



*Workshop Title:*

**Flow Assurance Problems During Oil and Gas Production, Transportation and Processing and Their Counter Measures**

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**SUMMARY**

Flow assurance is an engineering analysis process that is used to ensure that hydrocarbon fluids are transmitted economically from the reservoir to the end user over the life of a project in any environment. Flow assurance is extremely diverse, encompassing many discrete and specialized subjects and bridging across the full gamut of engineering disciplines. Flow assurance involves effectively handling many solid deposits, such as, gas hydrates, asphaltene, wax, scale, and naphthenates. Flow assurance is the most critical task during deep water energy production because of the high pressures and low temperature (~4 °C) involved. The financial loss from production interruption or asset damage due to flow assurance mishap can be extremely large. The flow assurance task even further is that these solid deposits can interact with each other, and can cause catastrophic blockage formation in pipelines and result in flow assurance failure.

Flow assurance includes thermal investigation of pipelines, making sure the temperature is above the hydrate's formation temperature. Other important aspects of flow assurance are the estimation of stable production limits, and evaluation of erosion due to sand and corrosion in pipelines and equipment.

**Contents**

The following topics will be covered:

- Wax
- Asphaltenes
- Emulsions
- Scales
- Sand
- Corrosion
- Slugs
- Gas hydrates



Short Curriculum-Vitae

Dr. Iftikhar Ahmad

**Consultant, Arabian Gulf Oil Company (AGOCO)**

B. Sc. (Hons.), M. Sc., M. Phil., Ph.D., C. Chem. MRSC, M. Inst. Petrol.,  
Member NACE



**Academic Qualification:**

- Obtained Ph.D. degree in Industrial Chemistry from Aligarh Muslim University, Aligarh(India) in 1975.
- Obtained M. Phil. degree in Chemistry from Aligarh Muslim University, Aligarh (India) in 1974.
- Obtained M. Sc. Degree in Chemistry with first division and obtained first position (Gold Medalist) from Aligarh Muslim University, Aligarh (India) in 1973.
- Obtained B. Sc. (Hons.) degree in Chemistry with first division from Aligarh Muslim University, Aligarh (India) in 1971.

**Academic Visits**

- Visited as Postdoctoral Research Fellow in University of Liverpool for three months (March – May 1983)
- Visited as Postdoctoral Research Fellow in University of Liverpool for three months (March – May 1981)
- Visited as Postdoctoral Research Fellow in Chemistry Department of Ohio University, Columbus (Ohio), U.S.A. from January 1975 to June 1977.

**Work Experience** (More than 45 years)

- August 2007 – To-date: Working as Technical Advisor in Arabian Gulf Oil Company (Libya)
- June 2000 – August 2007: Worked as Technical Advisor in Jowfe Oil Technology (Libya).
- September 1997 – June 2000: Worked as Technical Advisor in Refineries Department of Arabian Gulf Oil Company (Libya).
- September 1987 – August 1997: Worked as Senior Researcher in Petroleum Research Centre, Libya (Now it is called Libyan Petroleum Institute).
- September 1985 – August 1987: Worked as Associate Professor in Faculty of Petroleum and Mining in Al Fateh University (Libya).
- February 1980 – August 1985: Worked started as Lecturer later promoted to Associate Professor in Chemistry Department, Faculty of Science of University of Khartoum, Khartoum(Sudan).



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National Oil Corporation  
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- June 1977 – February 1980: Worked as Lecturer in Chemistry Department of Makerere University, Kampala (Uganda).

### **Supervision of Postgraduates**

- Supervised five Ph.D. Thesis.
- Supervised 20 M. Sc. Thesis

### **Publications**

- Published more than two hundred research papers in varied international journals.
- Published two books

### **Member of Scientific Societies**

- Member of Royal Society of Chemistry (C. Chem., MRSC)
- Member of NACE
- Member of Libyan Corrosion Society
- Member of International Energy Foundation
- Member of Libyan Chemical Society
- Member of Indian Science Congress
- Member of Institute of Petroleum

### **Honorary Work**

- Acted as Chairman of Scientific Committees of some conferences
- Acted as Member of Scientific Committees of some conferences