

## CHIEF ENGINEER'S CIRCULAR

**Cir.No.CE 1/2010/DD(G) / Dated 25.01.2010**

**Sub:** Conducting pumping Test and Furnishing Feasibility Report –  
Recommendation for Ground Water Drawal – Reg.

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This Circular is issued for bringing to notice certain wrong presumptions and assumptions and approaches adopted in arriving at the allowable drawal per day which are found usually in the feasibility reports submitted by the Executive Engineers of Ground Water Divisions through their Superintending Engineers to this office based on the pump test conducted by them for issue of Ground Water availability certificate from this end to the industries and other organizations which have sought for the same from this department and the correct method of arriving at the allowable yield to be adopted in the feasibility report, in the form of a table below:

<b>Sl. No</b>	<b>Wrong method of arriving at the allowable drawal per day practiced at present as witnessed in some cases</b>	<b>Right method to be adopted in its place for arriving at the same</b>
1.	Pump test conducted only for a less number of hours usually 3 hours to 6 hours and then take the result and work out the allowable drawal per day for more number of hours usually 8 hours to 12 hours in the feasibility report and recommend the same	Usually the pump test should be conducted for long number of hours and based on the result the drawal may be recommended for a less number of hours or not exceeding the number hours for which the pump test has actually been conducted

2.	Drawal recommended sometimes for more than 12 hours or even 17 hours a day	In order to allow sufficient time for recuperation the maximum allowable total hours of drawal per day should be restricted to 8 hours at any cost.
3.	While drawal when equilibrium is reached in a pumping test even within two or three hours, the Executive Engineers are in the habit of winding up the pump test and project the average yield for any number of hours as per the requirement even if the recuperation does not reach atleast 95% even after two or three hours	<p>This calculation is baseless and devoid of all merits because without 100% recuperation within atleast the same number hours as that of pumping done, one cannot hope that the condition of equilibrium will prolong any longer.</p> <p>In a simple way it may be understood that the number of hours of recommended drawal and the number of hours taken for 100% recovery of entire draw down of Ground Water level due to the drawal should not exceed 24 hours.</p> <p>Moreover, it may be noted here that even if equilibrium is reached the pump test should necessarily be conducted as usual for long duration as done in other cases where the condition of equilibrium is not reached at all, and also the observation of recovery of draw down should be continued till 100% recovery is reached or 24 hours have passed for both drawal and recovery whichever is earlier and then only the allowable drawal of Ground Water per day should be recommended based on the results of long duration pumping and observation of recovery of draw down.</p>

<p>4.</p>	<p>If the recovery of draw down is not realized for 100% even within 24 hours, the 24 hours being inclusive of both recommended hours of drawal and recovery time, presently the Executive Engineers of Ground Water Divisions mostly deduct just a paltry quantity from the average drawal per day and recommend the balance quantity for drawal unmindful of the percentage of recovery realized ultimately within the above said 24 hours</p>	<p>Instead , if the recovery is <math>\geq 95\%</math> and <math>&lt; 100 \%</math> within the said 24 hours, then only 90% or less of the average yield per day should be recommended for drawal . Similarly, for <math>\geq 90\%</math> and <math>&lt; 95 \%</math> only 83% or less and for <math>\geq 85\%</math> and <math>&lt; 90 \%</math> only 75% or less of the average yield per day should be recommended. But, for any other percentage of recovery which is less than 85% within the said 24 hours, no recommendation should be made for drawal in the case of a bore well and the bore well may be dropped from consideration for recommendation for drawal of water and some other bore well with better yield than this one man be taken for consideration. However, dug wells with the recovery percentage upto 75% may be considered for drawal. That is, if the recovery in a dug well is <math>\geq 75\% &lt; 85 \%</math> within the said 24 hours, then only 65% or less of the average yield per day should be recommended for drawal. But, a dug well with less than 75% recovery should be dropped from consideration for recommendation for drawal and some other dug well with a better yield should be selected for consideration.</p>
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5.	<p>Sometimes, the Executive Engineers of some Ground Water Divisions are conducting the pump test even during the rainy season or just within one month after the rainy season.</p>	<p>As any pump test conducted during the rainy season or just after the rainy season will result in boosted allowable yield per day which yield can not be realized during peak summer time, no pump test should be done during the three months of rainy season, namely, October, November and December and also during the immediate succeeding month of January in a year. However, the pump test may be carried out reliably during the balance eight months period, that is from February upto September of a year.</p>
6.	<p>Many a times it is seen that the Executive Engineers of Ground Water Divisions instead of asking the industry/organization seeking for a Ground Water Availability Certificate to furnish more number of drawal wells for consideration for recommendation for drawal than the list of wells it has furnished originally for drawal for conducting pump test, choose to recommend for longer hours of drawal/pumping than the allowable 8 hours, to accommodate the requirement of water as sought for by the industry/organization from the limited wells originally furnished by it.</p>	<p>The Executive Engineers instead of recommending for longer hours of pumping than 8 hours form the limited acceptable drawal wells selected from the original list of wells furnished by the industry/organization for conducting the pump test for issuing Ground Water Availability Certificate, should ask the industry/organization to furnish further more drawal wells for consideration for recommendation for drawal by way of drilling/digging further number of bore wells/dug wells respectively so as to see that the recommended hours of pumping in an individual well does not exceed 8 hours at any cost while accommodating the Ground Water requirement of the industry/organization as sought for by it.</p>

In addition to the above, the following guidelines are also issued in this regard :

1. In some cases, the Executive Engineers of Ground Water Divisions while they come across cases non-compliance of spacing norms for drawal well proposed by an industry/organization, they simply obtain a No Objection Certificate from the third party whose well is within the objectionable distance, to the effect that this third party has no objection for the industry/organization to draw water from its own well for its own use which well is situated within the spacing norms violation range to his well. This is quite absurd as the spacing norms stipulation is prescribed only to weed out the wells from drawal which are in violation of this stipulation just to ensure the sustainability of Ground Water by way of avoiding the formation of closely spaced wells whose bulbs of influence caused intersect one another. Therefore, this concern behind the stipulation spacing norms for drawal wells should be borne in mind by the Executive Engineers of Ground Water Divisions and dispense with the practise of obtaining such a "NOC" in this issue.
2. The land in which the drawal wells have been proposed by an industry/organization for issue of Ground Water Availability Certificate for drawal of Ground Water should either be the own property of the owner / proprietor of the industry/organization registered in his name or a leased property taken on lease by the owner/proprietor of the industry/organization in his name and duly and properly registered, with the left over lease period on the day of receipt of application from the industry/organization for issue of Ground Water availability certificate afresh or for renewal of the certificate being more than 5 years. Other than these two types of land and well ownership, no other mode of accessibility or permissibility of land and well will entail the owner/proprietor of the industry/organization to claim for issue of Ground Water Availability Certificate to his industry/organization.

3. Finally, the Executive Engineers of Ground Water Divisions have to keep it in mind that the construction of Rain Water Harvesting structures of adequate capacity and required standard within the premises has been made mandatory for issue of Ground Water Availability Certificate to any industry / Firm / Organisation which seek for it and hence, they should personally ascertain the construction of such Rain Water Harvesting structures within the company / industry / organization premises before entering into agreement with it for drawal of allowable quantity of Ground Water. Further, they should also furnish a detailed report about the Rain Water Harvesting structures constructed by the Firm/industry/organization already as ascertained by the Executive Engineers through personal inspection while forwarding the agreement entered by them with the Firm / Industry / Organisation to this office for awarding allowable drawal of Ground Water to it.

This instructions issued in this Chief Engineer's Circular should be scrupulously followed by all the Field Officers and Office personnel concerned in the Ground Water Wing.

The receipt of this circular should be acknowledged.

**CHIEF ENGINEER (SG & SWR DC)**

**To**

All the Superintending Engineers of Ground Water Circles and  
All the Executive Engineers of Ground Water Divisions.

**Copy to :** The Principal Secretary to the Government, PWD, Secretariat , Chennai-9  
for favour of information.

**Copy to :** The Joint Chief Engineer

**Copy to :** The Deputy Director (Geology)

**Copy to :** Assistant Director (Geo)-I, II, and III

**Copy to :** All Assistant Geologist

**Copy to :** File -3 Nos.

D.Tech.27.01.10

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