

**Advertisement for Empanelment of Experts**

**No. 11008/EN/NPC**

**Dt. 03-02-2021**

National Productivity Council (NPC) (an autonomous body under Ministry of Commerce & Industry, Govt. of India). We hereby invite application from experts (not associated with more than 2 organizations) in the domain of Ground Water for empanelment as Project Coordinators (PCs) & Technical Area Experts (TAEs) with NPC.

The suitable candidates may have following qualification and experience as mentioned below:

| **Position** | **Minimum Qualification** | **Experience Required** |
| --- | --- | --- |
| **Project Coordinator** | * Master’s (post-graduate) degree in Science/Technology or equivalent in either subject- Hydrogeology, Geology/ Applied Geology, Geophysics, Hydrology, Water Resources Management from a UGC/AICTE recognized University/ Institution or equivalent. * Desirable: PhD in relevant subject * B. Tech/ MTech or equivalent or higher degree in technical subjects such as Civil, Mining, Water Resource Engineering, Hydrology and equivalent from a UGC /AICTE recognized University/ Institution or equivalent. | * In case of PhD and Master’s/ MTech degree holder, minimum of 7 and 10 years of overall work experience respectively, after the completion of above-mentioned qualifying degrees, related to Hydrogeological studies/ report preparation. * Officers retired/served for minimum **10** years in Central/ State Ground Water Organizations/ Research Institutes/ universities/ IIT as Hydrogeologist, Hydrologist, Geologist, Geophysicist, will be considered to fulfil the minimum experience |
| **Technical Area Experts (TAEs) includes**   1. **Hydrogeologist/ Geologist/ Hydrologist HGL/ GL** 2. **Geophysicist GP** 3. **Remote Sensing and GIS Expert RSG** 4. **Water Quality Expert** | * Master’s (post-graduate) degree in Science/Technology or equivalent in either subject- Hydrogeology, Geology/ Applied Geology, Geophysics, Hydrology, Water Resources Management from a UGC/AICTE recognized University/ Institution or equivalent. * Desirable: PhD in relevant subject. * BTech/ MTech degree or equivalent or higher in technical subjects such as Civil, Mining, Water Resource Engineering, Hydrology and equivalent from a UGC /AICTE recognized University/ Institution or equivalent. * For further details please refer ***Appendix A*** | * In case of PhD and Master’s/ MTech degree holder, minimum of 3 and 5 years of overall work experience respectively, after the completion of above-mentioned qualifying degrees, related to Hydrogeological studies/ report preparation. * Minimum 5 years overall work experience after the completion of BTech or equivalent qualifying degrees, related to Hydrogeological studies/ report preparation. * Officers retired/served for minimum **5** years in Central/ State Ground Water Organizations/ Research Institutes/ universities/ IIT as Hydrogeologist, Hydrologist, Geologist, Geophysicist, will be considered to fulfil the minimum experience. |
| **Note:** For further details please refer ***Appendix A (enclosed)*** | | |

**How to apply:** The cover letter along with detailed resume & declaration as per the prescribed **Resume Format & Declaration Format** may please be submitted in the word format affixed with your scanned signature) (MS Word) only, and may be sent to the email ID: [himendra.s@npcindia@gov.in](mailto:himendra.s@npcindia@gov.in) with subject heading of email **“Application for the post of Consultant (Project Coordinator or Technical Area Expert- Hydrogeologist/Geologist/Geophysicist/Remote Sensing and GIS Expert/Water Quality Expert)** and the same may be sent preferably by **10 February, 2021.**

**Remuneration:** The remuneration/payment would be decided towards the services rendered, as per the scope of work, involvement with the projects, in course of time.

**Terms for engagement:** Engagement will be for 1 year and may be extended as per requirement. The engagement will be purely on contract basis. NPC reserves the right to terminate this notice.

**Method of selection:** Applications will be shortlisted on the basis of Qualification and their relevant experience in the field. Only shortlisted candidates will be notified with regard to further course of action**.**

**General Terms & Conditions**

a) The engagement will be purely on contractual/temporary basis and initially will be valid for a period of 1 year, which may be extended for a further period on the basis of work requirement & upon assessment of the performance and subject to approval of competent authority.

b) Applicants are requested to ensure their eligibility before applying.

c) Selected candidate will have no right to demand for any regularization of his/her services at NPC under any circumstances.

d) The selected candidate will be required to work in the project across India.

e) The NPC reserves the right to cancel this selection process without assigning any notice/reasons thereof. The above engagement is purely on contractual/temporary basis and the candidates will have no right whatsoever to claim for any permanent job subsequently at NPC.

f) The NPC reserves the right not to engage any person against advertisement Notice without assigning any reason. No correspondence will be entertained in this regard.

g) This is NOT an offer for permanent employment in NPC and is purely a contractual engagement as per agreed terms and conditions.

h) The engagement DOES NOT confer any right upon the engaged person to demand any position or job in NPC during the tenure of engagement or anytime in future.

i) NPC reserves its right NOT TO ENGAGE any person in response to the advertisement and this is only an invitation to apply for engagement. NPC cannot be held liable under any circumstances whatsoever for any action taken by any person in response to this Advertisement.

j) All the applications will be screened for qualification and completeness. Applications complete in all manner will be notified with regard to further course of action.

k) The selected candidate is expected to maintain highest standards of behaviour and show politeness in dealings with NPC during or after the termination of the engagement with NPC.

l) The candidate will undertake & execute the assigned tasks with all sincerity and as per communicated timelines.

m) The applicants are advised to provide their active e-mail address and mobile no. for communication. The candidates are advised to regularly check their e-mails as well as NPC website.

n) Your major tasks are reflected and included but not limited as mentioned in the realm of enclosed ***Annexure-I.***

**Annexure-I**

# Primary/ Secondary data collection–

Collection of primary/ secondary data is of crucial importance for preparing Hydrogeological reports. PROJECT COORDINATOR and TAE must visit the site for ground truth verification, sample collection site and field tests. Data to be collected should include following parameters.

# Primary Data Collection:

* **Well inventory Data:** over the study area (core zone and buffer zone) to collect and record the aquifer type, geometry and continuity, status of water table/ piezo metric head, Well Yield, Bore hole lithology etc.
* **Collection of water samples:** (surface & groundwater) to know the quality. Field measurement of few parameters (pH, conductivity or as specified by CPCB/CGWA/BIS procedures/ standard for recharge) should be preferred.
* **Resistivity Data Collection:** related to Surface and/or Sub-surface geology and/or Borehole Lithology.
* **GNSS/GPS data and Field Verifications:** for collection of data related to Co-ordinates of water well, ponds/lakes, Elevation, Land use, Geo-tagged photographs etc.
* **Secondary data Collection:** related to Geo-Hydrology, HFL and soil data from different government departments, recognized institutions and organizations.
* **Meteorology data:** intensity, average annual rainfall data etc.
* **Pump Test Data:** to evaluate the aquifer properties (Drawdown, permeability of aquifer material, storativity and transmissive capacity, area of influence, Well yield etc.).
* **Aerial Photo/Satellite imagery:** for Land use / Cropping pattern, geomorphology, geology, soil, groundwater prospect etc.
* **Computer based Mapping / Modelling:** 1D/2D/3D modelling of Groundwater flow, Geomorphology, Drainage pattern & density, Flooding, Morphometric analysis, DRASTIC model, Altitude, slope and aspect maps etc.

**Secondary Data Collection:** Related to Geo-Hydrology, HFL and soil data from different government departments, recognized institutions and organizations. Having a detailed ‘feel’ of the proposed site of the project is of utmost importance for developing the scope of study followed by the planning for collecting the data through secondary source.

**Note: *The scope of work is liable to change any time during the project subject to any change in Guidelines issued by relevant ministry. You will be responsible for in the above realm of tasks & activities but not limited to the same.***

# Appendix A

1. **QUALIFICATION, EXPERIENCE & FUNCTION OF EXPERTS**

Experts involved in the Hydrogeological Reports preparation comprise Project Coordinator (PC) and Technical Area Experts (TAE). They may be helped by team members. The qualification and experience requirements of the experts and roles envisaged for them are detailed below-

# 1.Project coordinator (PC)

**Minimum educational qualifications**

* 1. Master’s (post-graduate) degree in Science/Technology or equivalent in either subject- Hydrogeology, Geology/ Applied Geology, Geophysics, Water Resources Management from a UGC/AICTE recognized University/ Institution or equivalent.
  2. Desirable: PhD in relevant subject.
  3. BTech/ MTech degree or equivalent or higher in technical subjects such as Civil, Mining, Water Resource Engineering, Hydrology and the like from a UGC /AICTE recognized University/ Institution or equivalent.

In exceptional cases, the Accreditation Committee may waive off the minimum educational qualification for a Project Coordinator based on the report and recommendation of the assessors recording the rationale for the same.

**Experience of PROJECT COORDINATOR**

1. In case of PhD/ Master’s or MTech degree holder, minimum of 7/ 10 years of overall work experience respectively, after the completion of above-mentioned qualifying degrees, related to Hydrogeological studies/ report preparation.
2. Officers retired/served for minimum **10** years in Central/ State Ground Water Organizations/ Research Institutes/ universities/ IIT as Hydrogeologist, Hydrologist, Geologist, Geophysicist, will be considered to fulfil the minimum experience.

# Hydrogeological Report Preparation Specific experience:

Project Coordinator (PC) must have Hydrogeological Report Preparation Specific experience as follows:

1. Prepared at least 3 Hydrogeological Report Preparation, or
2. Monitoring of 3 Hydrogeological Report (monitoring, auditing, performance evaluation etc.), which should involve spending a total of at least one month’s time in an industry. or
3. A total of three in combination of (i) and (ii).

# Expected functions of Project coordinators (PC):

The Project coordinator should be thoroughly aware of national and global Ground Water situation and be familiar with all relevant regulations, the CGWA Notification and its Amendments. S/he must have a clear concept and thorough knowledge of hydrogeological studies, Ground Water and NOC process in the country. S/he should share this information with other team members.

The expected functions of Project Coordinator are as follows;

1. Complete understanding about the project specification
2. Having an understanding of the Ground Water settings in respect of topography, hydrology streams, Geology, Hydrogeology, land use etc., based on spatial data
3. Develop broad scoping of the project taking into consideration site specific requirements
4. Framing the methodology to be followed for preparing the Hydrogeological report on award of job.
5. Meeting the project proponent, preferably with key TAEs, for an in-depth understanding of the activities.
6. Explaining to the client the local Ground Water situation.
7. Visiting the site for appropriate duration for the selection of sampling locations and deciding the type of samples in consultation with the TAEs.
8. Collating and reviewing the reports of the TAEs which must include analysis and interpretation of data.
9. Developing the draft Hydrogeological Report and circulating the same amongst team members for final feedback and ensuring completeness of the report.
10. Sending the draft Hydrogeological report to the project proponent for comments.
11. Must be acquainted with latest state and national policies, Guidelines/Rules/legislation, Act and Amendments related to water regime and relevant areas.

# 2 Technical Area Experts

# TAE Educational Qualification & Experience Specific to Technical/ Functional Area

# 2.1 Hydrogeologist/ Hydrologist/ Geologist:

1. **Educational qualifications specific to functional area**

Master’s (post-graduate) degree in Science/Technology or equivalent in either subject- Hydrogeology, Geology/ Applied Geology, Hydrology, Water Resources Management from a UGC/AICTE recognized University/ Institution or equivalent.

Desirable: PhD in relevant subject.

# Experience specific to functional area must include

1. Analysis of surface hydrological data pertaining to ground water, flow fluctuation, estimation of flows; setting up and interpretation of gauging station readings, designing of ground water table measurement and monitoring network, computation of ground water recharge, flow rate and direction.
2. Plotting of ground water contours.
3. Subsurface 3D modelling.
4. Analysis and description of aquifer characteristics e.g. permeability, transmissivity, storage coefficient etc., estimation of groundwater potential and recharge phenomenon, determination of impact of withdrawal of groundwater.
5. Preparation of water budget for an area.
6. Geology and Geo morphological analysis/description/ Stratigraphy/Lithology.
7. Developing geohydrological maps.
8. Must be acquainted with state and national policies. latest state and national policies, Guidelines/Rules/legislation, Act and Amendments related to water regime and relevant areas.
9. It is also expected that the expert has the following knowledge /experience:
   * + Contribution to Hydrogeological report documentation.
     + Understanding of policies, guidelines and the legislation related to ground water

# 2.2 Geophysicist:

1. **Educational qualifications specific to functional area**
   1. Master’s (post-graduate) degree in Geophysics/ Applied Geophysics/ Applied Geology from a UGC/AICTE recognized University/ Institution or equivalent.
   2. Desirable: PhD in relevant subject.

# Experience specific to functional area must include

1. Geophysical methods comprise of measurement of signals from natural or induced phenomena of physical properties of sub surface formation. Various physical properties that are made use of in different geophysical techniques are electrical conductivity, magnetic susceptibility, density, elasticity & radioactivity etc.
2. Plotting of ground water contours.
3. observe the reaction of recording equipment to detect irregularities
4. use computers for data management, quality control and communication between the office and field locations
5. Planning and execution of Geophysical Surveys including special studies using suitable geophysical technique and equipment.
6. Carry out Vertical electrical sounding, Magnetic / EM profiling and Borehole logging for ground water.
7. Interpretation of the date, synthesis of results and preparation of reports.
8. Maintenance and updating of Geophysical records.
9. Proper transportation and maintenance of equipment’s.
10. It is also expected that the expert has the following knowledge /experience:
    * Contribution to Hydrogeological report documentation.
    * Must be acquainted with state and national policies. latest state and national policies, Guidelines/Rules/legislation, Act and Amendments related to water regime and relevant areas.

# 2.3 Remote sensing & GIS expert:

1. **Educational qualifications specific to functional area**
   1. Master’s (post-graduate) degree in Science/Technology or equivalent in either subject- Geology/ Applied Geology/ Geo-informatics/ Water Resources Management from a UGC/AICTE recognized University/ Institution or equivalent.
   2. Desirable: PhD in relevant subject.

# Experience specific to functional area must include

* 1. Sound knowledge of GIS and Remote Sensing software’s like ArcGIS, QGIS, Erdas etc.
  2. Experience on Advance / Specialized GIS tools like Spatial Analyst, 3D Analyst, Subsurface Analyst, LIDAR, Network Analyst, like Spatial Analyst, Overlay Analysis etc.
  3. Experience in GIS database management.
  4. Plotting of ground water contours.
  5. Preparation of water budget for an area.
  6. Hydrogeomorphological analysis/ Stratigraphy/Lithology etc.
  7. Must be acquainted with state and national policies latest state and national policies, Guidelines/Rules/legislation, Act and Amendments related to water regime and relevant areas.
  8. Developing geological maps.
  9. It is also expected that the expert has the following knowledge /experience:
     + Contribution to Hydrogeological report documentation.
     + Understanding of policies, guidelines and the legislation related to ground water.

# 2.3 Water Quality Expert (WQ):

1. **Educational qualifications specific to functional area**
   1. MSc in Chemistry/ MTech in Environment or Equivalent.
   2. Desirable: PhD in relevant subject.

# Experience specific to functional area must include

* 1. Designing sampling network for water quality
  2. Understanding of rock-water interaction, geogenic and anthropogenic pollution. Point and non-point pollution.
  3. Techniques and requirements of sampling of water.
  4. Supervision/monitoring of water samples.
  5. Mapping and Modelling w.r.t. various water quality parameters like TDS, EC, pH, Hardness, Turbidity, Iron, Potassium etc and other Trace Elements.

Knowledge of preparation of Piper and Durov Diagrams, Gibbs Plot etc

# Water conservation, prevention and control of pollution

* 1. Developing schemes for cascading use (recycle, reuse) of water
  2. Identification, characterization and segregation of effluent streams
  3. Knowledge/experience on design consideration of various types of treatment systems
  4. Identification of probable impacts of effluent/waste water discharges in to the receiving environment/water bodies.
  5. Water quality modelling for prediction of impacts.
  6. Understanding of policies, guidelines and legislations related to Water Pollution.
  7. Must be acquainted with latest state and national policies, Guidelines/Rules/legislation, Act and Amendments related to water regime and relevant areas.

(**Resume Format)**

**(For Project Coordinator/ Technical Area Experts)**

1. Mr./Ms./Dr.

Affix latest passport size photograph of the applicant

(First name) (Middle name) (Last name)

1. Date of birth
2. PAN
3. Role in the organization (please tick):

In-house expert (IH) Empanelled expert (Emp.)

Water Audit Coordinator Water area expert (WAE)

1. Area(s) Applied
2. Contact details

Pin Code

1. Tel. No.
2. Fax No.
3. Email address
4. Office address

Pin Code

1. Academic Qualification (Graduation and above):

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Period (Year) | Name of the University | Degree | Subjects | Grade /  % Marks |
|  |  |  |  |  |

1. Registered/recognized training courses attended:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sl.  No. | Title of the course | Conducted/organized by (name and address) | Dates | | Result |
| From | To |
|  |  |  |  |  |  |

1. Membership of Professional Bodies: -

|  |  |  |  |
| --- | --- | --- | --- |
| Sl.  No. | Professional body (name and address) | Membership | Period of validity |
|  |  |  |  |

1. Experience (write in chronological order with most recent experience listed first):

*A. General (in brief):*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Period (From – to) | Organization with address | Designation | Type of Experience (A/B/C/D/E/F) | Specific details of experience for type A/B/C/D (not more than 25 words for each) as applicable |
| Industrial Exp. A  GW Assignments B  Teaching / Ph**.**D**.** C  Other D |
|  |  |  |  |  |
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|  |  |  |  |  |

# Declaration by the applicant

I hereby declare that the above information relating to my education and experience is correct. I do understand that any incorrect information will result in disqualification of my candidature and accreditation of the organization with NABET.

Signature Date (DD/MM/YYYY)

# Declaration by the employer

The above information in relation to Dr./Mr./Ms. …………………………… has been verified and found to be correct. I understand that in case the information is found to be incorrect it may result in disqualification of the organisation under the Scheme.

Signatures

Name (Authorized Signatory)

Designation

Organisation

Date

Note: The expert/consultant may not be presently engaged with more than 2 organizations as an indicated requirement in the context of the QCI GWCO accreditation process for interested candidates/organizations.

**Declaration for Empanelled Experts of**

**their association with the applicant organization and others**

(to be signed within 60 days preceding the date of application for accreditation)

This is to confirm that I am currently involved with the following GW projects:

1. With the Applicant Organization -
   1. As a Project Coordinator (GW)

|  |  |  |  |
| --- | --- | --- | --- |
| Sl. No. | Name of the project | Period | Technical areas as per Scheme |
|  |  |  |  |

* 1. As a Technical area expert

|  |  |  |  |
| --- | --- | --- | --- |
| Sl. No. | Name of the project | Period | Technical areas as per Scheme |
|  |  |  |  |

1. With another organization/s –
   1. As a Project Coordinator (PC)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sl. No. | Name of the organization | Name of the project | Period | Technical areas as per Scheme |
|  |  |  |  |  |

* 1. As a Technical area expert

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sl. No. | Name of the organization | Name of the project | Period | Technical areas as per Scheme |
|  |  |  |  |  |

1. Involvement as an expert in NABET GW Accreditation Scheme (for projects in hand)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sl. No. | Name of the organization | Technical areas as per Scheme | If interviewed by NABET (Date ) | Duration of association with the organization(peri od) |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

I hereby confirm that I am involved only with (mention the number) consultants.

Name

Signature

Date

**Present Status** (Please tick the appropriate one)

1. Freelancer: Yes/No
2. Working: In-house employee

(If yes, name of organization )

Address for Correspondence:

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# Declaration by the applicant organization

I hereby confirm that I have applied complete due diligence on my part in ascertaining the appropriateness of the information furnished above by the expert ….………………. S/he has been empanelled with /employed in our organization from ...……(month)………(year).

We confirm that the expert is not associated with more than 3 organization including ours during the time of signing of this document.

Name

Designation

Organization

Signatures and Date