

STUDY TITLE: MAG-PLAN Modification: Gulf of Mexico Data Collection, Streamlining, Testing and Repair of OCS Economic Impact Model

REPORT TITLE: Gulf of Mexico MAG-PLAN 2012: Updated and Revised Economic Impact Model

CONTRACT NUMBER: MP09PC00038

SPONSORING OCS REGION: Gulf of Mexico

APPLICABLE PLANNING AREAS: Western, Central, and Eastern

FISCAL YEARS OF PROJECT FUNDING: 2009; 2010; 2011; 2012

COMPLETION DATE OF REPORT: December 2012

COSTS: FY2009: \$27,958; FY2010: \$186,427; FY2011: \$249,620; FY2012: \$62,746

PROJECT COST: \$526,751

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KEY WORDS: Socioeconomic Impact Analyses, MAG-PLAN, Gulf of Mexico, Western Gulf of Mexico, Central Gulf of Mexico, Eastern Gulf of Mexico, industry expenditures

BACKGROUND: BOEM maintains an OCS Economic Impact Model (EIM) called MAG-PLAN to provide a consistent bureau-wide approach to estimating employment, personal income, and similar economic impacts from OCS activities. MAG-PLAN is a Microsoft® Access®-based, 2-stage model that uses OCS-specific “cost functions” to estimate the industry expenditures required (by industry sector and onshore area that the spending is likely to occur) to complete a given activity, such as drilling an exploration well or operating a production facility. The second stage uses general economic multipliers from the commercial economic modeling system IMPLAN to forecast employment, personal income, and other variables resulting from the initial industry expenditures.

OBJECTIVES: The objective of the MAG-PLAN Modification study is to strengthen and refine the Bureau’s procedures for estimating the onshore economic effects from OCS-related activities, by improving the current MAG-PLAN model.

DESCRIPTION: The work had two major purposes to (1) update the data within MAG-PLAN and incorporate technological developments and (2) update and refine the

software. New cost functions were developed for floating production systems, subsea production systems, and geological and geophysical prospecting and cost functions were updated for wells (exploratory, development, and development with production wells), platform fabrication and installation, onshore gas processing facilities, pipeline construction, platform decommissioning, and annual operating and maintenance (O&M). The allocations of these costs by IMPLAN sectors (440-industry series) and by labor and non-labor cost were revised for each activity. The methodology for allocating industry expenditures to onshore areas by industry sectors was refined and more flexibility was added to allow users to examine impacts to different BOEM-defined onshore geographical areas.

The updated model incorporates a detailed geographic analysis of key industries and commodities generated by another BOEM analysis (platform fabrication, subsea completions, floating production systems, drilling oil and gas wells, support activities for oil and gas operations, oil and gas field equipment and machinery, air transportation, water transportation, geological and geophysical (seismic) prospecting, other accommodations, food services, and insurance) and updated revenue distributions from bonuses, rental payments, and royalties in 8(g) and non-8(g) areas) to federal and state governments.

The software tasks included converting the model to Access® 2010 and Windows® 7, restructuring to accommodate IMPLAN V.3 Stage 2 data, converting the code from the IMPLAN 509-industry series to the 440-industry series, improving the user interface (adding a Wizard function for basic runs), and creating import and export functions to facilitate updates to data and scenarios.

SIGNIFICANT CONCLUSIONS: The modification of MAG-PLAN by improving data inputs, accounting for new industry technologies, and streamlining the model will improve MAG-PLAN outputs and the efficiency of using the model. This will aid broader BOEM efforts to understand the local and regional consequences of the program as industry activities expand or contract, and will support planning, decision making and environmental assessments related to the management of mineral resources on the OCS.

STUDY RESULTS: The revised model is more stable and user-friendly and is populated with activities and expenditures reflecting technological changes in the industry. This will aid broader BOEM efforts to understand the local and regional consequences of the program as industry activities expand or contract, and will support planning, decision making and environmental assessments related to the management of mineral resources on the OCS.

STUDY PRODUCT: Eastern Research Group, Inc. **2012.** MAG-PLAN 2012: Economic Impact Model for the Gulf of Mexico—Updated and Revised Data. U.S. Dept. of the Interior, Bureau of Ocean Energy Management, Gulf of Mexico OCS Region, New Orleans, LA. OCS Study BOEM 2012-102. 150 pp.