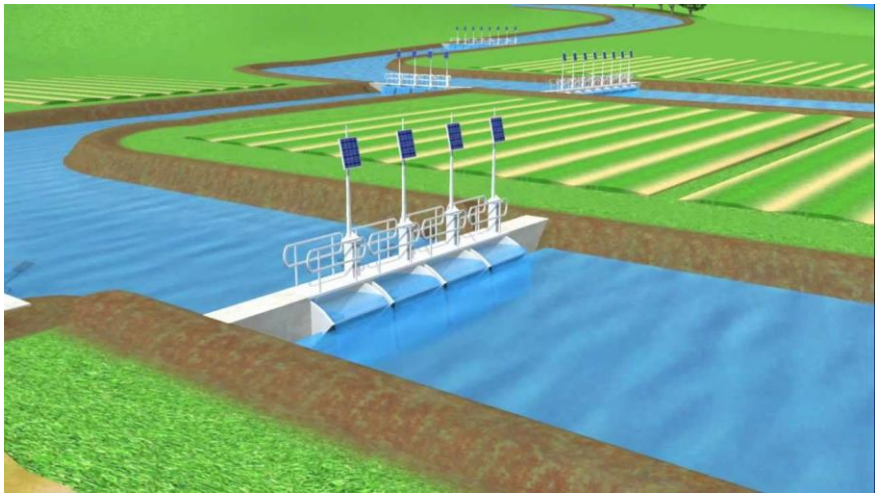
Engineering Staff College of India

Autonomous Organ of The Institution of Engineers (India)

Old Bombay Road, Gachi Bowli, Hyderabad – 500 032. TS, India

WATER RESOURCES DEVELOPMENT DIVISION



Continuing Professional Development Programme on

Irrigation Projects – Canal Automation Including Software Applications

16 – 20 December, 2019

(**An ISO 9001:2015 Certified, AICTE & CEA Recognized Institution**)

Centre for Promotion of Professional Execellence

INTRODUCTION

India has developed extensive irrigation infrastructure facilities bringing more than 110 million hectares of land under irrigation in minor, medium and major irrigation projects. But the efficiencies of these systems are very low in the range of 25 to 35 percent due to huge amount of losses during conveyance, distribution and application of water to the fields. Ineffective Water Resource Management and failure to adopt latest technologies modified skills and recently developed tools has resulted in poor system Management.

Increasing population, finite water resource, excessive demand and more judicious use of water have been identified by experts for initiating canal automation to improve the overall water use efficiency. The advantages of automation are not limited to savings in operation cost but it also alleviates the risk of water logging and salinization. Automation also increases the reliability and accuracy of water distribution and also makes it possible to accurately know the volume of water delivered to group of farmers or even to individual farmers. This also paves the way for introduction of volumetric allocation of water and inturn leads to the equitable distribution of irrigation water.

The biggest challenge in the way for improving Irrigation productivity (inclusive of crop and water) in India can be attributed to Poor last mile infrastructure, Unorganized farmer associations and Ineffective water distribution operation plan. Automation without established last mile infrastructure, resources and operation plan will prove futile. State should start working first with streamlining water conveyance network systems before taking up distribution (branches, distributaries and minors).

Automation has the potential to provide an improved measurement and control of flows necessary to reduce operational losses and supply water when and where required for more efficient on-farm use. The motivation to pursue automation and modernize irrigation canal operations in India is high as it has the potential to secure the maximum amount of water for India's future needs. It is well known that the agriculture sector in India utilizes roughly 80% of its available fresh surface water for irrigation.

Which clearly justifies the need and desire to change the water resource management in India. To start with it should be initiated at policy level and necessary legislation on farm water entitlements and metering of flows for irrigation should be implemented stringently.

Upgrading existing canal system operations needs to be done in stages as a rehabilitation programme. The majority of canal systems in India are operated in a manner which is referred to as conventional operation. A conventional operation consists of a scheduled delivery, an upstream operational concept and a constant downstream depth operational method but conventional operation has the shortfall of monitoring inevitable discrepancy between forecast and actual delivery flows. In addition, there will always be inaccuracies in checking the flow and the amount of water stored in the canal pools. Since the canal system is not operated to react to actual demand, any such errors are transferred downstream.

Generally canals are used for water distribution to remote areas. Large canal network is developed in last few years all over India. The monitoring of canal network is done using Supervisory Control and Data Acquisition (SCADA) system to help in delivering required quantum of water on-time as per the pre-defined schedule by analyzing the complete network for all scheduled / unscheduled requirements. It also generates various reports; trends, graphs etc. Statistics generated can be utilized for improving the water utility and in turn the canal efficiency. The automation of distribution canals in India particularly to improve water delivery services to end users by reducing operating cost and improving distribution efficiency.

OBJECTIVES

The programme is aimed at bringing to light the need of the introduction of automation in irrigation systems in order to optimize for more food-grains along with equitable distribution of water duly involving the farmers in the operation and maintenance activities through participatory irrigation management.

COVERAGE

- Introduction to Irrigation in India
- Irrigation Projects – Canal System Components, Functions & Design Aspects
- Estimation of crop water requirements
- Need for Automation of Canal Systems and Concepts
- Irrigation Canal Flow Measurements
- Canal flow controls – the role of gates in canal automation
- Volumetric distribution of water for fields
- Instrumentation for monitoring Irrigation Canal System
- Modernization of Irrigation Systems MASSCOTE Approach
- Benchmarking of Irrigation Systems
- Participatory irrigation management
- Software Applications for Canal Automation
- Field Visit

METHODOLOGY

Methodology includes class room lectures with audio visuals, interactive sessions through group discussions, case studies etc. Emphasis would be laid on sharing of experiences of participants and active participation is solicited from participants. Medium of training is English.

TARGET PARTICIPANTS

The programme is meant for Junior / Middle as well as Senior level officers involved in Irrigation and Agriculture Depts. of State Govts. and Central Government, Research & Development Organizations, Consultants etc.

PROGRAMME VENUE

Engineering Staff College of India (ESCI) Campus, Old Bombay Road, Gachi Bowli, Hyderabad - 500032, TS, India.

DATES

16 – 20 December, 2019

TIMINGS

On the first day registration will commence at 0900 Hrs. On all other days the programme timings will be from 0945 to 1715 hrs with breaks in between for tea and lunch.

COURSE DIRECTOR
G. Naresh, M.Tech,(Ph.D),MIE
Jr. Faculty
WRD Division

ADVISER
M. Rama Mohan, B.Tech, FIE
(Former Chief Engineer
RWS&S Dept., Andhra Pradesh)
Adviser, WRD Division

COURSE FEE

Residential Fee is Rs.25,000/- per participant. Residential fee includes course material, course kit, and twin-sharing / single AC accommodation as per availability, Breakfast, Lunch, Dinner, Tea / Coffee and Snacks.

DISCOUNTS

Non-Residential Fee: 10% discount on course fee is allowed for non-residential participants.

Group Discount: Additional 10% discount for three or more participants if sponsored by the same organization.

(All discounts are applicable only if fee is received at ESCI before the commencement of the programme)

GST @18% as applicable is to be paid extra over and above the training fee. **PAN Card No** AAATT3439Q**;** **GSTIN** 36AAATT3439Q1ZV under commercial training or coaching services.

Programme fee is to be paid in favour of **"IE(I)-Engineering Staff College of India"** in the form of demand draft payable at Hyderabad.

Alternatively the payment may be made by **Electronic Fund Transfer (EFT)** to ESCI - SB A/c No. 10007111201 with The SBI, PBB, Rajbhavan Road Branch, Khairatabad, Hyderabad-500004 by NEFT/ RTGS/ IFSC Code No. SBIN 0004159 – MICR No.500002075. **While using EFT method of payment, please ensure to communicate us your company name, our invoice reference and programme title.**

REGISTRATION

Online registration shall be available on ESCI website. To register manually, please send your nominations giving details of name, designation, contact address, email address, mobile, telephone and fax numbers of the participant along with the details of mode of payment of fee, addressed to:

Head
Water Resources Development Division
Engineering Staff College of India
Gachi Bowli, Hyderabad – 500 032
Phone: 040 – 66304117 – 9 (Dir.) 23000465 (EPABX): Extn: 4117– 9
Fax: 040 - 23000336
E-Mail : wrd@escihyd.org
Url : www.escihyd.org

CERTIFICATE: A certificate of participation will be awarded to each participant on conclusion of the programme.

GENERAL INSTRUCTIONS

- ESCI encourages participants to present case studies from their respective organizations.
- For the convenience of the outstation participants ESCI will facilitate pickup and drop from Airport / Railway Station/ Bus stations, if travel plans are received at least 3 days in advance along with mobile number by fax or email. The charges shall be paid by the participants directly to the cab.
- ESCI provides complimentary accommodation to participants a day prior to the commencement and after the conclusion of the programme. (Check in at 12:00Hrs) one day after conclusion (Check out at 12:00 hrs) of the programme duration.
- Overstay charges of @ Rs.990/- per day, per head will be charged.
- Well developed Information Centre and internet facilities are available to the participants.