Training Title

BOILER FEED WATER TREATMENT

Training Duration

5 days

Training Venue and Dates

REF PE058	Boiler Feed Water Treatment	5	18-22 November 2024	$6,000	Singapore

In any of the 4 or 5 star hotels. The exact venue will be informed once finalized.

Training Fees

$6,000 per participant for Public Training. Fees includes course materials/handouts, tea/coffee, refreshments, international buffet lunch.

Training Certificate

Define Management Consultants Certificate of course completion will be issued to all attendees.

TRAINING INTRODUCTION:

This training course is designed to give a semi-detailed discussion of the subject of Water Treatment Fundamentals with emphasis on the basic Water Chemistry and Water Treatment (WT) required before being fed to Boiler. In order for the course material to suit participants with or without a Water Treatment Plant Operation background, the course will be delivered such a way that most of technical terms and concepts will be clarified by both scientific definition and examples.

The course is divided into five main areas:

1)Basic Water Chemistry;

2)The design of Sand filter, Activated carbon Filters, Softeners, Ion exchange Equipment;

4) Boiler water requirements WRT the Boiler Pressure;

5) De-aerators for Oxygen removal, pH adjustment and other requirements of Boiler Feed water and finally questions and answers.

The course is designed for engineers, Technicians who may have or NOT have the WT plant experience.

TRAINING OBJECTIVES AND BENEFITS:

- **To familiarize participants with the main concepts and technical terms of water treatment and water treatment plant.**

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- **To introduce participants to the disadvantages of untreated water i.e. fouling in boiler.**
- **To explain to participants the basic concepts of un-dissolved and dissolved impurities in boiler feed water point of view.**
- **To explain to participants the basic concepts of treatment of water needed before being fed to boiler.**
- **To provide participants with the basic technical and scientific knowledge about chemical reactions occurred during water treatment.**
- **To train participants to choose the right condition of feed water to boiler as per boiler pressure.**
- **Appreciate the meanings of different technical terms used in water treatment.**
- **Be able to choose the appropriate water treatment process**
- **Estimate reasons behind certain types of problems.**
- **Choose the right solution for the trouble encountered.**

WHO SHOULD ATTEND?

Boiler engineers, Utility engineers, water treatment plant operators, chemists and those who need to know about water Purification methods for Boiler water and other similar applications.

TRAINING METHODOLOGY:

A highly interactive combination of lectures and discussion sessions will be managed to maximize the amount and quality of information and knowledge transfer. The sessions will start by raising the most relevant questions, and motivate everybody find the right answers. You will also be encouraged to raise your own questions and to share in the development of the right answers using your own analysis and experiences. Tests of multiple-choice type will be made available on daily basis to examine the effectiveness of delivering the course. All presentations are made in excellent colorful power point. Very useful Course Materials will be given.

- **30% Lectures**
- **30% Workshops and work presentation**
- **20% Group Work& Practical Exercises**
- **20% Videos& General Discussions**

COURSE OUTLINE

1) **Basic Water chemistry:**
    - **The nature of water and it's sources**

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- **Effects of sources of water on the design of water Treatment plant**

2) **The Outline of Water Treatment plant design:**
   - **The design of sand filters,**
   - **Design of activated carbon filters,**
   - **Understanding of Reverse Osmosis,**
   - **Discussions on ion exchange Plants.**

3) **Mechanical design of water treatment plant Including hydraulics:**
   - **Design of Piping**
   - **Design of pressure vessel for water treatment.**

4) **The importance of treatment of Boiler water and different methods.**

5) **Design calculations for Deareator, Degssers.**

6) **The dosing chemicals for boilers and dosage calculations**

7) **Feed back questions and answers and conclusion**

TRAINING OUTCOME

Upon successful completion of this course, participants will be able to:

- **Appreciate the meanings of different technical terms used in water treatment.**
- **Be able to choose the appropriate water treatment process**
- **Estimate reasons behind certain types of problems.**
- **Choose the right solution for the trouble encountered.**

NOTE:

Pre & Post Tests will be conducted

Case Studies, Group Exercises, Group Discussions, Last Day Review & Assessments will be carried out.

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