsequent month.
6. Secretary DD(R&D) shall have the right to examine/review/ terminate the consultancy services provided by him /her at any time.
7. The consultant shall perform his/her obligations under his/her consultancy with all necessary skills, diligence, efficiency and economy.
8. The consultant shall meet high standard for ethics and integrity under the agreement of appointment.
9. No other facility whatsoever except remuneration and conveyance allowance shall be provided to him/her by DRDO in his/her capacity as Consultant.
10. The Department shall not be responsible for any loss, accident, damages/injury suffered by him/her whatsoever arising in or out of the execution of his/her work, including travel.
11. The Consultants shall abide with Contract Agreement, Non-Disclosure Agreement, General Conduct Rules, Information Security Act and other restrictions as applicable to Govt employees.
12. Paid leave of absence at the rate of 1.5 days for each completed month of service. Accumulation of the leave beyond a calendar year may not be allowed.
13. During the terms of the consultancy, he/she shall not be engaged in any private business or professional activity which could conflict with the interest of the Government. The engagement of Consultants is of a temporary (non-official) nature against the specific jobs.

**Declaration**

I, \_\_\_\_\_ (name of the Consultant) S/o \_\_\_\_\_ hereby agree unconditionally with all above referred Terms and Conditions for engagement of consultant in DRDO.

Date :

Place :

(Signature of Applicant)

Name

**Terms of Reference (TOR) for Engagement of Consultants**

**1. Whether the proposed engagement is against vacant post or for specific work or project:**

The proposed engagement of consultant is for specific tasks at Heat Transfer Rig facility pertaining to heat transfer group requirements.

**2. Precise statement of objectives for appointment of consultant:**

- Undertake planning and work towards up-gradation of the heat transfer rig test facilities viz. high temperature rig to test cooling effectiveness of high pressure turbine nozzle guide vane.
- Operation of various control systems and equipments at heat transfer rig during testing of components.
- Technical support to the technical team for operation and maintenance of the facilities along with documentation.
- Technical support for procurement of various systems for up-gradation of heat transfer rig facilities viz. high temperature rig to test cooling effectiveness of high pressure turbine nozzle guide vane ; cold air flow mass flow test rig to measure cooling air mass flow through turbine stator and rotor blades; pattern(water) flow rig to check turbine stator and rotor blades
- Scrutiny of files pertaining to procurement before processing
- Undertake drawing preparations related to various rig related development and ongoing activities
- Undertake any sub system modifications in the existing test facilities

**3. Category of work :**

Technical work of heat transfer rig facilities

**4. Pay level of the consultant at the time of retirement/superannuation :**

Level 12

**5. Discipline or domain, where engagement of consultant is required :**

- Bachelor in mechanical engineering or equivalent from a recognized university with expertise in high temperature rig operation pertaining to high pressure turbine nozzle guide vane testing.
- Minimum 25 years of experience on operation and maintenance of all electro mechanical systems and sub systems of heat transfer rig pertaining to cooling effectiveness tests of high pressure turbine nozzle guide vane.

**6. The Expertise / Skills / Knowledge required for engagement as consultant :**

To technically perform the following activities either individually or with the technical team responsible

- Basic knowledge of gas turbine engine system with heat transfer is desirable.
- Capable to design and come with drawing for any sub system testing requirement, estimate, develop and integrate the customized piping , instrumentation and data acquisition system
- Control panel and control software related programming planning and updating , instrumentation and its planning , data acquisition system operation and trouble shooting
- Experience in operating air pre heater, fuel pumps and its accessories
- Experience in trouble shooting of in house electrical and electronic sub systems and control system pertaining to rig



- Knowledge of coolants, air filters, lubrication , oil systems pertaining to compressors , heaters, motors, fuel pumps
- Operation and maintenance of air pre heater and fuel pump needed for hot flow rig tests
- Operation and maintenance of compressor for all instrumentation requirements of hot flow rig
- Operation and maintenance of screw compressor and its subsystems to conduct the cold air flow mass flow test rig
- Operation and maintenance of water pump for cooling of test section of hot flow rig
- Operation of all the testing activities
- Planning of essential spares for procurement towards smooth running of test rigs
- Should be able to mitigate small and medium breakdown of rig systems
- Study, plan and work out the plan of activities for up-gradation of different rig facilities namely hot flow rig, pattern flow rig and cold flow mass flow rig.
- Technical knowledge of various pressure probes, transmitters ,orifice meters, thermocouples instrumentation , calibration and installation
- To handle and apply all safety precautions in operation and maintenance of rig facilities

**7. Outline of the tasks to be carried out (details of work required to be carried out / specific tasks/activities to be assigned to consultant should be indicated) :**

- Planning towards up-gradation of rig testing facilities
- Technical support , operation and maintenance of heat transfer rig test facilities such as high temperature rig to test cooling effectiveness of high pressure nozzle guide vane ; cold air flow mass flow test rig to measure cooling air mass flow through turbine stator and rotor blades; pattern(water) flow rig to check turbine stator and rotor blades
- Participate in heat transfer rig test activities and provide technical support during the tests
- Document all the procedures of maintenance and operation for functioning of the facility
- Preparation / co-ordination of test related reports after each test run in rig.
- Should be capable of mitigating the small and medium breakdowns of rig systems
- Co-ordination in all manufacturing related activities pertaining to rig requirements

**8. Estimated time period required from completion of tasks:**

One year extendable for second year based on work requirement as decided by competent authority

**Government of India**  
**Ministry of Defence**  
**DRDO**

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**Terms of Reference (TOR) for Engagement of Consultants**

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**1. Whether the proposed engagement is against vacant post or for specific work or project:**

*The proposed engagement of consultant is for specific tasks at Twin Test Cell at Rajanakunte Campus and in various Test Facilities in C.V. Raman Nagar campus of GTRE.*

**2. Precise statement of Objectives for appointment of Consultant:**

*The services of consultant is primarily required to assist Group Head, Test Facilities for*

- a. Co-ordination and Installation of Test Cell Systems such as Intake, Exhaust, Thrust Stand System, Fuel Installation, Air Starting System, etc. in Twin Test Cell*
- b. Preparation of specification for various auxiliary sub-systems of Twin Test Cell such as Fuel Storage and Supply System, Compressed Air Starting System, co-ordination / inspection during fabrication at vendor's works, installation & commissioning of systems at test site, etc.*
- c. Operation & Maintenance of various Test Facilities such as Air Supply Facility, Compressor Test Facilities, ECS Test Facility, Qualification Test Facility, Fuel Installations, etc.*
- d. Assisting in preparation of scheme drawings for modification of existing facilities to support test requirements at Test Cells.*
- e. Documentation Activities related to licensing of Fuel Installations from PESO.*

**3. Category of Work:**

*Technical Work*

**4. Pay level of the consultant at the time of retirement**

*Level 12*

**5. Discipline or domain, where engagement of consultant is required:**

*Diploma in Mechanical Engineering or equivalent from a recognized University with expertise in installation, commissioning, operation and maintenance of Gas Turbine Engine Component Test Facilities and Gas Turbine Engine Test Cells.*

*Minimum of 30 years experience on installation, commissioning, operation & maintenance of gas turbine engine test facilities is mandatory.*

**6. Expertise/skills/knowledge required for engagement as consultant:**

a. *Should have expertise in installation, commissioning and maintenance of various systems of Test Cell such as Air Intake System, Exhaust System, Portal Type Thrust Stand System, Roof Mounted Thrust Stand System, Compressed Air Starting System, Fuel Storage & Supply System, etc.*

b. *Shall be conversant with the procedures and have experience in obtaining PESO license for ATF Storage Installations.*

c. *Shall have experience in Operation & Maintenance of various Aero Gas Turbine Test Facilities handled by Test Facilities Group such as Air Supply Facility, Compressor Test Facilities, Fuel Installations, ECS Test Facility, Qualification Test Facility, etc.*

d. *Shall be conversant in using computers for generation of technical write ups, reports and documents.*

e. *Should possess effective communication (both oral and written) and interpersonal skills with a strong flair for in-depth knowledge in his area of work.*

f. *Knowledge and Experience of Works Supervision & Monitoring the Maintenance works in Engine Test Cells.*

**7. Outline of the tasks to be carried out:**

a. *Preparation of drawings / documents required for realising the following auxiliary systems at National Gas Turbine Engine Test Facility Centre, Rajanakunte Campus of GTRE.*

a. *Fuel Storage & Supply System*

b. *Compressed Air Storage & Supply System*

b. *Preparation of layout drawings related to Aviation Turbine Fuel Storage installations and liaison with PESO authorities for obtaining license.*

c. *Interaction with Test Cell OEM for Engine Adaptor along with Bell Mouth Support System for mounting developmental Gas Turbine Engines at Twin Test Cell Facility.*

- d. Assisting GTRE personnel during Twin Test Cell Building construction related works and Area Developmental Works.*
- e. Supervision of activities related to Twin Test Cell and their follow up action till completion.*
- f. Operation & Maintenance of various Aero Gas Turbine Test Facilities handled by Test Facilities Group such as Air Supply Facility, Compressor Test Facilities, Fuel Installations, ECS Test Facility and Qualification Test Facility.*
- g. Any other work assigned by Technology Director-Test Facilities / Project Manager-Twin Test Cell on need basis from time to time.*

**8. Estimated time period required for completion of tasks**

*One year (extendable as per norms)*

**Government of India**  
**Ministry of Defence**  
**DRDO**

**Terms of Reference (TOR) for Engagement of Consultant**

- 1. Whether the proposed engagement is against vacant post or for specific project**
  - a. The proposed engagement is for process planning and fixture design of all engine build components and assemblies of all projects.
- 2. Precise statement of objective for appointment of consultant**
  - a. To Study and understand design drawings
  - b. Prepare Manufacturing Drawing, Master Process Sheet, Method Sheet and fixture drawings by considering the work order quantity, machine capacity and availability of raw material for manufacturing of components and assemblies of all Engine Build and Rebuild Job cards.
  - c. Drafting of Method sheets and fixture drawings using drafting software like Auto CAD.
  - d. Documentation of all manufacturing documents such as MPS, Method sheets, manufacturing drawings and fixture drawings
- 3. Category of work:**

Technical work
- 4. Pay level of the consultant at the time of retirement:**

Level -11
- 5. Discipline or domain where engagement of consultant is required**

ITI, Draughtsman (Mechanical) from recognized institute with expertise in AutoCAD drafting, process planning and fixture design  
Minimum of 30 years experience in area of process planning and fixture design for aero engine components and assemblies
- 6. Expertise/skills/ knowledge required for engagement as consultant**
  - a. Past experience in Process planning and fixture design of aero engine components and assemblies.
  - b. Knowledge in study of drawings and interpretation of views, special features.
  - c. Knowledge related to all manufacturing processes, heat resistant alloy materials such as Nickel, Titanium alloy and heat resistant steels,
  - d. Experience in Material and time Estimation, selection of heat treatment cycles with respect to the Raw material condition and final component requirement.
  - e. Also knowledge in use of drafting softwares like Auto CAD.
  - f. Ability to do methodisation for build/rebuild job cards within a span of two to three days.

**7. Outline of task to be carried out**

- a. Training and technical guidance for the newly appointed technicians, apprentice trainees and work package engineers in preparation of manufacturing drawings, process sheet, operation sheet and fixture design.
- b. Receipt of work orders, drawings, inspection report and build job cards and ensuring the correctness and requirements of the same before methodisation.
- c. Process planning and fixture design for components and assemblies of Engine build, Rebuild, Regular and Rig jobs.
- d. Generation of Master process sheet in manufacturing database for components, fixtures and assemblies
- e. Documentation of all the manufacturing documents in systematic way and maintaining of soft copies and hard copies of the same.
- f. Release of manufacturing documents to PP&C for the respective components through internal office note.
- g. To provide guidance to the work package Engineers in understanding of drawings, machine capabilities, material form selection, heat treatment, surface treatment and other drawing requirements.
- h. To coordinate with Project office, PP&C, Machine shops and QAD for necessary clarifications and smooth execution of job.

**8. Estimated time period required for completion of tasks:**

One Year and extendable as per norms

**Government of India**  
**Ministry of Defence**  
**DRDO**

**Terms Of reference (TOR) for engagement of consultant**

- (1) **Whether the proposed engagement is against vacant post or for specific project**  
The proposed engagement of consultant is for specific project (Kaveri Dry Engine - KDE) in Manufacturing group
- (2) **Precise statement of objective for appointment of consultant**  
The services of consultant is primarily to carry out following activities in Manufacturing group
  - a. Operation and regular maintenance of Vacuum heat treatment and vacuum brazing furnaces (30 Kg, 500 Kg and 1000 Kg capacity each 01 no.), Pack aluminising furnace (01 Nos) , Grit blasting machine ( 02 Nos) and Vibrotumbling machine (01 no)
  - b. Masking, grit blasting and demasking in thermal spray coating process.
  - c. Planning and completion of jobs for vacuum heat treatment, vacuum brazing, pack aluminising, grit blasting and Vibrotumbling
  - d. Assisting in monitoring, maintaining the process consumables and support in purchase related activities in group.
  - e. Interaction and coordination with outside agencies/ machine suppliers for up keeping of the above machines in manufacturing group.
  - f. To assist in preparation of documents related to manufacturing processes defined in point 2 (a)
- (3) **Category of work:** Technical work
- (4) **Pay level of the consultant at the time of retirement:** Pay level 11
- (5) **Discipline or domain where engagement of consultant is required**  
To prepare the jobs by thorough study for Vacuum heat treatment and brazing furnaces (30 Kg, 500 Kg and 1000 Kg capacity each 01 no each.), Pack Aluminising furnace (01), Grit blasting machines (02 No.'s), Vibrotumbling machine (01 No, s).
- (6) **The expertise/skills/ knowledge required for engagement as consultant**
  - g. Past experience in vacuum heat treatment and vacuum brazing of aero engine components and knowledge related to programming and operation of Vacuum heat treatment furnace.
  - h. Knowledge in preparation of aluminising pack and operation of pack aluminising furnace
  - i. Experience in masking and grit blasting of components before thermal spray coating
  - j. Experience in vibrotumbling process for gas turbine components.
- (7) **Outline of task to be carried out**  
Following tasks to be carried out by engaged consultant:

- (a) Planning of completion of job on Vacuum heat treatment and vacuum brazing furnaces ( 30 Kg , 500 Kg and 1000 Kg capacity each 01 no.) , pack aluminising furnace (01) , masking and grit blasting and vibrotumbling (01) machine for gas turbine engine components.
- (b) To provide guidance to the operators during job execution on above machines.
- (c) Masking, grit blasting and demasking of components in thermal spray coating process
- (d) To coordinate with methods, PP&C, materials group and maintenance division for necessary clarifications
- (e) Monitoring of consumable stock like gas, grit , masking tapes, chemicals required in these processes and followup of purchases these consumables.
- (f) Interaction with machine OEM for up keeping of machines.
- (g) Training of new operators in operation and up keeping of these machines.
- (h) To assist in preparation of documents related to manufacturing processes in point 7 (a)

**(8) Estimated time period required for completion of tasks**

One year (extendable for second year based on work requirement decided by competent authority as per norms)