



National Productivity Council

## Training Programme on

“Centrifugal Pumps – How to Efficiently Operate & Maintain Them? – All you wanted to know”

PROGRAMME CODE: (NPC/TP/22- 23/10)

20 – 22, June 2022  
(AIP, NPC Chennai)



## **1. ABOUT NPC**

National Productivity Council (NPC) is an autonomous organization under the Department of Promotion of Industry and Internal Trade, Ministry of Commerce & Industry, Government of India. The present expertise available in NPC has a resource base of professionals from fields such as Economics, Industrial Engineering, Human Resource Management, Energy, Environment, IT, Project Monitoring and Evaluation, Research Studies and Baseline Surveys. In addition, services of external professionals and subject matter specialists are also sought on need basis, depending upon the nature and scope of work. NPC extends services from its headquarter at New Delhi and 12 regional offices across the country manned by more than 100 full time professionals. NPC has professionals from diverse fields to provide Consultancy, Capacity Building and Project Monitoring Unit (PMU) services to various organisations including Central Government Ministries and State Governments.

## **2. PROGRAMME THEME**

Pumps are an integral part of the industry and account for almost 40-50% of the total power consumption in many industries. Yet engineers, operators and maintenance technicians are seldom fully trained to handle the issues related to pumps they encounter daily. A good understanding of proper pump application, selection, operation, trouble shooting, maintenance and energy conservation are vital to the success of a company. On a conservative estimate, at least 15% - 25% energy can be saved in pumping systems. A study has shown that the national energy saving potential in industrial pumping systems is about Rs.460 Crores, which is equivalent to 193 MW of power generation. In any pumping system, bearings, mechanical seals and valves are the vital components, which call for best possible operation and maintenance practices in order to achieve best performance results. The participants can learn everything they need to know about centrifugal pumps and pumping systems in our programme on pumps taught by knowledgeable & experienced experts. This programme has been designed with the industrial pumping systems as the central theme.

## **3. LEARNING OBJECTIVES**

This training program prepares participants to:

- take an in-depth look at common centrifugal pumps including their selection, operation, troubleshooting and maintenance.
- learn about the importance of proper pump operation and typical behaviour in application.
- to provide practical knowledge and skills needed to address common concerns involving centrifugal pumps.

## **4. BROAD PROGRAMME COVERAGE**

The following topics shall be covered during the training

- Introduction to Pumps
- Hydraulics & Curves
- Pump Selection
- NPSH & Cavitation
- Advanced Hydraulic Considerations

- Energy Conservation in Pumps
- Sealing Systems
- Pump Configuration Types
- Pump Installation & Startup
- Maintenance, Trouble Shooting, Root Cause Failure Analysis
- Pumps in the field of Water Treatment
- Pump Repair
- Case Studies & **Hands on practical training in the laboratory**

## 5. METHODOLOGY

The training program would be participative in nature. The sessions would be based on lectures, conceptual deliberations, case studies, exercises/discussions and **“Hands on Practical Training” in the institute’s laboratory.**

## 6. PARTICIPANTS’ PROFILE

This program is designed for a wide variety of industries, skill levels and job titles. Simply speaking, this programme is designed for industrial personnel working with industrial pumping systems and public water works. This program will be beneficial to:

Design Engineers, Maintenance Managers / Engineers and Technicians, Plant Engineers and Managers, Safety Engineers & Managers, Engineers from operations and Operators, Pump Sales Representatives and anyone looking for knowledge on centrifugal pumps.

## 7. FACULTY

The faculty for the training programme will comprise of senior NPC Experts & other renowned and experienced trainers from the industry and professional institutions.

## 8. PROGRAMME FEE & VENUE

<b>Programme Code</b>	<b>NPC/ TP/ 22- 23/10</b>
<b>Program Venue</b>	Dr. Ambedkar Institute of Productivity, 6, Aavin Dairy Road, Ambattur Industrial Estate (North), Ambattur, Chennai – 600 050.
<b>Programme Fee</b>	Non-Residential Participants ₹ 18300 + 18% GST
<b>Accommodation Charges</b>	Accommodation can be provided (subject to availability) in a single A/c room in AIP at the rate of Rs.1500/-(Rupees One Thousand Five Hundred only) per day per participant (which includes room rent, breakfast and dinner) plus GST @ 12%, payable to Government of India.

## 9. PAYMENT DETAILS

Programme fee inclusive of GST to be paid in advance and proof of payment to be attached along with application form.

- **ECS Payment Details:** Indian Overseas Bank, 70, Golf Link, New Delhi Branch; A/c No. 026501000009207, IFSC Code. IOBA0000265

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| <ul style="list-style-type: none"><li>• DD/Cheque should be drawn in the name of NATIONAL PRODUCTIVITY COUNCIL payable at NEW DELHI</li><li>• NPC'S PAN No: AAATN0402F, NPC'S GSTIN: 07AAATN0402F1Z8</li></ul> |
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*As per GOI notification No. 9/2017-Integrated Tax (Rate) dated 28.06.17, Sr. No. 75, Heading 9992 (at page no. 19 of the notification) No GST is applicable where Services provided to the Central Government, State Government, UT Administration under any training programme for which total expenditure is borne by the Central Government, State Government, UT Administration.*

- **NPC shall offer 10% discount on programme fee to organizations sponsoring 3-5 participants and 15% discount of programme fee to organizations sponsoring more than 5 participants.**

## 10. HOW TO APPLY

- Please apply in prescribed application format enclosed with this brochure. Nominations may be sent to the following address:

**The Training Coordinator  
National Productivity Council  
5-6 Institutional Area  
Lodhi Road  
New Delhi – 110003  
Email Id: [npctraining@npcindia.gov.in](mailto:npctraining@npcindia.gov.in)  
Tel: 011-24607319**

- **Last date for Receiving of nominations: 10<sup>th</sup> June 2022**

## 11. GENERAL INSTRUCTIONS

- ❖ Due to limited number of seats, it is recommended to send the nominations as per attached format at the earliest, for ensuring the availability. Acceptance of the nominations is subject to the seat availability and receipt of programme fee latest by the last date for nominations.
- ❖ The Residential programme fee covers the professional fees towards training, board & lodge of the Participant(s). The fee once deposited is non-refundable, however, substitutions are allowed.
- ❖ Each participant should carry their ID cards and necessary letters / orders issued by their department for attending the training program.
- ❖ The Non Residential programme fee covers the professional fee towards training, lunch and refreshments during the training program. The fee once deposited is non-refundable, however, substitutions are allowed.
- ❖ NPC shall not bear any charges towards participants' to & fro travel from their residence / place of stay and the training program venue. All participants shall make their own arrangement to reach the venue on time as per the programme schedule.
- ❖ Participants are requested to assure their health and safety during the training period and NPC will not be liable for medical expenses incurred by the participants during the program.

- ❖ NPC will not provide boarding and lodging before and after the dates of programme. Participants planning to stay longer than the scheduled duration should arrange the same at their own cost.
- ❖ Settlement of additional bills: The hotel will be instructed to open separate folio for each participant. Participants may directly settle their additional dues regarding family member, laundry, telephone, mini bar, room service, overstay etc. with the hotel before checkout.
- ❖ The participants shall be awarded Certificate of Participation on successful completion of programme.
- ❖ Any other terms and conditions apply as may be notified by NPC at any point of time.
- ❖ Referring to GST guidelines, you are requested to confirm the applicability of GST payment for your department.
- ❖ Participants are required to follow the necessary COVID protocols during training.



**NATIONAL PRODUCTIVITY COUNCIL**  
**5-6 Institutional Area, Lodhi Road, New Delhi – 110003**  
**[npctraining@npcindia.gov.in](mailto:npctraining@npcindia.gov.in)**

**APPLICATION FORM FOR NOMINATIONS**

Title of Programme: **“Centrifugal Pumps – How to efficiently operate & maintain them? – All you wanted to know”**

Programme Code: **NPC/TP/22- 23/10**

Programme Duration: Three (3) days

Location: NPC, Chennai.

**Details of Nominated Participants:**

S. No	Name of the Delegate	Designation	Mobile No.	Email ID	Official Address for correspondence
1					
2					
3					
4					
5					

**Details of Nominating Authority:**

Name:

Designation:

Organization:

Address

Contact Number:

Email ID:

Signature

Details of Proof of payment of Programme fee (*RTGS / NEFT Details; Cheque, DD*):

**Payment Particulars**

- **ECS Payment Details:** Indian Overseas Bank, 70, Golf Link, New Delhi Branch; A/c No. 026501000009207, IFSC Code. IOBA0000265
- In case of ECS Payment, the payment details should be intimated accordingly along with UTR number
- DD/Cheque should be drawn in the name of NATIONAL PRODUCTIVITY COUNCIL payable at NEW DELHI
- Programme Fees per Participant plus GST to be paid in advance
- PAN No: AAATN0402F, GSTIN: 07AAATN0402F1Z8

## “Centrifugal Pumps”

How to efficiently operate & maintain them?

All you wanted to know.



### **National Productivity Council**

(Under Department for Promotion of Industry and Internal Trade)

Ministry of Commerce and Industry

Government of India

5-6, Institutional Area, Lodhi Road

New Delhi – 110003

Tel: +91-11-24607319

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