

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

NTL No. 2007-G27

Effective Date: October 1, 2007

Expiration Date: September 30, 2012

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

Assessment of Existing OCS Platforms and Related Structures for Hurricane Conditions

Authority

This Notice to Lessees and Operators (NTL) is issued pursuant to 30 CFR 250.103. It provides guidance to ensure that certain existing OCS platforms and related structures are assessed to ensure their structural integrity by considering the specific environmental conditions at the platform location as required by 30 CFR 250.900(a).

Background

Hurricanes Ivan, Katrina, and Rita during the 2004 and 2005 hurricane seasons were detrimental to oil and gas operations on the OCS. Effects included significant structural damage to fixed and floating production platforms (123 fixed platforms and 1 floating platform were destroyed and dozens more suffered significant damage) and significant damage to semi-submersible and jackup drilling rigs. Even though most of the approximately 3,000 OCS platforms that were exposed to hurricane force winds during these storms performed well, the Mineral Management Service (MMS) Gulf of Mexico Region (GOMR) is concerned about the platforms that suffered significant structural damage, as well as the potential for future damage to key energy infrastructure on the OCS.

As a result of significant damage and destruction caused by these hurricanes, MMS and the oil and gas industry have worked collectively to understand better the specific metocean conditions (winds, waves, surges, and current) that occurred during past hurricanes and to study the impact of these storms on the characterization of the Gulf of Mexico (GOM) metocean environment. Based on this better understanding, MMS and the oil and gas industry have updated the metocean criteria for use in assessing existing OCS platforms and related structures.

Accordingly, in May 2007, the American Petroleum Institute (API) issued *Interim Guidance on Hurricane Conditions in the Gulf of Mexico* (API Bulletin 2INT-MET) to replace the hurricane metocean conditions in the GOM presently contained in Section 2.3.4 of *API Recommended Practice for Planning, Designing and Constructing Fixed Offshore Platforms—Working Stress*

Design (API RP 2A-WSD), 21st Edition, October 2005. At the same time, API issued *Interim Guidance for Assessment of Existing Offshore Structures for Hurricane Conditions* (API Bulletin 2INT-EX) to provide guidance on how to use the updated metocean conditions in API Bulletin 2INT-MET for the assessment of existing OCS platforms.

In an effort to reduce the potential for future damage, improve platform survivability, ensure structural integrity, and comply with the requirement of 30 CFR 250.900(a) that you must consider the specific environmental conditions at the platform location for existing platforms and related structures, the MMS GOMR hereby provides the following guidance:

Definition

Central Region and its adjacent transition regions means that area of the Gulf of Mexico seaward of the State-Federal boundary located between 90.5° W and 85.5 ° W (see Section 3 of API Bulletin 2INT-MET).

Fixed Platform Assessment Initiators

The MMS regulation at 30 CFR 250.901(a)(4) requires that your fixed OCS platforms conform to the provisions of API RP 2A-WSD. API Bulletin 2INT-MET updates the hurricane metocean conditions in the GOM presently contained in Section 2.3.4 of API RP 2A-WSD. These changes significantly increase the environmental loading on some existing platforms. Under Section 1.9 of API RP 2A-WSD, these changes necessitate that you perform an assessment of these platforms to determine their continued fitness for purpose.

Therefore, by June 1, 2008, conduct an assessment of the fixed platforms identified in Section 2.2 of API Bulletin 2INT-EX. This applies to all platforms with an exposure category of L-1 or A-1 located in the Central Region and its adjacent transition regions (see definition above) or any other platform designated by the MMS GOMR.

Under Section 1.7 of API RP 2A-WSD, exposure categories are determined by the more restrictive level for either life-safety or consequences of failure. Section 1.7.2.a of API RP 2A-WSD describes the L-1 consequences of failure category, and Section 17.3 of API RP 2A-WSD describes the A-1 high assessment category as referring to those platforms that

1. Are major;
2. Have the potential for well flow of either oil or sour gas in the event of platform failure;
3. Where the shut-in of oil or sour gas production is not planned or is not practical;
4. Support major oil transport pipelines and/or storage facilities; or
5. Are designed for installation in water depths greater than 400 feet.

Based on these criteria, the MMS GOMR has determined that the following fixed platforms are either in the L-1 exposure category or the A-1 high assessment category:

1. Platforms that are subject to the Platform Verification Program (see 30 CFR 250.910), and any other platforms installed in water depths greater than 400 feet;

2. Platforms that produce or handle sour gas (H₂S concentrations greater than 500 parts per million);
3. Platforms located 10 miles or less from the coastline that store more than 2,000 barrels of liquid hydrocarbons at atmospheric pressure or with blanket gas;
4. Platforms located more than 10 miles from the coastline that store more than 5,000 barrels of liquid hydrocarbons at atmospheric pressure or with blanket gas;
5. Platforms that produce greater than 5,000 barrels of liquid hydrocarbons per day;
6. Platforms that have a liquid hydrocarbon throughput (production plus pipeline transport volume) greater than 15,000 barrels per day;
7. Platforms that produce greater than 25 million cubic feet of natural gas per day; and
8. Platforms that have a natural gas throughput (production plus pipeline transport volume) greater than 75 million cubic feet of natural gas per day.

Assessment of Fixed Platforms

Conduct the assessment of the identified fixed platforms by performing an Ultimate Strength Analysis using the methods described in Section 3.3 of API Bulletin 2INT-EX. You may also use other valid methods, if appropriate and defensible for the platform. In performing these assessments, substitute, for hurricane conditions, the metocean conditions derived from a valid site-specific study, or the more severe of either (a) the *individual* parameters for winds, waves, surges, and current indicated in API Bulletin 2INT-MET or (b) the *individual* parameters for winds, waves, surges, and current indicated in API RP 2A-WSD. Conduct any site-specific study of hurricane metocean conditions according to the guidance provided in Section 9 of API Bulletin 2INT-MET.

If you use the Linear Ultimate Strength Analysis method, make sure that the member and punching shear unity ratios are less than or equal to 1.0. Use a rational and defensible engineering approach when you use mean material strength instead of nominal material strength. If you use the Nonlinear Ultimate Strength Analysis method, make sure that the reserve strength ratio (RSR) is greater than or equal to 1.2, as described in Section 3 of API Bulletin 2INT-EX. If you use the Prior Exposure method, properly account for the platform's orientation. Do not use this method to justify the assessment unless the measurements or calibrated hind-casts are specific to the platform's weakest direction, and the platform survived the prior storm event with no significant damage.

Please be advised API has posted errata for API Bulletin 2INT-MET on their Internet website at <http://www.api.org/Publications/addenda/add-ep.cfm>.

Mitigation of Fixed Platforms

The acceptance criteria for a fixed platform assessment are described in Section 3.4 of API Bulletin 2INT-EX. If your structure meets the acceptance criteria, continue to operate within the conditions described in Section 3.5 of API Bulletin 2INT-EX. For fixed structures that do not meet the acceptance criteria, consider the guidance for mitigation as described in Section 3.4 and Section 5 of API Bulletin 2INT-EX.

Other Fixed Platforms

While API Bulletin 2INT-EX does not specifically define an assessment for platforms in the L-2 and L-3 exposure categories and the A-2 and A-3 assessment categories, you may consider some of these platforms as critical, and a risk assessment may be warranted if the platform is located in the Central Region or an adjacent transition region. Section C.2.3 of API Bulletin 2INT-EX provides guidance for this type of risk assessment for an L-2 structure.

Assessment of Floating Platforms

The MMS regulations at 30 CFR 250.901(a)(5) through (9) require that your floating OCS platforms conform to the provisions of various API recommended practices. These documents require the use of available statistical data and/or realistic statistical and mathematical models to develop the description of extreme environmental conditions. API Bulletin 2INT-MET updates the hurricane metocean conditions in the GOM for these documents. These changes significantly increase the environmental loading on some existing floating platforms.

Therefore, by June 1, 2008, conduct an assessment of all floating platforms identified in Section 2.2 of API Bulletin 2INT-EX. This applies to all platforms located in the Central Region and its adjacent transition regions (see definition above).

Conduct the assessment of these floating platforms using the three-step process described in Section 4.3 of API Bulletin 2INT-EX. Ensure that you complete all three steps for each platform. In performing these assessments, use, for hurricane conditions, the metocean conditions derived from a valid site-specific study. Conduct the site-specific study of hurricane metocean conditions according to the guidance provided in Section 9 of API Bulletin 2INT-MET.

The three steps of the assessment process for floating platforms are:

1. *Design level check* – This step is defined in Section 4.3.1 of API Bulletin 2INT-EX. The acceptance criteria for the design level check are described in Section 4.4.1 of API Bulletin 2INT-EX. If the platform does not meet the design level check acceptance criteria, immediately consider modifications to your hurricane and damage control procedures to mitigate the additional risk while manned.
2. *Survival check* – This step is defined in Section 4.3.2 of API Bulletin 2INT-EX. The acceptance criteria for the survival check are described in Section 4.4.2 of API Bulletin 2INT-EX. If the platform does not meet the survival check acceptance criteria, consider the guidance provided in Section 4.4.2 and Section 5 of API Bulletin 2INT-EX.
3. *Robustness check* – This step is defined in Section 4.3.3 of API Bulletin 2INT-EX. The acceptance criteria for the robustness check are described in Section 4.4.3 of API Bulletin 2INT-EX. There are no particular pass or fail criteria for this check; rather, the intent is to identify and evaluate critical components for overload that could cause structure failure in extreme

conditions. Use these results to manage the risk of the structure, such as possible areas for mitigation or limits for configuration changes.

Submittals

1. By November 1, 2007, submit a list of all of your L-1 exposure category platforms, A-1 assessment category platforms, and floating platforms in the Central Region and its transition areas, as described above, to the MMS GOMR. For each fixed platform, include the information listed in Attachment No. 1 to this NTL. For each floating platform, include the information listed in Attachment No. 2 to this NTL.

2. By June 1, 2008, prepare a report of the results of each of your platform assessments and submit it to the MMS GOMR. In each report, include a cover letter and summaries of the assessment process you followed, metocean conditions and loadings you used, and the engineering analysis (including relevant structural drawings, post-hurricane inspection reports for inspections you conducted under NTL No. 2005-G20, and model outputs) you performed. Also include a mitigation plan for each platform that did not meet the acceptance criteria referenced above that describes the actions you plan to take to address the deficiencies with a schedule of activities.

3. If you intend to make any major modifications or repairs to your platform because you do not meet the acceptance criteria referenced above, you must submit an application under 30 CFR 250.901(b) and obtain MMS approval before you perform the work. In your application, make sure you provide the information required by 30 CFR 250.905. In addition, pursuant to 30 CFR 250.910(c), any major modification or repair of a platform originally subject to the Platform Verification Program (PVP) is also subject to the PVP. Make sure that you comply with the requirements for design, fabrication, or installation verification (as appropriate) in 30 CFR 250.911 through 918.

Paperwork Reduction Act of 1995 Statement

The information collection referred to in this NTL provides clarification, description, or interpretation of requirements contained in 30 CFR 250, Subpart I - Platforms and Structures, and NTL - Hurricane Damage. The Office of Management and Budget (OMB) has approved the information collection requirements and assigned OMB Control Numbers 1010-0149 for Subpart I and 1010-0164 for NTL - Hurricane Damage. This NTL does not impose additional information collection requirements subject to the Paperwork Reduction Act of 1995.

Contacts

1. Submit all lists, reports, plans, and applications described in the *Submittals* section above in electronic format to

Minerals Management Service
Gulf of Mexico OCS Region
Office of Structural and Technical Support (MS 5210)

1201 Elmwood Park Boulevard
New Orleans, Louisiana 70123

2. Please contact Fung C. Hassenboehler of the MMS GOMR Office of Structural and Technical Support at (504) 736-2893 or at fung.chan@mms.gov if you have any questions regarding this NTL.

[original signed]

Lars T. Herbst
Acting Regional Director

Attachments

**ATTACHMENT #1
OSTS ASSESSMENT REPORT FOR API BULL 2INT-EX - FIXED STRUCTURES**

ASSESS YEAR	COM NAME	COM NUM	CPXID	STN	AUTH TYP	AUTH NUM	AUTH STATUS	AREA	BLOCK	ST NAME	NUM DK	NUM SLOT	YEAR INST	WD	DK HGHT	QTR	FRAMING PATTERNS				INITIATOR DATA								REMARKS
																	ORIENT	STR TYP	LONG FRAME	TRAN FRAME	EXP CAT	PVP	H ₂ S	STORE	PROD OIL	THRU PUT OIL	PROD GAS	THRU PUT GAS	
2007	BEOWULF	9999	12345	1	ROW	G55555	ACT	MO	995	2	1	1	1963	50	45' 6"	0	N/A	CAS	N	N	A1	N	Y	N	N	N	N	N	
2007	BEOWULF	9999	12346	2	LEASE	G66666	PROD	VK	996	A	2	8	1958	240	43' 2"	10	110	8-P SK	XH	XH	A1	N	N	N	12,000	22,000	132	300	
2007	BEOWULF	9999	12347	3	LEASE	G77777	PRIMRY	VK	997	B	1	3	1998	100	51' 0"	0	N/A	TRI	/	/	A1	N	N	N	9,000	N	50	75	
2007	BEOWULF	9999	12348	1	ROW	G88888	ACT	MC	998	B	1	1	1993	45	39' 10"	0	N/A	B-CAS	N	N	A1	N	N	2,500	N	N	N	N	
2007	BEOWULF	9999	12349	1	RUE	G99999	Approved	GC	999	C	5	24	1985	300	59' 11"	43	180	4-P	X	X	A1	Y	N	N	5,600	31,000	N	N	

ASSESS YEAR - YEAR OF OSTS ASSESSMENT
COM NAME - COMPANY NAME OF DESIGNATED OPERATOR
COM NUM - MMS COMPANY NUMBER

CPXID - MMS IDENTIFICATION NUMBER
STN - STRUCTURE NUMBER
AUTH TYP - PLATFORM AUTHORITY TYPE
LEASE = SURFACE LEASE
ROW = PIPELINE RIGHT OF WAY
RUE = RIGHT OF USE AND EASEMENT
TIME EXTENSION = PLATFORM ON TIME EXTENSION LEASE

AUTH NUM - OCS LEASE AUTHORITY NUMBER
AUTH STATUS - CURRENT PLATFORM AUTHORITY STATUS

AUTH TYP	AUTH STATUS
ROW	ACT
RUE	Approved
LEASE	OPERNS
	PRIMRY
	PROD
	SOP
	UNIT

AREA - OCS AREA IN WHICH STRUCTURE IS LOCATED
BLOCK - BLOCK NUMBER OF OCS AREA
ST NAME - DESIGNATED NAME OF STRUCTURE
NUM DK - NUMBER OF DECKS
NUM SLOT - NUMBER OF SLOTS
YEAR INST - YEAR STRUCTURE INSTALLED
WD - WATER DEPTH AT STRUCTURE SITE
DK HGHT - HEIGHT OF LOWEST DECK (BOS) ABOVE MLLW
QTR - CAPACITY OF QUARTERS (IF EXISTING)
ORIENT - Orientation of Platform

110 = Platform strong axis is oriented 110 degrees measured "clockwise" from magnetic north.
Magnetic north = 360 degrees
N/A = Platform deisgn does not present a strong axis

STR TYP - TYPE OF STRUCTURE
CAS = CAISSON
B-CAS = BRACED-CAISSON
TRI = TRIPOD
4-P = 4-PILE
4-P SK = 4-PILE WITH SKIRTS
6-P = 6-PILE
6-P SK = 6-PILE WITH SKIRTS
8-P = 8-PILE
8-P SK = 8-PILE WITH SKIRTS
10-P = 10 PILE
12-P = 12-PILE
DK TOW = DECK CONNECTED TOWERS
OTHER = TYPE OF STRUCTURE IS NOT LISTED, SPECIFY IN REMARKS

LONG FRAME - LONGITUDINAL FRAMING
X = X BRACING
XH = X BRACING WITH HORIZONTAL FRAMING
K = K BRACING
KH = K BRACING WITH HORIZONTAL FRAMING
/ = DIAGONAL
/H = DIAGONAL WITH HORIZONTAL FRAMING
N = NOT APPLICABLE
TRAN FRAME - TRANSVERSE FRAMING
X = X BRACING
XH = X BRACING WITH HORIZONTAL FRAMING
K = K BRACING
KH = K BRACING WITH HORIZONTAL FRAMING
/ = DIAGONAL
/H = DIAGONAL WITH HORIZONTAL FRAMING
N = NOT APPLICABLE

EXP CAT - EXPOSURE CATEGORY
L1, L2, L3 - A1, A2, A3

PVP - SUBJECT TO PLATFORM VERIFICATION PROGRAM
Y = YES
N = NO
H₂S - PRODUCE OR HANDLE SOUR GAS (> 500 PPM)
Y = YES
N = NO
STORE - HYDROCARBON STORAGE > 2,000/5,000 BBLs
Y = INPUT ESTIMATED DAILY STORAGE
N = NO
PROD OIL - IN FIELD PRODUCTION > 5,000 BOPD
IF YES, INPUT ESTIMATED ACTUAL THROUGHPUT (BOPI)
N = NO
THRU PUT OIL - THROUGHPUT > 15,000 BOPD
IF YES, INPUT ESTIMATED ACTUAL THROUGHPUT (BOPI)
N = NO
PROD GAS - IN FIELD PRODUCTION > 25 MMSCFD
IF YES, INPUT ESTIMATED ACTUAL THROUGHPUT (MMS)
N = NO
THRU PUT GAS - THROUGHPUT > 75 MMSCFD
IF YES, INPUT ESTIMATED ACTUAL THROUGHPUT (MMS)
N = NO

Note:
-Only the options listed for each data field apply.
-Use only one option per data field.
-All units when applicable are in decimal feet.
-NO data fields can be left blank.
-Production, throughput and storage quantities reported are to be repress of the average performance of the structure when not interrupted due to I storms, maintenance or other non-typical events.
-Throughput quantity includes all well production and pipeline production

**ATTACHMENT: #2
OSTS ASSESSMENT REPORT FOR API BULL 2INT-EX - FLOATING STRUCTURES**

ASSESS YEAR	COM NAME	COM NUM	CPXID	STN	AUTH TYP	AUTH NUM	AUTH STATUS	AREA	BLOCK	ST NAME	NUM DK	NUM SLOT	YEAR INST	WD	DK HGHT	RIG	TYP	STRUCTURE CHARACTERISTICS				PVP	H ₂ S	STORE	PROD OIL	THRU PUT OIL	PROD GAS	THRU PUT GAS	REMARKS
																		STR TYP	ANCH SYST	TEND MOOR	TEND TYPE								
2007	BEOWULF	9999	12345	1	LEASE	G55555	PROD	MO	995	Aaaaa	1	1	1963	1000	32	Y	P	TLP	SUC	9 TN	WR	Y	N	N	N	N	240	350	
2007	BEOWULF	9999	12346	2	LEASE	G66666	PROD	VK	996	Xxxxx	2	8	1958	1500	41	Y	P	SPAR	SUC	12 TN	WR	Y	N	N	N	N	21	120	
2007	BEOWULF	9999	12347	3	LEASE	G77777	PROD	VK	997	Yyyyy	1	3	1998	2000	44	Y	P	SEMI	DPS	9 ML	SYN	Y	N	10,000	145,000	145,000	190	190	
2007	BEOWULF	9999	12348	1	LEASE	G88888	PROD	MC	998	Zzzzz	1	1	1993	2500	49	Y	P	FPSO	DPS	DPS	OTH	Y	Y	N	50,000	75,000	35	35	Tendon Type Not Applicable
2007	BEOWULF	9999	12349	1	LEASE	G99999	PROD	GC	999	Xyz	5	24	1985	3000	58	Y	P	MTLP	DRIV	9 TN	WR	Y	N	N	8,000	31,000	N	N	

ASSESS YEAR - YEAR OF OSTS ASSESSMENT

COM NAME - COMPANY NAME OF DESIGNATED OPERATOR

COM NUM - MMS COMPANY NUMBER

CPXID - MMS IDENTIFICATION NUMBER

STN - STRUCTURE NUMBER

AUTH TYP - PLATFORM AUTHORITY TYPE

LEASE = SURFACE LEASE

ROW = PIPELINE RIGHT OF WAY

RUE = RIGHT OF USE AND EASEMENT

TIME EXTENSION = PLATFORM ON TIME EXTENSION LEASE

AUTH NUM - OCS LEASE AUTHORITY NUMBER

AUTH STATUS - CURRENT PLATFORM AUTHORITY STATUS

AUTH TYP	AUTH STATUS
ROW	ACT
RUE	Approved
LEASE	OPERNS PRIMRY PROD SOP UNIT

AREA - OCS AREA IN WHICH STRUCTURE IS LOCATED

BLOCK - BLOCK NUMBER OF OCS AREA

ST NAME - DESIGNATED NAME OF STRUCTURE (A-TOMBA)

NUM DK - NUMBER OF DECKS

NUM SLOT - NUMBER OF SLOTS

YEAR INST - YEAR STRUCTURE INSTALLED

WD - WATER DEPTH AT STRUCTURE SITE

DK HGHT - HEIGHT OF LOWEST DECK (BOS) ABOVE MLLW

RIG - PLATFORM RIG IN PLACE?

TYP - TYPE OF PLATFORM RIG

P = PERMANENT

T = TEMPORARY

N = NOT APPLICABLE

STR TYP - TYPE OF STRUCTURE

FPSO - FLOATING PRODUCTION STORAGE AND OFFLOADING

MTLP - MINI TENSION LEG PLATFORM

TLP - TENSION LEG PLATFORM

SEMI - SEMISUBMERSIBLE FLOATING PRODUCTION UNIT

SPAR - SPAR

ANCH SYST - ANCHORING SYTEM TYPE

SUC = SUCTION PILES

DRIV = DRIVEN PILES

DPS = DYNAMIC POSITIONING SYSTEM

OTH = OTHER (explain in remarks)

TEND MOOR = # OFMOORING LINES/TENDONS

9 TN = 9 TENDONS

12 TN = 12 TENDONS

9 ML = 9 MOORING LINES

DPS = DYNAMIC POSITIONING SYSTEM

OTH = OTHER (explain in remarks)

TEND TYPE = MOORING LINES/TENDON MATERIAL TYPE

WR = STEEL WIRE ROPE

SYN = SYNTHETIC MATERIAL

OTH = OTHER (explain in remarks)

PVP - SUBJECT TO PLATFORM VERIFICATION PROGRAM

Y = YES

N = NO

H₂S - PRODUCE OR HANDLE SOUR GAS (> 500 PPM)

Y = YES

N = NO

STORE - HYDROCARBON STORAGE > 2,000/5,000 BBLs

IF YES, INPUT ESTIMATE AVERAGE DAILY STORAGE

N = NO

PROD OIL - IN FIELD PRODUCTION > 5,000 BOPD

IF YES, INPUT ESTIMATED ACTUAL THROUGHPUT (BOPD)

N = NO

THRU PUT OIL - THROUGHPUT > 15,000 BOPD

IF YES, INPUT ESTIMATED ACTUAL THROUGHPUT (BOPD)

N = NO

PROD GAS - IN FIELD PRODUCTION > 25 MMSCFD

IF YES, INPUT ESTIMATED ACTUAL THROUGHPUT (MMSCFD)

N = NO

THRU PUT GAS - THROUGHPUT > 75 MMSCFD

IF YES, INPUT ESTIMATED ACTUAL THROUGHPUT (MMSCFD)

N = NO

Note:

-Only the options listed for each data field apply.

-Use only one option per data field.

-All units when applicable are in decimal feet.

-NO data fields can be left blank.

-Production, throughput and storage quantities reported are to be representative quantities

of the average performance of the structure when not interrupted due to hurricanes,

storms, maintenance or other non-typical events.

-Throughput quantity includes all well production and pipeline production crossing the structure.