



3 Days Training Programme

on

*“Operation & Maintenance
of
Sewage Treatment Plants”*

to

*Executive Engineers, Assistant Engineers
& Junior Engineers of
H.P. I&PH Department*

w.e.f. 05th Dec'16 to 07th Dec'16

**H.P. I&PH DEPARTMENT
COMMUNICATION & CAPACITY DEVELOPMENT UNIT
State Training Centre, Dhangsidhar, Mandi (H.P.)**

Training Programme Report

BACKGROUND

The subject cited training for the 1st batch of Engineers of H.P. I&PH Department was organised at CCDU State Training Centre, Dhangsidhar, Mandi as per the approval of the competent authority conveyed vide Chief-Engineer-cum Director (WSSO) Dhalli, Shimla-12 vide Letter No. SWSM-WSSO-Trg.Centre Mandi-2011-12/1774-80 dated 20.10.2016.

The Expenditure for the training is to be borne by WSSO under NRDWP (WQMS fund). Detailed Training module showing the topics to be covered and Resource Persons for each session was prepared and submitted to Chief Engineer-cum-Director (WSSO), for approval along with the component wise estimated cost of training amounting to Rs. 1.30 lacs for a batch of 25 participants.

For this first batch, Chief Engineer-cum Director (WSSO), Dhalli, Shimla requested Engineer-in-Chief H.P. I&PH to nominate/ sponsor 25 No. Participants consisting of Executive Engineers/ Assistant Engineers and Junior Engineers of the department who are looking after the STPs.

Engineer-in-Chief H.P. I&PH nominated 26 officers of the department for 1st batch of Training programme on **“Operation & Maintenance of Sewage Treatment Plants”** proposed to be held w.e.f. 5th Dec’16 to 7th Dec’16. 3 No. Participants were nominated by S.E I&PH circle Sunder Nagar vide letter No. IPH-SE-SNR-EA-1/Training/16-16340-49 dated 22.11.16. Total 29 participants attended the training programme. The list of Participants who attended the training programme is attached as Ann-“A”.



INAUGURAL SESSION

The Training was inaugurated by Er. Rajesh Bakshi, Chief Engineer, I&PH (Mandi Zone) by lighting the lamp of knowledge, learning & wisdom. The chief guest highlighted the present scenario of Operation & Maintenance of STPs, bottlenecks in management of Sewerage System and the need for training in Operation & Maintenance to the officers and other staff of I&PH Department who are associated with O&M of Sewage Treatment Plants. He also emphasized the need for up-gradation of STPs by adopting emerging technologies so that STPs are able to discharge the effluent having waste water quality parameters as per the latest revised norms of the enforcing authorities. He assured the participants that they shall be benefited by this training programme and shall be able to manage the STPs more efficiently after attending this training.



TRAINING SESSIONS AND STUDY MATERIAL

Total seven no. Resource Persons delivered the lectures on various topics related to O&M of STPs along with discussions and taking up the queries of the participants. On 2nd day afternoon i.e. 6th Dec.'2016, the participants visited the S.T.P. at Raghunath ka Padhar, Mandi along with Resource Persons for on- site practical training. Participants were divided into four groups and asked to visit each unit of STP and observe its functioning. Then the resource persons explained the process control/ working of



each component with the help of some tests which could be performed on the spot and the results from other tests conducted earlier by the chemists of STP.



The Training schedule showing detail of topics covered in each session and resource persons for various topics is tabulated as under:-

SNo	Name & Designation of R.P's	Address & Contact Details	Topics Covered
1.	Er. Sanjay Kaushal (Assistant Engineer)	H.P.Horticulture development project, HPMC complex, Nigam Vihar, Shimla-2 e-mail: kaushalsanjay@gmail.com Mobile No.- 94180-04248	Session-1: Effluent and sludge Treatment Disposal & Reuse; Brief Discussion on other treatment processes. Session-2: Emerging Technologies in Sewage Treatment.
2.	Dr. Harish Sharma Principal Scientific officer (Retd.)	Principal scientific officer (Retd.) H.P.S.P.C.B., Parwanoo e-mail: harish_pcb@rediffmail.com Mobile No.- 94184-85109	Session-1: Process Control Parameters and their importance in control of sewage treatment process; Lab tests required for effective O&M of STP and frequency of testing. Session 2: General management issues of STP; Health Hazards; Protective measures.
3.	Sh. Anup Vaidya (Sr. Scientific officer)	H.P.S.P.C.B Regional laboratory Sunder Nagar, Distt. Mandi e-mail: anupvaidya13@gmail.com pcb labsnagar@gmail.com Mobile No.- 94184-95449	Session-1: Basic Waste water Chemistry, waste water quantity and quality; sampling/ preservation of samples. Session2:- Waste Water Characteristics, Effluent Standards.

SNo	Name & Designation of R.P's	Address & Contact Details	Topics Covered
4.	Er. Ravinder Kumar Sharma (Executive Engineer)	Shimla Sewerage Division, Tutikandi, Shimla e-mail: iphdiv2@yahoo.co.in ravinders123@yahoo.com Mobile No.- 94180-63779	Basic considerations of Operation & Maintenance; Need for O&M; O&M of sewer system & pumping Stations; Practical aspects of O&M of STP; New developments in sewage treatment technology.
5.	Er. Vikas Kapur (Executive Engineer)	CCDU State Training Centre, Dhangsidhar, Distt. Mandi e-mail: vikas77_kapur@yahoo.com Mobile No.-94181-47322	O&M record keeping; potential disasters in sewage treatment.
6.	Er. Sanjay Acharya (Assistant Engineer)	Hydrology Sub Division, Palampur, Distt. Kangra e-mail: acharya88@yahoo.co.in Mobile No.- 98829-21075	<p>Session-1: Types of Sewage Treatment Processes; Overview of various components of S.T.P (Process flow sheet); Role/Functions, Process variables and process control of each component of Activated Sludge Process like- Inlet chamber, flow measurement, Screens, Grit chamber, Primary settling Tank , Biological reactor, Primary settling Tank, Biological reactor, SST, Sludge digester, Sludge pumping, Sludge dewatering/drying, chlorination, sewage pumping stations etc.</p> <p>Session-2: O&M of sewage treatment facilities like inlet chamber, screens , Grit chamber , flow measurement devices, PST, Biological reactor.</p> <p>Session-3: O&M of sewage treatment facilities like S.S.T/ Sludge clarifier, Sludge drying & dewatering, effluent disinfection and disposal facilities.</p>
7.	Er. Rakesh Prasher (Assistant Engineer)	IPH Mech. Sub-Divn. Baggi Distt. Mandi e-mail: prasher772@gmail.com Mobile No.-94187-00707	<p>Session 1: Electro Mechanical Equipment and its O & M - 1</p> <p>Session 2: Electro Mechanical Equipment and its O & M - 2</p>

Soft copy of following study material on DVDs was given to the participants for future reference.

- a) Latest CPHEEO Manuals on-
 1. Sewerage & Sewage Treatment System. Part 'A' Engineering
 2. Sewerage & Sewage Treatment System. Part 'B': Operation & Maintenance
 3. Sewerage & Sewage Treatment System. Part 'C': Management
 4. Municipal Solid waste Management.
 5. Water Supply & Treatment.
 6. Operation & Maintenance of Water Supply Systems.
- b) The STP Guide (Design, Operation and maintenance), Published by Karnataka State Pollution Board.
- c) Copy of Presentations delivered by all the Resource Persons and associated study material.

VALEDICTORY SESSION

On the concluding day i.e. on 7th Dec., 2016 the valedictory session was honored by the gracious presence of chief guest Er. R. P. Tandon, Chief Engineer (Retd.) H.P. IPH Department & Er. R. K. Malhotra, Chief Engineer (Retd.) H.P. IPH Department. The chief guests shared their practical experiences of sewerage management with the participants and shared some tips for smooth functioning of sewerage system. The chief guests presented the certificates of completion to the participants and certificates of appreciation to the resource persons.



The Training programme ended with a vote of thanks by Er. Vikas Kapur Executive Engineer (CCDU), State Training Centre, Dhangsidhar, Mandi to the Chief Guests, for sparing their time and their valuable guidance to the participants. He also thanked all the resource persons for their valuable contribution and all the participants for attending the programme with purpose and commitment.

FEEDBACK OF PARTICIPANTS

The Participants submitted their candid feedback about various aspects of Training Programme on the performa supplied by the training centre. Some of the feedbacks submitted by the participants are as under:-

- i) Overall assessment of training programme was rated "Very Good" by the participants.
- ii) Period of training was less and should have been at least 5 Days.
- iii) Practical / Lab Tests & one additional topic on Tertiary Treatment was also asked to be covered in future trainings.
- iv) Group discussion session should be added regarding issues & analysis of field experiences and their solutions be discussed with the involvement of resource persons.
- v) Participants also suggested conducting departmental trainings at CCDU State Training Centre, Mandi instead of HIPA Shimla.
- vi) State Level Water Testing Lab should be established at CCDU Mandi, so that lab testing procedures could be demonstrated properly during training programs.
- vii) Training programme on new technologies in sewage treatment should be organised from time to time.

**3-DAYS TRAINING ON
"OPERATION & MAINTENANCE OF SEWAGE TREATMENT PLANTS"
TO THE ENGINEERS OF H.P I&PH DEPARTMENT
w.e.f. 05th Dec'2016 to 07th Dec'2016.**

List of Participants

S.No.	Name	Designation	Address / Phone No.	E-mail ID
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22	ER. ONKAR CHAND	JUNIOR ENGINEER	I&PH S-DIVN KANDROUR	8894850676
23	ER. S. R. CHAUHAN	JUNIOR ENGINEER	I&PH S-DIVN NAINA DEVI	8988238428
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