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Government of India
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CENTRAL WATER COMMISSION
प्रशिक्षण निदेशालय
Training Directorate

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CIRCULAR

A copy of the "Training Policy,2017" of CWC as approved in the 192nd Commission Meeting of Central Water Commission held on 26.10.2017 is enclosed for information of all concerned.

Encl: As above


12/01/2018
(RAMESH KUMAR)
Director (Training)

To,

1. PPS to Chairman, CWC New Delhi.
2. PPS to Member WP&P/ D&R/ RM, CWC, New Delhi.
3. All Chief Engineers, Central Water Commission
4. Chief Engineer (TCD), CEA, Sewa Bhawan, R.K. Puram, New Delhi
5. Director Co-ordination(WP&P/ D&R/ RM), CWC, New Delhi.
6. Secretary/Director (TC), CWC, New Delhi.
7. Project Director (DRIP) & Director (DSR)/Director RDD-I,CWC,New Delhi.
8. All Directors/Superintending Engineers, Central Water Commission
9. Director(R&D),MoWR, RD&GR, West Block-I, R.K. Puram, New Delhi
10. JE, Training, CWC, New Delhi with a request to upload this circular on the CWC website www.cwc.nic.in and on CWC intranet portal.

Copy to:

CE, NWA, CWC, Pune.



सत्यमेव जयते

Government of India
Central Water Commission

TRAINING POLICY OF CWC 2017



Training Directorate
CWC, R.K Puram, New Delhi

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TRAINING POLICY OF CWC,2017

1. Preamble

Need for training at all stages during the career of every official is well recognized, particularly for a knowledge driven organization like Central Water Commission (CWC). Well aware of this requirement, CWC has had a "Training Directorate" since long; and in 1988 it setup a "Central Training Unit" (CTU) at Pune, which in year 2002 was upgraded to a full-fledged "National Water Academy" (NWA). Efforts are being made continuously in upgrading the infrastructure and the training facilities at NWA and also capacity building of officers imparting training at NWA.

As water sector is evolving continuously encompassing multi-disciplinary character, there is need to prepare and train CWC officials to face the challenges in the sector. There is a need for training on various engineering and non- engineering topics pertaining to the water sector and up grading the knowledge and skills of Human Resources of CWC/MoWR,RD&GR with increasingly focus on the integration of knowledge, behaviour,skills, understanding and experience. There is a need for an appropriate training policy to address the training needs of the organization.

Earlier, a Training policy for CWC was framed in the year 2008 and then revised in the year 2013. However, there is need to further evolve the training policy to prepare its cadre to face the challenges in the water sector as on today but also the future challenges.

The purpose of this Training Policy is to:

- a) Quantify the training needs at various stages of the career of an officer including behavioral needs in line with Career Progression Policy and RR
- b) To evolve a procedure so that all personnel receive adequate training such as Training needs assessment (TNA)
- c) To make the entire process of training more systematic and more transparent;
- d) To identify administrative and procedural changes that may be necessary to make this Training Policy work;
- e) To lay general guiding principles regarding training for all concerned and development of trainer's pool

For the purpose of this Training Policy, the word “training” is taken to include not only the classroom instructions, but also participation in seminars, workshops, brainstorming sessions, and field study tours – in India as well as abroad including adding the academic degree in various disciplines.

Training Policy has been prepared after wide consultation with the stakeholders.

2. Scope

Although this Training Policy is mainly for CWES cadres of Central Water Engineering (Group-A) Service but it is placed on record that training is also required for other technical and non-technical personnel of CWC. Accordingly provisions have been suitably kept in this Training Policy.

3. Objectives

The objective of the training are the all round development viz. professional competency, inculcate leadership qualities, positive attitude and proper ethics, commitment to work etc.

The broad objectives of training are:

- a) To keep state of the art professional knowledge and technical and managerial skills of officers, in keeping with their career progression requirements and advancements in the field;
- b) Sensitize the participants to the socio, economic, environmental and other demands of water resources stakeholder groups;
- c) Educate the officers about the intricacies of global debate on water and allied resources.
- d) Cultivate qualities of leadership, initiative and spirit of team-work, and inculcate a positive attitude towards the work to face problems in their work areas and attempt out-of-box solutions;
- e) Provide opportunity for exchange of experience through adequate discussion on technical, managerial, policy issues in Water Sector related to organization;
- f) Train participants to look at problems in a comprehensive and integrated manner and develop a systems approach with substantial focus on innovation ;

- g) Provide an opportunity for the participants to *unwind*, by interacting with people with similar as well as different experiences, and correlate with relevant research and conceptual material available;
- h) Serve as a sabbatical period for the participating officers.

4. Guiding Principles

The Training Policy is formulated based on following guiding principles:

- a) Provide an *enabling instrument* for broad-based trainings in CWC leading to large number of officers attending the required training, in diversified field, with a view to meet the career progression requirements of the individual officers.
- b) Training needs of 'Direct Recruits' and 'Promoted Officers' are different because of difference in their career graphs and responsibilities assigned.
- c) There should be equal emphasis on technology topics and topics on personality development and policy issues in the overall training program. Training on policy issues, supply-demand management, optimization of resource availability, soft skills, socio-economic, environmental and legal (water laws) aspects etc have also assumed great importance in view of the future water and food security challenges of the nation.
- d) In addition to trainings in NWA, it is proposed to encourage officers to attend trainings in other institutions. The subjects like Water Sector Reforms, Water Laws, conflict resolution mechanism, etc can be taken up with other specialized institutions. Trainings in various institutions of repute in the areas of their expertise shall be focus of the training policy. An indicative list of institutes imparting training in India and abroad are placed at **Annexure-I**. The list is indicative, not exclusive and is subject to be updated from time to time.
- e) The need for technology exposure has been felt and has been made part of the training policy and in turn will be part of annual training program.
- f) The nominations of officers for various training program shall be governed by the training needs assessment of each officer. The Training Directorate will create, maintain and update from time to time list of "Recommended" programs in various institutions, and will prepare a panel of officers for each year for various courses/programs in line with the career progression requirements of individual on the advice of a committee to be formed with the approval of Chairman, CWC.

- g) This Training Policy covers training needs to entire length of service/designation.
- h) This Training Policy lays emphasis both on “desirable” and “obligatory” or “mandatory” forms of training, like some of the training programs such as, the Induction Training Program, Orientation Training Programs for promoted ADs, Mid Career Training Programs etc being mandatory and rest as desirable. The Training Directorate shall monitor the training activity for each individual by maintaining pertinent database and acting as a *facilitator* - assisting those who are unable to complete their required training due to reasons beyond their control; and nudge those who seem to be avoiding it.
- i) The Training Policy recognizes that the foreign tours/ study tours abroad bring about on the overall learning and development process of an officer. Every moment in a foreign visit, particularly to the developed societies, is a new and learning experience in many ways. All this goes towards widening of horizons and building the confidence. Exposure to way of life, work culture, and attitudes in developed societies; experience of interacting with people from different cultural backgrounds, are essential ingredients for those destined to man higher position in the Government. Therefore, foreign trainings need to be seen as an opportunity for all round growth and development of personality of an officer.
- j) Necessary arrangements for facilitating exchange programs with the organizations of repute (both national and international) and Memorandum of Understanding with them will be attempted in due course of time.

5. Training Need Analysis (TNA)

Central Water Commission, being an apex technical organization in the water resources sector in the country, plays a very important role in the overall development of Water Resources sector in the country. In order to continue playing its role effectively as an apex organization in the Water Resources Sector in the country, it is of utmost important that engineers working in Central Water Commission must necessarily have the highest level of knowledge and competence and keep themselves abreast with the state of the art technology in all the aspects of water resources development. For this, it is very important that CWC engineers are regularly sent to participate in various training programs, seminars, conferences, symposia and workshops etc. in the country and abroad.

TNA of individual shall bridge the broad competencies gap in each unit of CWC and will identify focus area for training

In line with the above, Training Need Analysis for various levels of CWES/CWC officers has been carried out and immediate attention needs to be given to the following:-

- (i) For necessary up gradation of the skills of the CWC engineers, customized advanced training programs (short term and long term both) on specialized topics related with various aspects of water resources development, to be held in collaboration with eminent institutions within the country as well as abroad is an absolute necessity.

The CWES officers may be deployed in field formations on the projects of MoWR, RD & GR such as Polavaram Project Authority and should also be attached with Flood Regulation Committee

- (ii) CWC officers are, at present, deputed to 12 months training program leading to PG Diploma in Water Resources Development / Irrigation Management / Hydrology at IIT Roorkee and the same needs to be continued.
- (iii) In order to get the latest know how of the state of the art in the water sector and to get sufficient opportunities for active interaction with the water resources professionals at national and international level, the CWC engineers also need to be deputed to participate in various training programs on relevant topics, seminars, conferences, symposia and workshops that are organized by various organizations/ institutions of eminence in India and abroad.
- (iv) Rapid changes are taking place worldwide in the state of the art techniques developed for solving the problems of water resources development and management. Training schedules of CWC engineers, therefore, have to include participation in training programs, which are organized by Institutions of International standing.
- (v) The details of training requirements as envisaged in the policy are also linked with the Career Progression Policy adopted by Central Water Commission. The training need as such will fulfill the objectives of Career Progression of CWES officers in particular and overall functioning of CWC.

- (vi) The Training needs of every individual officer shall be assessed based on self appraisal, appraisal by controlling officers, current and future job requirement, likely career progression etc.
- (vii) The Training needs assessment of each officer may be carried out once in every five years.

MoWR, RD & GR suggested for Training need analysis by experts accredited by DoPT. Accordingly training needs analysis shall be reviewed from time to time through professionals in the field, experts accredited by DoPT etc. Based on such review the current Training Policy will be fine-tuned.

6. Training Schedule

(a) The trainings schedule will include both short term trainings as well as long term trainings.

(i) Short-term trainings:

- Induction Training Program
- Core Area Training
- Mid Career Training Program
- Functional Training
- Foreign Training Program
- Workshops/Seminars/Conferences
- TOT programs for faculty

(ii) Long-term trainings:

- PG Diploma / M. Tech. / Ph.D.
- Nomination against Chairs
- Nomination to Institutes other than Chairs

- b) Quantum of training: Training of 35 weeks duration is desirable in entire career.
- c) This stipulated training quantum shall exclude university courses like PG Diploma/ M.Tech/ PhD etc.
- d) The stipulated training quantum also exclude the Induction Training Program, which is to be imparted at the entry level to the CWES officers

- e) Participants in various training programs may be required to maintain a learning log to capture the knowledge and skill by them during such training.

6.i Induction Training Program (ITP) for direct recruits AD's/AEE's

This program is for newly recruited Gr. 'A' officers at intake level of 26 weeks (6 months) which will include field/project visits as well. The time period of induction training is not accounted towards the overall training requirements of CWES Officers. The domain knowledge, familiarity with the activity / program and policies will help them to integrate with day-to-day working of the CWC/Ministry/ other organizations in understanding and evaluating proposals, formulating policies and programs leading to decision making. The program conducted at NWA may also include deputation to a management or administrative training institute of repute and visits to major Water Resources Projects. Broad contents of training are at **Annexure II**.

Duration of 6 months is in line with approved Training Policy, 2014 of MoWR, RD & GR and also as per the decision taken in the Commission meeting of CWC.

During 192nd Commission Meeting of CWC held on 26/10/2017 it was agreed to the suggestion on Bharat Darshan Programme for 4 weeks to be included in the syllabus of ITP. During this programme, projects of MoWR, RD & GR and important institutions including the institutes of National importance are to be visited by the trainee officers.

Further, if the strength of the batch is up to 15 then the ITP may be imparted in one batch and if the strength of the batch is more than 15 then the ITP may be conducted in two spells.

It is proposed that newly recruited AD's/AEE's would direct report at NWA on their joining in CWC, so that before their journey starts in CWC, they are imparted ITP. Their posting may be decided after their ITP on the basis of their evaluation report received from NWA, CWC, Pune. Possibility may also be explored to commence the ITP on a fixed date every year. All the officers who join CWC in the same fixed window may be deputed for same ITP. However, those officers, who join CWC after that window may be considered for nomination in the next ITP.

The syllabus of the Induction Training Program has been finalized by the Program Advisory Committee (PAC) chaired by the Chairman, CWC having representation of Senior Officers from the various Wings and Organizations of CWC.

Officers of 29th ITP conducted at NWA were actively involved in the Swachhata Bharat Abhiyan during 2016-17. Officers of future ITP will also be given the task of Swachhata Bharat Abhiyan in the nearby areas. Also as per the directives of DoPT, citizen centric activities like organizing blood donation camps etc can be conducted for future ITP officers.

Need for engaging ITP officers with social and cultural strata of the various parts of the country was already appreciated by the Advisory Board in its 22nd Meeting held during December 2016. The Advisory Board recommended Bharat-Darshan Tour of appropriate duration to visit various states and important projects across the country in India. Accordingly, future ITP officers will be provided with a component of Bharat-Darshan including the social and cultural aspects.

Evaluation:

During the induction training, the performance and aptitude of the officer shall be assessed at NWA, CWC, Pune to define the core area of interest/aptitude, suggest inputs for career progression of an individual officer and suitability of the office(s) for his/her initial posting. During the period of Induction Training tutorial exams/sessional will be evaluated by NWA/CWC for theoretical as well as project visits and shall be linked with his/her probation clearance. Trainee's performance will be reviewed every two months during the Training. The assessment will be recorded in his/her APAR.

6.ii Induction Training Program (ITP) for J.E's

Apart from newly recruited AD's/AEE's, ITP for Junior Engineers at intake level of 2 to 3 weeks duration will also be held at NWA, Pune/CWC (HQ), which will also include field/project visits as well, so that they get an exposure of not only CWC activities in the field but also the projects related to water resources. Broad contents of training are given at **Annexure-III**.

Evaluation:

During the induction training, the aptitude of the officer shall be assessed at NWA, Pune/CWC (HQ). Participation in the ITP would be mandatory for all newly recruited JE's and their participation/non participation will be recorded in their APAR.

6.iii Orientation Training Program for Promoted AD's/AEE's

This program is for promoted AD's/AEE's. Since the promoted officers into the grade of Assistant Directors / Assistant Executive Engineers already have a work experience of more than about 10 years in the organization, the orientation training for promoted officers would be of duration of about 2 to 3 *weeks*, which is in line the Training Policy, 2014 of MoWR, RD & GR. Officers having less than two years service left will not be considered for OTP. Broad contents of training are given at **Annexure-IV**.

Participation in the OTP would be mandatory and their participation/non participation will be recorded in their APAR.

6.iv Orientation Training Program for AD-II/SDE

This program is for AD-II/SDE on their promotion from JEs. Since these categories of officers have a work experience of about 5 to 10 years in the organization, the orientation training for promoted officers would be of duration of about 2 *weeks*, which is in line the Training Policy, 2014 of MoWR, RD & GR.. Broad contents of training are given at **Annexure-V**.

Participation in the OTP would be mandatory and their participation/non participation will be recorded in their APAR.

6.v Training for Subordinate Cadres

The Training needs of CSS or CSSS cadre are normally organized by the DoPT. However; the subordinate cadre is not covered in these trainings. Accordingly, the training requirements of these cadres are the part of this policy.

Broad Contents of Training of subordinate cadre of CWC is placed at **Annexure-IX**.

6.vi. Training for Communication Cadres

Communication Cadre mainly deals with the Communication of data through HF/VHF/Satellite Communication system. Monitoring of IMD web site for rainfall/precipitation in various catchment to check rise or fall in observed CWC telemetry data. Planning and Installation of Satellite based telemetry network, Earth Station and modeling centres and monitoring of data transmission/reception through telemetry network. Therefore it is necessary that they are imparted training on the relevant topics.

Broad Contents of Training of Communication cadre of CWC is placed at **Annexure-X**.

6.vii. Training for Hydro-met Cadres

The Hydro-met cadre deal with highly specialized technical works like analyzing meteorology of the basin, developing/generating flood forecasts, analyzing extreme rainfall events etc. The trainings are mandatory for the Senior Computer to Scientific Assistant, Scientific Assistant to Extra Assistant Director (HM), Extra Assistant Director (HM) to Assistant Director (HM) and Assistant Director (HM) to Deputy Director (HM) as specified in the RRs of Hydro-met cadre. Accordingly, appropriate trainings have been incorporated for this cadre.

Broad Contents of Training of Hydro-met cadres of CWC as approved by Chairman, CWC is placed at **Annexure-XV to Annexure- XVII**.

6.viii. Training for Scientific Cadres

Training requirements of SRA, ARO and RO have been suitably identified so that water quality monitoring and assessment related works are duly taken care of.

Broad Contents of Training of Scientific Cadres of CWC are placed at **Annexure-XI for SRA, Annexure-XII for ARO, Annexure-XIII for RO**.

6.ix. Miscellaneous Trainings to various levels

The Training needs as reflected in the APAR to various levels will also be taken into consideration, while finalizing the schedule of programs.

An indicative list of Training requirement as per APAR in respect of few technical and non- technical posts is placed at **Annexure-XIX**. The list is not complete for all the posts, an attempt will be made to gather the information for remaining cadres also for further needful action for arranging necessary training.

6.2 Core Area Trainings (CAT):

The different units of Central Water Commission at headquarter and in field are engaged in diverse areas of specialized activities and there is a need to address the capacity building of engineers/scientists working in all the different units so that there is continuous up gradation of the skills across diverse domain of water resources sector at par with state of art. In exercise of its responsibilities, the core activities undertaken by CWC can be broadly classified into following categories:

- River Basin Planning and management
- Environment management issues, Climate Change Issues and their mitigation of art technology world wide
- Irrigation Planning & Management, Performance evaluation and benchmarking
- Hydropower& Construction of Structures
- Dam Safety & Instrumentation
- Hydrological Studies
- Flood Forecasting & Management
- Survey and Investigation
- Remote Sensing and GIS
- River Water Quality Modelling, Water Resources Modellingand Management
- Project Planning & Management, Application of Soft Computing and data base
- Design of Water Resources Structures
- River Engineering
- Human Resources Management and Training needs analysis

The Core Area Training programs would be of 3 weeks duration each. These programs will be on the aspects relating to functional areas encompassing the present works of CWC, and also on other areas where the CWC is asked to provide technical knowhow, advice or otherwise from time to time.

Under such programs, each of the CWES officers will be given training in minimum of 3 functional areas as per his/her assessment of training needs or as per the functional need of the department in line with the career progression requirement during his/her career till Promotion to SAG level. This could be organized at NWA, Pune or at other institutions like IITs, ASCI, ESCI, NIRD, NIFM, IIMs, etc. The first core area training shall be imparted any time during the service as AD or DD, and the second & third core area training at any time during the service as DD or Director.

The trainings in core areas will appropriately enhance the technical/professional skills of an officer as per the need of the organization,. The training needs proposed by individual officer in his APAR will be duly accounted for while preparing the panel of officers for a particular training. The areas/disciplines of technical training will be identified on the needs of the officers together with the need of the organization to address the future challenges in the water sector.

Evaluation:

On the completion of the program, the officers will be required to write thematic papers, which will be evaluated by the course coordinators. The assessment made thereby will be recorded in the APAR of the officer.

6.3 Mid Career Training Programs (MCTP):

DoP&T recommended that MoWR may devise and put in place a Mid Career Training Program (MCTP) for Engineers up to HAG level of various years of experience as is being done by various services such as IAS, IPS, IFS's, etc.

Accordingly, the Mid Career Training Program at three stages during the total career of CWES officers has been proposed and participation in all these three programs would be mandatory. These MCTP programs are aimed towards training in personality development, management and policy issues. A Training schedule will be prepared by identifying the batches/officers to be covered in a particular year for the Mid Career Training Programs-I, II & III. The details of topics to be covered in the MTCP will be finalized by the Training Directorate in consultation with NWA and appropriate changes will be made time to time based on the feedback received from the participating officers. An indicative list of topics for the MCTP is given in **Annexure-VII**.

The training under MCTP-I, MCTP-II and MCTP-III will be organized normally at National Water Academy, CWC, Pune. However, training may also be held at any other reputed training institutes/ organizations, such as LBSNAA, Mussourie, ASCI, Hyderabad, ESCI Hyderabad, YASHDA, Pune, etc. The durations of MCTP shall be of 1 to 3 weeks duration. The total duration under each programme may be split as per requirement. The training under these components may also include one week of foreign visit/study tour/ participation in conferences/seminars etc.

Details of MCTP is placed at **Annexure-VI**.

Evaluation:

On the completion of the programme, the officers will be required to make a detailed participation report highlighting how the training will be made use of in day to day functioning of the officer. The officer will also be required to make a presentation on the same. Participation in the MCTP would be mandatory and their participation/non participation will be recorded in their APAR.

6.4 Functional Trainings:

In order to expose officers to different technological advances made in the tools available in the analysis, design and evaluation aspects of water resources, there should be continuous training effort to enable them become familiar with the new technology and advancements. The officers will be imparted functional trainings at regular intervals on specific topics related to latest techniques and new advancements in the field of water resources, such as Remote Sensing and GIS, use of specialized software and use of technology for new advancements, etc. The areas under which these functional trainings may be arranged may be selected from the indicative list given in **Annexure-VII** or other relevant areas found appropriate. Officers may also be deputed for training under Hydrology Project, DRIP and such other projects that may come up. The total duration of such training during the career span of an officer should be about 6 weeks and the training may be provided at NWA or some other reputed institutes.

6.5 Foreign Training Program (FTP):

For the organization to continue playing its role effectively as an apex organization in the Water Resources Sector in the country, it is very important that CWES engineers become aware of the latest know how of the state-of-the-art

technology in different domains of water sector as well as get sufficient opportunities for active interaction with the water resources professionals at international level. The Training Policy 2014 of MoWR, RD & GR also lays emphasis on imparting a global outlook and an international perspective through participation in various training programs being conducted by reputed institutions abroad.

The objective is to impart foreign training of minimum of 8 weeks duration to a CWES officer during his/her career. Foreign Training shall be provided to engineering officers in two stages, about 4-5 weeks at Deputy Director / Director level and 2-3 weeks at Chief Engineer level. It is intended to provide an international exposure and experience to the CWES officers, early on in their career, which will help them in becoming equipped with the state of art technologies. The officers at the level of AD-II and AD will be considered for foreign training provided they are eligible for foreign training as per the Government rule in vogue.

The areas under which these foreign trainings may be arranged from the indicative list given in **Annexure-VII**, or any other relevant areas found appropriate. An indicative list of institutes / universities of excellence located abroad for providing training to officers is given in **Annexure-I**. While many of these institutes have ready-made training programs on offer for participation of candidates from different countries, many others have been selected for providing customized advanced training programs on specialized topics. This list is not exhaustive and may be augmented based on survey and consultations. Also entering into long term MOU will be required with some institutes, so that time consuming formalities may not require every time.

Evaluation:

On the completion of the program, the officers will be required to make a detailed report on the program attended and also make a presentation.

6.6 Long Term Trainings

6.6.1 M. Tech: / PhD

The officers will be encouraged to acquire higher degree by way of M. Tech/PG Diploma. It is proposed that up to 1.5% of the sanctioned posts of total group A

and Group B officers may be deputed for acquiring higher education like PG Diploma/M. Tech/Ph.D either by way of granting study leave or otherwise.

6.6.2 Nomination against Chairs:

Ministry of Water Resources has set up professional chairs in Six Academic institutes viz, IIT Kanpur, IIT Kharagpur, IIT Guwahati, IIT Roorkee, NIT Patna and NIT Srinagar with an objective to carry out studies on Water Resources with special emphasis on assessment of effect of climate change on it and adaptation strategies. MoU for establishment of Professional Chair have been signed between MoWR and the respective Institutes during Sep/Oct 2008.

As per Article -10 of the agreement, M.Tech& Ph. D. courses - the two programmes (Regular or part time) will be made available for the officers of MoWR, RD& GR and its organizations in Water Resources field. While nominating officers against these chairs the respective office will be asked to carry out research and complete his studies in the areas mandated to these chairs in consultation with the professor/ Chair. In a particular year total of 6 officers may be nominated for higher studies/ research specifically to these chairs. The procedure as outlined is appended at **Annexure – VIII**.

6.6.3 Nomination to institutes other than Chairs

The officers will be encouraged for acquiring higher education from the institutes other than the identified institutes in professional chairs

6.7 Other Trainings/Seminars/Conferences:

One of the objectives of encouraging officers to participate in workshops, seminars and conferences on regular basis is to expose them to the field of emerging challenges and to equip them to look for out of the box solution for complex issues. Participation in national and international Workshops/Seminars/Conferences provides an opportunity to Engineering officers to interact with academicians, practitioners and national/international experts on various contemporary subjects and issues and, therefore, participants in such events are enriched with relevant knowledge, latest thinking and technological developments. The participant officers may be encouraged to institutionalize their learning through presentations and reports to the Ministry/Department. Effort should be made to nominate officers on regular basis to these events, with a target of about 6 weeks in all during the career span

of an officer, not only in the area of his / her present activity, but also in areas of interest shown by the officer. These nominations can be on diverse topics that may be relevant for an officer's overall exposure to water sector.

6.8 Training of Trainers program:

It is necessary that all the faculty members are deputed for such training with a view to upgrade their technical skill, training skill and their knowledge base. NTP, 2012 also mentions about Trainer Development.

MoWR, RD & GR also suggested on TOT for faculty. The Need for Training of existing faculty members of NWA in ToT programs conducted by DoPT has already been appreciated by the Advisory Board of NWA. The Faculty Members are being accordingly nominated in the programs conducted by the DoPT and other institutes.

6.9 Trainings under other ongoing project:

Officers will also be deputed for training under National Hydrology Project, DRIP and such other projects that may come up. Opportunities available in these projects shall be dovetailed with overall training programs of the organization. However, 60% slots of the available training program will be reserved for the officers associated in that particular project and remaining 40% will be from other suitable officers.

7.0 Summary of Trainings proposed

Training	Duration	Remarks
Induction Training Programme (ITP) - (At NWA)		
(a) Direct Recruits	30 weeks	1. Includes not only class work and field visits, but also visit to management and administrative institutes. This includes 4 weeks Bharat Darshan
(b) JE	3 weeks	1. Includes class work at NWA, Pune/CWC (HQ and field visit)

Orientation Training Programme (OTP) - (At NWA)		
(a) AD/AEE's	2 weeks	Includes class work and field visits.
(b) AD-II/SDE	2 weeks	Includes class work and field visits.
B. Core Area Training (CAT)		
-- CAT-1	3 weeks	Any time during the service as AD or DD
-- CAT-2	3 weeks	
-- CAT-3	3 weeks	Any time during the service as DD or Director Any time during the service as DD or Director
C. Mid Career Training Programs		
-- MCTP-I	3 weeks	After 6 years of entry into CWES (at DD level)
-- MCTP-II		
-- MCTP-III	2 weeks	After 12 years of entry into CWES (at Dir level)
MCTP of six week duration shall be mandatory for each CWES officer	1 week	After 24 years of entry into CWES (at CE & Member level)
D. Functional Trainings	6 weeks	Any time during the service at three levels viz. AD, DD and Director
E. Foreign Training Programme (FTP)	8 weeks	Any time during the service at levels DD / Director / Chief Engineer: 4-5 weeks at DD / Director level and 2-3 weeks at CE level
F. Workshops/ Seminars/ Conferences etc.	6 weeks	This can be of duration of a couple of days or 1 or 2 weeks each at any time of the career.
TotalΣ	39weeks	

Note:

- ❖ *Enrolment to Institutes for PG Diploma/M.Tech./Ph.D. or nomination against Chairs will be in addition to the above.*
- ❖ *The induction training (as the case may be) is mandatory for all officers. Out of other components of training, the Core Area Training and the Mid Career Training Programmes are mandatory.*

8. Enabling Mechanism

Following points also call for attention to make this Training Policy work:

MOU with National/international Institutes

It is proposed to enter into a MOU with institutes of repute both National/International where in CWES officers will be deputed for short terms/long term courses. Deputation to such courses will be for Specialised Core Area Training/Policy and Management trainings, MCTP etc.

Funds:

SFC memo for 3 years for "Continued up gradation of National Water Academy (NWA) in Central Water Commission (CWC)" has been submitted to the MoWR, RD & GR. The Memo contains provision for meeting the training related activities along with the expenditure related to travel in India and abroad. Funds available under other scheme may also be utilized, if found appropriate with the approval of Chairman, CWC. Success of implementation of the policy is dependent on the availability of sufficient funds.

9. Nomination of CWC officers for training programs:**9.1 Existing Guidelines****(a) National Events: (Other than Hydrology Project)**

- i. All the nominations are approved by the Chairman, CWC on the recommendation of the concerned Members / Chief Engineer (HRM) in respect of HRM unit and Chief Engineer (NWA) in respect of NWA in respect of the trainings/seminars/conferences etc. being organized by the institutions other than NWA, CWC, Pune.
- ii. In respect of the training programs being organized by NWA, CWC, Pune, nominations are approved by the respective Chief Engineers

in respect of field offices. However, in respect of Headquarter, such nominations are approved by concerned Member/Chief Engineer (HRM) in respect of HRM unit.

- iii. Training Directorate circulates the event widely to all the offices by uploading on CWC website.
- iv. In respect of a few programs such as the Induction Training Programs (ITP) for the newly recruited ADs and JEs, Orientation Training Programs for promoted AD's of CWES and AD-IIs, Core Area and the Mid Career Programs(MCP), the nominations are made directly by Training Directorate, with the approval of the Chairman, CWC.
- v. So far, the Training is considered to be optional wherein the nominations are made on the willingness of the officer/official concerned.
- vi. Process of uploading circulars on CWC web site, as is being done presently is continued. The training circulars are also being sent up to Director Level by creating a group of CEs and Directors in NIC Mail.
- vii. All the training related matters under DRIP, NHP and any other project are also to be routed through Training Directorate. For nominations in core area training program, that the coordination Directorate may allocate 3 core areas to all officers from the level of AD to Director.
- viii. It has been decided that Circular for the training programs, having lead time less than 10 days shall not be circulated. However, if it is unavoidable and requires processing the case for deciding the nominations, Training Directorate may identify suitable names in consultation with their controlling officers/concerned coordination Directorate /officials concerned.

(b) National Events: (Under Hydrology Project)

- i. Circulars are issued and nominations processed by River Data Directorate, CWC, New Delhi. In respect of all approval, copies are to be endorsed to Director (Training).
- ii. All nominations of non-gazetted staff (including those from other wings), irrespective of duration are approved by Member (RM).

- iii. All nominations of Gazetted officers (including those from other wings) are approved by Chairman, CWC.
- iv. For all trainings/study tours/seminars/workshop etc. in India, a few nominations of officers from non-H.P. region are also considered in view of the fact that any officer from non-H.P. region can be posted in H.P. region any time and vice versa.
- v. All the foreign training/study tours/seminars/workshops /symposia etc. including nominations from non-HP regions also, are approved by the Chairman, CWC, before sending it to MoWR RD&GR.
- vi. It is kept in view that persons sponsored for training are not likely to be transferred within a year. However, this cannot be quoted as reason for retention in exigencies of transfer, in public interest.

9.2 Proposed Guidelines

In order to ensure that the requisite training is imparted to all CWC officers so as to facilitate building up their core and functional competence, a new guideline is proposed to be adopted for nominating CWC officers for their participation in trainings/seminars/conferences etc.. The new guidelines are proposed as under:

- i. A data base will be created/updated with details on experience, qualification, age, superannuation and training provided for all CWES Gr 'A' officers and other officers. Similar data base will be prepared by NWA with details on trainings imparted so that the training imparted can be made best use of.
- ii. Training Directorate will prepare a list of suitable officers for their participation in various training programs on the basis of the need of the training program. The training requirements in respect of each of the officer will be assessed by the Training Directorate as per the training needs indicated by the officers themselves and as suggested by their Controlling Officers in their APAR and also keeping in view their functional competence requirement for their current assignments and also integrating career progression policy/requirements of the officer. In long term, it is aimed that sufficient well trained officers will be available in all the areas of the organizations.
- iii. While preparing the panel for a specific training program, sufficient care will be taken to include all concerned officers requiring the related competence, in a phased manner.

- iv. The current practice of inviting nominations by circulating the training brochures may not be required. However, each and every officer while submitting their application for nomination will certify that their bio-data on CWC website is updated and any wrong information will be their sole responsibility. Training Directorate will download the necessary bio-data for further processing.
- v. The above nomination procedure will be applicable in respect of all National events, including those pertaining to National Hydrology Project, DRIP, etc. 60% slots of the available training program will be reserved for the officers associated in that particular project and remaining 40% will be from other suitable officers.
- vi. Officers having less than 2 years of service left may be considered for nominations to short-term training programs /Conferences and not to the long term program.

9.3 Proposed guidelines for Events Abroad

It is proposed that the guidelines as proposed above for nomination for national events shall also be applicable for all foreign events, too. Attempt shall be made to cover all the eligible officers for foreign training at least once in 10 years.

10.Exemption from participation and nomination for paid Trainings

As far as possible, exemption from participation by the officer in a particular training program shall not be entertained. However, if exemption in unavoidable circumstances or on any pressing ground would be considered by the competent authority on the recommendation of officer as indicated below:

JE or same level or below: Director/SE concerned.

AD-II/DD/EE/Directors/SE or same level: CE concerned.

CE's or same level: Member concerned.

For paid programs, while finalizing the nominations, additional 20% nominations of the total slots available may be kept as reserve in order of preference.

11. Clearance of Technical Papers:

Attending seminars, and particularly the international seminars, is part of training activity; and nominations for such seminars are linked to acceptance of a paper for

the seminar. Hence, paper writing-particularly reflecting original thinking should be encouraged and clearance facilitated.

Purely technical papers, not involving any policy issues, may be approved by concerned Member or Chief Engineer (HRM) (NWA). They may get the papers examined by the concerned Directorate in CWC dealing with the subject, before according the necessary approval, if they so desire.

The papers, involving policy issues, may continue to be approved by Chairman, CWC, for presentation in the national level Seminars/ Conferences, etc, while in respect of presentation in International Seminars/ Conferences, etc, the papers, involving policy issues, may continue to be approved by ministry.

12. Review of Policy

It should be appreciated that a policy document is a guideline, rather than a rule book. The policy is to be applied with appropriate amount of flexibility and it should be used as an enabling instrument towards organizational development process.

The proposed Training Policy, 2017 may be reviewed/modified from time to time after observing its implementation preferably a interval of every five year.

INDICATIVE LIST OF INSTITUTES IMPARTING TRAINING INDIA

1. Administrative Staff College of India, Hyderabad.
2. All IIM's (restricted Ahmedabad, Bangalore, Calcutta, Lucknow)
3. All IITs (restricted Delhi, Bombay, Chennai, Kanpur, Roorkee)
4. Central Public Works Department
5. Central Soil Material Research Station, Delhi.
6. Central Water Power Research Station, Pune.
7. Engineering Staff College of India, Hyderabad.
8. ILS Bangalore.
9. Indian Institute of Public Administration, Delhi.
10. Indian Institute of Remote Sensing, Dehradun.
11. Indian Institute of Remote Sensing, Dehradun.
12. Institute of Secretariat Training and Management, Deptt. of Personnel and Training, Govt. of India, Administrative Block, Campus (old), Olof Palme Marg, New Delhi-110067.
13. Irrigation Management & Training Institute, Kota and Tamilnadu
14. Lal Bahadur Shastri National Academy of Administration, Mussoorie
15. Management Development Institute, Gurgaon
16. National Council for Cement and Building Materials, Ballabgarh
17. National Informatics Centre, Delhi
18. National Institute of Advanced Studies, Bangalore
19. National Institute of Construction Management & Research, Pune.
20. National Institute of Financial Management, A Govt. of India Society, Sector 48, Pali Road, New Badkhal Lake, Faridabad-121001.
21. National Institute of Hydrology, Roorkee
22. National Institute of Information Technology, Delhi, IIIT Allahabad/IIIT Hyderabad.
23. National Institute of Personnel Management, Chennai
24. National Power Training Institute, Faridabad
25. National Water Academy, CWC, Pune
26. NIDM, Delhi
27. NLS, Bangalore.
28. Power Management Institute, Noida
29. Water and Land Management Institute, Aurangabad and Dhanbad

30. XLRI, Jamshedpur /Symbiosis Law School, Pune/ ILS, Pune / Hyderabad/ Bhopal.
31. Entrepreneurship Development Institute of India (EDII), Ahmedabad
32. National Productivity Council (NPC)

INTERNATIONAL

1. Civil and Environmental Engineering Department, Florida International University, Miami, Florida-33199, USA.
2. Civil Engineering Department, New Mexico State university, Box-300001, Las Cruces, NM 88003, USA
3. Department of Civil & Environmental Engineering, Danish Hydraulic Institute, Denmark
4. Department of Civil Engineer, Yamaguchi University, Ubc, Yamaguchi 7558611, Japan
5. Department of Civil Engineering, Kyushu Sangyo University, Fukuoka, 813-8503, Japan
6. Department of Civil Engineering, University of New Hampshire, Durham, New Hampshire, USA
7. Department of Civil Engineering, Virginia Polytechnic Institute and State University, Blacksburg, Virginia, 24061-0246, USA
8. Department of International Development, I Palace Street, London SW1E 6JH Abercrombie House, Egelsham Road, East Kilbride, Glasgow G758EA
9. Department of Water and Environmental Engineering, Lund Institute of Technology, PO Box 118S-22100, Lund, Sweden
10. Environmental Engineering Program SERD, Asian Institute of Technology P.O. Box-4 KlongLuang 12120 Thailand.
11. Faculty of Engineering, University of Regina, Canada
12. Infrastructure Hydraulic Environment, Westvest 72611, PO Box 3015, 2601, DA Delft, The Netherlands
13. Institute of Public Private Partnership, Washington, USA
14. International Center for Hydropower (ICH), Trondheim
15. International Centre for Water Hazard Risk Management (ICWHRM) (Under auspices of UNESCO Public Works Research Institute Tsukuba-shi, Ibaraki-kon, 305-8516, Japan)
16. International Water Management Institute, PO Box 2075, Colombo, Sri Lanka
17. London School of Economics, UK

18. M/s Bosch Rexroth Ltd. Training Centre, Lohr. Maria, Theresian St. 14-20, 97816 Lohr am Main, Germany
19. National University of Ireland, Galway
20. Norwegian University of Science and Technology, Norway
21. Stockholm International Water Institute, Sweden
22. The Institute of Water Policy, Lee Kuan Yew School of Public Policy, Singapore
23. The International Centre of Excellence in Water Resources Management (ICEWRM), Water Ed Australia Pty, Limited, ABN 13 112 314 780, GPO Box 860, Adelaide SA 5001, Australia
24. The Queens University of Belfast, David Keir Building, Stranmillis Road, Belfast, BT 9, 5AG, North Ireland
25. UCAR/COMET, 3085 Center Green Drive, Boulder, CO80301
26. United State Bureau of Reclamations (USBR), 1849 C Street, Washington DC 20240-0001
27. University of Arizona, Tucson, USA
28. University of Cran, UK
29. University of Newcastle, UK
30. University of Waterloo, Ontario, Canada
31. US Army Corps of Engineers, Washington, USA
32. Utah State University, Logan, Utah-84322. Phone 435-797-1000 (IRBPEM)

ANNEXURE-II**Broad contents of INDUCTION TRAINING PROGRAM for Direct Recruits AD's/****AEE**

Sl. No.	Topic	Duration
1.	Orientation to Perspective in Water Resources Sector	1 week
	HUMAN RESOURCES MANAGEMENT	
2.	Office Administration and Procedures	1 week
3.	Financial Accounting in Government Sector & Works Management	1.5 weeks
4.	Computer Applications	1 weeks
5.	Management Development	1.5 weeks
	TOTAL	5 weeks
	RIVER MANAGEMENT	
6.	Hydrometry including Water Quality	1 week
7.	Techniques of Hydrological Data Processing and Validation using soft tool	1 week
8.	Modelling Tools for Water Resources Projects	1 week
9.	Reservoir Operation and River Morphological Survey and Coastal Erosion	0.5 week
10.	Flood Forecasting & Flood Management	1.5 week
11.	Preparation of DPR, Project Investigation & Planning	1 week
	TOTAL	6 weeks
	WATER PLANNING & POLICY	
12.	Irrigation Management	1.5 weeks
13.	Water Resources Planning and Project Monitoring	1.5 weeks
14.	Environmental, Economic & Social Aspects of Water Resources Projects	0.5 week
15.	Construction and Contract Management	0.5 week
16.	Application of Remote Sensing and Geographical Information System in Water Resources Projects including hands on using Real Time data for Planning of Water Resources Projects preferably using GIS data bank of India	1.5 weeks
	TOTAL	5.5 weeks

	DESIGN & RESEARCH	
17.	Basic Sciences	1 week
18.	Hydrology and related software application	1 week
19.	Analysis and design of gravity dams	1.5 week
20.	Analysis and Design Aspects of Embankment Dams	1 week
21.	Hydel Civil Design	1 week
22.	Design of Weirs, Barrages and Canals	1 week
23.	Design of Gates – Hydro-mechanical Equipment	1 week
24.	Dam Safety and Instrumentation	0.5 week
25.	Personal Interview, Feedback and Valedictory	0.5 week
	TOTAL	8.5 weeks
	BHARAT DARSHAN PROGRAMME	
26.	Visit to projects of MoWR, RD & GR like Polavaram Project Authority etc. Further, important institutions including the institutes of national importance are to be visited by the trainee officers.	4 weeks
	GRAND TOTAL	30 weeks

Note: The above duration includes field/project visit /deputation in Management and Administrative Training Institutes etc. The training content and duration of the training will be modified depending upon the inputs of the participants/faculty and as per TNA from time to time.

ANNEXURE-III

**Broad contents for Induction Training Program for Newly Recruited Junior
Engineers of CWC**

(Duration: Two Weeks)

Day	Coverage
Day-1	Overview of Water Resource in India
	Organizational set up of CWC and MoWR, RD & GR
	CWC Field offices and their broad functions
	संघ की राजभाषा नीति एवं कार्यान्वयन
Day-2	Budget Preparation & Budget Information System
	SOR and Preparation of Estimates, MAS , T&P Accounts, Writing of MBs etc
	Tender and Tender Document preparation, NIT and Floating of NIT, Evaluation of Tender, signing of agreement and execution of works and Payments of Bills
Day-3	Delegation of Powers - work
	Survey Report of T&P and Disposal
	Hydro-meteorological and Hydrological Observation under CWC (Gauge, Discharge, Silt and Water Quality)
Day-4	Monitoring & Assessment of Water Quality parameters – Protocol and Standards
	Lab Visit and Water Quality & Silt Analysis
	Visit to CPWD, CWPRS Work Site
Day-5	Introduction to HIS, Telemetry System

	Overview of surface water information system(e-SWIS)
	Overview Of primary module of eSWIS - eSWDES, eFF&eSV
Day-6	Use of Information Technology in Office (with particular reference to MS Office), e governance
Day-7	Appraisal of Water Resources Project with reference to Broad Activities of CWC
	Establishment Matters ; Service Book, Increment, Reservation Roaster, DPC, Deputation Seniority, Promotion, Pay parity, ACP /CGHS /AMA Rules/Quarters/HRA/ LF etc
Day-8	Visit to Khadakwasla Dam
	Flood Forecasting activities in CWC and Existing Methodologies for Flood Forecasting
	Guidelines for preparation of Detail Project Report(DPR) in respect of Water Resources Projects
	Monitoring of Water Resources Project with reference to Broad Activities of CWC
	Survey and Investigation of Water Resources Project with reference to Broad Activities of CWC
Day-9	Field Visit to GDSQ Site of CWC at Karad Introduction to working and minor repairs / maintenance of various machinery / equipment of such OBEs/ Boats / Vehicles/ Current Meters etc.
Day-10	Office Procedures, Filing System & Record Management
	FR & SR – I : Pay, Allowances, Leave Rules, Advances, PF etc. FR & SR – II : TA/LTC, Joining Time etc

Note: .The content and duration of the training will be modified depending upon the inputs of the participants/faculty and as per TNA from time to time.

ANNEXURE-IV

**Broad contents for Orientation Program for Newly Promoted Assistant Director
/AEE of CWC**

(Duration : Two Weeks)

Day	Session	Coverage
Day-1	I	Overall goals of CWC, GFCC and MoWR
	II	Overall functions of Wings of CWC and MoWR
	III	Directorate Wise activities of CWC and GFCC
	IV	Field Organization activities of CWC
Day-2	I	Introduction to eSWISS with hands on
	II	Introduction of HIS and Telemetry
	III	Planning and Design Aspects of Hydropower Plants including familiarization of relevant BIS codes
	IV	WRIS and Use of BHUVAN Software for Monitoring of Projects
Day-3	I	Introduction to CWC Guidelines – Morphological Studies and Flood Management Aspect
	II	Introduction to CWC guidelines for appraisal of Major and Medium Irrigation Projects; Flood Management Scheme; HE and Multipurpose Projects in CWC including preparation of their TAC notes
	III	Monitoring of Major & Medium Irrigation Projects including introduction to AIBP program
	IV	Introduction to National Water Policy – 2012 and Flood Management Program of MoWR
Day-4	I	Integrated River Basin Planning and Management
	II	Dam Safety Aspects including DRIP Program
	III	Survey and Investigation for preparation of Detailed Project Report
	IV	Application Remote Sensing and Geographical Information System to Water Resources Sector
Day-5		Visit to CWC GDSQ Site
Day-6	I	Overview of Dams - types of Dams and their criteria with special reference to storage and RoR; design issues in each type of dam; codes and technical literature being used
	II	

	III	Importance of Model Studies
	IV	Design Aspects of Concrete / Masonry Gravity Dam including familiarization of relevant BIS Codes
Day-7	I	Design Aspects of Embankment Dams including familiarization of relevant BIS Codes
	II	Broad design aspects of Barrage, Weir and Canals
	III	CWC Flood Forecasting Network and Techniques including introduction to MIKE-11
	IV	Flood Management : Structural and Non- Structural Measures
Day-8	I	Broad design aspects of hydro-mechanical equipment including familiarization with relevant BIS codes
	II	Hydrological Aspects of Water Resources Projects
	III	FEM using Software
	IV	FEM using Software – hands on
Day-9	I	Tender Document preparation, NIT and Floating of NIT,
	II	Evaluation of Tender, signing of agreement and execution of works and Payment of Bills for supplies and works
	III	Visit to Panshet, Khadakwasla Projects.
	IV	
Day-10	I	Visit to CWPRS, Pune for familiarization of different Water
	II	Resources Infrastructure Hydraulic Design of Dams and appurtenant structures
	III	Delegation of Work Powers in CWC

Note: The content and duration of the training will be updated depending upon the inputs of the participants/faculty and as per TNA from time to time..

ANNEXURE-V**Broad contents for Orientation Program for Newly Promoted Assistant Director****-II /SDE of CWC***(Duration : Two Weeks)*

Day	Session	Coverage
Day-1	I	Overall functions of and Directorate Wise activities CWC, MoWR and GFCC
	II	
	III	CWC Flood Forecasting Network and Techniques including introduction to MIKE-11
	IV	Flood Management : Structural and Non- Structural Measures
Day-2	I	Overview of Water Resources Sector in India
	II	Introduction to Remote Sensing and Geographical Information System activities dealt in CWC with INDIA – WRIS program
	III	Introduction to Hydro-meteorological Network and Gauge, Discharge, Sedimentation and Water Quality Observations including relevant BIS codes in use
	IV	-do-
Day-3	I	Preparation of Water Year Book, Sediment Year Book, Water Quality Year Book, Meteorological Book using SWDES / eSWIS
	II	Introduction to National Water Policy – 2012 and Flood Management Plan of MoWR
	III	Visit to Khadakwasla Dam
	IV	
Day-4	I	Introduction of HIS and Telemetry
	II	Introduction to CWC Guidelines – Morphological Studies and Flood Management Aspect
	III	Monitoring of Major & Medium Irrigation Projects including introduction to AIBP program
	IV	Monitoring of Major & Medium Irrigation Projects including introduction to AIBP program
Day-5	I	Overview of Dams - types of Dams and their criteria with special reference to storage and RoR; design issues in each

		type of dam; codes and technical literature being used
	II	Field Organization activities of CWC
	III	Overview of Dams – Contd...
	IV	Broad design aspects of hydro-mechanical equipment including familiarization with relevant BIS codes
Day-6	I	Hydrological Aspects of Water Resources Projects
	II	Design Aspects of Concrete / Masonry Gravity Dam including familiarization of relevant BIS Codes
	III	संघ की राजभाषा नीति एवं कार्यान्वयन
	IV	Design Aspects of Embankment Dams including familiarization of relevant BIS Codes
Day-7	I	Broad design aspects of Barrage, Weir and Canal
	II	Latest Software used in CWC for design
	III	Tender Document preparation, NIT and Floating of NIT, Evaluation of Tender, signing of agreement and execution of works and Payment of Bills for supplies and works
	IV	-do-
Day-8	I	Vigilance, Disciplinary Conduct Rules
	II	Dam Safety Aspects including DRIP Program
	III	Visit to CWPRS, Pune
	IV	
Day-9	I	Introduction to CWC guidelines for appraisal of Major and Medium Irrigation Projects; Flood Management Scheme; Multipurpose and HE Projects in CWC including preparation of their TAC notes
	II	Planning and Design Aspects of Hydropower Plants including familiarization to relevant BIS codes
	III	Delegation of Work Powers in CWC
	IV	Introduction to SWDES with hands on
Day-10	I	Introduction to e-SWIS with hands on
	II	Introduction to e-SWIS with hands on
	III	Office Procedures, Filing System and Record Management

Note: The content and duration of the training will be modified depending upon the inputs of the participants/faculty and as per TNA from time to time.

MID CAREER TRAINING PROGRAMME FOR CWC OFFICERS

On the basis of Mandatory Mid Career Training Programme for IAS/IPS' officers etc and also keeping in view the need of the Water Sector as a whole and the role of CWC in particular, CWC proposes three such mandatory programmes in the entire career of an officer.

The main objective of Mid Career Training Programmes is to build next level competency. The officers with increasing experiences would be holding various responsibilities in the field of Water Resources Development and Management in the country and would be dealing with issues pertaining to governance, management and policy formulation in the Water Sector and also the formulation, implementation and monitoring of various Water Resources Development schemes across the country, etc. Therefore, the endeavour is to expose them to best practices in governance and service delivery based on in-country and international comparison drawn on exchange of experiences and case studies and to equip them with the state of art rules and techniques necessary to co-ordinate and monitor the functions in order to ensure effective implementation of the scheme. An exposure by way of visit abroad is also proposed which will provide a global perspective as well as exposure to international best practice.

MCTP-I

1. Officers will be eligible for this mandatory training after completion of six years (at DD level) from joining CWES Group 'A' services.
2. Duration of the training would be 3 weeks.
3. The trainings will be imparted at National Water Academy, CWC, Pune. A part of the training may also be held at any other reputed training institutes/ organizations, such as LBSNAA, Mussourie, ASCI, Hyderabad, ESCI Hyderabad, etc.
4. The course curriculum will include one week trekking and camping out to various project sites.
5. One week foreign training, so as to expose the officers at international forum.
6. The trainings will be imparted to the officers in a phased manner depending upon the availability of funds and other resources required for the purpose.

Outline of the course: Indicative in nature, which may be revised on the basis of feedback from the participants or else

1. Training on formulation, implementation and monitoring of various Water Resources Development schemes;
2. Training on administrative issues;
3. Training on management and organizational issues;
4. Training on policy issues;
5. Training on field visits including some camping out; and
6. Foreign visit/study tour/ participation in conferences/seminars etc.

MCTP-II

1. Officers will be eligible for this mandatory training after twelve (at Dir level) years of joining CWES Group 'A' services.
2. Duration of the training would be 2 weeks including 3-4 days foreign visit.
3. The trainings will be imparted at National Water Academy, CWC, Pune. A part of the training may also be held at any other reputed training institutes/ organizations, such as LBSNAA, Mussourie, ASCI, Hyderabad, ESCI Hyderabad, etc.
4. The trainings will be imparted to all the eligible officers in a phased manner depending upon the availability of funds and other resources required for the purpose.

Outline of the course: Indicative in nature, which may be revised on the basis of feedback from the participants or else

- 1 Training on administrative, management and organizational issues;
- 2 Training on disaster management and risk analysis etc.;
- 3 Training on policy issues;
- 4 Training on field visits including some camping out; and
- 5 Foreign visit/study tour/ participation in conferences/seminars etc.

MCTP -III

1. Officers will be eligible for this mandatory training after twenty four years (at CE & Member level) from joining CWES Group 'A' services.
2. Duration of the training would be 1 week and the trainings will be imparted at National Water Academy, CWC, Pune. A part of the training may also be held at any other reputed training institutes/ organizations,

such as LBSNAA, Mussourie, ASCI, Hyderabad, ESCI Hyderabad, etc. Complete or part of the program may be held in the foreign countries also.

3. The trainings will be imparted to all the eligible officers in a phased manner depending upon the availability of funds and other resources required for the purpose.

Outline of the course: Indicative in nature, which may be revised on the basis of feedback from the participants or else

1. Training on Management issues; (human resources, financial, plan implementation)
2. Training on Policy Formulation and Programme Implementation;
3. Training on field visits including some camping out; and
4. Foreign study tour/participation in conferences/seminars etc.

The other features of the Mid Career Training Programme (MCTP) would be as below:

1. All the three Mid Career Training Programmes will be mandatory for all officers of CWE Gr. 'A' Service.
2. Each officer of the Central Water Engineering Group 'A' Service has to attend three Mid Career Training Programmes during their service career as discussed above.
3. Those officers who have less than 2years service left would not be sent for mandatory Mid Career Training.
4. Postponement of participation from the first year to the second year and from the second year to the third year would be allowed with the prior approval of Chairman, Central Water Commission only in case of rare and extraordinary circumstances, which are defined as under:
 - a) Officer undergoing study programme (Domestic/foreign) by availing 'Study Leave' or 'Partial Funding' or 'nominated by the Ministry of Water Resources/ Central Water Commission.
 - b) Officer deputed by GOI to a foreign assignment or granted permission for deputation under 6 (2) (ii) etc.
 - c) Medical reasons of self or immediate family members, i.e. the officer himself/herself, his/her parents, spouse and children of the officer.

d) Marriage of the children.

However, such approval for postponement of participation does not entitle the officer to obtain the respective promotion/grade/increment in relaxation of the rules. It is reiterated that the officer will be entitled for the respective promotion/grade/increment only after he/she successfully completes the respective phase of the MCTP programmes within the three years window provided.

5. Attendance in all sessions of the MCTPs shall be mandatory. Absence shall invite service of a disciplinary memorandum for which the participant shall explain in writing to the Course Coordinator within 24 hours.
6. Punctuality shall be faithfully observed by all participants for sessions taken by both visiting and internal faculty. Late arrival would be deemed as wilful absence.
7. Officers would be expected to strictly abide by the general CWC/ Govt. of India guidelines on smoking and consumption of intoxicating drinks.
8. The CWC reserves the right to direct any participant to withdraw from the course on grounds of misconduct. Such participants would not be given the course-completion certificate and the suitable action shall be initiated.
9. Leave would not be ordinarily permitted during the programme.
10. All matters pertaining to leave and discipline shall be handled by the Course Coordinator.

**INDICATIVE LIST OF TOPICS FOR MCTP, FUNCTIONAL TRAINING AND
FOREIGN TRAINING PROGRAMMES**

I Administration/ Management/ Policy issues

1. Human Resources Management and behavioral issues
2. Administrative, Management and organizational issues
3. Building Commitment to Reforms through Strategic Communication
4. Disaster management and risk analysis
5. E-governance
6. Environmental Water laws
7. Establishment and Accounting Procedures
8. Formulation, implementation and monitoring of various Water Resources Development schemes
9. Issues in office management, E-governance, Human face of Administration
10. Project Management techniques
11. Public Private Partnership
12. Rehabilitation and resettlement policies world over
13. Transparency in Governance
14. Vigilance awareness
15. Water laws, Conflict resolution including Inter-state and International water disputes
16. Water Policy issues, Policy Formulation and Programme Implementation
17. Water Resources Governance through meaningful communication
18. Water Resources Infrastructure Management.
19. Disciplinary proceedings
20. Negotiating differences

II Technical Matters

1. Advanced Course on IWRM
2. Advanced Hydrological studies
3. Application of CAD & FEM tools
4. Application of Dam Break Modelling, Risk analysis, Seismicity, etc.

5. Application of Remote Sensing and GIS for Water Resource Development and Management, Preparation, Appraisal and Monitoring of Irrigation/WR Projects using preferably India- WRIS GIS data
6. Applications of MIKE 11/MIKE- Floods/HEC- HMS, MIKE Basin, WEAP, MODFLOW
7. Applications of SWAT & RIBASIM
8. Basic Course on IWRM
9. Benchmarking of Irrigation Projects
10. Case studies / current best practices on various aspects in Water resources sector
11. Civil/ Structural Design of Dams-Concrete, Earthen/ Rock fill, Embankment/barrages/canals/power houses and appurtenant structures/Rubber Dams/High Head Gates etc.
12. Dam Safety and Instrumentation
13. Design of Gates and other Hydro-mechanical equipments
14. Flood Forecasting using mathematical models including application of Telemetry for real time acquisition and dissemination of hydro-meteorological data
15. Improving Water Use Efficiency
16. Irrigation Planning
17. Issues related to Climate Change impact and adaptation in water sector
18. Latest design & research issues confronting the water resources sector
19. Planning and Design of Anti-erosion works
20. River Morphology & behaviour
21. Rock Mechanics and Underground works
22. Various aspects of Survey and Investigation associated with the preparation of DPR of the Water Resources Projects
23. Participatory Irrigation Management
24. Disaster Preparedness and Management
25. Surface Water Quality Assessment and Management

III Personality Development, Organizational Issues and various soft skills

1. Change management
2. Conflict management
3. Co-operative decision-making
4. Creating effective teams & groups
5. Dispute Resolution in International matters

6. Effective communication & listening
7. Emotional Intelligence
8. Encouraging skill development, learning, innovation & creative thinking
9. Ethics and values
10. Gender sensitization
11. Goal setting
12. Handling objections & pressure groups
13. Identify training needs
14. Improving work environment
15. Inter-personal skills
16. Knowledge & Information management
17. Leadership for Early Career Engineers
18. Leadership for Mid career Engineers
19. Managing diversity in the workplace
20. Motivating self & others
21. Persuasion & Negotiation skills
22. Process improvement
23. Scope for research & innovation
24. Self Management
25. Socio-economic & political aspects of decision making
26. Strategic planning
27. Systems thinking
28. Team building & building trust
29. Time & Stress Management
30. Development of Soft Skills
31. Learning Regional language
32. learning foreign languages

Terms & conditions proposed for deputation of officers for M.Tech/Ph.D.

CWC officers are proposed to be deputed on the following terms & conditions:-

I. While these programmes are conceived as two year programme in effect, the officers will complete the core and elective courses on deputation (institutional training) and will return to the departments for posting. However, while on job during second year, the officers will continue to improve their dissertation for presenting and defending the same. In the second year, the officers may take leave (as per CCS rules) as and when the institute requires them to be present.

II. The entire period of training (institutional training of 12 months) will be treated as on duty under FR 9(6)(b)(i).

III. The Ministry /Department may fill up vacancy caused by the deputation of the officers;

IV. In case, the institute and place of posting of the officer is different, the officers will be allowed one of the following two options:

- a) The officers will be treated as on duty on tour, they will draw travelling allowance as on tour and allowances as per para II(a) of the Ministry of Finance, Department of Expenditure O.M. 19030/2/86-E.IV dt. 24.3.86 amended from time to time.

OR

- b) The officers will be treated as on transfer. They will not be entitled to the Government accommodation at the original place of posting.

V. Central Water Commission/MoWR will also meet the cost of:

- a) Pay and allowances during the training period, .
- b) Travel from place of posting to the institute and back,
- c) Travel towards field visits of the participants for collection of data/information for the dissertation.
- d) Travel to institute for presentation of the dissertation at the end of the programme.

VI. In case an officer proceeding on training is a bona fide occupant of Government accommodation in the general pool controlled by the Directorate of Estates, he could retain the residential accommodation for the full period of training at his place of posting provided the residence is required for bona fide use of members of his family.

VII. Officers of the Central Government entitled to facility of residential telephone at the time of joining this programme will be allowed to retain the residential telephone sanctioned to them on usual terms for six months and thereafter on the condition that the officers will pay all calls in excess of the free calls allowed by the Telecommunication Department as stipulated in Ministry of Finance (Department of Expenditure) O.M. NO. 7(10) E (Coord.)/79 dt. 1st Aug, 1979 as amended from time to time.

VIII. **Bond to be executed by the officer:** Before joining the programme, the officer is required to execute a Bond to the extent that "in the event of his/her failing to resume duty or resigning or retiring from service or otherwise quitting service, without returning to duty after expiry or termination of the period of the long term training programme or failing to complete the training programme, or quitting the service at any time within a period of FIVE (5) years after his/her return to duty, the officer shall forthwith pay to the Government or as may be directed by the Government, on demand all charges and expenses that shall or may have been incurred by the Government for the training i.e. all moneys paid to him/her, or expended on his/her account during training such as pay and allowances, leave salary, cost of fee, travelling and other expenses met by the Government/agency concerned together with interest thereon from the date of demand at Government rates for the time being in force on Government loans of if payment is made in a country other than India, the equivalent of the said amount in currency of that country converted at the official rate of exchange between that country and India and together with all costs between the attorney and the client.

Annexure- IX

**Broad Contents for Ministerial Cadre of Subordinates Services of CWC viz LDC,
UDC, Assistant, Office Superintendent, Steno Gr-I, II, III, Hindi
Translator, Store Keeper
(Duration one week)**

S.No.	TOPIC
1.	Services books, Increments
2.	Reservation Roster, DPC, Deputation
3.	Seniority, Promotion, Pay Parity, ACP etc.
4.	Rules on CGHS/CSMA/ Quarters etc.
5.	TA/LTC, Joining Time etc.
6.	Pay, Allowances, Leave Rules, Advances, PF
7.	Vigilance, Disciplinary Rules
8.	Conduct Rules
9.	Parliament Questions and VIP References
10.	Right to Information Act(RTI Act, 2005)
11.	Receipt and Payment Rules, Cash Book etc.
12.	Filing System
13.	Record Management
14.	Noting & Drafting
15.	संघ की राजभाषा निति एवं कार्यान्वयन
16.	Office Procedure
17.	MS Word including Hands on
18.	MS Excel including Hands on
19.	EHRMS, CPSMS, PFMS, Gem, LIMBS, e office, e service book

Note: The content and duration of the training will be updated depending upon the inputs of the participants/faculty and as per TNA from time to time.

Broad Contents for Communication Cadre
(For all the posts Duration of Training: 5 days)

Name of Post: Junior Engineer (Communication)

Training Module:

- 1 Modes of Communication Network etc.
- 2 Wireless Network Communication in CWC.
- 3 Telemetry Network of CWC.
- 4 Site Selection Criteria for installation of Wireless /Telemetry Network
- 5 Repair/Maintenance of Communication System at Site:
 - i. Arial Mast, Battery, Antenna etc.
 - ii. Calibration of Sensors,Antenna,Cables etc.
- 6 Procurement Procedures.
- 7 Site visit to nearby Telemetry Station/Wireless Station.
- 8 Modernization in communication techniques.

Name of Post: AE&AD(Communication)

Training Module:

1. Modes of Communication Network etc.
2. Wireless Network Communication in CWC.
3. Telemetry Network of CWC.
4. Minor Repair/Maintenance of Commutation System at Site.
5. Licensing/Clearances for wireless and Telemetry Network.
6. Procurement Procedures.
7. Data Management System- FF Module of eSWIS/Telemetry Data.
8. Site visit to nearby Telemetry Station/Wireless Station.
9. Modernization in communication techniques.

Name of Post: DD (Communication)

Training Module:

- 1 Modes of Communication Network etc.
- 2 Wireless Network Communication in CWC.
- 3 Telemetry Network of CWC.
- 4 Licensing/Clearances for wireless and Telemetry Network.
- 5 Procurement Procedures.

- 6 Data Management System- FF Module of eSWIS/Telemetry Data.
- 7 Site visit to nearby Telemetry Station/Wireless Station.
- 8 Modernization in communication techniques.
9. An overview of Mathematical Modelling for Flood Forecasting.

Note The content and duration of the training will be updated depending upon the inputs of the participants/faculty and as per TNA from time to time

Broad Contents of Training for Newly Recruited / Selected Senior Research Assistant (Duration: 4 weeks)

1. Water Quality Monitoring and Assessment

Role of ministry of water resources in water quality monitoring and Assessment; Water Quality Monitoring Protocol, Monitoring Strategy.

2. Basic water quality concepts

Introduction, water quality, water quality parameters and importance, moles, molecular and equivalent weight, Units of Measurement & Conversions, Accuracy, Precision, and Percent Error. The mole concept, Solute and Solvent, Mole fraction, Parts per million, Molarity (M), Molality (m), Normality (N), Formality (F), Mass fraction.

3. Water Quality Standards, Law and Regulations

Introduction, Water pollution, point and non-point source of pollution, Water quality issues and Health, Water quality standards, Drinking water quality standards, irrigations standards, water use classification, Water quality criteria for industrial, drinking, irrigation and aquatic life, state/National/International laws related to WQ

4. Chemical and Biological Laboratory

Functions of a Water Quality Testing Laboratory, Setup of Chemical and Microbiology Laboratory according NABL, Laboratory Facilities; Requirements of a Water Testing Laboratory; Role and responsibility of scientific staff.

1. Water Analysis (Chemical and Biological)

a. Collection and preservation of samples:

Collection and preservation of samples: Frequency of sample collection, Collection of Samples: Physical and Chemical, Types of samples, Sampling methods, Sample containers, Sample volumes, Collection of Samples: Microbiological Parameters, Sample Storage and Preservation.

b. Basic Theory, causes, source, Standard Analysis Procedure and Application of Water Quality Parameters – Hands on Training

Section A- Physical Parameters

Temperature, pH, Colour, Odour, Electrical Conductivity and Total dissolved solids.

Section B- Chemical parameters

Alkalinity (Carbonate & Bicarbonate), Total Hardness, Calcium / Magnesium, Sodium, Potassium, Chloride, Boron, Fluoride, Iron, Nitrogen Ammonia, Nitrite, Nitrate, Sulphate, Phosphate, Turbidity

Section C- Oxygen Demand Parameter:

Dissolved Oxygen, Biological Oxygen Demand, Chemical Oxygen Demand

Section D- Biological Parameter:

Total Coliform, Fecal Coliform

2. Data Handling and Reporting

Introduction of water quality data entry software, Applications of eSWIS. Hands on Water Quality and Sediment data entry in eSWIS,

3. Laboratory Quality Management and Internal Audit as per IS/ISO 17025 awareness –

Introduction of 17025, Management and Technical Clauses as per ISO IS/ISO 17025, laboratory requirement as per NABL accreditation.

4. Field visit of Water Quality Sites for analysis of Level – 1 Parameters

5. Preparation of Specification for procurement of equipments, consumables for WQ labs

Note: The content and duration of the training will be up dated depending upon the inputs of the participants/faculty and as per TNA from time to time.

Broad Contents of Training for Assistant Research Officer

(Duration: 2 weeks)

1. Water Quality Monitoring and Assessment

Role of ministry of water resources in water quality monitoring and Assessment; Water Quality Monitoring Protocol, Water Quality, Monitoring Strategy - Setting Water Quality Monitoring objectives, Assessment of Resources Availability, Reconnaissance Survey, Network Design, Sampling, Laboratory Work, Data Management, Quality Assurance, Guidelines on Management Aspects.

2. NABL Accreditation process

Adequacy audit, Pre-assessment by Lead Assessor, Final assessment, Examination of assessment report by Accreditation Committee, Issue of accreditation certificate

3. Laboratory Quality Management and Internal Audit as per IS/ISO 17025 (SRA to ARO and ARO to RO)

Overview of ISO/IEC 17025:2005; NABL accreditation process including global perspective of accreditation. Basics on establishing laboratory management system; levels of documentation and how to write Quality Manual, Quality Procedures etc. Providing thorough understanding on developing management System including clause wise clause discussion on management & technical requirements. Detailed deliberation on conducting internal audit and Management Review as well as recording the findings and minutes, Discussions on NABL criteria documents from the perspective of (I) Scope & test methods; (II) Infrastructure requirements including safety in laboratories (III) Equipments, calibration and traceability requirements (IV) Sampling and handling of test items (V) Site Testing (VI) Record keeping (VII) Ensuring quality of test results, Participation in PT Programmes; Conducting ILC; Internal quality checks as repeat testing; Use of CRMs.

4. Data Handling and Reporting

Introduction of water quality data entry software; Applications of eSWIS/ SWDES. Hands on Water Quality and Sediment data entry in SWDES and eSWIS,

5. Good Laboratory Practices (GLP)

6. Hands on Atomic Absorption Spectrophotometer, Ion Chromatograph, Total Organic Carbon Analyzer and Gas Chromatograph – Mass Spectrophotometer.
7. **Field visit of Water Quality Sites**
8. **Case study of River water quality**
9. **Assessment**

Note: The content and duration of the training will be updated depending upon the inputs of the participants/faculty and as per TNA from time to time

Broad Contents of Training for Research Officer

(Duration: 2 weeks)

- 1. Water Quality Laboratory Management**
Laboratory Setup, Records maintained as per NABL and Management of Lab etc
- 2. Water Quality Indices**
Water Quantity and Water Quality, Water quality Indices, benefit of WQIs, examples of different surface and ground water quality indexes.
- 3. Applications of Remote Sensing and GIS in Monitoring Water Quality**
Introduction and application of GIS and Remote Sensing, Hands on GIS software (arc-GIS for the application of Water quality.
- 4. Water Quality Modeling**
Surface/ River Water Quality Modeling using the Qual2K and Mike 11.
- 5. Data Validation and Presentation – Preparation of Water Quality and Sediment Year Book**
- 6. Hands on ICP-MS and GC-MS**
- 7. Analysis of Inorganic and Organic Load in Sediment**
- 8. Hands on AquaChem, Rockware, eSWIS, software**
- 9. Report writing and statically tool,**
- 10. Case study of River water quality**
- 11. Field visit of Water Quality Sites**
- 12. WQ International laws/rules/regulations, study of best practices**
- 13. Assessment**

Note: The content and duration of the training will be updated depending upon the inputs of the participants/faculty and as per TNA from time to time

Broad Contents of Training
for promotion from the post of Junior Computer to Senior Computer (7days)

1. Basics of Computer and Software
2. Introduction to MS-excel & hands on and Advanced feature of Ms-Access
3. Hands on SWDES & e SWISS software
4. Concepts of RDBMS
5. Structured Query Language (SQL)
6. Field visits/Visit to GIS lab
7. Design & Populating of a Database
8. Web based database Tools
9. Computer & Data security
10. Doubt clearing open session

Note: The content and duration of the training will be updated depending upon the inputs of the participants/faculty and as per TNA from time to time.

Broad Contents of Training
for promotion from the post of Senior Computer to Scientific Assistant(5
days)

1. Setting the scene – Objective of the Training, Structure of the training, and Expectations to the department from the participants, Functions to which they are attached with and Flood Forecasting set up in India.
2. Compilation, Validation & Analysis of Hydro-meteorological Data on real time basis at CWC modeling centers for development of flood forecasts using various models.
3. Introduction of eSWIS.
4. Dissemination of daily flood bulletins, forecast, rainfall and related information from Divisional Flood Control Room to various user agencies as well as State Disaster Management Authority (SDMA) (DFCR) and National Disaster Management Authority (NDMA) (CFCR).
5. Preparation & dissemination of daily flood news to press and audio visual media
6. Preparation of various reports including appraisal report
7. Design storm and design flood studies, Rainfall- runoff studies & analysis for assessment of water availability
8. Online data available from IMD and its downloading.
9. Field Visits.
10. Uploading of flood forecast, water level, rainfall and related information on CWC website.
11. Mathematical modeling for flood forecasting.

Note: The content and duration of the training will be updated depending upon the inputs of the participants/faculty and as per TNA from time to time

Broad Contents of Training

for promotion from the post of Scientific Assistant to EAD (HM) (5 days)

1. Compilation, Validation & Analysis of Hydro-meteorological Data on real time basis at CWC modeling centers for development of flood forecasts using various models
2. Formulation of Flood Forecast
3. Development and Calibration of Mathematical models using latest data
4. Introduction on eSWIS
5. Preparation of various reports daily, weekly, fortnightly flood bulletins and annual appraisal report
6. Online data available from IMD/other agencies and its downloading
7. Design storm and design flood studies, Rainfall- runoff studies & analysis for assessment of water availability
8. Field Visits
9. Dissemination of daily flood bulletins, forecast, rainfall land related information from Divisional Flood Control Room to various user agencies as well as State Disaster Management Authority (SDMA) (DFCR) and National Disaster Management Authority (NDMA) (CFDR)
10. Uploading of flood forecast, water level, rainfall and related information and Cap Alerts on CWC website
11. Concept of short range, medium range and long range forecast and advisory forecast

Note: The content and duration of the training will be updated depending upon the inputs of the participants/faculty and as per TNA from time to time

Broad Contents of Training
for promotion from the post of Extra Assistant Director (HM) to Assistant
Director (HM) (5 days)

1. Flood Forecasting set up in India
2. SOP for CFCR/DFCR
3. Formulation of Flood Forecast
4. Development of Mathematical models using Mike-11, HEC etc.
5. Introduction of e Swiss for data entry validation and export to various models
6. Design storm and design flood studies, Rainfall- runoff studies & analysis for assessment of water availability
7. Interpretation of weather warnings issued by the IMD/FMO and utilizing them in formulation of flood forecast on real time basis.
8. Field Visits
9. Forecast dissemination using e Swiss including reports
10. Concept of short range, medium range and long range forecast and advisory forecast

Note: The content and duration of the training will be updated depending upon the inputs of the participants/faculty and as per TNA from time to time

Broad Contents of Training
for promotion from the post of

Assistant Director (HM) to Deputy Director (HM) (5 days)

1. Development and Calibration of Mathematical models including GIS
2. Weather products relevant to flood forecast
3. Design Storm estimation and water assessment studies for water resources projects
4. Snow melt run off studies/ GLOF/LSD
5. Real time forecast monitoring and reports using e Swiss
6. Field Visits
7. International Cooperation and international agencies
8. Exposure on various Plan schemes of CWC for flood forecasting and warning system
9. Development of Mathematical models using Mike-11, HEC etc.
10. Study of International good practices

Note: The content and duration of the training will be updated depending upon the inputs of the participants/faculty and as per TNA from time to time

An indicative list of training suggestion reported in APAR reports of few technical and non- technical cadres of CWC

I. Technical Cadres of CWC

- (1) **AD-II/SDE** – Flood Forecasting using Mathematical Models, Irrigation Planning and Gates Design, Project Appraisal, Survey and Investigation, Gates Design, Hydro metrological Observations, Telemetry, Training in e-HRMS, e-Office, e-Service Book, PFMS, Bhavishya etc,
- (2) **JE (C&M) –**
- (i) Preparation of DPR on CAD projects, RRR Projects and other Medium Projects to enhance effectiveness and capability in Appraisal process of DPR.
 - (ii) Hydrometric, Data Collection, Design, and Hydro and Sediment Observation, HO & FF activities
 - (iii) Training in software such as SWDES, MIKE 11, ADCP, HYMOS, e-SWIS, e-water, e-procurement, e-tendering, ERDAS Imagine, Use of CAD, FEM and GIS Tools
 - (iv) Telemetry and Morphology Survey, various parameters in Oceanography as part of CMIS,
 - (v) Satellite and other Communication Technology, Office Automation in Management,
 - (vi) Application for Remote Sensing to Water Related Projects,
 - (vii) Orientation and Advanced Programme in addition to Induction Programme in specialized fields in National Water Academy, Pune
 - (viii) In addition to their technical field of specialisation, they may be given training on Establishment matters, Noting and Drafting, Programme on Pension and Other Retirement Benefits, Workshop on Income Tax Rules, Swachh Bharat Abhiyan and training in MS Office on Power Point, Office Suite, Excel and Word.
 - (ix) Training on Right to Information Act, 2005 and RTI Rules 2012
 - (x) Training in e-HRMS, e-Office, e-Service Book, PFMS, Bhavishyaetc,
- (3) **AD (Communication)** – e-SWISS, training in Telemetry etc
- (4) **AE (Communication)** – Flood Forecasting using Mathematical Modelling, training in Telemetry and Basic skills in IT such as Power Point Presentation and Excel.

- (5) **JE (Communication)** - MS Office, E-Swiss, Computer Application in Water Quality Software like Aqua Chess for Data Entry Interpolations, , Flood Forecasting set up, SWDES, Modern Communication Technology and Surveying, Topographical Survey Works Delegation of Powers, Noting and Drafting Manual of Office Procedure, etc.
- (6) **TA (Comm&Maint)** - Communication System like Telemetry, Synthesize type of HF and VHF, Wireless Network
- (7) **EAD (Hydromet)** – MIKE-11, MIKE 21, MIKE HYDRO, MIKE FLOOD & FORECASTING,
- (8) **Scientific Assistant** - Flood Forecasting on Mathematical Model, Hydrology Measurement, training in MIKE-II, HEC-RAS, HEC-HMS, Remote Sensing, GIS
- (9) **Senior Computers** – e-Swis, MIKE-11 and Flood Forecasting Work Field Suite etc,
- (10) **Junior Computer** – Training in Computer Application, MS Office and training in processing of documents, Water Quality Software like Aqua Chem for Data Entry and Interpolations.
- (11) **Senior Research Assistant (SRA)** - Training in software in Flood Forecasting, Latest Technology and Analysis of Water Quality Parameters, DO, BOD and COD Tests
- (12) **Sr PA (Pub)** - Journalism / e-paper, cutting and clipping
- (13) **DEO Grade “B”** – MS Office and Communication Skills
- (14) **Assistant Cameraman** – Training in software on Publication
- (15) **Head Draftsman** – Civil 3 D Modelling& Auto CAD
- (16) **Senior Draftsman** - Auto CAD (No Training Column in APAR form)

II. Non-Technical Cadres in CWC

Ministerial Cadres of Subordinate Offices of CWC

- (i) Establishment Matters such Service Book, Increment, Reservation Roaster, DPC, Deputation, Rules on CGHS, AMA, Government accommodations, TA/LTC, Joining Time, Pay allowance, Vigilance/Disciplinary Rules, CCS (Conduct) Rules, VIP references, Receipt of Payment Rules, Cash Book etc, Record Management, Noting Drafting, Office Procedure, MS Office, CCS Pension Rules, Court Cases, Office Language etc

- (ii) Workshop on Income Tax Rules, Swachh Bharat Abhiyan and training in MS Office on Power Point, Office Suite, Excel and Word.
- (iii) Training on Right to Information Act, 2005 and RTI Rules 2012
- (iv) Training in e-HRMS, e-Office, e-Service Book, PFMS, Bhavishya etc.

III. Non-CWC cadres

- (1) **Director, CSS** – Management Development Programme, Finance & Budgetary Management and Control
- (2) **Under Secretary, CSS** - Establishment matters, e-office, Sparrow
- (3) **Section Officer, CSS** – Residency Programme (upto 5 days) in National Productivity Council, EDII, Ahmadabad, IIM's, Talent Management for 21st Century, Contract Management, e-Governance initiatives, Gender Sensitization, Ethics and Values in Public Governance etc
- (4) **Principal Private Secretary, CSSS** – e-File Management System
- (5) **Private Secretary, CSSS** – Management Development Programme and Office Automation Tools
- (6) **Senior Accounts Officer, Pay & Accounts Officer, Assistant Accounts Officer** - Training in maintaining accounts in Computer
- (7) **Senior Statistical Officer of SSS cadre** – Data Analysis and tools.

Note: Time to time will be updated on yearly basis