भारत सरकार
जल शक्ति मंत्रालय
जल संसाधन, नदी विकास
और गंगा संरक्षण विभाग
केन्द्रीय जल आयोग
राष्ट्रीय जल अकादमी

Government of India
Ministry of Jal Shakti
Dept of Water Resources,
River Development & GR
Central Water Commission
National Water Academy

संख्या : A-33025/36/2026/NWA/ दिनांक : 19 अक्तूबर 2026

प्रति,

1. The Member (D&R) / Member (WP&P)/ Member (RM), CWC, New Delhi
2. The Chairman NDSA, New Delhi
3. All Regional Chief Engineers of CWC
4. Principal Secretary, State Water Resources /Irrigation Department
5. Engineer-in-Chief, State Water Resources / Irrigation Department

विषय: राष्ट्रीय जल अकादमी, पुणे में "Development of Rating Curve using HEC-RAS" विषय पर 21-23 December 2026 तक का प्रशिक्षण कार्यक्रम- नामांकन के लिए अनुरोध - के संदर्भ में ।

महोदय/ महोदया,

राष्ट्रीय जल अकादमी, केन्द्रीय जल आयोग, पुणे में "Development of Rating Curve using HEC-RAS" विषय पर 21-23 December 2026 के दौरान प्रशिक्षण कार्यक्रम का आयोजन किया जा रहा है। इस कार्यक्रम से संबंधी प्रमुख बिन्दुएँ पृष्ठांकित (overleaf) है। विस्तृत ब्योरा सहित कार्यक्रम विवरणिका (Program Brochure) भी संलग्न है। इस प्रशिक्षण कार्यक्रम में नामांकन भेजने के लिए मुख्य बिन्दु नीचे दिए गए हैं।

Name of the program	***Duration & Days***	***Last date for nomination***	***Confirmation displayed on NWA website***	***Participants profile***
Development of Rating Curve using HEC-RAS	21-23 Dec 2026 03 days	11 Dec 2026	15 Dec 2026	This training course is intended for the Technical Officers of in the rank of JE/ AE/AEE/EE/SE involved in Hydro-Meteorological Observation activities at HO sites

यह अनुरोध किया जाता है कि ऊपर बताए गए प्रोफाइल के अधिकारियों के नामांकन कृपया nwa.mah@nic.in/ पर ईमेल (nwa.pune@gmail.com) के माध्यम से, 11 दिसंबर 2026 तक भेजे। साथ ही नामित अधिकारी https://forms.gle/wsLPrBaBc2ZQkV789 लिंक में प्रशिक्षण में पंजीकरण के लिए गूगल फॉर्म भी भर।

नामांकन की स्वीकृति की पुष्टि 15 दिसंबर 2025 तक हमारी वेब साइट (https://nwapune.gov.in) पर प्रकाशित की जाएगी।

Digitally signed by Ankit Dudeja
Date: 21-10-2026 17:31:10

भवदीय,
अंकित डुडेजा
कार्यक्रम निदेशक
Mob : 9717349877

संलग्न: कार्यक्रम विवरणिका

खडकवासला, पुणे -सिंहगढ़ रोड, पुणे -411 024
टेलीफोन: 020-24380296 /#9717349877
EAPBX No. 24380392, Extn: 120
ई-मेल: nwa.mah@nic.in/
Website : https://www.nwapune.gov.in/
♦ जल संरक्षण सुरक्षित भविष्य- ♦

Khadakwasla, Pune –Sinhagad Road, Pune-411 024
Phone : 020-24380296 /#97173 49877
EAPBX No. 24380392, Extn: 120
E-mail : nwa.mah@nic.in /
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Conserve Water- Save Life

भारत सरकार
जल शक्ति मंत्रालय
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संख्या : A-33025/36/2026/NWA/ दिनांक : 19 अक्तूबर 2026

To,

1. The Member (D&R) / Member (WP&P)/ Member (RM), CWC, New Delhi
2. The Chairman NDSA, New Delhi
3. All Regional Chief Engineers of CWC
4. Principal Secretary, State Water Resources /Irrigation Department
5. Engineer-in-Chief, State Water Resources / Irrigation Department

Sub: Training Program on **"Development of Rating Curve using HEC-RAS"** at NWA, Pune during 21-23 December 2026 – **Request for Nominations - Regarding**

Sir /Madam

3 days training program on **"Development of Rating Curve using HEC-RAS"** is planned to be conducted at National Water Academy, Pune during 21-23 December 2026. Brochure giving details of the program is enclosed. Details of this program are as given below :

Name of the program	***Duration & Days***	***Last date of receipt of nomination***	***Confirmation displayed on NWA website***	***Participants profile***
Development of Rating Curve using HEC-RAS	21-23 Dec 2026 03 days	11 Dec 2026	15 Dec 2026	This training course is intended for the Technical Officers of in the rank of JE/ AE/AEE/EE/SE involved in Hydro-Meteorological Observation activities at HO sites

It is requested that nominations of the officers of the profile indicated above may please be sent through email at **nwa.mah@nic.in/** **nwa.pune@gmail.com** so as to reach NWA latest by **11 December 2026**. Also nominated officers may kindly fill in the google form for registering in the training in the link https://forms.gle/wsLPrBaBc2ZQkV789. Complete details (address, email, telephone, mobile, etc) of the nominated officer(s) and the controlling officer(s), name/s may please be provided while sending the nomination/s. Please refer to the course bulletin for more info.

Confirmation of acceptance of nomination/s will be published on our web site (https://nwapune.gov.in) by **15th December 2025.**

Yours faithfully.

Encl : Program Brochure

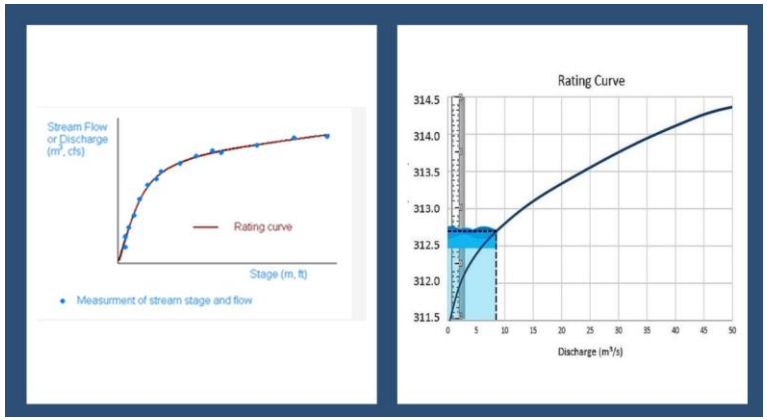
-Sd-
Ankit Dudeja
Course Director
Mob : 9717349877

Training Program on
Development of Rating Curve using HEC-RAS
(21-23 December 2026)
Registration Form

Name (in capitals):	
Designation:	
Organization:	
Responsibilities (in brief):	
Full Postal Address	
Tel Nos (with STD Code):	
Email:	
Mobile	
Whether require accommodation?	YES / NO
Date:	**(Signature of the Participant)**
SPONSORING AUTHORITY	
Full Postal Address	
Tel Nos (with STD Code):	
Email :	
Mobile	
Date	**(Signature and Seal)**
Completed Registration Form may be sent by email: nwa.pune@gmail.com	

Government of India
Ministry of Jal Shakthi
Department of Water Resources,
River Development & Ganga Rejuvenation
Central Water Commission

Training Program on
Development of Rating Curve using HEC-RAS
(21-23 December 2026)



Organized by
National Water Academy, CWC, Pune

INTRODUCTION AND OBJECTIVE

Hydrometry is a field of applied science and engineering for observing/ monitoring components of Hydrological Cycle. Discharge/ Flow in a river is an important parameter for planning, development and management of water resources in any basin/ river system. Discharge at a station is generally observed by measuring flow velocity and cross-section of the river at the station or by deploying other sophisticated instruments in water. Measurement of flow velocity is not always possible and is time-consuming, expensive, and dangerous, especially during high flows and more often than less, engineers are dependent on indirect method of Discharge Estimation. Estimating of Discharge for known stage using Stage Discharge rating Curve is one of the oldest and most widely used techniques for converting a continuous record of water level into a continuous flow record. The reliability and accuracy of the estimated discharge is solely governed by the quality of Rating curve developed for the site.

Though the Stage Discharge is a highly important and essential tool for any Hydrological Observation Site, its development is often not given the importance it deserves leading to incorporation of various sought of errors.

One-week Training Program cum workshop on "**Development of Rating Curve using HEC-RAS**" has been conceptualized to provide an insight, necessary expertise and develop knowledge for preparing a Rating Curve using advanced Tools available in Public Domain.

PROGRAM CONTENTS

- **Rating Curves**: Types & it's Importance in Water Resources Planning, Development and Management
- **Hydrometry**: Better practices for observation of Stage & Discharge at HO Sites maintained within CWC
- Challenges in Discharge Observation, Correction of Errors during Observation and Pre-Processing of Data
- Basics of Hydro-Dynamic Modelling; Data Required & its pre-processing
- Working with HEC-RAS and setting up the Model for generating SD Curve
- Validation and Checking of the Developed Rating Curve

The program shall be conducted in workshop mode with each officer working out the rating curve for HO site(s) maintained under their jurisdiction.

Though National Water Academy has sufficient Desktop Computer Systems, however, considering the fact that the program shall be conducted in Workshop mode with individual assignment(s), it is advised that nominated officers may also carry their laptops along (if possible) along with pre-requisite site data

PRE-REQUISITE DATA REQUIREMENT

Nominated Officers are required to be survey and get the following site specific data/ information for development of rating curve using HEC-RAS during the program:

1. Identify 2-3 prominent HO sites under jurisdiction having stable banks for preparation of Stage Discharge Curves
2. Survey and collect at least 5 Cross-Section of the river at HO site i.e. (i) center (SG) line; (ii) 500 m u/s; (iii) 1000 m u/s; (iv) 500 m d/s and (v) 1000 m d/s. Each cross-section may be surveyed and extended upto 5 m above HFL. (In case cross sections cannot be taken at 500m and 1000m u/s and d/s of SGL due to site constraints, distance(s) may be varied however river reach of 1600m to 2400m must be considered)
3. Site photographs clearly showing the river bed and banks along with the vegetation. At least 3 photographs should be taken showing river reach at SGL, u/s & d/s of SGL. These photographs preferably should be of monsoon months to visualize the banks vegetation.
4. Water surface slope during high flood discharge and low flood discharge measurements.
5. Concurrent Daily Gauge & Discharge data of last 4 years along with observed historical peaks with corresponding water levels since commissioning of site.
6. Hard/ soft copy of the latest published water year book
7. Exact Location (latitude and longitude) of SGL of GD site in degree, minute and second.

PROGRAM FEE

There is no program fee for participants from Central and State Govt. departments.

Charges for participants from other categories are:

Category	Description	Fee in Rs. (per participant)
A	Central/State/Local Government Depts.	Nil
B	'Not for Profit' Central and State PSUs	Nil
C	Recognized academic institutions, NGOs	1500/-
D	Central and State Public Sector Undertakings	10000/-
E	Private Companies, individuals	15000/-

•Discounts applicable: (a) 50% for PSUs of MoJS i.e. WAPCOS & NPCC (no group discount); (b) For others –20% discount for 3-4 participants; 30% discount for 5 or more participants from the same organization.

PAYMENT

Payment for the program fee, if applicable, is to be deposited with NWA before the commencement of the program. Payment is accepted through **Online / Demand Draft without deducting any TDS. DD drawn in favour of PAO-Ministry of Water Resources payable at Pune** or through electronic transfer in the Account details given below:

Account holder name: PAO - Ministry of Water Resources, Account No: 11382328092; IFSC Code: SBIN0001904

TARGET GROUP & RESOURCE PERSONS

This training course is intended for the Technical Officers in the rank of JE/ AE/AEE/EE/SE involved in Hydro-Meteorological Observation activities at HO sites. The resource persons for the program would be subject experts from MTBO, CWC.

DURATION

The program is of three days duration scheduled during 21st – 23rd December 2026. The participants are expected to reach NWA by the evening of 20th December 2026 and should plan to leave only after 2000 hrs on 23rd December 2025.

VENUE National Water Academy, CWC, Pune-Sinhagad Road, Khadakwasla, Pune – 411024

PARTICIPATION

The approved nomination of the officers fitting the target profile may be sent to the Course Director latest by 11th December 2026 by email (nwa.mah@nic.in) . The nominated officers are requested to start for the program only after confirmation of their accepted nomination. The accepted nominations will be displayed on NWA's website on the evening of 15th December 2026. Also nominated officers may kindly fill in the google form through the link **https://forms.gle/wsLPrBaBc2ZQkV789.**

LOCAL HOSPITALITY

NWA has a self-contained residential campus, and all out-station participants would be provided with lodging and boarding on payment basis as per government rates (about Rs.250/- per person per day). Working Lunch during the training program will be provided by NWA. Lodging and boarding will be free for participants from CWC/MoJS. Local pickup/drop will have to be arranged by the participants themselves.

CONTACT

For sending nominations or for any information about this program, please contact:

Shri Ankit Dudeja, Director (A&C) & Course Coordinator
National Water Academy, CWC, Khadakwasla R S, Pune – 411 024
Mobile: (+91) 9717349877 Email: nwa.pune@gmail.com