

## Training Schedule

### Day 1

#### Registration

#### Inaugural Session

- Welcome address by Dr. P. K. Labhasetwar
- Participants Introduction
- Programme Introduction by Dr. Atul Maldhure / Dr. G. Khadse
- Address by Director NEERI

#### Technical Session I

Water Quality Analysis Framework, Parameters, Monitoring methods, Instruments, Technical & Managerial lab practices

Preparation of control charts, Ionic Balance, lab management to achieve Qualitative & Quantitative Targets

Reconnaissance survey, Collection & Preservation of samples, Field Analysis

Site visit & Sampling of surface & groundwater sources as per protocol

### Day 2

#### Technical Session II

Hands-on Training on Laboratory Management -I (Physico-chemical & Bacteriological Parameters)

#### Technical Session III

Hands-on Training on Laboratory Management -II (Physico-chemical & Bacteriological Parameters)

Visit to Instrumentation Division for analysis of soluble metals in water samples

### Day 3

#### Technical Session IV

Quality Assurance -Replicate, Blind & Repeat Testing & Minimizing Errors

Learning from global experience in sustaining ISO certifications

NABL Accreditation of WQ Testing Laboratory - An Introduction

Measurement of Uncertainty, Proficiency Testing

#### Technical Session V

Utilizing water quality data for ensuring water safety

Representation of data using various methods

Statistical analysis of Experimental data

Summary of the results & Closing Remarks

Three day Hands-on  
Training Program

ON

# Quality Assurance and Quality Control(QA/QC) in Water Quality Monitoring, Sampling and Analysis

under

National Hydrological Project

27 - 29 September, 2022

— Venue —

CSIR-NEERI , Nagpur

— Organiser —

CSIR-National Environmental  
Engineering Research Institute  
(NEERI) , Nagpur



## Overview

Central Pollution Control Board in association with CSIR-NEERI, Nagpur proposed to organize a three-day hands-on training program under National Hydrological Project on “Quality Control/Quality Assurance (QA/QC) in water quality monitoring, sampling and analysis” for officials working in surface and groundwater departments from central and state implementing agencies.

## Background

National Hydrological project (NHP) is a world bank-funded 08 years project implemented in India through the Department of Water Resources, River Development and Ganga Rejuvenation (DoWR, RD& GR), Ministry of Jal Shakti, Government of India. It aims to improve the extent, quality, and accessibility of water resources information, decision support system for floods and basin-level resource assessment/planning and to strengthen the capacity of targeted water resources professionals and management institutions in India.

## About NEERI

NEERI is a research institute in the field of environmental science and engineering and comes under the Ministry of Science and Technology. It is a constituent laboratory of the Council of Scientific & Industrial Research (CSIR). The institute is devoted to research and innovations besides solving a range of problems posed by industry, government and public. NEERI significantly contributes in the field of water, soil and air in policy-making, environmental regulations and implementation through active participation in various National and State level expert committees constituted by Ministries and Regulatory agencies.

## Objective

The objective is to build the skill of the officials from the surface and groundwater departments in the identified gap area of laboratory practices which is to be specifically based on QA/QC for testing of water quality parameters as per the protocol released by GOI. Also, to introduce the national technical and managerial good practices in laboratory management to the participants.

## Content

### SPECTROSCOPY

- Basics of Spectroscopy
- Calibration of Equipment
- Calibration Curve
- Intermediate Checks
- Uncertainty Calculations
- Record Keeping Review
- OOT and OOS

### ELECTROMETRIC

- Calibration standards
- Traceability
- Electrode maintenance
- Calibration of instrument
- Daily Checks
- Maintaining standards
- Record Keeping & Review

### NABL REQUIREMENTS

- CRM / SRM
- Document control
- Record control
- Uncertainty measurement
- Risk Assessment

### BIOLOGICAL ANALYSIS

- Basics and trends in biological analysis
- MFT
- Uncertainty in biological analysis
- Sample collection
- Environmental conditions and monitoring



## Sponsor

### Central Pollution Control Board,

Ministry of Environment, Forests & Climate Change, Govt. of India.  
Address: Parivesh Bhawan, CBD-cum-Office Complex East Arjun Nagar, Delhi - 110 032, INDIA.  
Contact: +91-11-22391025

## Coordinator

### Dr. Atul Maldhure

Principal Scientist,  
Water Technology and Management Division (WTMD),  
CSIR-NEERI, Nehru Marg,  
Nagpur - 440020.  
Mail: av\_maldhure@neeri.res.in  
Contact : (0712) 2249885 -88; Ext: 300  
+91 9883043031