

**Minutes of the 35<sup>th</sup> Meeting of National Committee on Dam Safety (NCDS)**  
**held on 28<sup>th</sup> September, 2015 at 1300 hrs.**

35<sup>th</sup> meeting of National Committee on Dam Safety (NCDS) was held on 28<sup>th</sup> September, 2015 at 1300 hrs. under the Chairmanship of Shri A.B. Pandya, Chairman, CWC & Chairman of the National Committee on Dam Safety (NCDS). Shri C.K. Agrawal, Member (D&R), CWC & Vice Chairman, NCDS was also present. List of Officers from different states/organizations present in the meeting is enclosed at **Annexure-I**

Shri C. K. Agrawal, Member (D&R), CWC & Vice Chairman, NCDS welcomed the members of the National Committee on Dam Safety (NCDS) to the meeting being held at New Delhi. Vice Chairman, NCDS, requested all the participants to introduce themselves. Thereafter, Member (D&R) & Vice Chairman, NCDS requested Director, Dam Safety Monitoring (DSM), CWC to take up the agenda items.

**35.1.0 Confirmation of the minutes of 34<sup>th</sup> meeting:**

Director, DSM, CWC stated that Kerala has requested for the modification of the minutes of the 34<sup>th</sup> meeting in respect of item related to Parambikulam Aliyar Project (PAP) Sub-committee. Chief Engineer, Kerala raised the issue of non-inclusion of PAP Sub-Committee in future meetings of NCDS as per decision of the 34<sup>th</sup> NCDS meeting. Shri C.K. Agrawal, Member, D&R, CWC & Vice Chairman, NCDS stated that the same is as per the discussions held during the last meeting of NCDS. Director, DSM, CWC explained that the above is till the issue related to conducting of the PAP Sub-Committee meeting is decided amongst the states of Kerala and Tamil Nadu and once the issue of conducting the PAP Sub-Committee meetings is settled between the two states, the same would be considered under the NCDS. In this context, Chairman, CWC stated that there is an established procedures/dispute resolution mechanism, the state can raise the dispute and approach Ministry of Water Resources, RD & GR. Director, DSM, CWC stated that since no other comments have been received on the other items of the minutes, the minutes of the 34<sup>th</sup> meeting of NCDS may be treated as confirmed.

**35.2.0 National Register of Large Dams**

**35.2.1 Updation as per new formats**

The status of submission by State Governments/Dam Safety Organizations was reviewed and it was observed that the updated information has not been received from Maharashtra, Uttar Pradesh, Karnataka, Rajasthan, Jharkhand, West Bengal, Uttarakhand and Madhya Pradesh and it was decided that the aforesaid State Governments would submit the updated information by reviewing/revalidating all the data/records available with them. Particularly discrepancy in the number

of large dams (Viz. elimination of duplicate entries etc.), and submitting the authenticated list approved by the respective Head of the Department in the enclosed proforma at **Annexure-II** by November, 2015. Also in most of the cases under Column 'River', no names are provided except as local nalla etc., which may again be checked up and name of river/tributaries of river etc. and the details of river basins (wherever not provided) be submitted by November 2015 by all States/DSOs.

Superintending Engineer, IDRB, Kerala requested for giving Kerala Project Identification code for four dams, namely, Mulla Periyar, Parambikulam, Thunakadavu and Peruvuripallam to which Director, DSR, CWC informed that the first set of two digit alpha code already shows KL, i.e., Kerala State in which aforesaid four dams are situated.

(Action: All States/DSOs)

### **35.2.2 Contact details of Large Dams**

Chairman, CWC stated that the earthquake is an unpredictable phenomenon and unlike floods time available is much shorter or in some cases no time is available for the management of disaster. He stated that in post earthquake scenario, dams and appurtenant structures should be attended to properly, to avoid further damages, as shocks of high magnitude may occur, again and thus causing damages to the structures. He emphasized that mechanism for disaster management is very much needed and information is required to be furnished to higher levels. Project Engineers/State Dam Safety Authorities should assess the extent of damage for likely failure of dams and prepare for all eventualities informing the State Government civic authorities, such disaster management authorities etc. Chairman, CWC stated that in the event of occurrence of such an event, it may not be possible to contact individual dam authorities under the jurisdiction of a state/DSO therefore, the role of Nodal Agency becomes very important, and there should be a Nodal Agency in each state/DSO to be contacted to have better communication and feed back in this regard. The Nodal Agency in turn will maintain communication with all the dam owners in their respective States/ DSOs. In this context, states would have to decide on the level of Nodal Officer to be established, concerned modalities and Standard Operating Procedures (SOP) and its implementation. Director (DSR) stated that contact details data would be further incorporated in DHARMA Software.

Chief Engineer (Civil), NHPC enquired about the setting up of Dam Safety Control Room by NHPC to which Chairman, CWC & Chairman, NCDS informed that dam owners need to set up the same to have a line of authority, channel of communication and centralized facility for maintaining communication during dam safety related emergencies.

Director, DSM, CWC stated that all the States/DSOs have already been requested to furnish the details of Nodal Officer for dam safety related emergencies (copy enclosed). In view of the above, it was decided that the State Governments/DSOs may furnish the list of Nodal Officers for State Dam

Safety Control Room as well as the contact addresses of project authorities in charge of the large dams under their jurisdiction in respect of all large dams by November, 2015 (**Annexure-III**).

(Action: All States/DSOs)

**35.3.0 Maintenance of database for the dams not classified under the large dam category by State Governments/DSOs:**

The State Governments/DSOs were also requested to compile the data for dams not classified under the large Dam category by enlisting all the dams not falling under the category and such database may be maintained by State/DSOs at their level. The States/DSOs may follow existing NRLD proforma or their own proforma in this regard. Considering the difficulties expressed by State Governments/DSOs in collection and compilation of the data, it was decided that the time period for aforesaid compilation of non-Large Dams by State Governments may be extended by a year or so.

(Action: All States/DSOs)

**35.4.0 A. Dams of National importance:**

**(i) Bhakra Dam (Punjab):**

Director, DSM, CWC stated that during the last meeting, the matter regarding observed maximum deflection at Bhakra Dam showing the increasing trend over the years was discussed and BBMB was requested to carry out the detailed investigation studies to supply the necessary data required for the FEM modeling. Deputy Chief Engineer, BBMB informed that administrative approval by the Bhakra Beas management Board (BBMB) in this regard on the various activities is in process and BBMB would be able to supply the necessary data required for the FEM modeling shortly. Director (DSM), CWC emphasized upon BBMB to speed up the matter as the same has been considerably delayed at their end.

(Action: BBMB, Director, DSR Dte., CWC)

**(ii) Srisailem Dam (Andhra Pradesh):**

Chief Engineer, Andhra Pradesh informed that protection works opposite to Blocks 6 & 7 could not be taken up due to tail water conditions and no further progress has been made in the rehabilitation work of the dam due to contractual problem and the rehabilitation works would be taken up after the receipt of revised administrative approval from Andhra Pradesh Government. Chief Engineer, Andhra Pradesh informed that administrative sanction for conducting preliminary investigation for studying the feasibility of diversion of portion of flood waters of NSRS Srisailem Project from the area near 'Pamulapadu' village to Kundu River has been awarded by Government of Andhra Pradesh. Director (DSM), CWC requested Chief Engineer, Andhra Pradesh to complete the aforesaid activities in a time bound manner. Superintending Engineer, Telangana raised the

issue of inspection of Srisaillam dam by Dam Safety Review Panel to which it was informed that Central Government have constituted Krishna River Management Board (KRMB) for Administration, Regulation, Maintenance and Operation of project; accordingly, it was suggested to approach Krishna River Management Board in this regard.

(Action: State of Andhra Pradesh, Telangana, Director, Hyd.(S) Dte., CWC)

## **B. Other Dams**

### **(i) Gararda Dam (Rajasthan):**

Chief Engineer (N&W), CWC stated that after examining the investigation reports of CSMRS, it was found that the overall health of the remaining portion of the dam was also not in good condition. As CSMRS indicated in its report that high permeability values of embankment material are a major concern and compactness of the soil vary from loose to medium dense state in the whole of the dam. He further added that there was insufficient compaction in the dam body and there is no clear evidence to the existence of any filter material in the dam body from bore hole investigations.

Chief Engineer (N&W), CWC further informed that in view of the above, it was suggested to project authorities vide CWC letter dated 13.08.2015 that providing construction drawing for the breached portion of the dam may not serve any purpose, because the dam is likely to be breached from a different location if the rehabilitation of only breached section is taken up. The health of the dam has to be as per codal provision and dam safety guidelines. Therefore, it was suggested that the earth dam section needs to be re-laid as per specifications. Executive Engineer, WRD, Rajasthan stated that some remedial measures may be suggested to the existing dam and only breach portion shall be constructed new. Director, CSMRS also agreed with the views of Chief Engineer (N&W), CWC. Chief Engineer (N&W), CWC further informed that a combined team of CWC and CSMRS would visit the Gararda dam on 1<sup>st</sup> October, 2015 and the further course of action would be decided after the visit.

(Action: State of Rajasthan, CSMRS,  
Chief Engineer (NW&S), CWC)

### **(ii) Nand Gavan Dam (Maharashtra):**

Superintending Engineer, Maharashtra informed that Nandgavan dam was a water supply project to Digras town. After breach of dam, Municipal Council, Digras has commissioned an alternative water supply scheme from Arunawati reservoir which is a Major project near Digras. As alternate water supply scheme is in place, Municipal Council Digras is not eager to expedite rehabilitation measures. He further informed that DSO, Maharashtra has requested Hon'ble Secretary (WRM &

CAD) to take up the issue with Urban Development Department at Government level so as to expedite the work of rehabilitation. Director, DSR, CWC stated that as the dam is lying without any rehabilitation works and we may not be consider the case for discussion in future in NCDS till time the state government work out the modalities to ensure the rehabilitation measures. State Govt. was requested to liaison with concerned agencies and work out the modalities to ensure that the rehabilitation measures are taken up urgently for Nand Gavan dam.

(Action: State of Maharashtra)

(iii) **Temghar Dam (Maharashtra)**

Superintending Engineer, Maharashtra stated that the Expert Committee Report is in its final stage now and will be submitted to MKVDC soon and necessary remedial measures will be taken up by Project Authorities for the early rehabilitation of dam. Director, DSM, CWC enquired about the status of submission of the aforesaid report and rehabilitation of the dam. Superintending Engineer, Maharashtra stated that Temghar Dam report would be submitted by October 2015 and the rehabilitation works would be undertaken in a period of 12 to 18 months.

(Action: State of Maharashtra)

(iv) **Maro and Maudha Dam (Uttar Pradesh):**

Regarding Maro dam, Director (Dam Safety), Uttar Pradesh informed that the second phase of rehabilitation work has been completed and seepage has reduced by 80-85%. Regarding Maudha dam, he informed that there is excessive seepage in the drainage gallery and it is filled up with water. He further informed that team of project engineers along with Dr. B.N. Asthana, Consultant/visiting faculty, IIT Roorkee inspected the project site and requested for inspection by Central Expert Team. Director, DSR, CWC stated that drainage gallery should be drained off water by installing permanent pumps and thereafter grouting can be done to arrest the seepage. It was stated that an expert team consisting of Director (DSR), CWC, Chief Engineer (N&W), CWC and CSMRS would visit the dam site and make necessary recommendations in this regard.

(Action: State of Uttar Pradesh, Director (DSR), CWC, Chief Engineer (N&W), CWC and CSMRS)

### **35.5.0 Preparation of Emergency Action Plan (EAP)**

The status of preparation of Emergency Action Plans (EAPs) and carrying out of mock drills was reviewed. In the light of C&AG observation on performance audit of disaster management in India and importance of preparation of EAPs in disaster management, States/DSOs were requested to ensure that EAP is to be prepared for normal operating conditions as well as extreme flood conditions under SPF/ PMF as well as dam break or else the already prepared EAPs may be updated accordingly. The states of Madhya Pradesh, Uttar Pradesh, Jharkhand and Karnataka are requested to complete the EAPs in respect of the pending Parliament Assurances.

Director (DSM) stated that Maharashtra has taken a lead by preparing 175 EAPs, Superintending Engineer, in charge DSO, Himachal Pradesh reported preparing EAPs/DMP for all completed large dams of the state. Chief Engineer, CDO, Bihar informed regarding preparation of EAPs for 20 nos. of large dams to which Director DSM, CWC informed that the aforesaid EAPs need to be updated regarding normal operating conditions as well as extreme flood conditions under SPF/ PMF as well as dam break. Deputy Chief Engineer, BBMB informed regarding difficulty in getting information from State Government of Punjab and Himachal Pradesh for incorporation of inundation maps of downstream areas in EAPs prepared by BBMB. Director, DSM, CWC requested BBMB that since Punjab and Haryana are a part of BBMB, the matter may be expedited at the board level.

The status of preparation of EAPs was reviewed and it was observed that the States of West Bengal, Jharkhand, Rajasthan, have not prepared even a single EAP, although the States of Kerala, Tamil Nadu, Odisha, DVC, KSEB and MEPGCL have also not reported any progress in respect of preparation of EAPs but have informed regarding the efforts made in this direction. Further, the States/DSOs, i.e., Andhra Pradesh, Telangana, Gujarat, Karnataka, Madhya Pradesh, Uttar Pradesh have not reported much progress for the preparation of EAPs. All the aforesaid states were again requested to make special efforts in preparation of EAPs on urgent basis. All States/DSOs were again requested to expedite the preparation of remaining EAPs of all large dams in a time bound manner. States/DSOs were requested to give a time frame in this regard. Further, all States/DSOs were requested to send the half yearly return in respect of completed EAPs prepared as per proforma enclosed at **Annexure –IV**. The status regarding preparation of EAPs as received from States/DSOs has been complied and enclosed at **Annexure-V**, which may be reviewed and changes if any, intimated.

(Action: All States/DSOs)

### **35.6.0 Pre & Post Monsoon inspection of Dams:**

The status of submission of Annual Consolidated Reports by States/DSOs were reviewed and 8 states, i.e, Chhattisgarh, Gujarat, Jharkhand, Kerala Irrigation, Karnataka, Maharashtra, Uttarakhand, West Bengal, were requested to expedite the submission of annual consolidated report of both pre & post monsoon for all large dams for the year 2014. Further, the states/DSOs of Andhra Pradesh, Madhya Pradesh, Himachal Pradesh Telangana, Uttar Pradesh, KSEB and Meghalaya Power Generation Corpn. Ltd. have submitted Inspection Reports either for pre-monsoon or post-monsoon for only fewer nos. of large dams were requested to submit Annual Consolidated Reports containing both pre-monsoon and post-monsoon for all large dams.

All States/DSOs were emphasized that timely remedial measures actions be taken on deficiencies noticed suggested during pre-post monsoon inspections, and the same be included in the next Annual Consolidated Reports. Further, all the States/DSOs were requested to send the Pre & Post monsoon inspections report details yearly return as per the proforma enclosed at **Annexure –VI**.

(Action: All States/DSOs)

### **35.7.0 Instrumentation of Dams:**

#### **35.7.1 Strengthening of seismic instrumentation as per the decision of National Committee on Seismic Design Parameter (NCSDP)**

Director (DSM), CWC informed that during the 29<sup>th</sup> meeting (extraordinary) of the National committee on Seismic Design Parameter (NCSDP) held on 19<sup>th</sup> May, 2015 at New Delhi, in the aftermath of Nepal on 25<sup>th</sup> April, 2015, it was decided to strengthen seismic instrumentation in the dams especially in seismic zone IV and Seismic Zone V.

Accordingly, States/DSOs were requested that strengthening of seismic instrumentation at different locations in the dams under their jurisdiction may be carried out under intimation to Instrumentation Directorate, CWC.

Superintending Engineer, DSO, Maharashtra informed that State of Maharashtra has established 35 seismological observatories on and near dams for monitoring the seismic activities in and around dams and accelerographs are also installed on 13 dams for measuring the acceleration at different height of the particular dam.

Deputy Director , DSO, Odisha informed that all large dams in Odisha come under the seismic zone of either II or III, which does not warrant any strengthening of seismic instrumentation. Director (I/C), Karnataka Engineering Research Station informed that at present there are a total of 13(10 of them in dam locations) VSAT enabled Permanent Seismic Monitoring Stations (In Zone-II and Zone-III) which are installed by the Karnataka State Natural Disaster Monitoring Centre (KSNDMC), Bengaluru in Karnataka State to study the Seismic activities. States/DSOs were again requested to strengthen seismic instrumentation in dams under intimation to Director, Instrumentation, CWC.

(Action: All States/DSOs)

#### **35.7.2 Strengthening of instrumentation of large dams:**

During last meeting it was decided that States/DSO's may submit separate detailed report on performance of existing instruments installed in the dam body and foundation including analysis of data with permissible limits of Instruments in prescribed format enclosed at **Annexure-VII** to the Director, Instrumentation Directorate, CWC on yearly basis. It was emphasized that the State



Governments/DSOs may regularly monitor the performance of the instruments and induct new and appropriate technological solutions in view of non-functioning of the instruments in the existing dams. Status of Instrumentation has been submitted by States of Telangana, Himachal Pradesh (Chamera Power Station-II, Baspa Stage-II – H.E.P., Karcham Wangtoo HEP), BBMB, MePGCL and KSEB. The State Governments/DSOs were also advised to ensure proper functioning of instruments and make sure that at least the basic instruments, i.e. plumb line, V-notch & survey settlement point etc. are in working order. Regarding the installation of instrument in old dams, during the last meeting it was pointed out that the instruments measuring the parameters directly pertaining to the serious maintenance issues / problems faced by the dams need to be installed. It was further advised that extra survey points (for deformation), crack meters (cracks), Joint meter (differential settlement), instruments for measuring uplift pressure & pore pressure, plumb line etc. can be considered for installation in old dams. Executive Engineer, WRD, Odisha intimated that steps are being taken to install plumb line, crack meter and V-notch in large dams. Deputy Chief Engineer, BBMB informed that the basic instruments i.e. plumb line, survey settlement points, V-Notches etc. at BBMB Projects are in working order. Superintending Engineer, DSO, Maharashtra informed that in Maharashtra, 72 dams are having various type of instruments installed. Total 5367 numbers of various types of instruments are installed in dams out of which 2939 instruments are in working condition while 2428 instruments are in non-working/under repair condition.

(Action: All States/DSOs)

### **35.8.0 Comprehensive Dam Safety Review Panel (DSRP):**

Status regarding constitution of DSRP and on the number of Dam Safety Reviews carried out by DSRPs in the states/DSOs was reviewed. Director, DSM, CWC stated that the State Government of Gujarat has informed that the separate inspection was being carried out by the team of states DSOs and CDO every year and separate DSRP inspections are planned only when specific needs are assessed. Director, DSM, CWC informed that as per Dam Safety Procedures, the States/DSOs shall arrange comprehensive safety review of dams which are more than 15 metres in height or which store 50000 acre feet (60Mm<sup>3</sup>) or more of water by an independent panel of experts once in 10 years. It was informed that as per guidelines for inspection of dams by DSRP's enclosed for guidance of State Govts./DSOs/Dam owners with the minutes of the 32<sup>nd</sup> meeting of NCDS; DSRP shall consist of three or more independent experts with expertise in various technical fields relevant to the safety aspects of dams, representing the domains of (i) geology and foundation engineering, (ii) hydrology and flood management, (iii) concrete and masonry dam designs, (iv) embankment dam designs, (v) hydro-mechanical equipments, (vi) instrumentation and (vii) dam construction with at least one out of state expert. Chief Engineer



(GERI), Gujarat informed that necessary steps for constitution of independent panel of experts would be taken.

Chief Engineer, PWD, WRD, Tamil Nadu informed regarding completing DSRP inspection for 100 nos. large dams. Director, IDRB, Kerala informed that 16 nos. large dams inspected during 2013-14. Deputy Director, DSO, Odisha intimated that DSRP Reviews/Inspection has been made for 91 dams by Expert Panel and 36 dams by DSRP. Director (I/C), KERS, Karnataka intimated that safety review of 138 dams has been completed. Chief Engineer, WRD, Bihar also informed that reviews/inspection have been made for 20 large dams by DSRP, regarding which Director, DSM informed to him to ensure that constituted DSRP's confirm to aforesaid guidelines. Deputy Director, Dam safety of Odisha informed that Dam Safety Review Panel visited 26 DRIPS dams and submitted report and this year they have planned to inspect ten numbers of dams. Superintending Engineer, Maharashtra informed that 61 numbers of large dams have been completed by DSRP.

The State Governments of Gujarat, Jharkhand, Rajasthan, Uttar Pradesh, Uttarakhand, West Bengal and Meghalaya Power Generation Corporation and other States/DSOs, wherein DSRP with independent panel of experts have not been constituted, were requested to expedite the constitution of DSRP. State/DSOs were requested to carry out comprehensive Dam Safety Reviews on regular basis once in ten years, as per aforesaid norms of Dam Safety Procedures.

Further, the States of Andhra Pradesh, Telangana, Madhya Pradesh, Maharashtra, Kerala, Punjab and Himachal Pradesh having DSRPs but not reported much progress for the comprehensive safety review inspections of dams, were again requested to make special efforts to carry out the comprehensive safety reviews of remaining dams. The status regarding formation of DSRP and on the number of dam safety reviews carried out by States/DSOs has been complied as per **Annexure-VIII**, which may be reviewed considering all the reviews made in last 10 years and changes if any, intimated to NCDS Sectt..

(Action: All States/DSOs)

### **35.9.0 Dam Rehabilitation & Improvement Project (DRIP):**

During the meeting Director, DSR, CWC brought out the status regarding the Dam Rehabilitation & Improvement Project (DRIP) which has been taken up with the World Bank assistance for implementation initially in 4 States (namely Kerala, Madhya Pradesh, Orissa, and Tamil Nadu) and in Central Water Commission (CWC). He further informed that recently Karnataka-Water Resource Department, Damodar Valley Corporation (DVC) and Uttarakhand Jal Vidyut Nigam Ltd. (UJVNL) has been included in DRIP. DRIP presently targets the rehabilitation of 225 dam projects across the seven states of India involving 9 Implementing Agencies. He also informed that complete

DRIP funds have now been allocated and other states can be involved only under a new scheme in future, efforts for which will be initiated shortly.

(Action: Director, DSR Dte. CWC)

#### **35.10.0 Record of Dam Failures and Major Dam Incidents and their Technical Reports:**

Director, DSM, CWC informed that the record of dam failure in the country as per information received from State Govts. /DSOs were circulated with the minutes of the last meeting for updation and no further dam failure has been reported. The list of dam failures in the country as per information received from state governments/DSOs and enclosed at **Annexure-IX** may be updated by State Govts./DSOs/Agency operating and maintain dams on regular basis and sent to NCDS Secretariat.

Further, the state governments/DSOs are requested to furnish record and technical reports of Major Dam incidents related to

- (i) any structural damage to the dam and appurtenant works,
- (ii) occurrence of any flood, the peak of which exceeds the available flood discharge capacity or seventy per cent, of the approved design flood,
- (iii) occurrence of a flood, which resulted in encroachment on the available freeboard, or the approved design freeboard,
- (iv) Any other incidence which a prudent dam engineer may relate to dam safety concerns and Dam Failures.

The status of Record of Dam Failures and Major Dam Incidents and their Technical Reports was reviewed, and it was observed that out of 36 recorded failures, technical details reports have been received for only 8 dams and is required to be furnished for remaining dams in the states of Madhya Pradesh (10 dams), Rajasthan (11 dams), Uttarakhand (1 dam), Uttar Pradesh (1 dam) and Gujarat (5 dams) as per details at Annexure VIII. The above mentioned states were requested to furnish the technical details with causes of failures and remedial action undertaken as per the list of dam failure.

(Action: All States/DSOs)

#### **35.11.0 Upkeep and archival of records - Data Book and O&M Manual etc.:**

Director, DSM Directorate, CWC stated that the project authorities should prepare operation & maintenance (O&M) manuals for all the large dams in their States on priority. Accordingly, State Govts./DSOs were requested to prepare data books along with complete set of designs and drawings as per CWC Guidelines on Standardized Data Book Format available at ([http://www.cwc.gov.in/Dam\\_safety.html](http://www.cwc.gov.in/Dam_safety.html)). Director, DSM, CWC requested all State Government/DSOs to expedite preparation of data books and O&M manuals for all the large dams

under their jurisdiction. Status regarding on the preparation of data book and operation & maintenance (O&M) manuals received from States/DSOs as per **Annexure-X** has been compiled, which may be reviewed and changes if any, intimated to NCDS Sectt. and submit the updated status.

(Action: All States/DSOs)

#### **35.12.0 Monitoring of safety aspects of inter-State Dams by Sub-Committees:**

##### **(a) Mahanadi River System Sub-Committee (MRSS):**

Deputy Director, Odisha informed that the last meeting of the sub-committee was held on August 2014. Director (DSM), CWC stated that the next meeting may be finalised soon and be held by December 2015. Director (DSM), CWC further requested that the monitoring report of Inter-state dams are not being received and may be submitted by Chief Engineer, Dam Safety and Member Secretary, Odisha by December 2015.

(Action: Chief Engineer, Dam safety, Odisha (Member Secretary&Convenor),MRSS,  
Chief Engineer,Mahanadi Project,Chhattisgarh (Member),  
Chief Engineer&Basin Manager,Upper Mahanadi Basin,Odisha(Member)  
and Chief Engineer, Minimata Bango Project, Chhattisgarh(Member)

##### **(b) Subarnarekha River System Sub-Committee (SRSS):**

Deputy Director, Dam Safety, Odisha informed that past meetings could not be materialised due to non-response of West Bengal and Jharkhand. Director (DSM), CWC stated that the next meeting may be finalised at the earliest in consultation with West Bengal and Jharkhand, so that the meeting be held by December 2015. Director (DSM), CWC further requested that the monitoring report of Inter-state dams are not being received and may be submitted by Chief Engineer, Dam Safety and Member Secretary, Odisha.

(Action: Chief Engineer,Design &Research ,Odisha  
(Member Secretary&Convenor),SRSS,  
Chief Engineer Design &Research,West Bengal(Member),  
Chief Engineer,Design,Master Planning&Hydrology,Jharkhand(Member)

#### **35.13.0 Dam Safety Bill:**

Director, DSR, CWC informed that the Dam Safety Bill (2014) is under consideration of Ministry of Water Resources, RD&GR for its earliest placement before the Parliament. Chief Engineer, PWD, Tamil Nadu stated that they have submitted certain modifications in the Dam Safety Bill, which may be corporated while finalization. Superintending Engineer, Central Designs, Telangana

informed that the case of Dam Safety Bill referred by Ministry of Water Resources, RD & GR is in their Law Department for examination. Committee noted the information.

(Action: Director, DSR Dte. CWC)

#### **35.14.0 Setting up Hydrology units and Design Floods Review:**

Director, DSM Directorate, CWC requested that States/DSOs to take necessary steps for review of Design floods for large dams and for setting up the hydrological units and to regularly intimate NCDS Secretariat regarding the status in this regard. States of Chhattisgarh, Jharkhand, Uttar Pradesh, Uttarakhand and West Bengal were requested to constitute the hydrological units for review of design floods for large dams and carry out design flood review of large dams.

Further, the States/DSOs, i.e, Andhra Pradesh, Bihar, Gujarat, Kerala, Karnataka, Maharashtra, Madhya Pradesh, Odisha, Punjab, Rajasthan, Telangana, Himachal Pradesh, KSEB and MePGCL having hydrology units but not reported much progress for the Hydrological review of the large dams were again requested to make special efforts to carry out the Hydrological review of dams for all large dams, which is one of the important aspects of dam safety.

The status of setting up of hydrology units and number of hydrological review carried out for large dams as per information received from States/ DSOs has been compiled and is enclosed at **Annexure-XI**, which may be reviewed and changes, if any intimated.

(Action: All States/DSOs)

#### **35.15.0 Balimela Dam Issue**

During the last meeting Engineer-in-Chief, WR, Odisha had informed that a joint meeting was organised with Andhra Pradesh Government and APGENCO to resolve the issue of making operational the AP Tunnel for passing the water without continuously opening the river sluices and for repair of downstream erosions. Deputy Director, DSO, Odisha informed that a joint discussions were held between officials of Andhra Pradesh and Odisha for repair and renovation of AP tunnel, Head Race tunnel to OHPC Balimela, Emergency and Service gate of River sluice and hoist chamber of sluice gate of Balimela dam project. The Andhra Pradesh Govt. has agreed upon in principle to execute the above work.

(Action: States of Odisha, Andhra Pradesh)

#### **35.16.0 Any other item with the permission of the Chair:**

##### **35.16.1 Idukki Dam:**

Director, GSI wanted to know the status of Idukki Dam to which Director, DSR, CWC informed that FEM analysis was being carried out. He informed that Idukki Dam is under DRIP and has been

examined by experts and CWC teams and stated that presently there is no alarming distress in the dam.

**35.16.2 Funding of dam safety related activities by States /Project authorities from their own resources and inclusion of Meghalaya Power Generation Corporation Limited (MePGCL) as Member of NCDS**

Chief Engineer (C), Meghalaya Power Generation Corporation Ltd. (MePGCL), Meghalaya mentioned regarding delay in State Government response for provision of funds for carrying out activities relating to preparation of EAPs. Chairman, NCDS stated that the dam owners should be able to fund such dam safety activities from their own resources. Chief Engineer (C), MePGCL further desired to know the status of formal inclusion of MePGCL as one of the members of the NCDS to which Shri S.K. Kamboj, Sr. Joint Commissioner, Pen. Riv., Ministry of Water Resources, RD & GR stated that the matter is under process in the Ministry of Water Resources, RD & GR.

(Action: All States/DSOs,  
Sr.Joint Commissioner (Pen.Riv.), MoWR, RD&GR)

**35.16.3 Durgawati Dam**

Chief Engineer, WRD, Bihar mentioned regarding gates regulation problem of Durgawati Dam to which, he was requested to approach Chief Engineer, Design (N&W), CWC with details of the issue. It has been mentioned that cracks/deep rain cuts have appeared on the d/s slope of the Durgawati Dam, after first filling of the reservoir. Besides, dirty water in front of the right wing wall of the spillway in the upstream, appears with slight whirling action as soon as gate of the spillway is operated. The matter has been referred to DSR Dte. for visiting the Durgawati Dam along with Chief Engineer (N&W), CWC.

(Action: State of Bihar, Director, DSR Dte., CWC, Chief Engineer (N&W), CWC)

**35.17.0 36<sup>th</sup> Meeting of NCDS**

Director, DSR, CWC informed that the 36<sup>th</sup> meeting of National Committee on Dam Safety (NCDS) would be held at Bangaluru, Karnataka on 11<sup>th</sup> January, 2016 followed by Second National Dam Safety Conference on 12<sup>th</sup> & 13<sup>th</sup> January, 2016 respectively.

**The Summary of the decisions taken during the meeting are separately enclosed at Annexure-XII.**

The meeting ended with a vote of thanks to Chair.

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