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**Minutes of the IX Meeting of National Committee on Seismic Design  
Parameters (NCSDP) for River Valley Projects held in  
Central Water Commission on 12.01.2000.**

The IX Meeting of National Committee on Seismic Design Parameters (NCSDP) for River Valley Projects was held on 12.01.2000 in the Committee Room of Central Water Commission, New Delhi under the Chairmanship of Dr. B.K. Mittal, Member, D&R, CWC. The list of the members of the Committee, and the Invitees who attended the meeting is given in Annex-I.

**Item 9.1 Welcome by the Chairman, NCSDP**

Chairman welcomed the members and invitees to the IX Meeting of NCSDP. A brief self introduction was given by each Member/ Invitee of NCSDP.

**Item 9.2 Opening Remarks by Member-Secretary, NCSDP**

The Member-Secretary briefly described the details of the agenda items of the meeting. Thereafter the agenda was taken up for discussion.

**Item 9.3 Confirmation of Summary Records of Discussions of VIII & Sp. Meeting of NCSDP.**

In absence of any comments on the proceedings of VIII and Spl. Meetings of NCSDP held on 8.9.98 and 24.11.98, the Summary Records of Discussions of these meetings were confirmed as recorded.

**Item 9.4 Consideration of Seismic Design Parameters for River Valley Projects**

**Item 9.4.1 Consideration of seismic Design Parameters for the River Valley Projects discussed earlier.**

**Item 9.4.1.0** Eight projects which were discussed in the earlier meeting of the Committee were placed before the Committee for discussion / consideration. But, only five projects were discussed. The projects discussed and the decision of the Committee are as follows.

**Item 9.4.1.1 Tungabhadra Dam, Karnataka**

The project was presented by Director (Dam Safety Rehabilitation) CWC. He explained the studies carried out in CWC. Joint Director, CW&PRS, Consultant for the seismic

studies informed that considering the deterministic approach, CW&PRS estimated the magnitude of DBE as 6.3 with epicentral distance and focal depth of 15 km each. Synthetic accelerograms compatible with design response spectra at confidence level of 0.50 suggested by CW&PRS as Design Basis Ground Motion was not accepted by the Committee. The Committee suggested that the studies should be modified in consideration with the present standard practice. The Maximum Credible Earthquake (MCE) should be worked out first with focal depth of 10 km and epicentral distance of 15 km. Then, the response spectra for Design Basis Earthquake (DBE) should be determined. The project may be submitted for consideration after carrying out the modified studies as suggested by the Committee.

✓ **Item 9.4.1.2 Greater Shillong Water Supply Scheme, Meghalaya.**

The project was presented by Superintending Engineer, North Eastern Investigation Circle, CWC Shillong. The Committee accepted the studies carried out by Deptt. of Earthquake Engineering, University of Roorkee and recommended the effective peak ground acceleration of 0.38g for MCE and the corresponding DBE as 0.19g as suggested by Deptt. of Earthquake Engg., University of Roorkee (DEQUOR).

**Item 9.4.1.3 Sriram Sagar and Lower Manair Projects, Andhra Pradesh.**

The two projects could not be discussed due to the absence of representative of the concerned projects. The Committee deferred these for its next meeting.

✓ **Item 9.4.1.4 Indira Sagar Project, Madhya Pradesh.**

The Chief Engineer, Indira Sagar Project presented the Seismic Studies of project carried out by DEQUOR. The Committee accepted the results of the studies and recommended a value of 0.12g as DBE. The Committee also recommended the vertical component as 2/3rd of the horizontal component for the project in line with the provisions in the Draft Earthquake Code.

**Item 9.4.1.5 Palemvagu Irrigation Project, Andhra Pradesh.**

The project was not discussed in absence of any representative of the project.

**Item 9.4.1.6 Kishau Dam Project, U.P.**

The Executive Engineer, Kishau Dam Construction Div. No. 1, Dakpathar, U.P. informed that the geo-seismological studies of the project were still continuing. The Committee

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felt that more geological exploration need to be carried out for proper evaluation of the seismic parameters. The project shall be considered by the Committee after the completion of above studies.

✓ **Item 9.4.1.7 Kalpong HE Project, Andaman & Nicobar, Islands.**

The project was presented by Chief (Geology) NHPC, Faridabad. He also briefed the studies carried out by DEQUOR. The Committee accepted the results of the studies done by DEQUOR and recommended a value of .39g for MCE & 0.195g for DBE. Vertical component shall be considered as 2/3rd of the horizontal component as per the provision of the Draft Code on Earthquake Design.

**Item 9.4.2 New Projects under consideration**

**Item 9.4.2.1 Myntdu (Leska) HE Project, Meghalaya**

The project was not discussed as no representative of the project was present in the meeting.

**Item 9.4.2.2 Tuirial HE Project, Mizoram**

The Project was presented by the DGM(D), NEEPCO, New Delhi. The Committee suggested to collect more data for justification of presence of active fault in the vicinity of the project to carry out further studies with Jorhat EQ. The Project may be submitted to the Committee after completion of the above studies for consideration.

**Item 9.4.2.3 Tala HE Project, Bhutan.**

The seismological studies carried out so far were presented by Jt. Director, CW&PRS. The studies based on probabilistic approach are yet to be completed. In view of the geotectonic set up in the region, the Committee suggested to carry out studies by using the conventional / standard practice. A comparison of the studies by conventional method vis-a-vis the present study may also be carried out for consideration by the Committee. The project shall be considered after completion of above studies.

**Item 9.4.2.4 Upper Tunga Project, Karnataka**

The project was not discussed in absence of any representative from the project.

✓ Item 9.4.2.5 Tattihalla Augmentation Scheme, Karnataka

The project was presented by Chief Engineer (Civil Design), Karnataka Power Corporation, Bangalore. The Committee recommended that the horizontal Seismic Coefficient ( $\alpha_h$ ) should be taken as 0.12g in place of 0.10g. The vertical component shall be taken as 0.08g.

The meeting ended with vote of thanks to the Chair.

**IX Meeting of National Committee on Seismic Design Parameters (NCSDP)  
for River Valley Projects to be held on 12.01.2000**

**List of the Committee Members, CWC Officers,  
Special Invitees and Project Engineers / Geologists.**

**A. Committee Members**

1. Dr.B.K.Mittal,  
Chairman, NCSDP &  
Member(D&R)  
Central Water Commission  
New Delhi.

Chairman

✓ 2. Dr.A.S.Anya  
Ex-Pro Vice Chancellor  
University of Roorkee  
72/6 Civil Lines  
Roorkee-247667.

Non-official  
Member 190

✓ 3. Dr.S.N. Bhattacharya  
Deputy Director General  
Meteorology (Seismology)  
Govt. of India,  
IMD, Office of the Director General  
Of Meteorology, Mausam Bhawan  
Lodi Road  
New Delhi-110003.

Member  
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4. Sh. Sujit Das Gupta  
Geologist (Sr.)  
Monitoring (SI) Division,  
Geological Survey of India  
27, Jawahar Lal Nehru Road,  
Calcutta-700016.

Authorised Represen-  
tative from DG, GSI.

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5. Dr.D.K.Paul,  
Professor & Head  
Deptt. of Earthquake Engg.  
University of Roorkee  
Roorkee-247667.

Member

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|-----|---|------------------|
| 6.  | Professor S.Basu<br>Deptt. of Earthquake Engg.<br>University of Roorkee,<br>Roorkee-247667.   | Associator       |
| 7.  | Sh.G.S.Murthi,<br>Director, Engineering<br>Geology Division,<br>GSI, Bandlaguda Complex,<br>Hyderabad-500068.                         | Member<br>197    |
| 8.  | Mr.K.R.Ramchandran<br>Director,<br>Engineering Geology Division<br>GSI, N.F. Region<br>Samarvilla<br>Arbutnot Road<br>Shillong-793014 | Member<br>195    |
| 9.  | Sh.P.C.Mathur<br>Commissioner (Pr.)<br>Min.of Water Resources,<br>Shram Shakti Bhawan, Rafi Marg,<br>New Delhi-110001.                | Member<br>196    |
| 10. | Sh.B.M.Upadhyay,<br>C.E.(DSO)<br>Central Water Commission,<br>New Delhi.  | Member           |
| 11. | Sh.S.Masood Husain,<br>Director,<br>FE&SA Dte.,<br>Central Water Commission<br>New Delhi.   | Member-Secretary |
| 12. | Sh.K.R.Subramaniam,<br>CE, Design (E&NE) &  | 219              |
| 13. | Sh.M.Gopalakrishnan<br>C.E. Designs (N&W)   | 215              |

14. Sh.T.P.Singh  
Director  
Narmada Dam Design  
Central Water Commission

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15. Sh.S.N.Sareen  
Director (HT-E&D) CEA  
Hydro Technology Division  
Room No. 607 (N), Sewa Bhawan,  
R.K.Puram, New Delhi-110066.

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16. Sh.N.C.Chakrabarti  
Director, CMDD (E&NE)  
Central Water Commission

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17. Sh.A.B.Pandya,  
Director, ~~HEB~~ DSR DE  
Central Water Commission

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18. Sh.R.K.Pal, DD  
FE&SA, CWC

19. Sh. Naresh Kumar,  
THPA, CWC, *ENGINEER INCHARGE*  
Bhutan. *CONTRACT PACKAGE C-1*  
*THPA, THSIMALAKHA*  
*BHUTAN*

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20. Sh.P.Padmanabhan  
Secretary,  
Tungabhadra Board,  
Tungabhadra dam - 583225  
Bellary Distt. Karnataka State

Tungabhadra Dam  
(Karnataka)

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21. Sh.S.C.Awasthi.  
Superintending Engineer  
Central Water Commission  
North Eastern Investigation Circle,  
'Jamir Mansion' Nong Shilliang  
Shillong-14 (Meghalaya).  
*SHILLONG - 793011*

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|-----|--|---|
| 22. | Sh. B. O. Joshi<br>Chief Engineer<br>Indira Sagar Project<br>Civil Line, Harsud Road<br>Khandwa (MP)<br>PIN- 450001                                      | Indira Sagar Project<br>(M.P.)<br><br>209                   |
| 23. | Sh. A. K. Rohatgi,<br>Executive Engineer<br>Construction Division - I<br>Kishau Dam<br>Yamuna Bhawan<br>Dehradun (UP)-248001.                            | Kishau Dam (U.P.)<br><br>205                                |
| 24. | Sh. J. K. Yachu<br>Deputy Manager (Geology)<br>NHPC Ltd. (A Govt. of India Enterprise)<br>NHPC Office Complex, Sector-33<br>Faridabad - 121003 (Haryana) | Kalpong HE Project<br>(Andaman & Nicobar<br>Islands)<br>206 |
| 25. | Sh. U. Bora<br>Dy. General Manager (Design)<br>NEEPCO Ltd.<br>15, NBCC Tower UG Floor<br>Bhikaji Cama Place<br>New Delhi-110066.                         | Tuirial HE Project<br>(Mizoram)<br><br>207                  |
| 26. | Sh. G. C. Bhowmik<br>Manager, Civil<br>NEEPCO Ltd.<br>New Delhi.   | -do-  |
| 27. | Sh. A. P. Choudhary<br>Addl. C.E. (CD)<br>M/s WAPCOS (I) Ltd.<br>213, Ansal Chamber-II<br>6, Bhikaji Cama Place<br>New Delhi-110066.                     | Tala HE Project<br>(Bhutan)<br>208                          |
| 28. | Sh. I. D. Gupta,<br>Jt. Director, <i>KHADAK WASLA</i><br>CWPRS, Pune. — 411024   | -do-<br>209   |



29. Sh.S.M.Chabbi  
C.E. (Designs)  
Sudershan Complex  
Sheshadri Road  
Karnataka Power Corporation Ltd.  
(A Govt. of Karnataka Enterprises)  
Bangalore-560001.
- Tattihalla Augmentation  
Scheme (Karnataka)
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30. Sh.A.K.Chaudhary  
Resident Geologist,  
THPA, Bhutan.
31. Sh.R.C.Gupta, D/man  
Kishau Dam Construction Division  
Dakpathar, Dehradun, UP  
PIN-248001.
32. Sh.G.P.Soni  
AE, Indira Sagar Project,  
M.P.
33. Sh.D.P.Goyal,  
Tala HE Project Authority  
P.O.Box 908, Thimpu.
34. Sh.Subhash Chand,  
Sr. Engineer  
WAPCOS (I) Ltd.  
213, Ansal chamber-II  
6, Bhikaji Cama Place  
New Delhi-110066.
35. Sh.Ramesh Chandra, A.E.,  
UP Irrigation Deptt.  
Kishau Dam Project,  
Dakpathar  
Dehradun-248001.

36. Dr.Gopal Dhawan,  
Chief (Geology), NHPC  
Office Complex, Sector-33,  
Faridabad-121003  
(Haryana)

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37. Sh.B.C.Mathur  
Prof. Deptt of Earthquake Engg.  
University of Roorkee  
Roorkee-247667.

38. Dr. M.L.Sharma,  
Deptt. of Earthquake Engg.  
University of Roorkee  
Roorkee-247667.

39. Sh.D.Karkun,  
Sr.Manager (Design)  
NHPC Office complex,  
Sector-33,  
Faridabad-121003.  
(Haryana)

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40. Sh.T.Suresh Kr. singh, Er (C)  
NEEPCO Office Complex,  
Sector-33,  
Faridabad-121003  
(Haryana)

41. Sh.Prashtta Kumar Dikshit  
Deputy Manager (Design)  
NHPC Office Complex, Sector-33,  
Faridabad-121003  
(Haryana).

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