

**UNITED STATES DEPARTMENT OF THE INTERIOR  
MINERALS MANAGEMENT SERVICE  
GULF OF MEXICO OCS REGION**

NTL No. 2004-G21

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NOTICE TO LESSEES AND OPERATORS OF FEDERAL OIL AND GAS  
LEASES AND PIPELINE RIGHT-OF-WAY HOLDERS  
ON THE OUTER CONTINENTAL SHELF, GULF OF MEXICO OCS REGION

**Deepwater Ocean Current Monitoring on Floating Facilities**

This Notice to Lessees and Operators (NTL) is issued pursuant to 30 CFR 250.103 to establish and implement a current monitoring and oceanographic data sharing program for deepwater operations.

**Background**

The Minerals Management Service (MMS) regulation at 30 CFR 250.904(c) requires you to make a thorough assessment of all design and operating environmental conditions expected to occur at the platform site over the life of the platform. The regulations at 30 CFR 250.107(c) and (d) require you to use the best available and safest technology whenever practical during all exploration, development, and production operations to avoid the failure of equipment that would have a significant effect on safety, health, or the environment. The MMS regulation at 30 CFR 250.300(a) requires you to take measures to prevent unauthorized discharge of pollutants into the offshore waters.

Ocean current speeds now used by industry in the design, operation, and function of mobile offshore drilling units (MODU's) and floating production platforms and their ancillary equipment (i.e., drilling and production risers, tendons, mooring systems) may be underestimated. At some locations, 10-year loop current events have been exceeded. In certain instances, deeper ocean currents were not empirically measured, or underestimated current speeds were considered in designs. Recent incidents have demonstrated to the MMS Gulf of Mexico OCS Region (GOMR) a need for more site-specific data for use in hindcasting and forecasting ocean currents that may affect structural design, fatigue criteria, or daily operations.

**Implementation**

The MMS GOMR must ensure that you comply with the aforementioned regulatory requirements and that you consider the site-specific environmental conditions in the design of

your OCS floating structures and in your daily operations. To accomplish this goal, accurate and up-to-date ocean current data must be accessible so that appropriate design and operating criteria can be established.

Therefore, pursuant to the authority granted to the MMS Regional Director in 30 CFR 250.203(o) and 30 CFR 250.204(s), the MMS GOMR hereby establishes and implements the following program to monitor ocean currents and share the data for ***all floating MODU's and production facilities*** operating or installed in water depths greater than 400 meters (1,312 feet).

A. For floating MODU's

1. For floating MODU operations, continuously monitor and gather ocean current data on a real-time basis from near the ocean surface (~30 meters (100 feet)) to ~1,000 meters (3,280 feet) using an Acoustic Doppler Current Profile (ADCP) current monitoring system or comparable equipment. Mount the ADCP as near to the ocean surface as practicable. At least once every 12 hours, report the data from the ADCP to an industry-accessible Internet website. In the report, include the monitoring equipment type, latitude and longitude (derived from a GPS signal), the OCS area/block, the water temperature, and a time series of 20-minute averaged speed and direction at least every 16 meters (52 feet) through the full range of the monitoring equipment.

2. For floating MODU operations in water depths greater than 1,100 meters (3,608 feet), install a current meter, preferably an upward looking ADCP, near the ocean bottom (~100 meters (328 feet) from the seafloor). This current meter is in addition to the ocean surface monitoring system prescribed in Item No. 1 above. Record the data with at least one measurement every 20 minutes. Within 30 calendar days of data retrieval, report the data to an industry-accessible Internet website. In the report, include the monitoring equipment type, a time series of 20-minute averaged speed and direction at least every 16 meters (52 feet), the latitude and longitude, the OCS area/block, and the water temperature.

3. If, during drilling operations, you measure currents with speeds greater than 0.75 knots at the maximum range of the ADCP or comparable equipment for more than 24 hours, monitor and gather all current data below the maximum range of the ADCP while you conduct your normal remotely operated vehicle (ROV) operations or inspections. Within 30 calendar days of data retrieval, report the data to an industry-accessible Internet website. In the report, include the monitoring equipment type, averaged speed at depth, the latitude and longitude, the OCS area/block, and the water temperature.

B. For planned floating production facilities

1. Prior to installing a floating production facility after March 31, 2005, deploy a full water column mooring to collect at least one year of site-specific current data at the planned floating production facility location (see Exclusion B below if one year of data is not available for your planned facility). Use the mooring to collect current data from near the ocean surface (~30 meters (100 feet)) to near the bottom (~100 meters (328 feet) from the seafloor). On the

mooring, install point current meters spaced no more than 500 meters (1,640 feet) apart, an ADCP array, or some combination of point current meters and ADCP's. Time average the data at least every 20 minutes. Within 30 calendar days of data retrieval, report the data to an industry-accessible Internet website. If you use an ADCP array, make sure that the data are a time series of 20-minute averaged speed and direction at least every 16 meters (52 feet). In the report, include the monitoring equipment type, latitude and longitude, OCS area/block, and water temperature. You may use the data you collected during the drilling phase as part of your one year of site-specific current data. The one year of data does not need to be collected for 365 continuous days or at the same location as long as it is representative of different seasons and is collected within 30 kilometers (18.6 miles) of the facility site. For sites near steep topography (e.g., the Sigsbee Escarpment) or where the water depth varies by more than 20 percent between the monitor location and the planned facility site, the distance limit is 8 kilometers (5.0 miles) instead of 30 kilometers (18.6 miles).

2. In your deepwater operations plan (DWOP) for the facility, include information on the monitoring equipment type and depth range of the monitoring equipment you plan to use to collect ocean current information.

3. If your full water column equipment fails before one year of data is collected, you may either continue your program until one year's data is collected or you can request an exclusion from the MMS GOMR. To request an exclusion, submit to the MMS GOMR Technical Assessment and Operation Support Section (TAOS) for review and approval a written request that includes a full explanation of the equipment failure, the amount of data that has been collected, and any plans to collect additional data.

4. A full year of data is not required prior to initiating design. The MMS GOMR does not generally intend that current monitoring impede the installation of new facilities. However, if you complete your design activities before a full year of data has been collected, please be advised that you may need to make modifications if those data indicate currents that exceed design expectations.

#### C. For existing floating production facilities

1. For existing floating production facilities (those installed before March 31, 2005), continuously monitor and gather ocean current data on a real-time basis from near the surface (~30 meters (100 feet)) to ~1,000 meters (3,280 feet) using an ADCP current monitoring system or comparable equipment. Mount the ADCP or comparable equipment as near to the ocean surface as possible. At least once every 12 hours, report the data from the ADCP to an industry-accessible Internet website. In the report, include the monitoring equipment type, latitude and longitude, the OCS area/block, the water temperature, and a time series of 20-minute averaged speed and direction at least every 16 meters (52 feet) through the full range of the monitoring equipment.

2. For existing floating production facilities located in water depths greater than 1,100 meters (3,608 feet), in addition to the ocean surface monitoring system prescribed in Item No.

1 above, install a current meter, preferably an upward looking ADCP, to monitor continuously the near-bottom current (~100 meters (328 feet) from the seafloor) as follows:

- a. Continuously record the near-bottom current speed and direction;
- b. Once every 6 months, retrieve and examine the data. Also, if another monitoring station located within a 30-kilometer (18.6-mile) radius reports near-bottom currents greater than 1.0 knot for a 24-hour period or if models predict that such an event may have occurred at your facility site, retrieve and examine the data within 30 calendar days of the event;
- c. Whenever average currents greater than 1.0 knot are measured for more than 24 hours by any component, immediately notify the MMS GOMR TAOS and install a full water column mooring that contains point current meters spaced no more than 500 meters (1,640 feet) apart, an ADCP array, or some combination of point current meters and ADCP's; and
- d. Time average the data at least every 20 minutes. Within 30 calendar days of data retrieval, report the data to an industry-accessible Internet website. If you use an ADCP array, make sure that the data are a time series of 20-minute averaged speed and direction at least every 16 meters (52 feet). In the report, include the monitoring equipment type, latitude and longitude, OCS area/block, and water temperature.

3. For existing floating production facilities, provide the monitoring equipment type, date of installation, and depth range of the monitoring equipment to the MMS GOMR TAOS by February 15, 2005.

### **Additional Current Data**

If you collect any current data not specified by this NTL, the MMS GOMR requests that you voluntarily report that data to an industry-accessible Internet website within 30 calendar days of data retrieval. If you do, please (1) time average the data at least every 20 minutes, (2) make sure that all ADCP data are a time series of 20-minute averaged speed and direction at least every 16 meters (52 feet) and, (3) in the report, include the monitoring equipment type, latitude and longitude, OCS area/block, and water temperature.

### **Exclusions**

A. If you have a 75-kHz system on order or in use prior to September 30, 2004, that does not meet the provisions of this NTL, you may continue to use that ADCP system until it fails or until you find a current speed greater than 1.0 knot at the maximum range of your system.

B. If you plan to install a floating production facility before June 30, 2006, you may request an exclusion from collecting one full year of current data before you install the facility. To obtain an exclusion, submit to the MMS GOMR TAOS for review and approval a written request that includes a record of the ocean currents you have collected, a brief explanation citing your reasons for requesting the exclusion, and any plans to collect additional data.

C. After you have obtained two (2) years of data on floating production facilities from the near-bottom monitor or, if prescribed, the full water column monitoring equipment, with at least a 70 percent data return rate and with no currents with a speed greater than your facility

design standard, you may request an exclusion from further monitoring of the near-bottom and mid-water currents. To obtain an exclusion, submit to the MMS GOMR TAOS for review and approval a written request that includes a record of the ocean currents during the past two (2) years and a brief discussion of your reasons for requesting the exclusion.

D. The MMS GOMR will consider for exclusion from current monitoring those facilities with at least five (5) years of continuous service in a field without any current-related issues or incidents and less than five (5) years of remaining service anticipated. To obtain an exclusion, submit to the MMS GOMR TAOS for review and approval a written request that includes the history of the ocean currents at your facility, proof and certification that you have had no current-related issues or incidents at your facility, and a brief discussion of your reasons for requesting the exclusion.

E. The MMS GOMR will consider MODU's and floating production facilities located within 30 kilometers (18.6 miles) of existing locations with monitoring systems as described in this NTL for exclusion from the ocean current monitoring prescribed in this NTL (except near-surface monitoring) if (1) the water depth at the site does not vary by more than 20 percent from the water depth at the monitoring location and (2) the owner of the monitoring system agrees with the dispensation and use of its data. For sites near steep topography (e.g., the Sigsbee Escarpment), the exclusion distance is 8 kilometers (5.0 miles) instead of 30 kilometers (18.6 miles). To obtain an exclusion, submit to the MMS GOMR TAOS for review and approval a written request that includes

1. The location and water depths of the existing monitoring system;
2. The location and water depths of the MODU or facility to be excluded;
3. The water column depths that are covered by the existing monitoring system;
4. The maximum current velocities for all recorded depths at the existing site; and
5. A letter from the owner of the monitoring system granting permission to use the information.

## **Operational**

A. The MMS GOMR encourages you to use the current data you obtain for your daily operations, forecasting, and hindcasting as necessary during all ongoing drilling and production activities. Additionally, pursuant to 30 CFR 250.904(c), use your site specific current data for the planning and design of production facilities.

B. Make sure that the technology and equipment you use for these current monitoring systems are optimized to avoid interference from risers, moorings, and thrusters. Additionally, design these systems so that they do not to interfere with existing acoustic systems used on dynamically-positioned vessels, such as position measurement systems or blowout preventer (BOP) controls.

C. Make sure that all current time series and data collected as part of implementation of this NTL are published on a single jointly agreed upon industry sponsored and publicly available Internet website. Further, make sure that participating lessees and operators jointly submit a plan by February 15, 2005, to the MMS GOMR that describes this website and

includes the specific current monitoring data gathering protocol, reporting guidelines of data dissemination, and data QA/QC protocols.

D. If you are unable to publish in a timely fashion the oceanographic data to an industry-accessible Internet website because of communications or equipment failure, do so as soon as communications are reestablished or the equipment has been repaired.

E. Should any part of your monitoring system fail or be taken out of service for maintenance or repair for a period of 14 days, immediately contact the MMS GOMR TAOS with a written explanation of the situation and an estimate of the time before the system is back on line. Make every effort to return the equipment to service as soon as practicable.

F. In hurricane or other evacuation conditions, gather the oceanographic data where possible and publish it when activities have returned to normal. You do not need to provide emergency power or additional equipment to keep your current monitoring system operational during hurricane or other evacuation conditions.

### **Applications for Permit to Drill (APD's)**

So that the MMS GOMR can monitor your compliance with the provisions of this NTL and ensure that you have specific operational plans to deal with current events, provide (pursuant to 30 CFR 250.417(e)) the following in each APD you submit to the MMS GOMR to drill a well using a floating MODU in water depths greater than 400 meters (1,312 feet):

1. A description of the specific current speeds that will cause you to implement rig shutdown and/or move off procedures; and
2. A discussion of the specific measures you will take to curtail rig operations and move off location when such currents are encountered.

### **General**

A. Pursuant to 30 CFR 250.141, you may use alternate procedures and/or equipment to comply with the provisions of this NTL if you receive prior approval from the MMS GOMR TAOS Section.

B. Begin implementing the current monitoring and data reporting program established by this NTL no later than March 31, 2005. If you will be unable to implement the program fully by this deadline, notify the MMS GOMR TAOS before February 15, 2005, with a full explanation of your reasons for being unable to implement the program in a timely manner.

C. The MMS GOMR will hold a workshop with industry to review new technologies, the state of the industry, and the applicability and continued need for this NTL sometime in early 2006.

D. This NTL expires on March 31, 2007.

## Contacts

A. If you have any questions regarding this NTL, please contact Mr. Fred Hefren of the Office of Technical Assessment and Operations Support by telephone at (504) 736-2924 or by e-mail at [fred.hefren@mms.gov](mailto:fred.hefren@mms.gov).

B. Provide your system out-of-service notifications by e-mail to [o@mms.gov](mailto:o@mms.gov). If that address is not operable or available, send the notifications to Mr. Fred Hefren of the Office of Technical Assessment and Operations Support by fax at (504) 736-2941 or by e-mail at [fred.hefren@mms.gov](mailto:fred.hefren@mms.gov).

C. Send all letters with system details and requests for exemption to:

Minerals Management Service  
Regional Supervisor, Field Operations  
Office of Technical Assessment and Operations Support (MS 5220)  
Attention: Mr. Fred Hefren  
1201 Elmwood Park Blvd.  
New Orleans, LA 70123-2394

## Paperwork Reduction Act of 1995 (PRA) Statement

The information collection provisions referred to in this NTL are intended to provide clarification, description, or interpretation of requirements in 30 CFR 250, Subparts B, D, and I. The Office of Management and Budget (OMB) has approved the information collection requirements in these regulations and assigned OMB Control Numbers 1010-0049, 1010-0141, and 1010-0058, respectively. This NTL does not impose additional information collection requirements subject to the PRA.

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Chris C. Oynes  
Regional Director