

## **MARITZA MONROY HERNANDEZ**

**CURRENT POSITION: VICE PRESIDENT AND DIRECTOR OF PRIMARY PRODUCTION**

### **PROFESSIONAL EXPERIENCE: 26 YEARS**

- Primary production facilities design
  - Process facilities design and optimization
  - Conceptual design and FEED packages preparation
  - Design and debottlenecking in production facilities
  - Oil and gas recovery
  - Pipeline distribution optimization with a consistent proven and growing record on technology driven business
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- Development and coordination of basic engineering design packages and technical-economic feasibility studies for oil and gas production systems
  - Design and optimization of primary production installations onshore and offshore, including definition and analysis of the collection and transportation systems of hydrocarbons from offshore platforms.
  - Development and coordination of engineering activities, including bid documents for facilities of primary production
  - Design strategies for the handling of heavy and light oil and mixtures, considering sales contract
  - Design strategies for the handling of gas and condensates and associated processes
  - Design strategies for gas plants process selection and implementation plans of NGL, NRU, gas conditioning facilities.
  - Provide process design support in the execution of oil and gas processing projects to Bechtel or others.
  - Develop proposal and implement state of the art technology for heavy and light crude dehydration.
  - Develop technical feasibility studies and economic evaluation for natural gas and nitrogen, select NRU fit-for-purpose
  - Front-end and bid package preparation.
  - Develop smart and fit for purpose offshore process, to optimize production, infrastructure, and energy balance among others.

## **ACADEMIC QUALIFICATIONS**

B.S., Chemical Engineering, Universidad Nacional Autonoma de Mexico

## **PROFESSIONAL EXPERIENCE**

### **PERIOD**

### **COMPANY, POSITION AND ACTIVITIES**

May 2007 – Present      Vice President and Director of Primary Production

Responsible for development and implementation of state-of-the-art technologies and commercial strategies for new and existing projects; maintain close relationships with strategic clients to identify opportunities.

- Recommended N2 rejection process packages, technology and process capacity to be installed at Pemex Region Sur.
- Absorption
- Adsorption
- Cryogenic (recommended)
- Pipeline Network configuration to consolidate streams with high N2 content and optimize energy balance.
- Revised N2 rejection process schemes with global cryogenic and no cryogenic licensors.
- Evaluated N2 rejection process packages and recommendation for their location at either at downstream or upstream pemex production facilities, 300 km of pipeline network analysis was performed, the evaluation was made for onshore installations located at southern region.
- Develop process and gas handling configuration to treat gas with high N2 concentration at Cactus, Gas conditioning center of 1200 mmcf/d operating NGL cryogenic plants.
- Develop process and gas handling configuration to treat gas with high N2 concentration at primary production facilities, design capacity on existing installations 200 mmcf/d and 400 mmcf/d.
- Develop the process to condition the gas for transportation and a LNG plant facility, the plant in the project is located in Alaska Prudhoe Bay.
- Process development of the gas conditioning plant to process 1.5 bscfd.
- Gas Conditioning Plant 3 – 4 Bcf/d.
- Pipeline 2.7 Bcf/d.
- LNG Plant [Straddle Plant [Alternative]].
- Process and debottlenecking study of the Cryogenic plant (NGL and deep propane recovery) at Ciudad Pemex to handle high N2 content and increase propane recovery; Cryogenic Plant 600 mmcf/d capacity.

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**PROFESSIONAL EXPERIENCE (Continued)**

- Front-end engineering and bid package preparation for NRU at Pemex southern region area: 2 projects, Samaria Luna 250 mmpcd and Jujo Teco 150 mmpcd.
- Feasibility study to upgrade extraheavy oil to obtain maya crude quality, technical open art information to overview upgrading crude processes. Project, “Upgrade extraheavy oil at Dos Bocas”.
- Developed a screening study to implement state of the art technology for heavy and light crude dehydration offshore locations, Campeche bay.
- Developed technical feasibility studies and economic evaluation for natural gas and nitrogen, selecting the process on NRU (fit-for-purpose) in pemex south region. Prepare bidding package 125 mmcfcd capacity, cryogenic process and BOO model.

Sept 2001 to May 2007      IPSI LLC (formerly International Process Services, Inc.)  
PRIMARY PRODUCTION MANAGER

- Solid experience in process design and project management of oil and gas projects, also I have overlooked for global engineering, project services and operation on downstream, pipeline and process plants.
- Develop proposals to implement a heavy oil blending project using light crude with different API and properties: Crudes are Maya, extraheavy, Istmo and light crude, facilities: FPSO Campeche bay, FSO takunta, Cantarell, KuMaZa and Dos Bocas and 500 km network marine pipeline.
- Develop proposals to implement state-of-the-art technologies for heavy and light crude dehydration offshore and onshore locations: Cantarell marine platforms 200 mbpd, Abkatun platform 100 mbpd and Dos Bocas onshore location to treat light crude 100 mbpd and maya crude 400 mbpd.
- Develop technical feasibility studies and economic evaluations for natural gas and nitrogen, select NRU fit-for-purpose for Pemex Cantarell Project, NRU cryogenic technology at Cd Pemex, 630 mmcfcd, positioned as the largest plant in the world to reject nitrogen.
- Design strategies for handling and debottlenecking oil and related services as: salty & water emulsion associated to maya crude, five marine mega platforms and satellites production and drilling platforms, total capacity 2500 mbpd.
- Design strategies for handling and debottlenecking gas and related services as: gas with high N2 concentration integrated to “clean” gas production to process, 1800 mmcfcd and 400 km gas pipeline network.
- Evaluate technical and economical options for production, recovering, transportation and crude blending into pipeline networks, offshore facilities, platforms and a FPSO at Campeche bay.
- Project related client representation, NRU at Cd Pemex, (Costain, Air products and Praxair licensors), Maya crude dehydration (vetco, natco and kaverneer licensors)



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**PROFESSIONAL EXPERIENCE (Continued)**

- Develop design bases and master plan implementation for a new compression platform 250 mmcf/d capacity; define nitrogen generation process to sustain reservoir pressure 1200 mmcf/d ASU cryogenic plants, modular construction and operation.
- Defined capacities, areas of development and job implementation plan for sour gas, gas lift, and oil.
- Determined number, location and capacity for the new platforms and production complexes.
- Defined the transportation infrastructure for the handling of two-phase production, sour gas, export oil and treated sour gas to petrochemical complexes.
- Evaluated different alternatives for processing hydrocarbons.
- Identified critical situations and define solutions to handle and optimize hydrocarbon production.
- Defined and analyzed operation philosophy and implementation plan.
- Developed process and network simulation for sour gas, lift gas, acid gas and oil.
- Participated with the reservoir consultant in the design of the Nitrogen Plant.
- Defined the infrastructure for the injection and handling of nitrogen.
- Identified the strategy and participated on the definition for the integration of FSO.

Dec 1994 - March 1996    PROCESS ENGINEER

- Develop process, network configuration and master plan construction to integrate production light crude in cantarell locations, SiHil Project.
- Develop process, network configuration and master plan construction to increment maya crude production at other offshore locations Ku Maloob Zaap Project.
- British Gas Tunisia Hannibal Gas Treating Plant, worked on the relief system design, evaluating relief alternatives during startup.
- Phillips Trinidad LNG Project, worked on process design of vessels and relief valves, material and energy balance, and utility flow diagrams.
- Process systems engineering on the Warren Petroleum Company Venice Gas Plant; identified equipment bottle necks (vessels, towers, pumps and compressors).

**MARITZA MONROY HERNANDEZ**  
**PROFESSIONAL EXPERIENCE (Continued)**

Jan 1985 – Nov 1994      MEXICAN PETROLEUM INSTITUTE (IMP)  
PROJECT MANAGER

- Pemex Projects:
- Responsible for feasibility studies, economic evaluations, modernization, optimization and transportation of Mexico southern region primary production installations. The result was that 32 installations were integrated into 12 installations.
- Supervised up to 80 engineers in the development of the conceptual basic and detail engineering and the bidding documents for the construction of 3 new production facilities to stabilize super light crude.

**SENIOR and PROCESS ENGINEER:**

- Optimization of pipeline and pumping systems of offshore oil production: Cantarell area handling four conditioning centers capacity 550 mbpd each, and 500 km network pipeline. Light crude area, Caan 150 mbpd, Abakatum and Pol complexes 200 mbpd each “Project Light Crude production”.
- Dehydration of isthmus crude on offshore platform Abkatun, 200 mbpd.
- Process design of Ku platforms to condition, gathering and produce Maya crude, 200 mbpd.
- Design Compression Marine platform named Pol A at Campeche Bay 270 MMscfd.
- Design Booster compression platform located at Campeche bay “Nohoch” 250 mmcfd.
- Design hydrocarbon transportation capacity for modular installation and drilling processing platforms to slow production decline of offshore fields, Process design of Akal N satellite platform to condition oil to export and booster gas compression 150mmcfd.
- Olmeca Project feasibility study and master optimization schedule to consolidate oil separation, gas compression, and olmeca crude stabilization in a new process using towers.
- Engineering of several processes for a) modular primary production systems; b) compression offshore platforms; c) condensate recovery; d) gas dehydration plant; e) sweetening gas plants. Processes located on platforms at Campeche Bay Akal J, Akal C, Nohoch, Akal N, KuA, Atasta gas station and Dos Bocas to storage and pump oil pemex production 2000 mbpd.
- Feasibility studies for a) integrated production, processing and LPG storage; b) gas and condensate recovery inland and offshore.

## **PUBLICATIONS**

- World Oil Magazine, Overview of the Cantarell Field Development Program, July 1999
- Overview of the Cantarell Field Development Program, Offshore Technology Conference, Houston, Texas, May 3-6, 1999.
- PEMEX Offshore Region Gas and Condensate Pipeline Analysis - XIV World Petroleum Conference, Norway, June 1994

## **CONTRIBUTIONS MADE TO DEVELOPMENT OF NEW TECHNOLOGIES**

- Potable water.
- Dehydration and Gas Sweetening.
- Gas Dehydration using Glycol and Heptanes.
- Energy Conservation Applications.