

ENVIRONMENTAL STUDIES PROGRAM: Studies Development Plan FY 2014-2017

Region: [Gulf of Mexico](#)

Planning Area(s): Gulfwide

Title: **Empirical Analysis of the OCS Pipeline Network in the Gulf of Mexico (GM-14-03-02)**

Total BOEM Cost: \$219,678

Period of Performance: FY2014-2017

Conducting Organization: Coastal Marine Institute, Louisiana State University

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Background: Pipelines serve a critical role in linking OCS oil and gas production with processing facilities along the Gulf Coast and play an important role in the safe and cost effective development of hydrocarbon resources. The GOM has developed an extensive oil and gas pipeline grid over several decades and the system is the largest and most complex offshore pipeline network in the world. There are no public reports on OCS pipeline statistics and few public analyses on activity data and trends. This study will expand upon our understanding of OCS developmental trends, how pipeline networks and landings impact coastal regions, and the growing role of subsea completions. As deepwater developments continue to progress and activity in the shallow water OCS declines, the nature of pipeline installations and requirements and coastal impacts will change.

Objectives: The primary objective of the study is to address information gaps that currently exist in the physical and economic structure and trends of the GOM OCS pipeline network and to develop primary analysis in support of BOEM environmental studies.

Methods:

Task 1: Tabulate pipeline activity statistics in the OCS GOM, including:

- a) Historic installation and removal activity by pipeline type, diameter, function, water depth, regulatory jurisdiction and planning area.
- b) Active and idle pipeline inventory by type, water depth, regulatory jurisdiction and planning area.
- c) Geographic distribution of the pipeline network and empirical relationships.

Task 2: Describe the main pipeline operators and role of hub and pipeline junctions in the deepwater GOM, and the construction and installation firms that lay pipelines, flowlines and umbilicals.

Task 3: Construct cost functions of offshore pipeline installation and describe the service market of pipelay vessels.

Task 4: Develop models to quantify pipeline installation and removal activity and the number of coastal transitions by planning area and development scenario.

Task 5: Model issues identified by BOEM personnel arising from EIS and legislative requirements.

Task 6: Summarize and analyze OCS pipeline tariffs based on a review of public contracts between 2001-2011.

Importance to BOEM: BOEM is responsible for overseeing safe and environmentally sound offshore development in the federal waters of the United States. The pipeline infrastructure in the OCS transports over 95% of the oil and gas production in the GOM and is an integral component of efficient, economic, reliable, safe and environmentally responsible operations.

To effectively manage and understand these infrastructure systems, it is important to expand and improve our current understanding of likely future configurations and trends.

Products: Final integrated report and project, final technical summary, any published peer-reviewed journal articles, and outreach materials. Summary and analysis of OCS pipeline tariffs based on a review of public contracts between 2001 and 2011, searchable and formatted tabulated pipeline database of pipeline historic installation and removal activity organized by type, diameter, function, water depth, regulatory jurisdiction, and planning area; active and idle pipeline inventory by type, water depth, regulatory jurisdiction and planning area, models of quantified pipeline installation and removal activity and the number of coastal transitions by planning area and development scenario, GIS files and metadata files on the geographic distribution of the pipeline network and relationship to hydrocarbon basins and development activities.

Current Status: PI's have begun research and collaborating with Bureau of Safety and Environmental Enforcement (BSEE) pipelines unit.

Final Report Due: August 2017

Revised date: December 2014

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