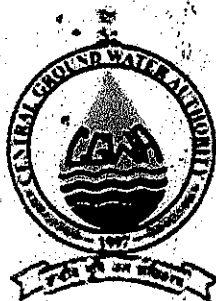


# **CENTRAL GROUND WATER AUTHORITY**

(Constituted under sub-section (3) of section 3 of the Environment (Protection) Act, 1986)



## **Guidelines for issuance of No Objection Certificate (NOC) for ground water withdrawal (with effect from -----)**

**Central Ground Water Authority  
Ministry of Water Resources, RD & GR  
Government of India**

**Government of India**  
**CENTRAL GROUND WATER AUTHORITY**  
**Ministry of Water Resources, RD & GR**  
**West Block 2, Wing 3, R. K. Puram, Sector 1, New Delhi-110066**

**Guidelines for issuance of No Objection Certificate (NOC) for ground water withdrawal**

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Central Ground Water Authority, Government of India

**Annexure VII: List of areas notified by CGWA**

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**Government of India**  
**CENTRAL GROUND WATER AUTHORITY**  
Ministry of Water Resources, RD & GR  
West Block 2, Wing 3, R. K. Puram, Sector 1, New Delhi 110066

**Guidelines for issuance of No Objection Certificate (NOC)**  
**for ground water withdrawal**  
(With effect from .....)

**1. Background**

Central Ground Water Authority (CGWA), constituted by the Government of India under Section 3 (3) of the Environment (Protection) Act (EPA) of 1986, in pursuance of the Order of the Hon'ble Supreme Court of India, has been regulating ground water development and management in the country. The Authority has been vested with the following powers :

- (i) Exercise powers under Section 5 of the Environment (Protection) Act, 1986 for issuing directions and taking such measures in respect of all the matters referred to in sub-section 3 of the said Act.
- (ii) To resort to penal provisions contained in Sections 15 to 21 of the said Act.
- (iii) To regulate and control management and development of ground water in the country and to issue necessary regulatory directions for the purpose.
- (iv) Exercise powers under Section 4 of the Environment (Protection) Act, 1986 for the appointment of officers.

In exercise of powers conferred upon the Authority, it regulates ground water development through advisories, directions, notifications etc. as and when specific situation arises. The Authority has been granting No Objection Certificates (NOC) for withdrawal of ground water by industries/ infrastructure/ mining projects. The Authority has framed guidelines for grant of NOC for withdrawal of ground water, which have been revised from time to time.

**2. Guidelines for grant of NOC**

This guideline document will come into force with effect from ----- and will supersede the guideline document dated 16.11.2015 . Glossary of various technical terms used in the guidelines is given in Annexure I.

**2.1. Drinking & Domestic purpose:**

All users drawing/ proposing to draw ground water through non- energised means and pump of up to 2 HP from a single tubewell in their premises will be exempted from seeking NOC. Individuals would be required to register their wells by uploading requisite documents online in the NOCAP system and registration certificate shall be generated automatically ([www.cgwa-noc.gov.in](http://www.cgwa-noc.gov.in)).

However, those drawing/ proposing to draw ground water through **pump of higher HP and/ or through more than one functional tubewell shall be required to seek NOC** for ground water withdrawal. Applications are required to be submitted by the applicant online ([www.cgwa-noc.gov.in](http://www.cgwa-noc.gov.in)) to the Authorized Officer (Pl. refer to Section 3).

NOC will be granted for withdrawal of ground water through existing/ new ground water abstraction structure for drinking and domestic purpose only. Grant of NOC for ground water extraction for drinking and domestic purposes for infrastructure projects/ industries/ mining sector will be considered only on production of completion certificate from the competent authority as per Govt. norms. **NOC for ground water withdrawal will be considered only in cases where the water supply department concerned is unable to supply adequate amount of water in the area.** Proof in support of the same from the concerned water supply agency is to be submitted by the applicant along with the application. **Government water supply agencies are also required to seek NOC from the authorised officers for existing as well as new schemes based on ground water sources.** For granting NOC for ground water withdrawal for drinking & domestic purposes, two broad categories identified are as follows:

- a) Individual households
- b) Infrastructure projects and industries/ mines and water supply agencies

#### **2.1.1. Individual households:**

Individual households and builder flats other than Group Housing Schemes will be eligible to apply for NOC under this category. In case of builder flats in a single plot, any one representative of all the flat owners can apply for NOC. NOC for ground water extraction shall be granted to individual households subject to the following conditions:

- I. Application for NOC shall be accompanied by the following documents:
  - i) Proof of ownership of household(s)
  - ii) Certificate from the water supply agency regarding non-availability of public water supply to the area.
- II. NOC for new wells shall be granted only in such cases where public water supply system does not exist. **Once the household is provided with public water supply, it is mandatory on the part of the user to bring it to the notice of the Authorized Officer.**
- III. NOC shall not be granted for new tube-well/bore-well, if any functional ground water abstraction structure already exists in the household.
- IV. The owner of the tube-well shall undertake rain water harvesting measures in accordance with the Building Bye Laws/ State Government regulations in force. Alternatively, he/she will have to pay Water Conservation Fee in the State Governments Head of Account (Refer Section 2.5).

- V. The NOC shall be valid for a period of 5 years from the date of issue or till such time public water supply is provided to the household, whichever is earlier. The applicant will have to apply for renewal of NOC at least 90 days prior to expiry of its validity.
- VI. If the existing well becomes defunct within the validity period of NOC, the user can construct a replacement well and intimate online regarding the same within 30 days of construction of well. The defunct well shall be properly sealed.
- VII. The NOC shall become void in case of change in land use of the property/ water use. It will then become mandatory for the owner to apply afresh for NOC.

#### **2.1.2. Infrastructure projects and industries/ mines and water supply agencies**

An indicative list of infrastructure projects to be considered under this category is given in Annexure II. NOC for ground water withdrawal for drinking and domestic purpose only for infrastructure projects/ industry/ mines and water supply agencies will be granted based on the following conditions:

- I. Application for NOC shall be accompanied by the following documents:
  - i) Approval letter from the State Government Agency for the project (Consent to establish).
  - ii) Referral letter from statutory bodies viz. Ministry of Environment, Forests & Climate Change (MoEF&CC) or State Pollution Control Board (SPCB) or State Level Expert Appraisal Committee (SEAC) or State Level Environment impact Assessment Authority (SLEIAA) or Urban/ Rural Development Authority where MoEF&CC/ SPCB/ SEAC/ SLEIAA do not issue referral letter.
  - iii) A copy of completion certificate issued by the competent authority.
  - iv) Approved plan of water supply in case of water supply agency.
  - v) Details of water requirement computed as per CPHEEO norms (Annexure III), taking into account recycling/ reuse of treated water.
  - vi) Certificate of non availability of water from the concerned water supply agency in case of infrastructure project/ industry/ mine.
  - vii) A schematic diagram (Flow Diagram) showing details of source-wise water availability including quantum being/to be provided by public water supply agency, water requirement and recycled water use at each stage for new projects.
- II. NOC shall not be granted for extraction of ground water for construction activities in the project in Critical/ Over-exploited areas.
- III. Quantum of ground water for purposes other than drinking/ domestic use shall not exceed 25% of total ground water abstraction.
- IV. Use of fresh ground water for swimming pool and other water based recreations are not permitted in ground water stressed areas.

- V. NOC for new /existing wells shall be granted only in such cases where the required amount of water is not available from the public water supply system. **Once the infrastructure project is provided with adequate public water supply, it is mandatory on the part of the user to bring it to the notice of the Authorized Officer.**
- VI. If the existing well becomes defunct within the validity period of NOC, the user can construct a replacement well and intimate online regarding the same within 30 days of construction of well. The defunct well shall be properly sealed.
- VII. The Applicant shall undertake roof top rain water harvesting in the premises within 90 days of grant of NOC and shall confirm to the Authorized Officer for verification. Alternatively, the applicant will have to pay Water Conservation Fee in the State Governments Head of Account (Refer Section 2.5). **Government infrastructure projects will be exempted from payment of Water Conservation Fee.**
- VIII. If the post monsoon (November) depth to water level in the area is less than 5 m.bgl or such depth as defined in State policy, no ground water recharge is recommended. In such cases, roof top rain water harvested shall be stored in storage tanks to minimize ground water withdrawal.
- IX. Installation of digital water meter in the abstraction structure(s) is mandatory and confirmation of the same shall be given to the authorized officer within 90 days of grant of NOC. Monthly water meter reading shall be recorded and annual reports of extraction submitted to the authorized officer.
- X. Construction of piezometers and installation of digital water level recorders with telemetry shall be mandatory for projects requiring ground water in excess of 500 m<sup>3</sup>/day in Safe and Semi Critical areas and >200 m<sup>3</sup>/day in Critical and Overexploited areas. Depth and zone tapped of piezometer should be commensurate with that of the pumping well. This data shall be made available on annual basis to Regional Office of CGWB.
- XI. In case an infrastructure project is located in CRZ area, the relevant provisions of CRZ act shall be applicable, in addition to the conditions stipulated by CGWA.
- XII. The NOC shall be valid for a period of 3 years from the date of issue or till such time public water supply is provided to the household, whichever is earlier.
- XIII. The proponent/ authorised representative of the occupants of the infrastructure project shall apply for renewal of NOC at least 90 days prior to expiry of its validity.

## **2. 2. Industrial Use/ Mine/ Infrastructure Dewatering Projects**

### **2.2.1. Non-notified Areas/ Safe/ Semi-Critical and Critical areas**

All industries/ mining projects, whether existing/ new/ under expansion and drawing/ proposing to draw ground water **through energized means** shall need to obtain NOC for ground water withdrawal from the Central Ground Water Authority.

### 2.2.1.1 Industries

NOC to industries requiring ground water for mixed use i.e. industrial process and drinking & domestic purpose shall be granted only for such cases where adequate public water supply/ surface water source does not exist. The applications for NOC will be considered as per the criteria given below.

- I. Application for NOC shall be accompanied by the following documents:
  - i) Referral letter for new/ expansion industries from statutory bodies viz. Ministry of Environment, Forests & Climate Change (MoEF&CC) or State Pollution Control Board (SPCB) or State Level Expert Appraisal Committee (SEAC) or State Level Environment impact Assessment Authority (SLEIAA) or Bureau of Indian Standards (BIS) or Food Safety and Standards Authority of India (FSSAI). The referral letter should mandatorily indicate the actual water requirement for the industry for the specified industrial process.
  - ii) A valid Consent to Operate issued by the Industry Department/ Pollution Control Board.
  - iii) A schematic diagram (Flow Diagram) showing details of source-wise water availability including quantum being/to be provided by public water supply agency, water requirement and recycled water use at each stage.
  - iv) Certificate regarding non/ partial availability of water supply to the industry from the concerned water supply agency.
  - v) Consent from Local Administration (Gram Panchayat/ Municipality/ Town Area Committee/ Notified Area Committee/ Municipal Corporation/ Urban Local Authority/ Industries Department in designated industrial areas) for ground water withdrawal in case of Beverages/ Mineral Water/ Packaged Drinking Water Industries.
  - vi) Detailed Hydrogeological report and recharge plan for industries requiring  $\geq 500 \text{ m}^3/\text{day}$  of ground water abstraction in Safe and Semi-critical assessment units and  $\geq 200 \text{ m}^3/\text{day}$  in Critical and Overexploited assessment units. The report should also include impact assessment study. A brief outline of the report is given in Annexure IV.
- II. Installation of digital water meter in the abstraction structure immediately after completion of well is mandatory. The monthly water meter reading should be recorded and submitted to the concerned Authorized Officer on annual basis.
- III. Industries shall minimize the use of fresh ground water through recycling and re-use of waste water. The quantum of waste water so utilized and the purposes for which they are proposed to be used shall be clearly mentioned in the schematic diagram.
- IV. All industries abstracting ground water  $\geq 500 \text{ m}^3/\text{day}$  in Safe and semi-critical and  $\geq 200 \text{ m}^3/\text{day}$  critical and over-exploited assessment units shall be required to undertake Annual Water Audit (Annexure V) through CII, FICCI, NPC and certified auditors and submit report of the same to Regional Office of CGWB.
- V. All industries abstracting ground water  $\geq 500 \text{ m}^3/\text{day}$  in Safe and semi-critical and  $\geq 200 \text{ m}^3/\text{day}$  critical and over-exploited assessment units shall be required to mandatorily implement artificial recharge measures as per norms given below:



Category	Quantum of recharge (as percentage of ground water withdrawal)
Safe	75 %
Semi-critical	90 %
Critical	100 %
Over-exploited	200 %

**Alternatively industries will have to pay Water Conservation Fee in the State Governments Head of Account (Refer Section 2.5).**

- VI. Industries drawing beyond 50 m<sup>3</sup>/day of ground water would be required to construct purpose-built observation wells (piezometer) and install digital water level recorder for continuous monitoring of ground water levels. Depth and zone tapped of the piezometer should be commensurate with that of pumping well/ wells. Records of ground water levels and water quality shall be submitted to the concerned Regional Office of CGWB on annual basis.
- VII. Industries drawing beyond 500 m<sup>3</sup>/day of ground water would be required to construct purpose-built observation wells (piezometer) and install digital water level recorder with telemetry for continuous monitoring of ground water levels. Depth and zone tapped of the piezometer should be commensurate with that of pumping well/ wells. . Records of ground water levels in the piezometers shall be submitted to the concerned Regional Office of CGWB on annual basis.
- VIII. All industries will regularly monitor quality of ground water. Samples from tubewells should be collected during April/ May and November and should be analysed from NABL accredited laboratories for basic parameters (cations and anions), heavy metals, pesticides/ organic compounds. Water quality data should be made available to Regional Office of CGWB on annual basis.
- IX. In cases where the project is located in CRZ area, the relevant provisions of CRZ act shall be applicable, in addition to the conditions stipulated by CGWA.
- X. NOC shall be valid for a period of 2 years from the date of issuance.
- XI. The applicant shall apply for renewal of NOC at least 90 days prior to expiry of its validity.
- XII. Industries like Tannery, Slaughter Houses, Dye, Chemical/ Petrochemical, Coal washery, other hazardous units, etc., which are likely to cause ground water pollution need to undertake necessary measures to ensure prevention of ground water pollution (Annexure VI). Recharge/ injection of treated/ untreated waste water within/ outside the plant complex is strictly prohibited.
- XIII. If an existing well becomes defunct within the validity period of NOC, the proponent can construct a replacement well and intimation regarding construction of replacement well shall be submitted online within 30 days of construction of well. The defunct well shall be properly sealed.

- XIV. In case on change of ownership, new owner of the industry will have to apply for change in name of the owner supported by legal documentary proof within 45 days of taking over possession of the premises.

### 2.2.1.2 Mining projects

All mining projects need clearance from Central Ground Water Authority. Clearance for abstraction of ground water may be granted subject to the following conditions.

- I. Application for NOC shall be accompanied by the following documents:
  - i) Referral letter from statutory bodies viz. Ministry of Environment, Forests & Climate Change (MoEF&CC) or State Pollution Control Board (SPCB) or State Level Expert Appraisal Committee (SEAC) or State Level Environment impact Assessment Authority (SLEIAA).
  - ii) Geotagged mine lease map.
  - iii) Document showing ownership/ lease of land.
  - iv) Mining plan approved by referral Govt. agency/ Department.
  - v) Comprehensive report on ground water conditions in both core and buffer zone of the area including impact assessment of mining and dewatering as per prescribed format (Annexure IV).
- II. The water available from de-watering operations is to be put to gainful use such as water supply, irrigation, dust suppression, mining process etc.
- III. The proponent is required to establish a ground water monitoring network and installation of digital water level recorders with quality probe and telemetry in an area within 5 km radius of the industrial cluster.
- IV. The proponents shall undertake rain water harvesting/ artificial recharge to ground water.
- V. In cases where the mining project is located in CRZ area, the relevant provisions of CRZ Act shall be applicable, in addition to the conditions stipulated by CGWA.
- VI. NOC shall be valid for a period of 2 years from the date of issuance.
- VII. The applicant shall apply for renewal of NOC at least 90 days prior to expiry of its validity.

### 2.2.1.3 Dewatering for infrastructure projects

New infrastructure projects requiring dewatering during construction activity shall obtain NOC for the same before commencement of work. The NOC will be granted based on following conditions:

- I. Application for NOC shall be accompanied by the following documents:
  - i) Referral letter (consent to establish) from statutory bodies viz. Ministry of Environment, Forests & Climate Change (MoEF&CC) or State Pollution Control Board (SPCB) or State Level Expert Appraisal Committee (SEAC) or State Level Environment impact

Assessment Authority (SLEIAA) or Urban/ Rural Development Authority where MoEFCC/ SPCB/ SEAC/ SLEIAA do not issue referral letter.

- ii) Comprehensive report on ground water conditions indicating quantum of dewatering, detailed plan of pumping, proposed usage of pumped water and likely impact.
- II. The NOC will be valid for the specific period as per the detailed proposal submitted by the project proponent.

## **2.2.2. Notified/ Over-exploited areas with stage of ground water development at $\geq 175\%$**

### **2.2.2.1 Industries**

The list of notified areas is given in Annexure VII. All over-exploited assessment units having stage of ground water development  $\geq 175\%$  will be considered for regulation (<http://www.cgwb.gov.in/documents/Dynamic-GW-Resources-2011.pdf>). In such over-exploited/ otherwise notified areas, NOC to abstract ground water through any energized means will not be accorded for any purpose other than drinking and domestic uses of new industries or those under expansion. However, NOC to industries existing prior to date of notification of areas or date of effectiveness of these guidelines, whichever is earlier shall be granted based on the conditions mentioned in Section 2.2.1.1.

In areas notified on quality considerations, existing ground water polluting industries will have to take up aquifer remediation measures in consultation with CGWB and CPCB.

Grant of NOCs to new and existing food parks/ agro based industries in notified areas will be considered based on the conditions enlisted below:

- I. The concurrence of Ministry of Food Processing Industries is mandatory for establishing of Food Parks/ Agro Industries.
- II. There must be food processing units for low water consuming crops and not for high water consuming crops in the Food Parks/ Agro Industries, thereby saving in ground water withdrawal.
- III. No high water consuming industries/ units should be allowed within the Food Parks/ Agro industries. However, food processing unit products such as starch and glucose would be permitted.
- IV. The Food Parks/ Agro Industries shall submit a detail report duly approved by the State Agriculture Department on the quantity of ground water to be saved through the proposed change in cropping pattern in the same assessment unit.
- V. Assurance/ undertaking from the Panchayat or local governing body regarding change in cropping pattern by the farmers in the same assessment unit would be submitted while applying for NOC.

- VI. The Food Parks/ Agro Industries shall submit their applications to the concerned Authorized Officer.
- VII. The net annual ground water saving due to such proposed change in cropping pattern should be more than 30%, as per the assessment of the State Agriculture Department.
- VIII. Other conditions as applicable for grant of NOC to industries will remain the same.

#### **2.2.2.2 Mining/ Infrastructure projects**

Any mineral mining/ infrastructure project which is of national and strategic importance will be considered only on specific recommendation by the concerned State Government and will be dealt with by CGWA as per the conditions mentioned in relevant sections. The Authority will have to seek prior approval of the competent authority in the Ministry before granting NOC to such projects.

### **2. 3. Agricultural Sector**

Agriculture sector is the back bone of the Indian economy. As per Minor Irrigation Census 2006-07 (<http://micensus.gov.in>), 85% of wells are owned by marginal, small and semi-medium farmers having land holding upto 4 hectares (ha). Around 11 % of wells are owned by medium farmers having land holding 4 – 10 ha and more than 2% of the wells are owned by big farmers having land holding more than 10 ha.

Since livelihood of farmers is dependent on agriculture, they shall be exempted from obtaining NOC from the Authorized Officer. In case of medium and large farmers, concerned State Departments (Agriculture/ irrigation/ Water Resources) shall be required to undertake following measures to ensure sustainability of ground water sources :

- i) Minimize conveyance losses by adopting surface /underground pipeline system.
- ii) Promote and incentivize drip /sprinkler and other water saving irrigation methods /practices /techniques.
- iii) Promote and incentivize crop diversification to less water intensive /consuming crops.
- iv) Promote conjunctive use of surface and ground water in command areas.
- v) Promote use /reuse of treated /recycled water.
- vi) Arrangement for dedicated electricity feeder for agricultural pumpsets and assured power for fixed hours.

### **2. 4. Abstraction of Saline Ground Water**

Industries/infrastructure projects desirous of utilizing saline ground water including areas falling under over-exploited and notified categories would be permitted to abstract the same. The list of such assessment units having saline ground water at all depths is given in the report of Dynamic Ground Water Resources of India (<http://www.cgwb.gov.in/documents/Dynamic-GW-Resources-2011.pdf>). However, due care should be taken in respect of disposal of the effluents by the units so as to protect the water bodies and the aquifers from pollution. Proposals pertaining to such cases must have a detailed project report elucidating the mechanism of handling the effluent water and its various uses. All precautions must be taken for protection of

environment especially fresh water aquifers in and around the area. Large scale recharge mechanism should be adopted wherever feasible in such cases to improve the ground water conditions in the region. Other conditions for granting NOC would be the same as mentioned in Sections 2.1.1 and 2.1.2 for industries and infrastructure projects respectively.

In notified areas, withdrawal of saline water can be permitted subject to following conditions.

- I. Saline water withdrawal shall not contaminate fresh water aquifers while transporting or using.
- II. No brine or waste disposal should occur in that area.
- III. Withdrawal of saline water or pumping of saline aquifer by industry/ Organizations, should not affect the fresh water aquifer, if any in the area.
- IV. Piezometers should be constructed and water level and water quality of the aquifer from which the saline water is pumped and that of the adjacent/overlying/underlying fresh water aquifers, if any, should be monitored regularly.
- V. The data generated shall be submitted to the respective Regional Director of CGWB periodically.
- VI. Adequate Rain Water Harvesting/Artificial Recharge should be done as per directives of CGWA.
- VII. In areas having saline ground water at deeper levels the application would be considered for NOC only after submission of detailed Hydrogeological Report indicating the long term impact on the ambient ground water regime of the overlying/ Underlying fresh water aquifers (Refer Annexure IV). This condition would be applicable to all industries irrespective of the quantum of ground water withdrawal.
- VIII. For saline assessment units listed in the CGWB report on "Dynamic Ground Water Resources of India", only industries requiring ground water in excess of 500 m<sup>3</sup>/day shall be required to submit detailed hydrogeological report.

## 2. 5. Water Conservation Fee

The ground water users, which are not able to adopt measures to recharge the desired quantum of water would have to pay 'Water Conservation Fee' as per details given below.

### I. For Drinking & Domestic use:

S. No.	Quantum of ground water pumped	Rate of Water Conservation (Rs. per )
1.	Upto 50 m <sup>3</sup> /day	90
2.	More than 50 m <sup>3</sup> /day	100

## II. For packaged drinking water/ mineral water/ soft drinks/ breweries/ distilleries

S.No.	Category of area ↓ Ground water use →	Annual Rate of Water Conservation Fee (Rs. per m <sup>3</sup> /day)			
		< 500 m <sup>3</sup> /day	500 to <1000 m <sup>3</sup> /day	1000 to <5000 m <sup>3</sup> /day	5000 m <sup>3</sup> /day and above
1.	Safe	90	100	110	120
2.	Semi-critical	100	110	120	130
3.	Critical	110	120	130	140
4.	Over-exploited	120	130	140	150

## III. For other industries

S.No.	Category of area ↓ Ground water use →	Annual Rate of Water Conservation Fee (Rs. per m <sup>3</sup> /day)			
		< 500 m <sup>3</sup> /day	500 to <1000 m <sup>3</sup> /day	1000 to <5000 m <sup>3</sup> /day	5000 m <sup>3</sup> /day and above
1.	Safe	70	80	90	100
2.	Semi-critical	80	90	100	110
3.	Critical	90	100	110	120
4.	Over-exploited	100	110	120	130

**Government projects will be exempted from paying 'Water Conservation Fee'.**

For receiving 'Water Conservation Fee', each State/ UT Governments will be required to identify an Account. The amount thus collected will be used by the respective State Governments for implementation of ground water recharge/ water conservation measures. After notification of this guideline document, State/ UT Governments in consultation with their Finance Department will frame detailed guidelines for utilization of the fee thus collected. The accounts will be audited on annual basis.

## 2. 6. Change in Land Use

The NOC shall become void in case of change in land use of the property/ water use. It will then become mandatory for the owner to apply afresh for NOC.

The ground water user shall have to submit all documents endorsing the change from the competent authority. **Withdrawal of ground water from existing abstraction structures, if any, after change in land use in the area can be effected only after obtaining NOC from the concerned Authorized Officer/ Organization.** Cases would be processed as per changed land use.

## **2. 7. Other Conditions (Applicable for all cases):**

- I. Sale and supply of raw/unprocessed/untreated ground water by unauthorized agencies for commercial use is not permitted.
- II. Non-compliance of conditions mentioned in the NOC may be taken as sufficient reason for cancellation of NOC accorded/ non-renewal of NOC.
- III. No application for NOC shall be entertained without referral letters from the statutory authority.
- IV. The referral letter shall contain verification on the quantum of water for the industry/project with detailed break up of ground water consumption, recycle & reuse of the waste water, so that the wastage of the precious resource can be avoided. In case this is not given by the referral authority, applicant should obtain a letter from the Industries Department/ Project Sanctioning Authority/ local municipal authority in urban areas on the same lines.
- V. The CRZA rules and regulation shall be applicable wherever in vogue.
- VI. No permission would be required for withdrawal of ground water from any area if withdrawal is done through non-energized means.
- VII. Mandatory clause on rain water harvesting may be relaxed in case of water logged/shallow water level (< 5 m bgl during post monsoon or as per state policy) areas.
- VIII. Contaminated/ treated water shall not be used for recharge to ground water. The treated water should be fully used by the proponent or any other agency, who can utilize it without contaminating the underlying aquifer / water bodies.
- IX. Abstraction structure should be located inside the premises of project property.
- X. The general guidelines for the ground water level monitoring and construction of piezometers for this purpose are annexed as Annexure IX.
- XI. Any violation of the directions of Central Ground Water Authority and conditions laid down in the NOC will attract legal action under sections 15 to 21 of the Environment (Protection) Act, 1986.

## **2. 8. Renewal of NOC**

- a) After expiry of validity of NOC, it shall be renewed **subject to compliance of the conditions** mentioned in the NOC.
- b) Application for renewal of NOC should be accompanied by the Compliance Report (as per Annexure X).
- c) Renewal of NOC's will be done by the Authorized Officer/ Organization.
- d) In case of change in category of the area, renewals would be granted with conditions as laid down for such new category areas.
- e) In case it is found that some of the conditions stipulated during the issuance of NOC have not been found feasible to implement, it may be relaxed by the concerned Authorized Officer/ Organization.

- f) Processing fee prescribed, if any, from time to time shall be charged for issuance and renewal of NOC.
- g) NOC will be renewed for term specified for various uses as follows:

Use	Term of renewal
Individual Households for drinking & domestic use	Every 5 Years
Infrastructure projects, industries/ mines for drinking & domestic use and Water Supply Agencies	Every 3 years
Industries and Mines	NOC will be first renewed for 3 years and subsequently for every 5 years

## 2. 9. Extension of NOC

If the proponent is unable to construct tubewell/ tubewells as granted in the NOC during the validity period for some genuine reasons, the proponent will have to apply for extension of NOC. Application for extension should be supported by documents justifying the reasons for delay. Other conditions for grant of extension of NOC will be the same as that for fresh NOC.

Extension of NOC will be granted by the Authorized Officer twice for a period of one year each. No further extension will be granted after the second extended year. In that case, the applicant will have to apply afresh for grant of NOC.

## 3. Authority to Issue NOC and Monitor its Compliance

The authority to issue NOC for various uses will be vested with the District Magistrates/ Deputy Commissioners, State Ground Water Authority/ State Nodal agency and Central Ground Water Authority as per details given below:

Quantum of ground water abstraction		Authorized Officer/ Organization
Safe and Semi-Critical Assessment units	Critical and Over-exploited including notified assessment units	
Up to 50 m <sup>3</sup> / day	Up to 20 m <sup>3</sup> / day	District Magistrate/ Deputy Commissioner
> 50 - 500 m <sup>3</sup> / day	>20-200 m <sup>3</sup> / day	State Ground Water Authority/ State Nodal Agency
>500 m <sup>3</sup> / day	>200 m <sup>3</sup> / day	Central Ground Water Authority
All cases pertaining to mining and infrastructure dewatering		Central Ground Water Authority

Central Ground Water Authority will appoint Authorized Officers at both District and State Levels. State/ UT Governments may appoint Advisory Committees to assist the Authorized Officers/ DM/ DC at the district level. At State level, the State/ UT may identify one Nodal Officer at the level of Principal Secretary, who will be assisted by State Level Advisory Committee constituted by the State Government/ State Ground Water Authority. Each State



Level Advisory Committee will have a representative of Central Ground Water Board as a member.

**Each Authority/ Authorized Officer issuing NOC shall send a copy of the NOC to the respective DM/ DC. Compliance of all NOCs will be monitored by the respective DM/ DC.**

#### **4. Processing Fee**

A Processing fee of Rs. 1000/- will be applicable for grant of new NOC and Rs. 500/- shall be applicable for renewal / extension of NOC.

#### **5. Relaxation**

The CGWA in consultation with legal expert reserves the right to relax or interpret these guidelines in case of any exigency or situation of natural strategic importance, for reasons to be recorded in writing.

**Note: Guidelines are subject to modification from time to time**

**Glossary of Technical Terms:**

1. **Notified Area:** Areas notified by Central Ground Water Authority for the purpose of Regulation of Ground Water development through Public Notices.
2. **Non-notified area:** Areas other than Notified areas for ground water regulation.
3. **EPA 1986:** Environmental (Protection) Act, 1986.
4. **Safe area:** Area categorized as SAFE from the ground water resources point of view, based on the latest dynamic ground water resources estimation.
5. **Semi-critical area:** Area categorized as SEMI-CRITICAL from the ground water resources point of view, based on the latest dynamic ground water resources estimation.
6. **Critical area:** Area categorized as CRITICAL from the ground water resources point of view, based on the latest dynamic ground water resources estimation.
7. **Over-exploited area:** Area categorized as OVER-EXPLOITED from the ground water resources point of view, based on the latest dynamic ground water resources estimation.
8. **Aquifer:** Geological formation capable of storing and transmitting ground water.
9. **Deeper Aquifer:** In areas having multiple aquifer system, the aquifer other than first aquifer.
10. **Well:** Any structure sunk for the search or extraction of groundwater, including open wells, dug wells, bore wells, dug-cum-bore wells, tube wells, filter points, collector wells, infiltration galleries, recharge wells, or any of their combinations or variations.
11. **Tube Well; Bore Well; Dug Well:** Ground Water abstraction structures.
12. **Government Agency:** May be Central or State Government body.
13. **Mine:** Area where mining activity is taking place, or area abandoned after mining.
14. **Ground Water Recharge:** Augmenting the ground water resources of aquifer/s.
15. **Rainwater Harvesting:** The technique or system of collection and storage of rainwater, at micro watershed scale, including roof-top harvesting, for future use or for recharge of groundwater.
16. **Roof Top Rain Water Harvesting:** Collection and storage of rain water from the roof top of buildings.
17. **Artificial Recharge to ground water:** Augmenting the ground water source through artificial means.
18. **Mining Project:** Project which involves mining activity either open cast or underground or both.
19. **Ground Water Draft:** Quantum of ground water withdrawal.
20. **Saline Water:** Water having salinity in excess of 2500  $\mu\text{mhos/cm}$  at 25°C.
21. **Water Table Intersection:** Intersection of the Water Table on excavation of the overlying material due to mining or other activities.
22. **Recycle/Reuse:** Purifying waste water for using again/ putting water to multiple uses.
23. **Groundwater:** Water, which exists below the surface in the zone of saturation and can be extracted through wells or any other means or emerges as springs and base flows in streams and rivers;

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24. **Bgl:** Below Ground Level.
25. **Groundwater Abstraction structure:** Structure used to withdraw groundwater like bore well / tube well / dug well / dug cum bore well/tunnel well.
26. **Piezometer:** A bore well/tube well used only for measuring the water level/piezometric head and to take water sample periodically but not used for groundwater abstraction.
27. **Water Audit:** A numerical assessment quantity of water in any process, giving a detailed input and output in every stage.

**Category of Infrastructure projects**

Residential apartment
Residential township
Office building
School
College
University
Industrial Area (Drinking use)
SEZ (Drinking use)
Metro Station
Railway Station
Bus Depot
Airport
Seaport
Highway infrastructure
Fire station
Warehouse
Business Plaza
Malls & Multiplex
Hospitals
Nursing Homes
Water Park & Amusement Centres
Resort
Hotel
Holiday home/Guest house
Banquet Hall
IT Complex
Logistics & Cargo
Clubs

## Annexure III

## CPHEEO Norms for drinking &amp; domestic water needs

S.No.	Classification of towns/ cities	Recommended maximum water supply levels (lpcd)
1.	Towns provided with piped water supply but without sewerage system	70
2.	Cities provided with piped water supply where sewerage system is existing/ contemplated	135
3.	Metropolitan and Mega cities provided with piped water supply where sewerage system is existing/ contemplated	150

## Note :

- In urban areas, where water is provided through public stand posts, 40 lpcd should be considered.
- Figures exclude "Unaccounted for Water (UFW)" which should be limited to 15%.
- Figures include requirements of water for commercial, institutional and minor industries. However, for bulk water supply such establishments should be assessed separately with proper justification.

## Institutional Needs

S.No.	Institutions	Litres per head per day
1.	Hospital (including laundry)	
	(a) No. of beds exceeding 100	450 (per bed)
	(b) No. of beds not exceeding 100	340 (per bed)
2.	Hotels	180 (per bed)
3.	Hostels	135
4.	Nurses homes and medical quarters	135
5.	Boarding Schools/ Colleges	135
6.	Restaurants	70 (per seat)
7.	Airports and Seaports	70
8.	Junction Stations and intermediate stations where mail or express stoppage (both railways and bus stations) is provided	70
9.	Terminal Stations	45
10.	Intermediate stations (excluding mail and express stops)	45 (could be reduced to 25 where bathing facilities are not provided)
11.	Day Schools/ colleges	45
12.	Offices	45
13.	Factories	45 (could be reduced to 30 where no bathrooms are provided)
14.	Cinema, Concert hall and theatre	15

Source: Ministry of Urban Development, Central Public Health & Environmental Engineering Organization Manual on Water Supply and Treatment (May, 1999)  
[http://www.mdws.gov.in/sites/default/files/Manual\\_on\\_Water\\_Supply\\_and\\_Treatment\\_CPHEEO\\_MoUD\\_1999.pdf](http://www.mdws.gov.in/sites/default/files/Manual_on_Water_Supply_and_Treatment_CPHEEO_MoUD_1999.pdf)

**Outline of Hydrogeological Report for obtaining NOC by the Industries**

1. Brief about the proposed project giving location details, coordinates, google/ toposheet maps, etc. demarcating the project area.
2. Ground water situation in and around the project area including water level and quality data and maps along with quality issues, if any.
3. Details of the tubewells/ borewells proposed to be constructed. This includes the drilling depth, diameter, tentative lithological log, details of pump to be lowered, H.P. of pump, tentative discharge of tubewells/ borewells, etc. Locations to be marked on the site plan/ map. Location of proposed piezometers.
4. Details of Geophysical studies carried out in and around the project area. Ground water resources computation of the block in which the project falls.
5. Details of artificial recharge & rainwater harvesting measures proposed to be implemented by the firm with detailed designs, type & number of recharge structures/ shafts; quantum of water recharged/ proposed to be recharged per annum; etc.
  - Details of recharge computations for roof top; paved/ roads; open; green belt.
  - Designs of the proposed recharge structures (both plan and section view).
  - Location of the recharge structures proposed to be implemented within the project premises (on layout plan).
  - Computation of runoff from the catchments intended to divert to the pond/ ponds (if any).
  - Location of adopted pond/ ponds (on layout plan).
  - Design of recharge shaft/ shafts constructed within the pond/ ponds.
  - Computation of recharge quantum proposed to be implemented outside the project area viz. ponds with recharge shafts; check dams/ nala bunds/ cement plugs; gabion structures; contour trenches; sub-surface dykes, etc., if any.
  - Details/ measures proposed to be taken for maintenance activities for the implemented recharge structures for ensuring effective recharge.
  - Location on map showing proposed recharge structures for rain water conservation and recharge.

Runoff Coefficient to be adopted for preparation of rainwater harvesting/ artificial recharge proposals

Type of land use	Runoff Coefficient
Roof Areas (inclined)	0.85 to 0.90
Roof Areas (flat)	0.80 to 0.85
Roads/ Concrete areas	0.65 to 0.75
Paved areas	0.60 to 0.70
Semi-paved areas	0.40 to 0.50
Open areas	0.15 to 0.20
Green areas	0.10 to 0.15

6. Measures to be adopted for water conservation which include recycle, reuse, treatment, etc. This includes the water balance chart being adopted by the firm along with details of water conservation methods to be adopted.
  - Brief write up along with capacity and flow chart of STP/ ETP/ CEPT existing/ proposed within the project.
  - Details of water conservation measures to be adopted to reduce/ save the ground water.
  - Total water balance chart showing the usage of water for various processes.
7. Any other details pertaining to the project:



### Annual Water Audits by the industries

Water audit is a systematic process of objectively obtaining a water balance by measuring flow of water from the site of water withdrawal or treatment, through the distribution system, and into areas where it is used and finally discharged. Conducting a water audit involves calculating water balance, water use and identifying ways for saving water.

Water audit involves preliminary water survey and detailed water audit. Preliminary water survey is conducted to collect background information regarding plant activities, water consumption and water discharge pattern and water billing, rates and water cess. After the analysis of the secondary data collected from the industry, detailed water audit is conducted, which involves the following steps:

- On site training and discussion with facility manager and personnel
- Water system analysis
- Quantification of baseline water map
- Monitoring and measurements using pressure and flow meters and various other devices
- Quantification of inefficiencies and leaks
- Quantification of water quality loads and discharges
- Quantification of variability in flows and quality parameters
- Strategies for water treatment and reuse or direct use

A detailed water balance is finally developed. Water quality requirement at various user areas is mapped, which helps in developing 'recycle' and 'reuse' opportunities.

The detailed water audit report contains the following:

- Water consumption and wastewater generation pattern
- Specific water use and conservation
- Complete water balance of the facility
- Water saving opportunities
- Method of implementing the proposals
- Full description and figures
- Investment required

Industries can undertake following measures for water conservation:

- Setting up of norms for water budgeting
- Modernization of industrial process to reduce water consumption
- Recycling water with a re-circulating cooling system

- Ozonation cooling water approach which can result in five fold reduction in blow down when compared to traditional chemical treatment
- Reduction in reuse of de-ionized water by eliminating some plenum flushes, converting from a continuous flow to an intermittent flow system and improving control on the use
- Use of wastewater for use of gardening
- Proper processing of effluents to adhere to the norms of disposal.

**Measures to be adopted to ensure prevention from pollution in the plant premises of polluting industries/ projects**

It has been observed that ground water in and around polluting industries like Tannery, Slaughter Houses, Dye, Chemical, Coal washery, other hazardous units, etc., is polluted. In order to prevent further deterioration of ground water quality, it is essential to take all necessary measures for well head protection. All industries/ projects falling under this category are hereby directed to follow the under mentioned procedure both for existing and new category.

1. No tube well/ bore well should be constructed in the vicinity of the processing unit. Tube well/ bore well should be constructed at the place which is hygienically maintained.
2. Only Mild Steel pipe should be used for assembly/ casing and PVC (Poly Vinyl Chloride) or similar pipes should not be used. The tube well/ bore well having PVC or similar pipes should be abandoned and filled back.
3. Around the tube well/ bore well, RCC (Reinforced Concrete Cement) grouting of 3 meters (length) x 3 meters (width) x 2 meters (depth) must be provided. The pipe of the tube well/ bore well must be raised 1 meter above ground level (1 magl). The tube well/ bore well must be surrounded by RCC wall of 0.5 meter height and 1.5 meter depth to prevent any surface contamination to enter the constructed tube well/ bore well. **Plan/Sectional diagram is enclosed for reference.**
4. The tube well/ bore well must be fitted with NRV (Non Return Valve) in order to ensure that the constructed tube well/ bore well is exclusively used for abstraction of ground water only.
5. At no point of time there should be any injection of any water or fluid into the constructed tube well/ bore well/ Piezometer.
6. The industries/ projects under this category should not implement any recharge measures within the plant premises.
7. Any tube well/ bore well located/ constructed in the vicinity of STP (Sewage Treatment Plant) or ETP (Effluent Treatment Plant) should be abandoned and filled back.
8. The piezometer to be constructed for monitoring purpose should follow the same procedure as that for tube well/ bore well for such industries/ projects.

## Annexure VII

**List of 162 areas notified by CGWA**

S. No.	STATE / UT	LOCATION	Date of Notification
1	Andhra Pradesh	Tirupathi (Rural) Mandal of Chittoor District	5.12.2005
2	Andhra Pradesh	Vempalli Mandal of Cuddapah District	5.12.2005
3	Andhra Pradesh	Chilmathur Mandal of Anantapur District	27.11.2012
4	Andhra Pradesh	Narpala (NC) Mandal of Anantapur District	27.11.2012
5	Andhra Pradesh	Giddaluru Mandal of Prakasam District	27.11.2012
6	Diu	Union Territory of Diu	14.10.1998
7	Gujarat	Gandhinagar taluka (aquifer below 200 mbgl declared as notified for meeting drinking and domestic requirements), District Gandhinagar	2.09.2000
8	Gujarat	Kalol taluk of Gandhinagar district	27.11.2012
9	Gujarat	Mansa taluk of Gandhinagar district	27.11.2012
10	Gujarat	Mahešana taluk of Mahešana district	27.11.2012
11	Haryana	Municipal Corporation of Faridabad & Ballabhgarh	14.10.1998
12	Haryana	Shahbad Block of Kurukshetra District	2.12.2006
13	Haryana	Nangal Chowdhary Block of Mahendragarh District	2.12.2006
14	Haryana	Narnaul Block of Mahendragarh District	2.12.2006
15	Haryana	Samalkha Block of Panipat District	2.12.2006
16	Haryana	Karnal Block of Karnal District	2.12.2006
17	Haryana	Khol Block of Rewari District	2.12.2006
18	Haryana	Entire Gurgaon District	13.08.2011
19	Haryana	Badra block of Bhiwani District	13.08.2011
20	Haryana	Ladwa block of Kurukshetra District	13.08.2011
21	Haryana	Pehowa block of Kurukshetra District	13.08.2011
22	Haryana	Rania block of Sirsa District	13.08.2011
23	Haryana	Tohana block of Fatehabad District	13.08.2011
24	Haryana	Gulha block of Kaithal District	13.08.2011
25	Haryana	Bapoli block of Panipath District	13.08.2011
26	Haryana	Rajaund block of Kaithal District	27.11.2012
27	Haryana	Ellenabad block of Sirsa District	27.11.2012
28	Karnataka	Badami taluka of Bagalkote District	27.11.2012
29	Karnataka	Bagalkote(P) taluka of Bagalkote District	27.11.2012
30	Karnataka	Anekal taluka of Bangalore (U) District	27.11.2012
31	Karnataka	Bangalore (N) taluka of Bangalore (U) District	27.11.2012
32	Karnataka	Bangalore (S) taluka of Bangalore (U) District	27.11.2012

33	Karnataka	Devanhalli taluka of Bangalore (R) District	27.11.2012
34	Karnataka	Dod Ballapur taluka of Bangalore (R) District	27.11.2012
35	Karnataka	Hoskote taluka of Bangalore (R) District	27.11.2012
36	Karnataka	Nelamangala(P) taluka of Bangalore (R) District	27.11.2012
37	Karnataka	Ramdurg taluka of Belgaum District	27.11.2012
38	Karnataka	Raybag(P) taluka of Belgaum District	27.11.2012
39	Karnataka	Gadag(NC) taluka of Gadag District	27.11.2012
40	Karnataka	Bangarapet taluka of Kolar District	27.11.2012
41	Karnataka	Chikballapur taluka of Chikballapur District	27.11.2012
42	Karnataka	Chintamani taluka of Chikballapur District	27.11.2012
43	Karnataka	Gauribidanur taluka of Chikballapur District	27.11.2012
44	Karnataka	Gudibanda taluka of Chikballapur District	27.11.2012
45	Karnataka	Malur taluka of Kolar District	27.11.2012
46	Karnataka	Mulbagal taluka of Kolar District	27.11.2012
47	Karnataka	Sidlaghatta taluka of Chikballapur District	27.11.2012
48	Karnataka	Koratagere(P) taluka of Tumkur District	27.11.2012
49	Karnataka	Madhugiri(P) taluka of Tumkur District	27.11.2012
50	Madhya Pradesh	Dhar Block of Dhar District	2.12.2006
51	Madhya Pradesh	Manawar Block of Dhar District	2.12.2006
52	Madhya Pradesh	Mandsaur Block of Mandsaur District	2.12.2006
53	Madhya Pradesh	Sitamau Block of Mandsaur District	2.12.2006
54	Madhya Pradesh	Neemuch Block of Neemuch District	2.12.2006
55	Madhya Pradesh	Jaora Block of Ratlam District	2.12.2006
56	Madhya Pradesh	Indore Municipal Corporation	2.12.2006
57	NCT, Delhi	South District	15.08.2000
58	NCT, Delhi	South West District	15.08.2000
59	NCT, Delhi	Yamuna Flood Plain Area	2.09.2000
60	Puducherry UT	Puducherry UT	27.11.2012
61	Punjab	Ludhiana City, Ludhiana District	11.12.1998
62	Punjab	Moga-I Block of Moga District	2.12.2006
63	Punjab	Moga-II Block of Moga District	2.12.2006
64	Punjab	Sangrur Block of Sangrur District	2.12.2006
65	Punjab	Mahal Kalan Block of Barnala District	2.12.2006
66	Punjab	Ahmedgarh Block of Sangrur District	2.12.2006
67	Punjab	Nakodar block of Jalandhar District	13.08.2011
68	Punjab	Shahkot block of Jalandhar District	13.08.2011

69	Punjab	Lohian block of Jalandhar District	13.08.2011
70	Punjab	Pattran block of Patiala District	13.08.2011
71	Punjab	Phagwara block of Kapurthala District	13.08.2011
72	Punjab	Nihalsinghwala block of Moga District	13.08.2011
73	Punjab	Dhuri block of Sangrur District	13.08.2011
74	Punjab	Sunam block of Sangrur District	13.08.2011
75	Punjab	Barnala block of Barnala District	13.08.2011
76	Punjab	Sherpur block of Sangrur District	13.08.2011
77	Punjab	Malerkotla block of Sangrur District	13.08.2011
78	Punjab	Khanna block of Ludhiana District	13.08.2011
79	Punjab	Ajnala block of Amritsar District	27.11.2012
80	Punjab	Patti Block of Taran Taran District	27.12.2012
81	Punjab	Taran Taran Block of Taran Taran District	27.12.2012
82	Punjab	Amloh block of Fatehgarh District	27.11.2012
83	Punjab	Khamano block of Fatehgarh District	27.11.2012
84	Punjab	Khera block of Fatehgarh District	27.11.2012
85	Punjab	Tanda block of Hoshiarpur District	27.11.2012
86	Punjab	Bhogpur block of Jalandhar District	27.11.2012
87	Punjab	Goraya/Rurka kalan block of Jalandhar District	27.11.2012
88	Punjab	Jalandhar east block of Jalandhar District	27.11.2012
89	Punjab	Jalandhar west block of Jalandhar District	27.11.2012
90	Punjab	Nurmahal block of Jalandhar District	27.11.2012
91	Punjab	Phillaur block of Jalandhar District	27.11.2012
92	Punjab	Nadala block of Kapurthala District	27.11.2012
93	Punjab	Dhilwan block of Kapurthala District	27.11.2012
94	Punjab	Kapurthala block of Kapurthala District	27.11.2012
95	Punjab	Sultanpur block of Kapurthala District	27.11.2012
96	Punjab	Pakhowal block of Ludhiana District	27.11.2012
97	Punjab	Bhikhi block of Mansa District	27.11.2012
98	Punjab	Budhlada block of Mansa District	27.11.2012
99	Punjab	Sardulgarh block of Mansa District	27.11.2012
100	Punjab	Aur block of Nawanshahr District	27.11.2012
101	Punjab	Banga block of Nawanshahr District	27.11.2012
102	Punjab	Patiala block of Patiala District	27.11.2012
103	Punjab	Sanaur block of Patiala District	27.11.2012
104	Punjab	Morinda block of Ropar District	27.11.2012
105	Punjab	Bhawaniagarh block of Sangrur District	27.11.2012
106	Rajasthan	Jhotwara block, Jaipur District	27.11.2012
107	Rajasthan	Pushkar Valley, Ajmer District	5.12.2005
108	Rajasthan	Jalore block, Jalore District	5.12.2005
109	Rajasthan	Raniwara block, Jalore District	5.12.2005

110	Rajasthan	Budhana block, Jhunjunu District	5.12.2005
111	Rajasthan	Chirawa block, Jhunjunu District	5.12.2005
112	Rajasthan	Mundwa block, Nagaur District	5.12.2005
113	Rajasthan	Surajgarh Block, Jhunjunu District	2.12.2006
114	Rajasthan	Dhod Block, Sikar District	2.12.2006
115	Rajasthan	Shri Madhopur Block, Sikar District	2.12.2006
116	Rajasthan	Behror Block, Alwar District	2.12.2006
117	Rajasthan	Bhinmal Block, Jalore District	2.12.2006
118	Rajasthan	Rajgarh block of Churu District	13.08.2011
119	Rajasthan	Osian block of Jodhpur District	13.08.2011
120	Rajasthan	Bhopalgarh block of Jodhpur District	13.08.2011
121	Rajasthan	Bilara block of Jodhpur District	13.08.2011
122	Rajasthan	Merta block of Nagaur District	13.08.2011
123	Rajasthan	Baetu block of Barmer District	13.08.2011
124	Rajasthan	Sambher block of Jaipur District	13.08.2011
125	Rajasthan	Govindgarh block of Jaipur District	13.08.2011
126	Rajasthan	Sanganer block of Jaipur District	13.08.2011
127	Rajasthan	Bassi block of Jaipur District	13.08.2011
128	Rajasthan	Amer block of Jaipur District	13.08.2011
129	Rajasthan	Shahpura block of Jaipur District	13.08.2011
130	Rajasthan	Mandore block of Jodhpur District	13.08.2011
131	Rajasthan	Sayala block of Jalore District	13.08.2011
132	Rajasthan	Sanchore block of Jalore District	13.08.2011
133	Rajasthan	Nawalgarh block of Jhunjunu District	13.08.2011
134	Rajasthan	Udaipurwati block of Jhunjunu District	13.08.2011
135	Rajasthan	Jhunjunu block of Jhunjunu District	13.08.2011
136	Rajasthan	Todabhim block of Karauli District	13.08.2011
137	Rajasthan	Pisangan block of Ajmer District	13.08.2011
138	Rajasthan	Chittorgarh block of Chittorgarh District	27.11.2012
139	Rajasthan	Nimbahera Block of Chittorgarh District	27.11.2012
140	Rajasthan	Kuchaman block of Nagaur District	27.11.2012
141	Tamil Nadu	Pollachi S block of Coimbatore District	27.11.2012
142	Tamil Nadu	Morappur block Dharmapuri District	27.11.2012
143	Tamil Nadu	Pappireddipatti block of Dharmapuri District	27.11.2012
144	Tamil Nadu	Usilampatti block of Madurai District	27.11.2012
145	Tamil Nadu	Kuttalam block of Nagapattinam District	27.11.2012
146	Tamil Nadu	Rasipuram block of Namakkal District	27.11.2012
147	Tamil Nadu	Attur-S block of Salem District	27.11.2012
148	Tamil Nadu	Gangavalli block of Salem District	27.11.2012
149	Tamil Nadu	Panamaruthupatti block of Salem District	27.11.2012
150	Tamil Nadu	Talaivasal block of Salem District	27.11.2012
151	Tamil Nadu	Veerapandi block of Salem District	27.11.2012
152	Tamil Nadu	Chengam block of Tiruvannamalai	27.11.2012

		District	
153	Tamil Nadu	Valangaiman block of Tiruvarur District	27.11.2012
154	Tamil Nadu	Udangudi block of Thoothukudi District	27.11.2012
155	Tamil Nadu	Gudiyatham block of Vellore District	27.11.2012
156	Tamil Nadu	Jolarpet block of Vellore District	27.11.2012
157	Tamil Nadu	Pernampet block of Vellore District	27.11.2012
158	Tamil Nadu	Tiruppathur block of Vellore District	27.11.2012
159	Telangana	Midjil Mandal of Mahabubnagar District	5.12.2005
160	Telangana	Vailpoor (NC) Mandal of Nizamabad District.	27.11.2012
161	Uttar Pradesh	Municipal Corporation of Ghaziabad, Ghaziabad District	04.04.1998
162	West Bengal	Haldia Industrial complex (aquifer below 120 mbgl), Haldia, district East Medinipur	15.08.2000



## Annexure VIII

### **Guidelines For Installation of Piezometers and Monitoring of Ground Water Levels and quality**

Piezometer is a borewell/ tubewell used only for measuring the water level by lowering the tape/sounder or automatic water level measuring equipment. It is also used to take water sample for water quality testing whenever needed. General guidelines for installation of piezometers are as follows for compliance of NOC:

- The piezometer is to be installed/constructed at the minimum of 50 m distance from the pumping well through which ground water is being withdrawn. The diameter of the piezometer should be about 4" to 6".
- The depth of the piezometer should be same as in case of the pumping well from which ground water is being abstracted. If, more than one piezometer are installed the second piezometer should monitor the shallow ground water regime. It will facilitate shallow as well as deeper ground water aquifer monitoring.
- The measuring frequency should be monthly and accuracy of measurement should be up to cm. The reported measurement should be given in meter upto two decimal.
- For measurement of water level, sounder or Automatic Water Level Recorder (AWLR) with telemetry system should be used for accuracy.
- The measurement of water level in piezometer should be taken, only after the pumping from the surrounding tubewells has been stopped for about four to six hours.
- All the details regarding coordinates, reduced level (with respect to mean level), depth, zone tapped and assembly lowered should be provided for bringing the piezometer into the National Hydrograph Monitoring System of Central Ground Water Board, and for its validation.
- The ground water quality has to be monitored twice in a year during pre-monsoon (May/June) and post-monsoon (October/November) periods. Quality may be got analyzed from NABL accredited lab. Besides, one sample (1 lt capacity bottle) of ground water collected during pre-monsoon after proper packing may be sent to the concerned Regional Director, Central Ground Water Board, for chemical analysis.
- A permanent display board should be installed at Piezometer/ Tubewell site providing the location, piezometer/ tubewell number, depth and zone tapped of piezometer/tubewell for standard referencing and identification.
- Any other site specific requirement regarding safety and access for measurement may be taken care off.

## Annexure IX

**Outline of Compliance Report while submitting the Application for Renewal of NOC**

**Compliance report to be submitted along with application for renewal after receipt of NOC from CGWA should include:**

1. Brief about the project with photographs if any.
2. Location details, coordinates, google/ toposheet maps, etc. demarcating the project area.
3. Compliance of conditions laid down in the NOC.
4. Details of the tubewells/ borewells constructed as per the NOC. This includes the drilling depth, diameter, lithological log, details of pump lowered, H.P. of pump, discharge of tubewells/ borewells, etc. Locations to be marked on the site plan/ map. Photographs of the existing/ constructed tubewells/ borewells.

S.No.	Activity	Details of existing/ constructed structures
1	Drilling depth(m)	Includes the type of rig deployed
2	Diameter (mm)	Details of pipe lowered, etc.
3	Lithological log	Tabular form/ diagram of the formation encountered along with aquifers encountered
4	Details of pump lowered	Type of pump and HP, lowered at what depth
5	Discharge of tube wells / bore wells etc. (m <sup>3</sup> /hour)	Yield of the well
6	Operational time (hrs./day)	Average pumping hours per day
7	Location of wells	Coordinates (to be marked on site map)
8	Photographs	Photographs of the existing/ constructed tubewells/ borewells

5. Photographs of digital water meters on the constructed wells by the firm. Monthly data indicating the quantum of ground water withdrawal.

S.No.	Month	Meter reading on 1 <sup>st</sup> day of the month	Meter reading on last day of the month	Water consumption during the month (m <sup>3</sup> / month)	Average water consumption per day (m <sup>3</sup> / day)

6. Ground water quality data of samples collected during April/ May and November for the tubewells/ borewells and piezometers constructed within the project area.
7. Monthly Water level data for the piezometers constructed within the project area.
8. Details of artificial recharge & rainwater harvesting measures implemented by the firm with details indicating designs, type & number of recharge structures/ shafts; quantum of water recharged per annum; impact of recharge; photographs of the constructed recharge structures, etc.

9. Measures adopted for water conservation including recycle, reuse, treatment, etc. This includes balance chart being adopted by the firm along with details of water conservation methods adopted by the firm including photographs of the same.

- Brief write up along with capacity and flow chart of STP/ ETP/ CEPT existing within the project.
- Details of water conservation measures adopted to reduce/ save the ground water.
- Total water balance chart showing the usage of water for various processes.
- Photographs of the STP/ ETP implemented along with its optimal utilization.

10. Installation of piezometers (with photographs) with details indicating design, depth diameter, lithology, etc. along with monitoring schedule.

S.No.	Details	PZ-1	PZ-2	PZ-3
1	Location	Coordinates with layout plan showing the locations		
2	Depth (m)			
3	Diameter			
4	lithology	Tabular form/ diagram of the formation encountered along with aquifers encountered		
5	Monitoring schedule	Monthly	Monthly	Monthly
6	Photographs	Photographs showing measurement of water levels		

11. Water Security Plan of villages.
12. Plantation of trees for enhancing infiltration of water to underground.
13. Copy of NOC from CGWA.
14. Any other details pertaining to compliance of NOC.

**ROAD MAP FOR FORMALIZATION OF REVISED GUIDELINES FOR ISSUANCE OF NOC TO EXISTING AS WELL AS NEW USERS**

<b>Activity</b>	<b>Date by which proposed to be completed</b>
Meeting of full Central Ground Water Authority	28 <sup>th</sup> July, 2017
Vetting by Ministry of Law	By 18 <sup>th</sup> August, 2017
Approval by Ministry of WR, RD & GR	By 31 <sup>st</sup> August, 2017
Issue of Public Notice in news paper and on web site inviting feedbacks/ comments/ suggestions on draft guidelines (60 days)	1 <sup>st</sup> week of September, 2017 Comments to be invited by end of October, 2017
Expert Committee to finalize the guidelines	By end of November, 2017
Notification of final guidelines	10 <sup>th</sup> December, 2017
Population of data in NOCAP (Online application system) to be done simultaneously	By 31 <sup>st</sup> December, 2017
Revision of NOCAP	By 31 <sup>st</sup> January, 2018
Testing and trial run of revised NOCAP system	By 15 <sup>th</sup> March, 2018
Launch of new NOCAP system	2 <sup>nd</sup> April, 2018
Awareness campaigns at National and State Levels and for Industry Associations all over the country	October, 2017 to March, 2018