Training Program on
Design Flood Analysis
(03-06 June 2025)

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)**

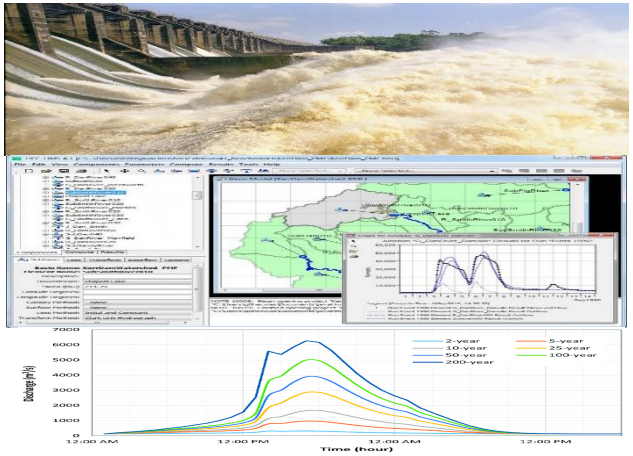
Completed Registration Form may be sent by email:

nwa.pune@gmail.com directordes-nwa@gov.in

सत्यमेव जयते

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

Training Program on
Design Flood Analysis
(03-06 June 2025)



Organized by
National Water Academy, CWC, Pune

INTRODUCTION AND OBJECTIVE

India ranks third globally in terms of number of large dams in operation and about 400 dams are under construction. In addition, there are several thousand smaller dams. These dams are vital for ensuring the water security of the Country; and these also constitute a major responsibility in terms of asset management and safety. The Dam Safety Act 2021 mandates the monitoring, inspection, operation, and maintenance of dams to prevent dam failure-related disasters. As per Clause 38.2 of Chapter IX of Dam safety act, general assessment of hydrologic and hydraulic conditions with mandatory review of design floods as specified by the regulations has to be done.

Design Flood Analysis of the dams is an important step towards dam safety protocol as several of the ageing and existing dams were designed for floods based on empirical formulae, local historical records or even a limited number of measurements. With the technological advances and availability of more data, there have been improvements in the analysis of extreme flows and tools for evaluating the hydrological events and selection of the Inflow Design Flood (IDF). IDF means the magnitude of the reservoir flood selected viz-a-viz design requirement of the spillway in view of the dam size and hazard potential. Historical data for the area gives the hazard potential to the planners.

Design Flood Analysis of dams can successfully reduce the hydrological risk of reservoirs by undertaking various structural and non-structural risk-reduction measures. Whenever there is high flood, excess water is let off the dam reservoir through an emergency spillway or the increase in the design flood can be safely accommodated through reservoir operations.

PROGRAM CONTENTS

Main topics for technical sessions are:

- Overview and Analysis of Design Flood using GIS/Software tools
- Projection system in GIS, Source of DEM, DEM Resolution, Delineation of a single catchment area and estimation of physiographic parameters of catchment using ArcGIS, Estimation of physiographic parameters for catchment having multi sub-catchments using ArcGIS, Hands on Catchment delineation on ArcGIS for single catchment and multi-sub catchments.
- Unit hydrograph preparation using FER, Grid point location, SPS/PMP and hourly distribution coefficient selection from PMP Atlas, Design Flood estimation for single catchment, Hands on Unit Hydrograph and design flood computations, Channel routing by Muskingum method using HEC-HMS, Reservoir routing by Modified puls method using HEC-HMS, Design Flood Estimation using Quasi Distributed Model on HEC-HMS, Hands on Design Flood Estimation using Quasi Distributed Model on HEC-HMS.

PROGRAM FEE

There is no program **fee for participants from Central and State Govt. departments**. Charges for participants from various categories are as below:

Category	Description	Fee in ₹(per participant)
A.	Central/State/Local Government Depts. including their autonomous bodies:	Nil
B.	'Not for Profit' Central and State PSUs	Nil
C.	Recognized academic institutions, NGOs	1200/-
D.	Central and State Public Sector Undertakings	8,000/-
E.	Private Companies, individuals	12,000/-

- 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

Course fee 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 No: 11382328092; IFSC Code: SBIN0001904; Account holder name: PAO - Ministry of Water Resources. Receipt for the amount will be issued by NWA

RESOURCE PERSONS The resource persons for the program would be subject experts from CWC, NDSA, SDSOs etc.

DURATION

The program is of three days duration scheduled during 03-06 June 2025. The participants are expected to reach NWA by the evening of 02 June 2025 and should plan to leave only after 1900 Hrs. 06 June 2025.

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

TARGET GROUP

This training course is intended to the officers of Central/State Govts/PSUs/Dam owners etc in the rank of JE/ AE/AEE/EE/SE or equivalent and involved in the activities of Dam Safety/Dam operation /Dam maintenance etc. **Participants are advised to bring their own laptops so that they can independently complete the hands-on with their data.**

PARTICIPATION

The nomination of the officers fitting the target profile may be sent to the Program Coordinator latest by 28 May 2025 by email (nwa.pune@gmail.com ; directordes-nwa@gov.in). The nominated officers are requested to start for the program only after confirmation of their nomination. The accepted nominations will for displayed on NWA's website on 28 May 2025 evening.

ACCOMODATION

The trainee officers would be accommodated in NWA hostel on applicable payment basis. Lodging & boarding charges as per government rates (about Rs.275/- per person per day) will have to be borne by the participants. Working Lunch during the training program will be provided by NWA, CWC. Participants will have to bear breakfast, evening snacks and dinner charges, as applicable. Airport/ Railway station pickup/drop will also have to be arranged by the trainee officers themselves.

WEATHER

In Junel, Pune experiences a little warm but pleasant weather. The average maximum temperature during the day ranges from 30 to 35 degree Celsius, while the average minimum temperature at night ranges from 22 to 25 degrees Celsius.

CONTACT

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

S K Das, Director & Course Coordinator
National Water Academy, CWC, Khadakwasla R S ,Pune – 411 024
Mobile: # 9818707541 / 9028393858

Email: nwa.pune@gmail.com ; directordes-nwa@gov.in