cooperative governance
Department:
Cooperative Governance
REPUBLIC OF SOUTH AFRICA

MUNICIPAL INFRASTRUCTURE SUPPORT AGENT (MISA)

MISA
MUNICIPAL INFRASTRUCTURE SUPPORT AGENT
Today, Creating a Better Tomorrow

CPD 2 credits (ECSA)

Pressure Pipeline and Pump Station Design and Specification – A Practical Overview

The Municipal Infrastructure Support Agent (MISA) in partnership with SAICE Professional Development & Projects (SAICE-PDP) invites you to attend this 2-day course which aims to help candidates understand the complexity and importance of design and operation of pressure pipelines and pump stations for the civil engineering and construction sector.

Attend this course and learn about:

- Selecting appropriate materials and fittings
- Hydraulics, losses and water hammer
- How to read and interpret pump duty curves
- The construction process

Benefits include:

- Participation in an interactive workshop
- Various practical activities to equip attendees to handle projects when back in the workplace
- A comprehensive course document that will serve as a reference manual
- 2 CPD credits (ECSA)

Presenter:

Patrick Maisiri BSc Eng (hons) Civil, Pr Eng, Pr CPM

COURSE SCHEDULE

Venue:

Dates:

Time:

REGISTRATION

To register, visit www.saicepdp.org
For more details contact Nompumelelo Nyaba
Email Nompumelelo@saicepdp.org /
Tel: 011 476 4100

WHO SHOULD ATTEND

The course helps municipal attendees to apply their theoretical training in practice.

It is therefore recommended for:

- Staff working in the industry with very little experience or who are about to become involved in designing of pressure pipelines
- Engineers, technologists and technicians
- Experienced staff in need of a refresher in pressure pipeline and pump station design.

COURSE OUTLINE

INTRODUCTION
- Case studies

UNDERSTANDING PIPES, MATERIALS & PUTTING IT ALL TOGETHER
- Pipes
- Fittings
- Valves
- Joints
- Cathodic protection

UNDERSTANDING THE MOVEMENT OF WATER & LOSS IN HYDRAULIC HEAD
- Pipe friction
- Hydraulic gradient
- Water hammer
- Break pressure tanks

ADDING ENERGY TO WATER
- Pumps (single- & multistage pumping)
- Parallel pump operation
- Net Positive Suction Head
- How to read a pump duty curve

WHAT HAPPENS AFTER THE DESIGN?
- Anchor / thrust blocks
- Thermal expansion of pipes
- Drawings and details
- Specifications
- Construction
- Trenching and pipe bedding
- Measurement and quantities
- Testing

DID I UNDERSTAND WHAT WAS BEING SAID?
- Hands-on activities
- D'Arcy-Weisbach equation
- Flow chart calculations
- Calculating steel pipe wall thickness
- Pump duty curves
- Anchor blocks
- Thermal expansion of pipes

WHAT TO BRING TO THE COURSE
- Scientific calculator
- Pencil and eraser
- Scale ruler

For online courses, it is recommended to have the following installed on your computer:
- MS Excel
- The Zoom app

ABOUT YOUR FACILITATOR
Patrick Maisiri obtained his BSc *(hons)* in Civil Engineering from the University of Zimbabwe in 1993. He started his career at the Department of Water Development in Harare, and also worked at the Zimbabwe National Water Authority before moving to Windhoek where he worked at a consulting firm.

In 2005 he moved to South Africa where he held senior management positions at Water Boards, the DBSA, AngloGold Ashanti and consulting firms.

He has worked on major pipeline projects as senior project and design engineer in various provinces.

Patrick is registered as a Professional Engineer with ECSA, a Professional Construction Project Manager with SACPCMP, and is a member of SAICE.

saice professional development & projects
A Non-Profit Company (NPC)

SAICE-PDP's Municipal Academy was established to support practitioners employed in local government with applying theoretical knowledge and relevant legislation in practice.

municipal academy
the road to service delivery

MISA
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MISA's mandate is to provide technical support and advice to municipalities, whilst strengthening their capacity, for effective infrastructure planning, delivery, operations and maintenance.