



# KERALA STATE ELECTRICITY BOARD LIMITED

(Incorporated under the Companies Act, 1956)  
Registered Office: Vidyuthi Bhavanam, Pattom  
Thiruvananthapuram - 695004.  
CIN:U40100KL2011SGC027424,  
Phone Number : +914712448720, 2514341  
Email: [dgkseb@kseb.in](mailto:dgkseb@kseb.in) Web site: [www.kseb.in](http://www.kseb.in)



## ABSTRACT

Streamlining activities under Dam Safety wing - formation of a Unit for decision support system to top management on Dam safety -Sanctioned-Orders issued.

### **CORPORATE OFFICE (SBU-G/C)**

BO(FTD)No.802/2019 (DGC-AEE-II/DRIP/General/2018)Thiruvananthapuram dtd. 31.10.2019

- Read:- 1. Letter No.CE-DS&DRIP/DRIP II/2019-20/692 dtd.24-09-2019 of the Chief Engineer(C-DS&DRIP)  
2. Note No. DGC/AEE-II/ DRIP/General/2018 dtd23.10.2019 of the Director(Generation-Civil) (Agenda Item No.77/10/19)

### ORDER

Most of the dams and diversion structures of KSEBL, constructed as part of various hydroelectric projects, were commissioned as early in 1970's. These projects are in operation for more than four decades. As implementation of new projects are hindered due to various reasons, improving the life and performance standards of existing dams by rehabilitating them in time is of paramount importance. Keeping this in view, KSEBL is undertaking various remedial measures in dam projects to ensure the safety of dams and improving their operational performance. The above tasks are being undertaken through the Chief Engineer (Civil - Dam Safety & DRIP), Dam safety Organization, Pallom with one Deputy Chief Engineer and five field Executive Engineers & other supporting field level team.

Safety evaluation of existing dams shall be conducted periodically as per the relevant latest guide lines, manuals, updated information and by adopting state of the art technologies.

Safety of dams include structural safety as well as hydrologic safety. For ensuring structural safety of dams and its appurtenances, proper monitoring of their performance is required. Long term performance of dams can be monitored only through analysing various parameters including observations of water pressure, seepage, movements, temperature, stress and strain etc., from the instruments installed in dams.

For ensuring hydrologic safety of dams, the inflow design flood is to be estimated based on the latest inputs like revised PMP(Probable Maximum Precipitation) atlas etc. and taking in to account the likelihood of occurrence of extreme events. Routing studies of the reservoirs are to be performed to find the outflow necessitated during different inflow series. The out flow or downstream releases are to be studied with due consideration with the downstream hydrological conditions and reduced carrying capacity of the stretches downstream. Collection and analysis of long term hydrological information is necessary to model the river basin and predict the inflow at various desired locations.

Theoretical background is necessary for the analysis of various observations taken regularly by the field officials and interpretation of results for the structural safety & hydrologic safety of dams as well as safety of people in the downstream plains. The results of the analysis are to be interpreted and necessary information is to be provided to the top management for taking appropriate decision in time. This is possible only by establishing a permanent structure with a dedicated team of officials to act as a Decision Support System to top management.

Targeting the above, the Chief Engineer (Civil - Dam Safety & DRIP) proposed as per note read as 1<sup>st</sup> paper above to constitute a Unit with one Assistant Executive Engineer & two Assistant Engineers under the Chief Engineer (Civil - Dam Safety & DRIP), after imparting necessary job training to them. It is suggested to fix the Head quarters of the team at Vidyuthi Bhavanam, Thiruvananthapuram for convenience.

1. Hydrologic Modelling for the basin having projects with reservoirs of storage capacity more than 150 Mm<sup>3</sup>.
2. Reservoir/Channel routing related to the above projects.
3. Unsteady flow modelling of river/reservoir/flood plains
4. Study the reservoir performance in accordance with the rule levels and evolve suggestion for improvement.
5. Estimation of water level in the reservoir based on the forecasted rain fall.
6. Estimation of releases required from reservoirs to keep the safety of dams as well as life and property of people downstream.
7. Estimation of the extent of inundation, time of arrival of flood waves and depth of flow consequent to various releases at important places downstream.
8. Upkeep of the instrumentation data collected from the field, analyse the data and interpret the results and study the performance of dams.
9. Develop a web based Hydrological Information System for providing technical information of projects & reservoir operation in public domain.
10. Play an active role in decision making process by providing proper technical support to the top management.

It is reported that Research aptitude and flair for handling modern software is a prerequisite for the members of the proposed Unit. Continuous service of the officials is essential for the effective performance of the Unit. The Chief Engineer (Civil - Dam Safety & DRIP) has recommended to constitute a Unit at Vidyuthibhavanam, Thiruvananthapuram with following officers as members to act as a Decision Support System to top management on Dam safety under the Chief Engineer (Civil - Dam Safety & DRIP);

- 1.Smt. Susan Ninan, Assistant Executive Engineer, Member (Special team for EAP & RM)
- 2.Smt. Iswarya V, Assistant Engineer, Member (Special team for EAP & RM)
- 3.Sri. Harikrishnan, Assistant Engineer, O/o the Chief Engineer (Civil-Construction South).

The matter was placed before the Full Time Directors as per note read as 2<sup>nd</sup> above. Having considered the matter in detail, the Full Time Directors in the meeting held on 29.10.2019 resolved to accord sanction for formation of a temporary unit to develop a Decision Support System to top management on Dam Safety at Vidyuthi Bhavanam, Thiruvananthapuram under the Chief Engineer (Civil - Dam Safety & DRIP) for six months with the following members for carrying out the tasks as detailed above.

- (i) Smt. Susan Ninan, Assistant Executive Engineer, Member (Special team for EAP & RM),
- (ii) Smt. Iswarya V, Assistant Engineer, Member (Special team for EAP & RM) and
- (iii) Sri. Harikrishnan, Assistant Engineer, O/o the Chief Engineer (Civil-Construction South) as members of the Unit.

Orders are issued accordingly.

The Chief Engineer(Civil- Dam Safety & DRIP) shall take further necessary action.

By Order of the Full Time Directors

Sd/-

Lekha .G

Company Secretary i/c

To

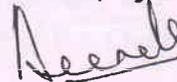
- 1.The Chief Engineer ( Civil- Dam Safety & DRIP)
- 2.Smt. Susan Ninan, Assistant Executive Engineer

**4. Sri. Harikrishnan, Assistant Engineer**

Copy to:

1. The Chief Engineer (Civil-Construction South)
2. The Chief Engineer (Civil-I&CC)
3. The Deputy Chief Engineer (Research & Dam Safety Organisation), Pallom
4. Financial Adviser/ The Chief Internal Auditor
5. The RCAO/RAO
6. The Deputy Chief Engineer(IT)
7. TA to CMD / TA to Dir(GC) / Dir(GE&SCM) / Dir(T,SO,S & REES) / Dir(D,IT&HRM)
8. PA to Dir (F) / Company Secretary i/c
9. FC Supt/ Librarian
10. Stock file / File

Forwarded / By Order



Assistant Executive Engineer