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Government of India
Central Water Commission
O&M Section


Room No. 326(S), Sewa Bhawan,
R.K.Puram, New Delhi-110066,
Dated 19th Nov, 2015

OFFICE MEMORANDUM

Subject: Issues discussed / Decisions taken in 190th Commission Meeting regarding Skill Development Policy (SDP)

A copy of Skill Development Policy (SDP) as approved by CWC in the 190th Commission Meeting is circulated for information and guidance.

Encls: as above.


19.11.2015

(S.K. Nanda)
Under Secretary (O&M)
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Copy to :-

1. PPS to Chairman, CWC
2. PPS to Member(RM) / Member (D&R) /Member (WP&P), CWC
3. PS to Chief Engineer(HRM), CWC
4. All Field Chief Engineers, CWC
5. All field Superintending Engineers(Coordn.), CWC
6. Secretary, CWC/Director (E-I)/Director(E-II)/Director (Admn.), CWC
7. Director (D&R Cordn.) / Director (WP&P Cordn.) /Director (RMCD), CWC
8. All Under Secretaries, CWC/ Accounts Officer, CWC
9. All Sections, CWC

SKILL DEVELOPMENT POLICY FOR CWES (GROUP A) OFFICERS IN CWC

1. Introduction

1.1 Central Water Commission (CWC), the premier organization in field of water resources in the country, is entrusted with general responsibility of initiating, coordinating and furthering with the State Governments concerned, schemes for the control, conservation and utilization of water resources in the country. Being the apex technical organization, CWC is essentially a knowledge driven organization.

The organization's technical competency as well as its capacity for a proactive role in the water resources sector is by virtue of the strength derived from Central Water Engineering Services (CWES) cadre officers. These officers, belonging to Civil Engineering or Mechanical Engineering streams, are recruited for the Group-A posts directly or by way of promotion from Group-B officers. These officers perform widely diversified functions such as policy & planning of water resources in the country, techno-economic appraisal, design of water resources projects, survey and investigation, monitoring of projects, hydrological data collection, flood forecasting etc.,

1.2 For efficient and effective deliverance of output and for accomplishment of its long-term goals, it is essential to maintain a pool of adequately skilled officers to man crucial posts in both the CWC and other organizations.

The goal of maintaining a pool of skilled officers can be ensured by formulating a well laid-out skill development contours of its main workforce i.e. CWES officers. The key resource employed by CWES officers towards fulfillment of the organizational objectives primarily relates to their knowledge levels, which are mostly acquired through professional experiences of diverse fields accumulated over years. The key constituent of Skill development process is to allow/nudge its officers to acquire exposure of diverse fields of water resources sector in a planned manner. Additionally, the process of learning/acquiring new skills can also be hastened by training these officers at intervals. For addressing the issue of continuous training of CWES officers, a training policy of Ministry of Water Resources, RD & GR exists, and CWC aligns its training activities in close harmony with it.

1.3 This policy has been formulated with an understanding that the organization benefits when officers of an organization are provided with good opportunities and motivation to enhance their skills and abilities. Fostering skill development opportunities in harmony with organizational objectives assists in both setting out short as well as long-term goals and attainment of desired goals of this sector

1.4 This document focuses on the issues of professional development of its officers in the widely spread domain of CWC's functioning and is intended to serve as a tool for charting out career progression path of CWES officers in CWC and in other organizations with a view to developing skills needed for handling bigger challenges ahead in their career. The broad objectives of this exercise revolve around:

- a. Fulfill organizational goals and improve efficacy and efficiency of the organization.*
- b. Create an environment of learning and professional growth for the officers.*
- c. Provide job satisfaction to the officers.*
- d. Attract talented officers and encourage their retention.*

2. Applicability

2.1 The policy shall apply in entirety to all CWES Gr 'A' officers. For long serving CWES officers, its provisions shall become applicable for the balance period of their service. The provisions of this policy shall be applicable to promotee officers from the date of their promotions to Group 'A' CWES service.

2.2 This policy is primarily for guiding the organization (CWC) in the process of transfers/postings leading to capacity building of its officers under the overall perspective of skill development. Notwithstanding this, all administrative decisions on transfers, postings and trainings of CWES officers which are to be implemented by the CWC organization are required to be carried out keeping in view of the administrative requirements and conditions provided in the Service Rules, and Recruitment Rules (RRs) of CWES.

3. Skill Development Framework

3.1 The CWES officers joining at the Assistant Director level are initially put through an induction training program that gives them a broad idea about CWC's varied functioning. The true initiation and refinement process into a career stream takes place only after they get posted to a Directorate/ Circle/ various other units. During their tenure at Junior Time Scale (JTS) and Senior Time Scale (STS) level, the officers gather in-depth knowledge about the assigned units, and also develop related competencies. Further, at Junior Administrative Grade (JAG) and above, the officers are required to deliver well defined output, and more significantly provide leadership to workforce under their jurisdiction.

Wing Allocation of newly appointed CWES Officers' through UPSC and their allotment to a particular wing of CWC will be largely governed by the recommendation of the

National Water Academy (NWA) that this Academy submit to CWC after finish of six-month long Induction Training Program organized for these officers, their educational qualification. Recommendation of NWA, more or less, covers following attributes of an officer exhibited in the course of ITP.

- Flair of the officer for a particular Wing of CWC exhibited assessed through marks gathered by him during assessment conducted by NWA;
- his choice for seminar presentation; his ability to present his topics and answer questions based on them;
- His readiness & capacity to face challenges, leadership traits particularly mirrored in the course of Management Development (MDP) Program, which NWA conduct as a part of ITP;

As for other officers at AD level, posting to a particular wing would be influenced by performance of concerned official and recommendation received from their controlling officer/s.

The officer so allotted to a particular wing may continue in the same wing for the first six years before they would be shifted to another wing in order to enable and equip these officers to gain exposure of altogether a different dimension of water resources sector.

3.2 Realizing the need for keeping the similar kind of activities under one group which requires developing expertise in a particular area of work, 12 key functional areas have been identified for Skill development which have been detailed at **Annexure**. The Directorates or equivalent offices having common (or largely overlapping) knowledge and competency skills have been grouped together to form Functional unit.

3.2.1 At present there are 139 nos. of Directorate/ Circle in total in CWC. These Directorates are divided amongst various functional units known as organizations under three wings [D&R Wing, RM Wing, WP&P Wing], and HRM unit.

3.2.2 Other than above posts, there are certain posts of CWES encadared in other organizations. This includes posts in **Ministry of Water Resources, RD & GR; Central Electricity Authority (CEA); Sardar Sarovar Construction Advisory Committee (SSCAC); Ganga Flood Control Commission (GFCC); Farakka Barrage Project (FBP); Polavaram Project Authority (PPA); Krishna River Management Board (KRMB); & Godavari River Management Board (GRMB).**

3.2.3 Apart from continuing its role in present areas of working, new areas are likely to be added where CWC has to gain expertise and play a major role in the near future. Integrated basin planning, water management, conflict resolution and coastal

management, National Mission for Clean Ganga, National Water Mission etc. are new areas where CWC has to further build its strength and capabilities.

Thus, taking into account the present organization structure as well as those proposed new fields where CWC may have to expand its activities, 12 functional units have been identified for skill development purpose which are as given below.

- i. ***Civil / Structural Design***
- ii. ***Survey and Investigation***
- iii. ***Hydrology***
- iv. ***Hydro-mechanical unit***
- v. ***Flood Forecasting/ Hydrological Observations***
- vi. ***River Management***
- vii. ***Coastal Engineering ****
- viii. ***Basin Planning and Management***
- ix. ***Water Management (CAD, Micro-Irrigation)***
- x. ***Appraisal***
- xi. ***Conflict Resolution in water related disputes (including inter-state and International matters)***
- xii. ***Human Resource management and Administration***

***Note:** Item number (vii) will be part of item number (vi) till work on item no. (vii) is expanded through restructuring to occupy its position as a separate functional area. Therefore, presently item nos. (vi) and (vii) shall be considered together as one unit.

3.2.4 These Functional units have been assigned with well defined roles/ objectives and activities/ tasks. For accomplishment of the activities of a Functional unit and for the fulfillment of its intended roles, the officers posted therein will be expected to possess certain competency requirements. These competency requirements of different Functional units have been identified in measurable terms of knowledge/ skills, and trainings.

3.2.5 According to prevalent recruitment rules for CWES cadre, an officer is expected to put in minimum 4 years of service at Assistant Director level, and 9 years at Deputy Director level - before his or her promotion to the Director level. Hence, a minimum period of about 13 years is available for charting career progression of an officer so as to equip them the competency required for a particular functional unit before his or her promotion as head of the functional-unit. During this period, the officer needs to be posted judiciously in different functional units on the basis of: (a) in sync with Para 3.1 of this document, (b) suitability assessments made by the superior officers, and (c) administrative needs or constraints of the organization.

3.2.6 Developing skill of an officer in a particular field calls for prolonged association of officer with a selected career stream. Therefore, as far as possible, an officer would require to put-in **6 years** of service in concerned (essential) Functional unit before the Director level as far as possible. The balance years of his/her career can be in other related functional unit or posting at any of the en-cadred post as may be required.

3.2.7 The encadred posts under Ministry of Water Resources also require certain technical, managerial as well as administrative skills which have to be carefully and skillfully groomed in the officers of CWES cadre. Officers who have work experience in certain functional areas are more suitable for specific work in the Ministry; for example officers having work experience in flood management and international matters will be more suitable for Ganga wing and BB wing in the Ministry whereas officers having work experience in water management and basin planning may be more suitable for PP wing and PR wing in the Ministry. Moreover, the experience gained by the CWES cadre officers in the Ministry is quite useful as they come back to CWC and occupy higher administrative posts. ***The officers likely to rise higher in organization could also be posted in various wings of MoWR irrespective of their designated functional areas. This is also echoed in Transfer Policy of CWC-2014.***

3.2.8 Putting officers in field formations of CWC is inarguably essential so that the officer may grow leadership skill; familiarity with administrative as well as accounts matters, decision making capacity etc. This apart, field formation of CWC offers unique opportunity to CWES Gr 'A' officers to groom themselves to handle technical issues, such as collection of Hydro-meteorological data-its validation, flood forecasting; monitoring and appraisal of projects; monitoring of water quality of rivers, interaction with State authorities etc. It is vital to expose officers of these areas before they rise to the position of Director in the department.

3.2.9 National Water Academy which promotes capacity building of water resources professionals in India does need posting of officers capable of conducting training programs covering diverse fields, and delivering lectures on topics relevant to the need of water resources sector. This office offers unique platform of learning as well as spreading the experience gained by officer himself. Though it is not the sole criteria for qualification as a faculty of NWA, it is preferable to assign this task to an officer of STS level who has served as STS Officer for a considerable length of time, and his prospect of rising to next level is not far off. This will permit the official to gather enough teaching skill as DD, before he launches himself as fully developed Faculty on becoming Director/Faculty of this Academy. As for length of tenure, it should normally be three years and extendable upto five years in deserving cases. Officers once served in NWA should not be reposted to the same academy before a gap of five years.

Annexure

Functional Units in Career Progression Policy for CWES (Group 'A') Officers

Sl. No.	Functional Unit	Related Functions/ activities	Directorates/Field offices involved at present	Directorates/Field offices involved as per proposed restructuring of CWC	Training Need
1	Civil/ Structural Design	<u>Main Activities</u> <ul style="list-style-type: none"> Dams design (Concrete/embankment) Hydel Civil Design Barrage and Canal Design <u>Related Activities</u> <ul style="list-style-type: none"> Instrumentation Dam Safety aspects – Monitoring and suggesting suitable rehabilitation measures etc. Attending special reference problems 	Design units-(HCD, CMD, BCD, Embankment Designs), Dam Safety unit	Regional Offices-Dam Safety and Design Dtes, Central Office -Design Units, DSO	BIS codes <ul style="list-style-type: none"> Software like Staad, Pro, Ansys, AutoCAD, etc. Knowledge of latest software of Civil, Mech. & Structural Eng., Software Knowledge for Stability Analysis, mathematical modeling etc.
2	Survey and Investigation	<u>Main Activities</u> <ul style="list-style-type: none"> Survey and Investigation and preparation of DPR of WR projects etc. 	Survey and Investigation units in field offices	Regional Offices-Survey and Investigation units	BIS Codes <ul style="list-style-type: none"> Latest Instrumentation Knowledge, Application of GPS
3	Hydrology	<u>Main Activities</u> <ul style="list-style-type: none"> Hydrological studies Review of Design flood etc. Physiographic estimation of catchment using GIS tools and DEM <u>Related Activities</u> <ul style="list-style-type: none"> Climate Change issues 	Hydrology Unit	Regional offices – Hydrology and Climate change Dte. Central Office -Hydrology and Climate change unit	Mathematical Modeling eg Mike 11, HEC-RAS <ul style="list-style-type: none"> Application of softwares for hydrological studies etc., like HEC-HMS, HEC-RAS, HEC-SSP, Arc-GIS, WMS etc.

Sl. No.	Functional Unit	Related Functions/ activities	Directorates/Field offices involved at present	Directorates/Field offices involved as per proposed restructuring of CWC	Training Need
4	Hydro-mechanical unit	<u>Main Activities</u> <ul style="list-style-type: none"> Design of Gates and other hydro-mechanical equipments. Canal automation etc. <u>Related Activities</u> <ul style="list-style-type: none"> Construction/Equipment planning etc. 	Gates Design, Central Mechanical unit (P&M, CMC)	<u>Regional offices</u> Appraisal unit looking after construction machinery aspects <u>Central Office</u> -Gates Design Dtes,	<ul style="list-style-type: none"> BIS CODES related to Hydro-mechanical equipment designs Design of various types of Gates, hoists etc. Knowledge of softwares like Autocad, Staad etc. Construction equipment planning and management
5	Flood Forecasting/ Hydrological Observations	<u>Main Activities</u> <ul style="list-style-type: none"> Flood Forecasting and inflow forecasting Hydrological observations and analysis <u>Related Activities</u> <ul style="list-style-type: none"> Data communication including that through satellite based systems 	FMO- (FFM, FCA) P&D- RDC Field – HO/FF offices	<u>Regional Offices</u> - HO& offices <u>Central Office</u> -Flood unit	Mathematical Modeling eg. Mike 11/HEC-HMS/HEC-RAS/Arc-GIS Software like e-SWIS, HYMOS and other applications BIS CODES
6	River management	<u>Main Activities</u> <ul style="list-style-type: none"> River management- morphological studies, River training works, anti-erosion measures, Flood management (structural and non-structural measures), Implementation of flood management guidelines Design of flood management works, Techno-economic appraisal of Flood Management works etc. Inundation mapping, <u>Related Activities</u> <ul style="list-style-type: none"> Climate change issues 	FMO- (FMP, FM-I&II, UT) P&D-(Morphology, P&D FCA, IAD&CC)	<u>Regional Offices</u> - Flood Management Dtes <u>Central Office</u> -ENV. & WQ unit Flood unit	River training works Flood management, Cost appraisal of FM works Hydrology Software- SWDES, HYMOS, E-SWIS, WMS, HEC-HMS, HEC-RAS, HEC-SSP etc.

Sl. No.	Functional Unit	Related Functions/ activities	Directorates/Field offices involved at present	Directorates/Field offices involved as per proposed restructuring of CWC	Training Need
7	Coastal Engineering	<ul style="list-style-type: none"> Identification of data for coastal engineering, establishment of sites and collection of coastal data; investigation/studies/research in related field Design of coastal protection works etc. Other related activities 	HQ- Coastal Erosion Dte. Field – Beach Erosion Dte.	Regional Offices- Coastal Management unit Central Office- Coastal Mgmt Dtes.	Training of Mathematical modelling software <ul style="list-style-type: none"> Training on coastal engineering and its applications
8	Basin Planning and Management	<u>Main Activities</u> <ul style="list-style-type: none"> Planning for integrated water resource management, Reservoir operation Planning for conjunctive use of surface and ground water, Socio-economic and environment aspects etc. Reservoir sedimentation studies etc. <u>Related Activities</u> <ul style="list-style-type: none"> Collection of relevant data from State Govt. agencies and other sources for planning purpose, Development and regular updating of Water Resource information system (WARIS), Application of remote sensing and GIS in 	BPMO- (BP, NWP, RO) EMO- (Remote Sensing, Environment mgmt, WS&RS Dtes)	Regional Offices- Integrated Basin Planning & Water Management units, Directorates looking after Env. & Social aspects Irrigation Planning Dtes. Central Office - Planning unit WRIS & IT unit	Training on Integrated basin planning <ul style="list-style-type: none"> Reservoir operation Policy issues Socio-economic aspects, environment management etc. Software- e-water, WEAP
9	Water Management Policy	<u>Main Activities</u> <ul style="list-style-type: none"> Formulation of policy guidelines, Estimation of water demand and its availability in the region, 	POMIO- (EWU, IPO) IMO - (IP, WM)	Regional Offices- WM units Central Office - Policy unit, Planning unit, Projects unit	Training on water management, CAD&WM, international best practices, Water auditing, etc.,

		<ul style="list-style-type: none"> • Irrigation Planning and all related aspects, • Performance evaluation of existing projects • Work in coordination with states for water shed development, RRR of water bodies and other schemes of MoWR • Encouraging states to form regulatory authorities, promote water auditing etc. • Water Budgeting • Assessment of Water Foot-print (Virtual water) <p><u>Related Activities</u></p> <ul style="list-style-type: none"> • Monitoring of storages and water levels • CAD & WM activities, • Water-logging and salinity studies • Suggesting measures for performance improvement of projects • Water 'efficiency studies, issue necessary guidelines • Encouragement and implementation of PIM and efficiency improvement programme in coordination with states 			<p>Policy issues</p> <ul style="list-style-type: none"> • Bench-marking studies • Water logging and Salinity <p>Software- CROPWAT, WEAP to ascertain Crop Water Requirement & do Irrigation Scheduling</p>
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10	Appraisal	Main Activities <ul style="list-style-type: none"> Appraisal of DPRs Cost appraisal of projects Coordination with World Bank and other lending agencies for irrigation and multi-purpose projects Project preparation etc. Related Activities <ul style="list-style-type: none"> Monitoring of WR projects Monitoring of cases for Central assistance under AIBP 	Appraisal, Monitoring unit in HQ and field, PPO- (NP- I & II, EA Dte.)	Regional Offices-Monitoring & Appraisal units, Note: Other Dtes. in field will also assist/ provide inputs for appraisal Central Office -Projects unit	Training of Mathematical modelling software, GIS • Training on network Design
11	Conflict Resolution in water related disputes	Main Activities <ul style="list-style-type: none"> Inter-state matters International matters for water related disputes, Collection and analysis of related information and provide inputs for resolution of differences, Legal matters and water related laws, Agreements, Court cases and Tribunal awards International practices in this field etc. 	ISM Dte.	Regional Offices-Integrated basin planning unit Central Office -Units looking after International matters, Planning and Policy related matters*	Training on protocol Rules, Training on working of other ministries of Govt of India like Finance, External Affairs and Law. <ul style="list-style-type: none"> Training on international water laws and conventions; Constitutional Provisions in India dealing with water Software- WEAP, DSS

12	Human Resource Management and Administration	Main Activities <ul style="list-style-type: none"> • Career management of officers and staff • Administration and establishment matters, Training and capacity building, Related Activities <ul style="list-style-type: none"> • Coordination activities • Implementation of e-Governance and IT related activities • Housekeeping & Infrastructure development • Publicity and mass awareness 	HRM Unit, Training Dte, NWA Pune, TC Dte, Coordination Dtes in field set-up	Regional Offices- Coordination Dtes in field setup, NWA Pune, Central Office -Set-up under Member Secretary, Commission- HR unit, Training & Technical Coordination Dtes.	Training on FR-SR, GFR, establishment matters, budget and vigilance related matters <ul style="list-style-type: none"> • Training on HRD/managerial/communication skills • Training on protocol Rules • Training on working of other ministries of Govt of India like Finance, External Affairs, Law • Training on HR, Media, RTI, Finance, ASCI trainings
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This Policy containing 11 pages was adopted in the 190th Commission Meeting of CWC held on 26th October 2015 in New Delhi.