



## **MSF Start up / Shutdown, Operations, Maintenance & trouble shooting**

### **Introduction:**

Multi Stage Flash system is one of water desalination plant system, course is design to insure that attendee will complete the course with fully understand of system operations and overview of design, type of shutdown and start ups, type of maintenance and condition monitoring.

### **Course contents:**

1. MSF construction technology
2. MSF Process descriptions
3. Operations of MSF
4. Acid & Ball Cleaning (Basic)
5. Chemical handling in MSF
6. Practical overview and experience
7. Up-to-date design and instrumentation
8. Mechanical integrity
9. Theoretical aspects
10. Maintenance
11. Reliability of MSF
12. Inspection method
13. Online monitoring

### **Course Objective:**

Upon completion of the course attendees will be able to:

1. To refresh theoretical aspects of MSF
2. Plan and organize start ups and shutdowns
3. Understand proper operations
4. Ability to operate MSF according to design
5. Determine power optimization
6. Understand monitoring technique
7. Understand and implement stage stimulation
8. Carry out maintenance activities suitable for MSF
9. Understand maintenance tool selection
10. Carry out preventive maintenance
11. Carry out all work according to safety standard

### **Certificate:**

Cairo University Certificate, approved and recognized by international organizations



**Who should attend?**

All personnel involved in MSF plants

**Course includes:**

1. Hand out includes all hard and soft material of the course in nice gift
2. Transportations
3. Breakfast, coffee breaks, lunch in famous restaurants
4. Accommodations (can be discussed)

**Instructors:**

2 or three approved instructors for design, operations and maintenance

**Training**

The course will be conducted along workshop principles with formal lectures, case studies and interactive worked examples. Relevant case studies will be provided to illustrate the application of each tool in an operations environment. There will be ample opportunities for discussion and sharing experiences

**Personal Impact**

This course will give the delegate the required level of technical knowledge and skill to achieve that personal satisfaction.

**ALAHMADY OFFICE**

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