

Minutes of the twenty-second meeting of National Committee on Dam Safety (NCDS) held at CWC, New Delhi on 18.4.2001

The twentysecond meeting of National Committee on Dam Safety (NCDS) was held on 18th April 2001 in Central Water Commission, New Delhi under the chairmanship of Dr.B.K.Mittal, Chairman, CWC and NCDS.

The list of officers/representatives of various States/Organizations who attended the meeting is given as Annex-I.

Chairman welcomed the members and representatives of various dam owning agencies participating in the meeting. He made special mention about the newly formed three States of Jharkhand, Chhattisgarh and Uttaranchal which have got significant number of dams and are, therefore, to be made members of NCDS. The Chairman asked NCDS to initiate action for making these States members of the Committee. After a brief self introduction, Chairman asked the Chief Engineer (DSO), CWC and Member Secretary, NCDS to take up the agenda items. The item-wise deliberations are as follows:

22.1.0 Confirmation of the minutes of 21st meeting of NCDS

Minutes of 21st meeting were circulated to all the members of NCDS and State Dam Safety Cells vide CWC letter No.3/19/NCDS/99/DSM/ 980-1017 dated 22.5.2000. The minutes of 21st meeting as circulated were confirmed.

22.2.0 Information on proposed Dam Safety Assurance & Rehabilitation Project (DSARP) - Phase-II.

22.2.1 No further progress regarding sanction of DSARP-II could be made after the proposal for DSARP-Phase II received from States of Andhra Pradesh, Bihar, Gujarat, Kerala, Karnataka, Madhya Pradesh, Maharashtra, Orissa, Rajasthan, Tamil Nadu, Uttar Pradesh was sent to World Bank by the Department of Economic Affairs (DEA), Ministry of Finance, Government of India.

Chief Engineer (DSO) explained the present position of the project. Secretary, Ministry of Water Resources has recently sent a D.O. letter to Finance Secretary, Government of India stressing the importance of dam safety with the request to impress upon the World Bank for an early decision on the proposal. All efforts are being made by CWC to get the project sanctioned by the World Bank.

22.3.0 Review of National Scenario

22.3.1 Noted for compliance.

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22.3.2

22.3.3 The States of Maharashtra, Tamil Nadu, Madhya Pradesh and Kerala State Electricity Board have reported no damage to the dams due to earthquake. Irrigation Department, Kerala reported that so far no report indicating damage to dams due to earthquake had been received from field units after the inspection.

A brief account of the details of damage to the dams in Gujarat due to the devastating earthquake that occurred on 26.1.2001 on the basis of inspection to the affected areas of Kachchh and Saurashtra region of Gujarat was given. It was also informed that four teams of CWC officers also visited some of the damaged dams in the Kachchh and Saurashtra region and gave their reports. Many earthen embankment dams in Kachchh and Saurashtra region have suffered moderate to severe damages in the form of longitudinal and transverse cracks, and settlement on top and the upstream face. Many dams have also developed transverse cracks at the junction of spillway and earth dams. However, no damage has been reported in concrete dams in the region.

Director (DSM), CWC is a member of the Expert Committee constituted by the Government of Gujarat for the restoration of damaged dams after the devastating earthquake.

Brief details about the recommendations regarding the repair/restoration of damaged dams given in the CWC's report on inspection of dams in Gujarat were also read out.

22.3.4 The member from Kerala State Electricity Board was requested to send the details of the problem and remedial measures for Anathode dam. Similarly the member from UTTAR PRADESH was requested to furnish similar details regarding Rihand and Matatila dams.

All other members informed the Committee that no damage to the dams had been reported due to earthquake in their States.

22.4.0 Progress of implementation of the recommendation of "Report on Dam Safety Procedures."

- 22.4.1 A brief report showing latest position on implementation of the recommendations of Dam Safety Procedures was submitted to the Committee by the States of Bihar, Gujarat, Karnataka, Maharashtra, Madhya Pradesh, Rajasthan and Uttar Pradesh. Other States/Organizations were requested to send such a report at the earliest.

22.5.0 Dam Safety Legislation

- 22.5.1 A draft modified Dam Safety Act prepared by CWC by incorporating the comments offered by the member States/Organizations, has been approved by Ministry of Water Resources, Government of India after vetting by Ministry of Law. The Draft Act has now been sent by Ministry of Water Resources to the concerned State Governments with the request for passing the resolution in respective legislative assemblies/councils as per the advice of Ministry of Law.

The members from the States of Gujarat, Madhya Pradesh and Rajasthan reported that draft Dam Safety Act for their States had been prepared and sent to their Governments for approval and adoption in State assemblies/council.

It was also impressed upon Member States that passing of Dam Safety Act would be a positive sign for favourable considerations by the World Bank for the Dam Safety Project-II loan.

22.6.0 Preparation of emergency action plans (EAPs) and inundation maps for d/s area

- 22.6.1 The latest position regarding the preparation of EAP reported during the meeting is given below.

Bihar	All National Importance (N.I.) dams are now in Jharkhand State which is to initiate action. Efforts are being made for the preparation of EAP for other large dams.
Gujarat	Dam break analysis for 3 dams completed (2 N.I.dams).
Kerala (Irrigation)	All N.I.dams in the State are under the K.S.E.B.

Karnataka	Action already initiated by DSO.
Maharashtra	EAP prepared for 90 dams (2 N.I.dams).
Orissa	EAP completed for one N.I.dam.
Rajasthan	EAP completed for 9 dams (one N.I.dam).

Chairman remarked that the preparation of EAP should be carried out by the owner of the dam and not by the downstream state. However, this should be done in co-ordination with the downstream state as the submergence area, in case of unlikely event of dam breach, may lie in the state downstream of the dam.

All States/Organizations were requested to make efforts for preparation of EAP for all large dams in their State giving first preference to dams of National Importance.

22.7.0 Compilation of data book

22.7.1 &
22.7.2

Noted for compliance.

22.7.3 The position of States who have prepared data books of NI dams is given below:

1. Andhra Pradesh	3 dam out of 3 NI dams
2. Bihar	2 dams out of 2 NI dams (both the dams are under DVC and at present in Jharkhand State)
3. Gujarat	2 dams out of 2 NI dams
4. Karnataka	11 out of 12 NI dams (except Lekya dam)
5. Kerala	5 dams out of 5 NI dams
6. Maharashtra	4 dam out of 4 NI dams
7. Madhya Pradesh	1 dam (work taken up) out of 4 N.I. dams
8. Orissa	1 dam out of 5 NI dams
9. Rajasthan	1 dam out of 1 NI dam
10. Tamil Nadu	2 dams out of 2 NI dams
11. Uttar Pradesh	4 dams out of 5 NI dams
12. West Bengal	1 dam out of 1 NI dam
13. BBMB	2 dams out of 2 NI dams
14. NHPC	2 dams out of 2 NI dams

Total 41 out of 50 NI dams

- 22.7.4 All States/Organizations are requested to initiate preparation of data book also for the dams of National Importance under construction.

Name of the dams of N.I. under construction

Andhra Pradesh

1. Somasila
2. Kandleru

Jharkhand

1. Icha at Kuju
2. Chandil
3. North Koel

Uttaranchal

1. Tehri
2. Kishau
3. Lakhwar
4. Vyasi

The States are also requested to intimate progress of construction of these dams also.

22.8.0 Preparation of completion report of large dams

- 22.8.1 Noted for compliance.

- 22.8.2 As per the information received from the States, completion reports for the following dams have been prepared :

Andhra Pradesh	Nil out of 158
Bihar	1 out of 61 (including 4 dams of DVC)
Gujarat	3 out of 466
Karnataka	14 out of 188
Kerala (Electricity Board)	5 out of 33
Kerala (Irrigation)	1 out of 19
Madhya Pradesh	1 out of 946 (taken up work for 15 dams)

Maharashtra	67	out of 1229
Orissa	2	out of 131
Rajasthan	12	out of 122
Tamil Nadu	12	out of 84
Uttar Pradesh	123	out of 123
West Bengal	Nil	out of 22
BBMB	3	out of 3
DVC	-	-
NHPC	Nil	out of 6

22.9.0 Preparation of Operation and Maintenance Manual

22.9.1 Noted for compliance.

22.9.2 Present status on preparation of O&M manuals is given below:

Andhra Pradesh	-	3 dams out of 58 dams
KSEB	-	All dams (33 dams)
Madhya Pradesh	-	12 dams (out of 946 dams)
		Taken up for 24 gated dams
Gujarat	-	Taken up work for 11 dams (2 NI dams)
Maharashtra	-	110 dams (out of 1229 dams)
		(2 NI dams)
Rajasthan	-	All dams with ungated spillways
		(100 dams) and 22 gated dams
Orissa	-	20 dams (out of 131 dams)
Tamil Nadu	-	All dams (out of 84 dams)
Uttar Pradesh	-	All dams (out of 123 dams)
BBMB	-	All dams (out of 3 dams)
NHPC	-	2 dams (out of 6 dams)[Guidelines for
		operation of other structures under the
		Organization has been prepared]
DVC	-	All 4 dams

22.9.3 All the States/Organizations who have yet to complete/initiate this work are requested to take up and complete the work.

22.10.0 Periodical inspection of dams and report on dam safety activities in the States

22.10.1 Noted for compliance.

22.10.2 The details of reports received by DSO/CWC are given below:

Andhra Pradesh	-	2000-2001 under finalisation
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Bihar	-	1998-99 under finalisation
Gujarat	-	1999-2000 submitted
Karnataka	-	1999-2000 submitted
Kerala (Irrigation)	-	under preparation
KSEB		Reported that the Health status of Dam is under preparation.
Madhya Pradesh	-	2000-2001 under finalisation
Maharashtra	-	1999-2000 under finalisation
Orissa	-	1999-2000 submitted
Rajasthan	-	1999-2000 submitted
Tamil Nadu	-	1999-2000 submitted
BBMB	-	upto 1998 submitted
NHPC	-	1999-2000 submitted
DVC	-	upto 1999 submitted

All the States are requested to submit the report in time.

22.11.0 Safety review of large dams (once in ten years)

22.11.1 Noted for compliance.

22.11.2 Latest position reported in the meeting is given below.

Andhra Pradesh	5 speical inspection teams constituted and inspection under progress.
Bihar	As per the new set up of the State, safety review report prepared for 15 dams.
Gujarat	State Dam Safety Panel constituted in 1999 is to be re-constituted which is under process.
Karnataka	Action initiated to reconstitute the DSRP afresh as per the World Bank norms.
Kerala (Irrigation)	Expert Committee constituted in Sept.2000
Maharashtra	Completed structural review - 17 dams (4 NI dams), Hydrological review (21 dams), seismic review (37 dams).

Madhya Pradesh	Review of 26 dams completed out of the 37 dams initiated.
Orissa	Approval for DSRP awaited from Government of Orissa.
Rajasthan	The date of the constituted DSRP not extended beyond 9/2000 (DSARP-I) due to fund problem.

All other States/Organizations were requested to carry out the safety review of large dams at the earliest.

22.12.0 Monitoring safety report of inter-State dams by sub-committees of NCDS

22.12.1 Progress made by the three Sub Committees was reviewed during the meeting.

22.12.2 The progress made by the Committees so far is given below:

Mahanadi River System	First meeting held in 1992. Second meeting held on 23.6.2000 at Raipur.
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In the second meeting held on 23.6.2000, a decision has been taken to supply information to downstream authorities on flood releases, daily precipitation exceeding 50 mm and reservoir storages etc.

Parambikulam Aliyar Project	-2 meetings held in 1991 and 1992 respectively. No further progress since last meeting
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Subarnarekha River System	-3 meetings held so far. (last one on 24.7.98). No further progress since last meeting.
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The member secretaries of the sub-committees are requested to convene the meetings without any further delay.

The member from Tamil Nadu proposed that the Parambikulam Aliyar Sub-Committee may be disbanded as all the dams in the system are in Tamil Nadu and their safety was being duly ensured by the State. NCDS decided that the views of Kerala

Government would be obtained in this matter before any decision is taken regarding the disbanding of the Sub Committee as Kerala is the downstream State. Regarding the proposal for formation of sub-committee for Rajghat dam by Uttar Pradesh, it was decided that as the purpose of the Sub Committee suggested by UP is coordination for the smooth construction work and water sharing between the States, this does not fall within the purview of NCDS which is concerned regarding the dam safety aspects. Betwa River Board may be approached in this regard. However, a dam safety Sub Committee for the Rajghat Project may be formed with the concurrence of concerned States.

22.13.0 Setting of hydrological units in the States for review of hydrology of existing dams

22.13.1 Noted for compliance.

Some States/Organizations have already initiated action for strengthening/setting up of hydrology units and review of hydrology of selected dams has been taken up.

22.13.2 Progress of work on hydrology review is as given below.

<u>State</u>	<u>No.of dams for which hydrology review has been done</u>	
Gujarat	-	156
Madhya Pradesh	-	134
Rajasthan	-	16
Orissa	-	47
Tamil Nadu	-	27
Bihar	-	6

22.13.3 Progress in setting up of hydrology units upto 22nd meeting

a) Separate hydrology units have been established in the following States/Organizations :

1. Maharashtra
2. Orissa
3. BBMB
4. DVC
5. NHPC

Government of Andhra Pradesh has approved for a separate Hydrology Division under DSO in the State. State of Maharashtra reported that the present Hydrology unit established is not useful for the purpose. Action is being taken for another separate unit.

b) Following States informed that the existing units in their State have been strengthened for carrying out hydrology review of large dams

1. Bihar
2. Gujarat
3. Karnataka
4. Madhya Pradesh
5. Rajasthan

c) Action has been initiated by the following States for strengthening of existing hydrology units but progress has not been intimated

1. Tamil Nadu
2. Uttar Pradesh
3. West Bengal

The remaining States/Organizations may report the progress.

22.14.0 Instrumentation for dams

22.14.1 Noted for compliance.

22.14.2 Status of instrumentation of existing dams as per latest information received during the meeting is given below.

1.	Andhra Pradesh	-	3 dams
2.	Gujarat	-	25 dams
3.	Karnataka	-	23 dams
4.	Kerala	-	4 dams
5.	Madhya Pradesh	-	34 dams
6.	Maharashtra	-	52 dams
7.	Orissa	-	17 dams
8.	Rajasthan	-	33 dams
9.	Tamil Nadu	-	19 dams
10.	Uttar Pradesh	-	6 dams
11.	BBMB	-	3 dams
12.	NHPC	-	2 dams
13.	KSEB	-	4 dams

Data analysis done for

Gujarat	-	11 dams out of 25 dams
Karnataka	-	20 dams out of 23 dams
Maharashtra	-	24 dams out of 52 dams

Information received on installation of standard meteorological instruments are given below:

1. Bihar	Installed at 1 dam
2. Karnataka	Installed at 71 dams
3. Tamil Nadu	Installed at 17 dams
4. Rajasthan	Installed at 125 dams
5. Maharashtra	Installed at 283 dams
6. BBMB	Installed at 3 dams
7. NHPC	Installed at 3 dams

All States/Organizations are requested to include performance report of meteorological instruments also in the Annual Status Report of dam safety activities.

22.15.0 National Register of Large Dams

- 22.15.1 Updated information on data for revised publication of National Register of Large Dams received from Bihar (including Jharkhand), Gujarat, Kerala (Irrigation), KSEB, Maharashtra, Madhya Pradesh, Orissa, Rajasthan, Tamil Nadu, West Bengal, Jammu & Kashmir, Punjab, BBMB, NHPC and DVC has been received. Updated data from Andhra Pradesh, Karnataka, Uttar Pradesh, Chhattisgarh and Uttranchal is awaited. In the newly formed States, dams are to be rearranged for Bihar & Jharkhand, Madhya Pradesh & Chhattisgarh, Uttar Pradesh & Uttranchal.

22.16.0 National Performance of Dams Programme (NPDP)

- 22.16.1 All the States/Organizations are again requested to send detailed suggestions on this issue. The opening of website for this purpose in CWC on similar lines of NPDP is being explored. The States/ Organizations can have their own website which can be interlinked. As informed, Irrigation Department, Rajasthan has recently launched its website on Irrigation.

22.17.0 Dams under State Electricity Boards and other Private bodies.

22.17.1 Noted for compliance.

All the members from the States informed that dams of other agencies in their State are included in the dam safety report of the State Irrigation Department.

The meeting ended with a vote of thanks to the Chair.

Annex-I

List of officers participated in the twentysecond meeting of
National Committee on Dam Safety held on 18.4.2001

Members

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| S/Shri | | |
| 1. | Dr.B.K.Mittal,
Chairman, CWC | Chairman |
| 2. | N. Sreenivas Reddy,
Director,
State Dam Safety Organization,
Hyderabad (Andhra Pradesh) | |
| 3. | S.S. Prasad,
Director,
Dam Safety Cell,
Patna (Bihar) | |
| 4. | C.B.Tiwari,
Jt.Director (GERI),
Vadodara (Gujarat) | J.G.Solanki,
GERI, Vadodara
Gujarat. |
| 5. | C.R.Raju,
Director (I/C),
K.E.R.S.,
Mysore (Karnataka) | M.N.Narasimhan,
A.E.E., Dam Safety Cell,
KERS, Karnataka. |
| 6. | J.K.Tiwari,
Director (Dam Safety)
Bhopal (Madhya Pradesh) | |
| 7. | D.R.Goel,
Director,
Canal Watershed Design Directorate
Chandigarh | |
| 8. | J.L.Sharma,
Director, DSO,
Jaipur (Rajasthan) | |
| 9. | S.Ganesan,
Director, Dam Safety,
Government of Tamil Nadu,
Chennai | |

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| 10. | R.R.Rajpal,
Director (Dam Safety Cell),
Parikalp Bhawan,
Alambagh,
Lucknow (Uttar Pradesh) | R.K.Sinha,
Dam Safety Cell,
Irrigation,
Uttar Pradesh. |
| 11. | Anil Arora,
Director, Dam Safety
BBMB, Chandigarh. | |
| 12. | S.Siddhanta,
Deputy Chief Engineer,
DVC, Maithon | |
| 13. | S.Kumar,
Director,
Geological Survey of India,
Lucknow | |
| 14. | V. Venkiteswaran Iyer,
Chief Engineer,
Irrigation & Dam Safety,
Kerala State Electricity Board,
Thiruvananthapuram | |
| 15. | O.R.Lalitha,
Chief Engineer,
NHPC, Faridabad | |
| 16. | V. Ganapathy,
Chief Engineer,
Civil Design,
T.N.E.B. | |
| 17 | K.S.Khandpur,
CE(DSO), CWC | Member-Secretary |

Central Water Commission

Sh/Shri

1. G.C.Vyas,
CE(HSO)
2. S.Masood Husain,
Director(DSM)

3. Y.K.Sharma,
Director(SM)
4. K.Balakrishnan,
Dy.Director(DSM)