

CHARLIE WALLACE

**CURRENT POSITION: CHEMICAL ENGINEERING CONSULTING SERVICES
IPSI LLC**

ACADEMIC QUALIFICATIONS

- MS in Chemical Engineering – University of Texas, Austin, Texas
- BS in Chemical Engineering – Texas A&M University, College Station, Texas

PROFESSIONAL EXPERIENCE: 49 YEARS

- Gas processing
- Gas treating, CO₂ EOR,
- Gas production facilities.
- Facility debottlenecking
- Operational troubleshooting
- Technical training
- Legal witness.

PROFESSIONAL EXPERIENCE

<u>PERIOD</u>	<u>COMPANY, POSITION AND ACTIVITIES</u>
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1999-2010	CONSULTANT, Spring, Texas
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- Consulted on numerous gas processing, CO₂ EOR and onshore and offshore facilities projects. Clients include Shell, British Gas, Anadarko, BP, Oxy, Kerr McGee, Cynara, CrystaTech, Denbury Resources, Global Project Consultants, Canadian Chemical Reclaiming, Twister BV, Coral Energy Services, GATE LLC, Pelican Energy Consultants, Alliance Engineering, CSO Aker, UNOCAL, Kinder Morgan, Trimeric, NATCO, World Energy Systems, KBR, EDG Inc., Hess Corp. and the Propane Education and Research Council (PERC).

1964-1998	SHELL OIL COMPANIES, Houston, Texas
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- Evaluated and recommended the best hydrate inhibitor alternative as part of a task force addressing serious operating problems for the Mensa subsea gas field. Implementation of recommendations in 1999 improved uptime and reduced operating costs by several million dollars/year.
- Recommended and participated in the evaluation of distributed control systems (DCS) for offshore production. DCS now being installed on all major offshore projects, improving system uptime by 1-2% and increasing revenues by over \$10 million/year for large projects.

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PROFESSIONAL EXPERIENCE (Continued)

- Evaluated and developed preliminary designs of several gas processing technologies which were implemented on the Brutus project to enable single phase operation of the gas export pipeline and thereby avoided costly pigging and slug catcher facilities.
- Conceptualized surface processing requirements for an economic alternative to subsea systems for small deepwater oil developments. The new system will improve flow assurance and permit greater offset distance from host platforms than is currently possible for subsea oil developments.

1989-1996 CHEMICAL ENGINEERING ADVISOR,

- Designed new gas dehydration system, performed process simulations, and recommended retrofits to existing separation vessel internals, in part allowing the Auger tension leg platform (TLP) topsides oil capacity to be increased from 40,000 to 100,000+ BBL/D and gas capacity from 100 to 300 MMSCFD.
- Recommended a novel, nominal-cost retrofit to the Mars TLP glycol contactor which increased sales gas capacity from 110 MMSCFD to 175 MMSCFD.
- Participated on a team that corrected severe operating problems in the SulFerox gas treating/sulfur recovery process at the Denver Unit CO₂ Recovery Plant. The plant was successfully modified with no loss of oil revenue.
- Provided significant technical assistance to Legal on three lawsuits, including two depositions, which resulted in multi-million dollar savings to Shell.
- Organized and led a team of engineers and research scientists to evaluate all aspects/impacts of troublesome diamondoid compounds found in Fairway gas field late in the construction phase of offshore production facilities and the onshore gas plant. Minor facility modifications minimized the problem.

1972-1989 STAFF AND SENIOR STAFF CHEMICAL ENGINEER,

- Developed process designs for over 15 gas plants, oil & gas production and CO₂ EOR facilities and major expansions resulting in multimillion dollar capital and operating savings.
- Provided technical guidance to Legal in litigation with IRS on Windfall Profit taxation of gas plant condensate. This effort included a presentation to the Assistant Secretary of the Treasury in Washington, DC. Settlement in Shell's favor resulted in significant tax savings.
- Developed courses in gas processing and process simulation. Trained several hundred engineers and plant operating personnel in these subjects.

Senior Mechanical Engineer, New York, New York, 1970-1971

Senior Chemical Engineer – Section Leader, New Orleans, Louisiana, 1967-1970

Gas Engineer, Weeks Island, Geismar and New Orleans, Louisiana , 1964-1967

PROFESSIONAL ACTIVITIES

- Gas Processors Association (GPA) – Past Committee Chairman, 1999 GPA “Citation for Service,” 1997 GPA Annual Meeting “Outstanding Paper Award”
- Conference Chairman 2001 Laurance Reid Gas Conditioning Conference (LRGCC)
- Industry advisor to Gas Research Institute on \$5+ million/year Gas Processing R&D program
- Member Society of Petroleum Engineers (SPE), American Institute of Chemical Engineers (AIChE) and GPA
- 10+ technical presentations at industry conferences including GPA, SPE, AIChE, LRGCC
- 6 published articles in Hydrocarbon Processing and the Oil & Gas Journal
- Registered Professional Engineer in Texas (#37475)