



Short Course

Mine Water Treatment – Technologies, Application Experience and Key Learning's from 100 years of Water experience

Sunday, April 14, 2013, at JW Marriott Hotel Lima

BACKGROUND

Water is an increasingly critical factor in mining operations. The social and regulatory expectations on water consumption, water discharge volumes and quality of water discharge are becoming a more prevalent factor in terms of current and future state mining operations. In water scarce regions, the availability of fresh water is a key limitation to the sustainability of the mine and water use often a key point of community conflict. In contrast mining operations in high rainfall regions are facing increasingly tighter discharge regulations and community expectations around the volume and quality of the water discharged. Water treatment technologies have advanced considerably over the past decade and are a key solution for addressing both mine water supply/reuse, and mine water discharge challenges.

COURSE OVERVIEW

The course will address the following topics:

- Current water challenges in mining operations
- Source water treatment
- Overview of water treatment technology
- Source water supply...developments in Sea Water Desalination
- Energy Recovery and Energy minimization technologies
- Mine discharge treatment – regulations, global GE customer survey
- Reverse Osmosis, Electro-dialysis reversal, Biological, Lime Precipitation technology
- Brine Management
- Thermal technologies – zero liquid discharge technologies
- Low temperature, near zero liquid discharge technologies
- Heavy metal removal
- Technology development...emerging technologies within the Water industry
- Engineering design – key considerations

LEARNING OBJECTIVES

Participants will develop the following skills during the course:

- Understanding of available mine water treatment technologies
- Key considerations for mine water technology selection
- Learning's from past installations and application experience
- Understand future technology development trends
- Discussion forum to discuss specific site water challenges, chemistries and key constraints.



INTENDED AUDIENCE

The course will be aimed at the participants who fit the following brief:

- Mine managers, environmental superintendents, engineers or operations managers who face key water challenges and would like to understand the technologies available in more detail, with a focus on performance and capital and operating cost considerations.
- Participants who are seeking to develop new mine water treatment systems
- Participants looking to implement mine discharge water treatment systems to meet discharge water regulations
- Participants seeking to understand current available water treatment technologies and new emerging technologies within the water industry
- Participants seeking a better understanding of past mine water treatment installations, key challenges and application experience.

PROGRAM

The proposed program for this short course will run from 8.30 to 17.00 and be aimed at the participants who fit the following brief:

Time	Topic	Presenter
8.30-9.00	Current mining water challenges	Graham Sim
9.00-9.45	Source water treatment, energy reduction	Erik Hanson
9.45-10.30	Overview of mine water treatment technology & engineering design criteria	Karla Kinser
10.30-11.00	Coffee Break	
11.00-11.30	Mine drainage	Graham Sim
11.30-12.30	Mine Drainage – Regulatory Overview	Luis Rodriguez
12.30-13.30	Lunch	
13.30-14.00	Brine Management	Alfredo Zepeda
14.00-15.00	Heavy Metal Removal	Kim Lukens
15.00-15.30	Coffee Break	
15.00-16.00	Mine Water case studies	Graham Sim/Damian Mondejar
16.00-17.00	Workshop on participant water challenges	Graham Sim
17.00-17.15	Panel discussion and conclusion	

COURSE INSTRUCTORS

The course will include the following course instructors.

Name	Role	Company
Graham Sim	Global Mining Industry Director	GE Water & Process Technologies
Damian Mondejar	Regional Manager - Peru, Chile, Arg.	GE Water & Process Technologies
Karla Kinser	Mining Practise Leader	MWH
Kim Lukens	Global Advanced Solutions Manager	GE Water & Process Technologies
Alfredo Zepeda	Senior Product Manager	GE Water & Process Technologies
Erik Hanson	Global Systems Product Manager	GE Water & Process Technologies
Luis Rodriguez	Government regulations leader	Hernandez & Cia
Migel Campo	Chemical Business Leader - Peru	GE Water & Process Technologies