




**PRAGATI ENGINEERING COLLEGE: SURAMPALEM**  
**(Autonomous)**  
**DEPARTMENT OF CIVIL ENGINEERING**


PEC/CE-ACCE(I)/Circular/

Date: 28.08.2025

**CIRCULAR**

This is to inform that Department of Civil Engineering and Association of Consulting Civil Engineers (India), Kakinada centre cordially inviting to attend the webinar on “ **Hydraulic Transients – Causes, Analysis and Control** ” by Dr. Phaneendra KBVN, Professor & Head (CE), IIT, Hyderabad on Sunday 31.08.2025 at 11.00 am. Meeting link, number and password will be shared in student groups.. All the students are asked to utilize this opportunity with your participation.

  
Coordinator, ACCE (I)  
( Dr.B.Satyanarayana )

  
Head of the Dept. of Civil Engg.  
( Dr.B.Satyanarayana )

Copy to:

1. Dept. Notice Board
2. Circulate among faculty
3. Class rooms of II, III & IV years
4. Department file CE-ACCE(I) file



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DI.31.08.2025


A Report on "Hydraulic Transients – Causes, Analysis and Control"

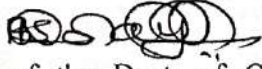
As a part of a professional society students club activity of Department of Civil Engineering of Pragati Engineering College (A), the ACCE(I) Kakinada center has organized a a webinar for student chapter members of Civil Engineering on "Hydraulic Transients – Causes, Analysis and Control" on 31.08.2025 from 11.00 AM and members of ACCE(I) student chapter are invited to attend. Student members of ACCE(I) and interested students from other clubs are also participated. ACCE(I) is a national organization for consulting engineers in India and is the multi-disciplinary engineering professional society.

The following are discussed during the webinar,:

1. **Causes:** Hydraulic transients, also known as water hammer, occur when there is a sudden change in the flow rate or pressure of a fluid in a pipe line or hydraulic system. The resource person has explained about the common causes such as valve closing or opening, pump startup or shutdown and pipe rupture and failure
2. **Analysis:** Analysing hydraulic transients involves understanding the dynamic behavior of the fluid and pipeline system. This can be done using method of characteristics, finite difference methods and computer simulations.
3. **Control:** Controlling hydraulic transients is crucial to prevent damage to pipelines, fittings, and equipment. Strategies include surge tanks or vessels, air chambers pressure relief valves, slow valve operation and surge analysis and design.

The program was attended by Civil Engineering students. Participation of more than 50 students from II, III & IV year Civil Engineering Department made this session successful by their participation. The Department of Civil Engineering of Pragati Engineering College is considered this session as important for students to gain some knowledge through this webinar.

  
Coordinator, IEC & IQAC  
( Dr.B.Satyanarayana )

  
Head of the Dept. of Civil Engg.  
( Dr.B.Satyanarayana )



Learning is Supreme Duty

# PRAGATI ENGINEERING COLLEGE: SURAMPALEM (Autonomous) DEPARTMENT OF CIVIL ENGINEERING

Name of the Resource Person: PHANEENDRA K.B.V.N., Prof & Head (CE), IIT, Hyderabad  
Pictures of the event and glimpses of slides presented were mentioned in the report stated.

ASSOCIATION OF CONSULTING CIVIL ENGINEERS (INDIA)  
KAKINADA CENTRE  
INVITES YOU TO ATTEND THE WEBINAR ON  
**HYDRAULIC TRANSIENTS - CAUSES, ANALYSIS, AND CONTROL**  
PIPE HYDRAULICS AND WATER DISTRIBUTION SYSTEMS

**PHANINDRA K.B.V.N.**  
Head (CE) & Professor, IIT Hyderabad

Sunday | 31<sup>st</sup> August 25 | 11.00 am  
Meeting Link (Online)  
<https://acceindia.webex.com/j?MTID=m04429f4706f90faab8278fdf2208d6c7>  
Meeting number: 2515 027 3546 Password: 12345

Prof. Dr. BADAM SUNDARAO CHAIRMAN	Dr. G. CH. SATYANARAYANA MC MEMBER
Dr. SONTI DURGA PRASAD SECRETARY	Dr. V. RAVINDRA MC MEMBER
Dr. NALLAM BHASKARAO TREASURER	Dr. S.V.M CHANDRA SEKHAR MC MEMBER
Dr. T.V. SRINIVAS GENERAL SECRETARY	Dr. Y. SUBRAHMANYAM CO-ORDINATOR

TERM: 2023 - 2025  
Hydraulic Transient Analysis and Mitigation  
by Dr. Phanindra, Head (CE) and Professor,  
IIT Hyderabad, Hyderabad

Hydraulic Transient Analysis and Mitigation by Dr. Phanindra, Head (CE) and Professor, IIT Hyderabad  
Hosted by ACCE (India)  
<https://acceindia.webex.com/acceindia/j.php?MTID=m04429f4706f90faab8278fdf2208d6c7>  
Sunday, August 31, 2025 11:00 AM | 2 hours | (UTC+05:30)  
Chennai, Kolkata, Mumbai, New Delhi  
Meeting number: **2515 027 3546**  
Password: 12345  
Join by video system  
Dial 25150273546@acceindia.webex.com  
You can also dial **210.4.202.4** and enter your meeting number.  
Join by phone +65-6703-6949  
Singapore Toll  
Access code: **251 502 73546**

A webinar on  
**Hydraulic Transients: Causes, Analysis and Control**

**K.B.V.N. Phanindra**  
Professor & Head, Dept. of Civil Engineering, IIT Hyderabad  
[phanindra@ce.iitb.ac.in](mailto:phanindra@ce.iitb.ac.in)

ASSOCIATION OF CONSULTING CIVIL ENGINEERS (INDIA)

31 August 2025

### Flow through Pipes - Transient State

**Hydraulic Transients**

- Any unsteady (time-varying) condition in the flow characteristics (velocity, pressure, etc)
- Preceded and succeeded by a steady state / no flow condition

**Water Hammer**

- A pressure surge or wave caused when fluid in motion is forced to stop
- Can result in noise and vibration followed by pipe collapse
- Analysis is done by considering compressibility of water and elasticity of pipe material (solves set of PDE's)

**Hydraulic Surges**

- Gradual transition in velocity or pressure
- Can damage pipe material and other parts
- Positive surge or Overpressure has risk of pipe/joint failure
- Negative surge or Sub-atm pressure results in column separation

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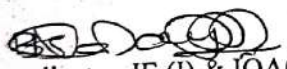
Head of the Dept. of Civil Engg.  
( Dr.K.Saroja Rani )




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