MASAR ADVANCED COURSE AGENDA

PRACTICAL UF-SWRO PLANT OPERATION OPTIMIZATION AND FOULING MANAGEMENT

Instructor: **Eng. Mohamad Amin Saad**

WELCOME, INTRODUCTIONS & AGENDA/CD REVIEW 0830–0845

I. PRACTICAL PLANT OPERATION OPTIMIZATION

- ❖ Optimization Considerations & Criteria 0845–1000
  - Why optimize plant operation?
  - Achieving maximum attainable conversion
  - Minimizing chemical & energy consumptions
  - Managing membrane additions, replacements & rejuvenation
  - Optimizing RO membrane cleanings
- ❖ UF Integration, Control Philosophy & Criteria 1000–1030
  - Optimizing design & operational integrity with RO
  - Optimizing UF maintenance cleans - types and criteria

 *SESSION BREAK*  1030–1045

II. MEMBRANE PLANT FOULING MANAGEMENT 1045–1200

- ❖ Objectives of Effective Fouling Management
- ❖ Identification of Fouling Types & Control Strategies
  - Biological fouling
  - Organic & TEP fouling
  - Colloidal fouling
  - Fouling prevention strategies

 *LUNCH BREAK*  1200–1300

- ❖ Fouling, Performance Measurement & Monitoring 1300–1430
  - Trending-ASTM standard normalization
  - Real-time fouling detection, measurement UF/MF Permeability Monitor & SWRO/NF Fouling Monitor
  - The **SMART**™ technology solution
    - ➢ Fouling & non-fouling plant case studies

 *SESSION BREAK*  1430–1445

III. PLANT & MEMBRANE DIAGNOSTIC DEMONSTRATIONS 1445–1630

- ❖ Seven Golden Troubleshooting Rules-Seven Signs of Trouble
- ❖ Seven Practical Diagnostic Techniques
- ❖ Membrane Autopsy & Fouling Inspection Demonstration

IV. OPEN DISCUSSION, FEEDBACK & QUESTIONS 1630–1700

V. CERTIFICATE AWARDS & CONCLUSION 1700