

Plans Workshop

April 25, 2012



9:00 a.m.	Welcome/Opening Remarks
9:10 a.m.	Plans Overview
9:20 a.m.	Worst Case Discharge (WCD)
9:40 a.m.	OSRP and WCD
10:00 a.m.	WCD Results
10:20 a.m.	BREAK
10:35 a.m.	Air Quality Program
11:55 a.m.	Archeology & Historic Preservation
11:15 a.m.	Waste & Discharge Tables
11:35 a.m.	Frequent Errors/Tips to Resolve
12:00 p.m.	General Qs & As
12:25 p.m.	Concluding Remarks



Clarify Requirements and Best Practices
Identify Common Errors
Open Discussions
Reduce Plan Processing Time!



Assistant Secretary, Land and Minerals Management

BOEM

Role:

Resource science and management

Mission:

Manage development of the Nation's offshore resources in an environmentally and economically responsible way

Key functions:

- Leasing
- Plans
- Environment studies
- NEPA analysis
- Economic and reserves analysis
- Geologic risk analysis
- Renewables development

BSEE

Role:

Regulatory enforcement

Mission:

Enforce safety, environment, and conservation compliance on the Nation's offshore resources

Key functions:

- Permitting
- Environmental compliance
- Conservation compliance
- Engineering standards and regulations
- Oil spill response planning
- Inspections
- Enforcement and investigations





Plans Overview

Robert Sebastian



- Exploration activities
- Development and production activities
- Geological or geophysical exploration or a development activity when it will result in:
 - penetration of seabed >500 ft
 - use of explosives
 - certain ancillary activities (seismic surveys, scientific studies)



Determine if proposed activities will:

- comply with applicable federal laws and regulations (including Coastal Zone Management Act, Clean Air Act, Endangered Species Act, etc.),
- unreasonably interfere with other uses of the area or interfere with or endanger operations on other leases,
- result in pollution,
- create hazardous or unsafe conditions, or
- disturb any site, structure, or object of historical or archaeological significance,



Determine if proposed activities will cause serious or undue harm or damage to:

- life,
- property,
- any other mineral deposits (in leased or unleased areas),
- the national security or defense, or
- the marine, coastal, or human environment.



- BSEE Applications for Permit to Drill (APD)
- BOEM/BSEE Platform applications
- BOEM/BSEE Lease-term Pipeline applications





- OCS Lands Act requires:
 - Exploration Plans (43 USC 1340)
 - Development and Production Plans (43 USC 1351)
- 30 CFR 250/550 Subpart B
Plans and information that must be submitted before conducting any activities on a lease or unit



- NTL No. 2008-G04 Information Requirements for Exploration Plans and Development Operations Coordination Documents
- NTL No. 2009-G27 Guidance for Submitting Exploration Plans and Development Operations Coordination Documents
- NTL No. 2009-G34 Ancillary Activities
- NTL No. 2010-N06 Information Requirements for Exploration Plans, Development and Production Plans, and Development Operations Coordination Documents on the OCS
- December 13, 2010 Guidance, “Approval Requirements for Activities that Involve the Use of a Subsea BOP or a Surface BOP on a Floating Facility”

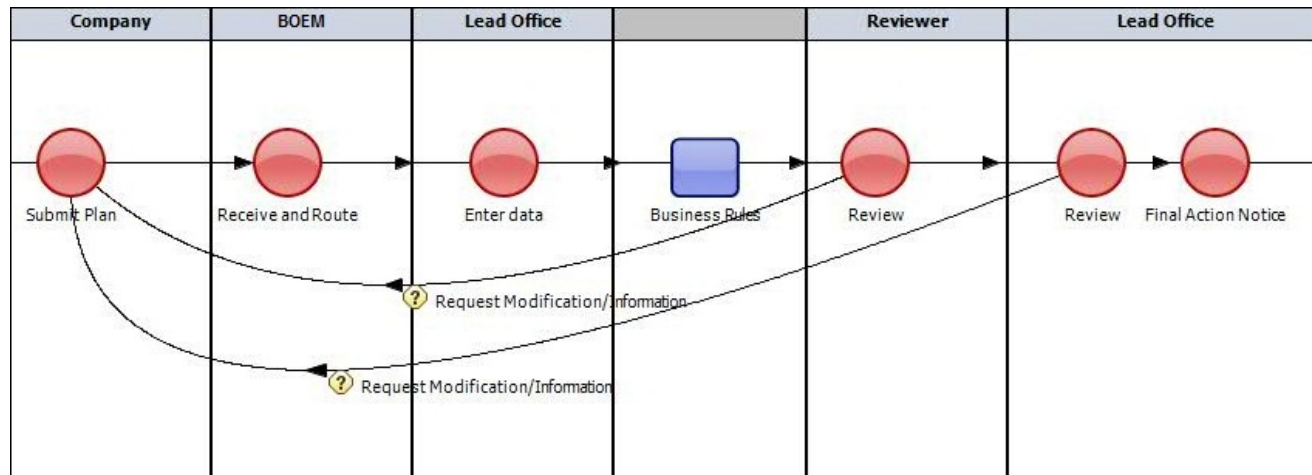


- 2007 National Marine Fisheries Service (NMFS) and BOEM coordinated on an Endangered Species Act (ESA) consultation supporting the 2007-2012 Gulf of Mexico Leasing Plan.
- 2010 Following the spill, BOEM requested re-initiation of the existing ESA consultation and NMFS concurred.
- 2012 Interim process established which allows for NMFS review of plans and approvals to ensure that post-lease activities continue to be implemented according to the terms and conditions of the 2007 Biological Opinion.

Interim process includes NMFS review of EPs, DOCDs, and DPPs.

- 15-day review period for EPs
- 30-day review period for DOCDs and DPPs.





- BOEM, in accordance with 30 CFR 550.231(a), has 15 working days to review an EP to determine whether it can be “deemed submitted.”
- Per 30 CFR 550.231 (b), BOEM will inform operators within that timeframe if there are deficiencies and problems that need to be addressed.
- Once the operator responds to these issues, the 15 day clock is restarted; operators should be aware that delays in fixing deficiencies will slow down the process – according to 30 CFR 550.231 (a), a plan cannot be deemed submitted until it “fulfills requirements and is sufficiently accurate.”
- Once BOEM has deemed a plan submitted, a 30-calendar day requirement for EP consideration begins (30 CFR 550.233); if operators submit amendments after the EP is deemed submitted, the process restarts, beginning with the 15-working-day review for completeness (30 CFR 232(d)).
- Corresponding process for DPPs/DOCDs at 30 CFR 550.266-550.273



WORST CASE DISCHARGE (WCD)

Nancy Shepard



Authority for BOEM to Request Information for WCD Scenario

Pursuant to 30 CFR 550.213(g) an Exploration Plan (EP) must be accompanied by a blowout scenario description. 30 CFR 550.243(h) requires the same for a Development and Coordination Document (DOCD).

Pursuant to 30 CFR 550.219 and 550.250, all plans as applicable must also be accompanied by information regarding oil spills.

BSEE Regulation for Determining Volume of WCD

30 CFR 254.47(3)(b) : “For exploratory or development drilling operations, the size of your worst case discharge scenario is the daily volume possible from an uncontrolled blowout. In determining the daily discharge rate, you must consider any known reservoir characteristics. If reservoir characteristics are unknown, you must consider the characteristics of any analog reservoirs from the area and give an explanation for the selection of the reservoir(s) used...”



Effective June 18, 2010:

“...provide a scenario for the potential blowout of the proposed well in your plan or document that you expect will have the highest volume of liquid hydrocarbons.”

“...describe the assumptions and calculations that you used to determine the volume (daily discharge rate) of the your worst case discharge scenario...”

<http://www.boem.gov/Regulations/Notices-To-Lessees/2010/10-n06.aspx>



- **Operator responsibility to determine WCD.**
- **Verification of operator submitted analogs, assumptions, and calculations through independent analysis.**
- **Verification of parameters assuming a best case exploration mode.**
- **Proprietary and non-proprietary data from BOEM corporate database used for verification.**
- **BOEM identifies all potentially producible hydrocarbon sands exposed to any open segment of the wellbore *during* drilling to determine the package of reservoirs that will discharge the maximum daily volume.**



- **BOEM will model water sands only if the water sand(s) has been modeled by the operator. Only water sands that would contribute to the flow should be modeled.**
- **BOEM does not consider bridging.**
- **Assume all casing strings are successfully run and cemented above zone that is flowing.**
- **Assume flow is up unobstructed casing and liner with no drill pipe in the hole.**
- **WCD calculated at location of BOP stack.**



Q. What are the common problems that hinder the timely verification of the calculations and assumptions used in the determination of the Worst Case Discharge volume?

A. There are 4 main problems that BOEM encounters in data submitted in support of the WCD volume determination:

- **Inconsistent data** in the Plan. For example, the depth of the top of the target sand or the bottom hole location of the WCD well is not consistent on forms or displays included with the submittal.
- **Insufficient data** submitted to verify the critical parameters needed to perform a reservoir simulation/nodal analysis.
- **Multiple analogs are listed but not linked to** specific reservoir parameters.
- **Borehole data was not submitted to BSEE** (TDMS in GOMR) as required by NTL 2010 G02.



Q. Does BOEM want the P10 (larger) numbers for all reservoir and rock properties for the reservoir simulation?

A. Regulation 254.47(3)(b) states that “**you must consider any known reservoir characteristics**. If reservoir characteristics are unknown you must consider the characteristics of any analog reservoir from the area and give an explanation for the selection of the reservoir(s) used.”

It can be considered the **best drilling results**, i.e., the largest discharge volume, which the operator can expect to encounter at the well site.

The WCD model is **not expected to be formed as a combination of extreme values** for key variables but rather a “success” exploration case typified by analog commercial fields or recent discoveries.



Q. I was notified that my WCD volume was less than the BOEM's WCD volume. Can I receive more clarification on the actual critical parameters and analogs that BOEM used in their analysis?

A. BOEM may discuss the methodology and nonproprietary analogs, assumptions, and calculations used in the WCD analysis with the operator.

For the Gulf of Mexico and Atlantic Regions, the Plan Coordinator will arrange in-house meetings and teleconferences.

For the Alaska and Pacific OCS Regions contact the respective OCS Region office that receives EPs, DPPs, and DOCDs.



NTL No. 2010-N06

WORST CASE DISCHARGE VOLUME CALCULATIONS AND ASSUMPTIONS

Plan No.:	Area/Block:	Lease No.:	Well:
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WCD Calculations:

BOEM WCD Number	BOEM Oil API Gravity
Operator WCD Number	Operator Oil API Gravity

Difference in Assumptions:

- Modeling Assumptions
- Number of Sands Exposed in Open Wellbore

Difference in Calculations:

- Hole Diameter
- Measured Sand Thickness to Borehole Interface
- Permeability
- Porosity
- Reservoir Initial Pressure
- Reservoir Temperature
- Reservoir Drive Mechanism
- Bubble Point
- Oil Viscosity
- Geometric Skin Factor
- Turbulence Factor
- Condensate Yield

BOEM does not release the analogs and their corresponding data on this form due to potential proprietary issues.



- Q. What specific data should I submit regarding the assumptions and calculations used to determine the volume (daily discharge rate) used in my Worst Case Discharge (WCD) scenario?
- A. Document in a narrative the assumptions that you made (with analog data cited) concerning well design, reservoir and fluid characteristics, and pressure volume temperature (PVT) characteristics. Provide an explanation of the reasoning for the analogs used and all calculations employed to derive the WCD volume.

For the open hole section that was determined not to be the worst case scenario, document that you evaluated the zones but the sands were depleted, watered out, low yield gas, etc.



BOEM-0137 provides tables for the operator to submit geologic and engineering parameters for the well with the highest worst case discharge volume.

Form 137 is **not sufficient by itself** to support the WCD scenario but allows BOEM to easily identify critical factors used in the calculation.

Worst Case Discharge (WCD) Well Information							
WCD Well Name	Surface Lease	Surface Area/Block	Bottom Lease	Bottom Area/Block	Product Type	MD	TVD

Analog Well(s)			
Area/Block	OCS Lease	Well No.	API No.



Geologic Data for WCD includes:

Open Hole Interval for WCD	
Top (TVD in feet)	Base (TVD in feet)

Formation Data	Sand 1	Sand 2	Sand 3	Sand 4	Sand 5
Sand Name					
Estimated Top TVD					
Estimated Base TVD					
Estimated Net Sand Height MD (Net Pay if hydrocarbon)					
Estimated Net Sand Height TVT (Net Pay if hydrocarbon)					
Fluid Type					
Used in WCD? (Yes/No)					

Seismic Survey Used



Engineering Data for BOEM-0137 includes:

WCD (STB/Day)				
WCD Calculated at	Mudline	y/n	Atmosphere	y/n
Flow Correlation				
Outlet Pressure (Psia)				
Gas Turbulence Factor				
Software Model Used				

Formation Data	Sand 1	Sand 2	Sand 3	Sand 4	Sand 5
Sand Name					
Permeability (mD)					
Initial Pressure (PSIA)					
Reservoir Temperature (F)					
Porosity					
Water Saturation					
Rock Compressibility (microsips)					
Water Salinity (ppm)					
Drive Mechanism					
Drainage Area (acres)					



Oil/Gas Reservoir Data for BOEM-0137 includes:

Oil Reservoir Data	Sand 1	Sand 2	Sand 3	Sand 4	Sand 5
Bubble Point Pressure (PSIA)					
Initial Bo (RB/STB)					
Bo (RB/STB) @ Bubble Point					
Rsi (SCF/STB)					
Initial Oil Viscosity (Cp)					
Oil Viscosity (CP) @ Bubble Point					
Oil Compressibility (1/PSIA)					
Oil API Gravity (API)					
Specific Gas Gravity (0.00)					

Gas Reservoir Data	Sand 1	Sand 2	Sand 3	Sand 4	Sand 5
Condensate API Gravity (API)					
Specific Gas Gravity (0.00)					
Yield (STB/MMCF)					



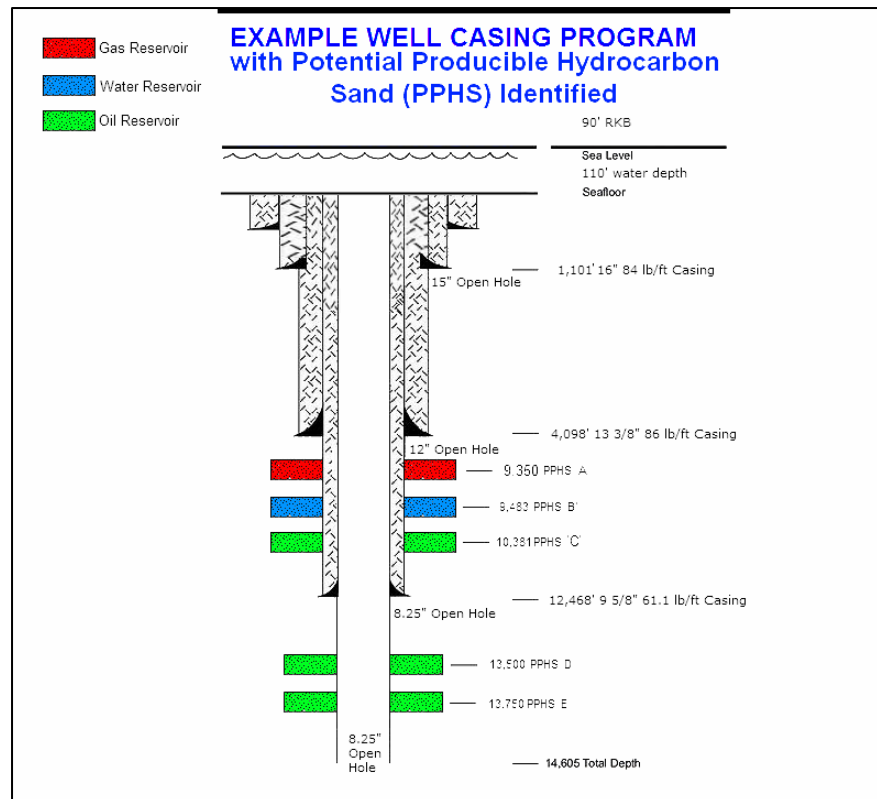
Permeability Data for BOEM-0137 includes:

Source of Permeability Used			
Permeability from MDT			
Permeability from Core Analysis	Percussion core	Rotary sidewall core	Conventional core
Pressure Transient Analysis			
Permeability from CMR or NMR log analysis			
Permeability from other source			

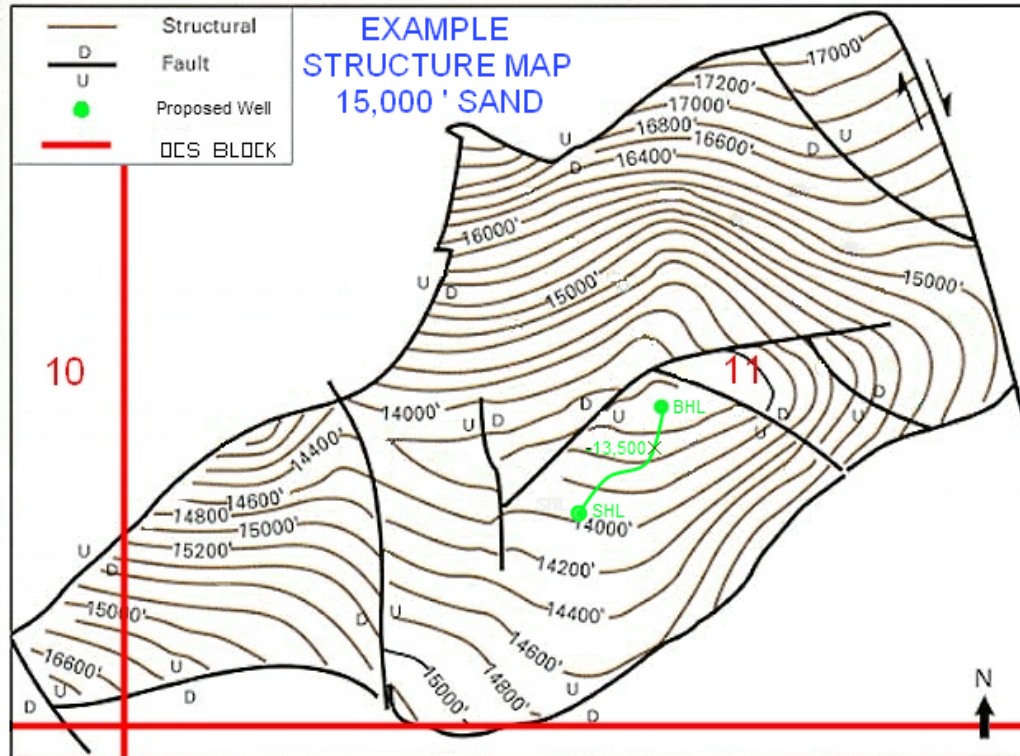
Provide Model Input Values for Relative Permeability:	
Residual Oil to Gas fraction ($=1-S_{lc}-S_{wc}$)	
Residual Oil to Water fraction ($=S_{oc}$)	
Critical Gas fraction (S_{gc} , Gas/Oil-Water Systems)	
Residual Gas to Water fraction (S_{gc} , Gas/Gas-Water Systems)	
Kro Oil Curve Endpoint (fraction of absolute permeability)	
Krg Gas Curve Endpoint (fraction of absolute permeability)	
Krw Water Curve Endpoint (fraction of absolute permeability)	



Well bore schematic showing casing program for the proposed well to include casing/liner sizes (outside and inside diameters) and setting depths (MD/TVD), and hole size (depths at MD/TVD) as the well is being drilled.
Proposed directional survey (in x/y or lat/long if possible).



- Structure Maps** for each producible sand to be encountered in the open hole.
- Cross-section** depicting all anticipated hydrocarbons bearing zones.
- Annotated seismic section** through well site location using the most recent seismic data available. A section that ties the WCD well to the analog well is beneficial.



Reservoir Simulation and/or Nodal Analysis:

For input data, **screen-shot images of data input panels** as viewed in the model. For output data, provide screen-shots of the summary reports/graphs of the nodal programs. Most summary reports/graphs are about six pages.

BOEM may request input and output files of proprietary nodal software.



WCD Submittals Received:	339
WCD Verifications Completed:	325
	July – Dec 2010 89
	Jan – Dec 2011 178
	1 st quarter 2012 52
	2 nd quarter 2012 6
Request to Operator for Additional Data:	116
WCD Scenario Submitted for Deep Water Plan:	166
WCD Scenario Submitted for Shallow Water Plan:	173
BOEM WCD Greater than Operator’s WCD :	115
Number of Meetings with Operators:	71
Regional OSRP - Drilling Scenarios verified:	60%



Reactions to WCD Review Process?

Have you met to review WCD with
BOEM staff?



Contact: Donald.Maclay@boem.gov



OSRP and WCD

Mike Tolbert



- 30 CFR 550.219 and 250 require that certain information pertaining to oil spills and information related to your worst-case discharge (WCD) accompany your EP or DOCD. One of the oil spill items is a site-specific OSRP or reference to an approved regional Oil Spill Response Plan (OSRP).
- 30 CFR 254.26 (a) requires that your regional OSRP demonstrate your ability to contain and recover your WCD to the maximum extent practicable.



- Each EP/DOCDs WCD is thus compared to your regional OSRP to determine if it should supersede the scenario in your approved OSRP.



- If the submitted WCD information is greater than that contained in your OSRP, your OSRP must be updated and approved.



30 CFR 254.47 defines methods for WCD calculations:

- For production facilities
WCD volume = Storage + flowlines + pipelines + daily volume from uncontrolled blowout of highest capacity well
- For exploratory/development drilling
WCD volume = daily volume possible from uncontrolled blowout

30 CFR 254.6 defines “***Maximum extent practicable***” :

- within the limitations of available technology, as well as the physical limitations of personnel, when responding to a worst case discharge in adverse weather conditions.



Contact: Mike.Tolbert@bsee.gov



WCD RESULTS

James Webb



If BOEM accepts operator's WCD Results



- The operator's WCD calculation is greater than or equal to BOEM's WCD Calculation
- All values based on the plan's WCD in the comparison chart, blowout scenario and WCD calculations should be correct



If Operator accepts BOEM's WCD Results

- Update WCD comparison chart with new WCD for plan and/or OSRP

Category	Drilling		Production	
	Regional OSRP WCD	DOCD WCD	Regional OSRP WCD	DOCD WCD
Type of Activity	Drilling	Drilling	>10 mile Production	>10 mile Production
Facility Location (Area/Block)	XXX	XXX	XXX	XXX
Facility Designation	Well No. 5	A Platform, Well No. 3	A Platform, Well No. 3.	A Platform, Well No. 3
Distance to Nearest Shoreline (miles)	95	100	100	100
Volume				
Storage tanks & flowlines (total)	N/A	1,400	1,400	1,400
Lease term pipelines (total)	N/A	57	57	57
Uncontrolled blowout	95,000	75,000	40,000	40,000
Total Volume (bbls)	95,000	76,457	41,457	41,457
Type of Oil(s) (crude, condensate, diesel)	Crude	Crude	Crude	Crude
API Gravity	29°	29°	29°	29°



If Operator accepts BOEM's WCD Results

- Update blowout scenario with new WCD and total volume
 - Estimated flow rate (barrels per day)
 - Total Volume (barrels)(flow rate X duration)
- Note in WCD calculations that operator accepted BOEM's WCD
 - On the first page of WCD calculations, state the operator accepted BOEM's WCD calculation of XXX



REMINDER

- Provide the OSRP WCD calculations
 - If previously submitted and/or verified list the plan and it's respective plan number



Contact: James.Webb@boem.gov

Website: <http://www.boem.gov/Oil-and-Gas-Energy-Program/Plans/index.aspx>



AIR QUALITY PROGRAM

Stacie Merritt



- Clean Air Act
- OCS Lands Act
- CFR 30 Subpart 550



The Clean Air Act, which was amended in 1990, requires EPA to set National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to human health and the environment.

- Primary standards provide public health protection.
- Secondary standards provide public welfare protection.



EPA set NAAQS for six principal pollutants also known as “criteria” pollutants:

- Carbon Monoxide
- Lead
- Nitrogen Dioxide
- Ozone
- Particulate Matter
- Sulfur Dioxide





- Operations west of 87.5° W. longitude fall under BOEM jurisdiction for the enforcement of the Clean Air Act
- Operations east of 87.5° W. longitude fall under USEPA jurisdiction



BOEM regulates projected emissions of the following pollutants:

- Carbon Monoxide
- Nitrogen Oxides
- Sulfur Dioxide
- Particulate Matter in the form of PM_{2.5} and PM₁₀
- Volatile Organic Compounds



Air Quality Reviews are performed on

- Explorations Plans (EPs)
- Development and Operations Coordination Documents (DOCDs)



- Lease-Term Pipelines
- Flare Requests



Development Plan

- Days of drilling
- Days of completion
- Installation operations
- Vessel operations
- Equipment type
- Rig type or rig name
- Vessel type
- Distance to shore
- Construction operations
- Production Operations

Exploration Plan

- Days of drilling
- Days of completion
- Installation operations
- Vessel operations
- Equipment type
- Rig type or rig name
- Vessel type
- Distance to shore



Lease Term Pipelines (LTP) need to be reviewed to see if the emissions are adequately included in the appropriate DOCDs

Note: Please reference the DOCD number when submitting a LTP application



For flares, if dispersion modeling is needed to determine significance, a revised plan will be requested, and if appropriate, a NEPA review will also be conducted on the resulting revised plan.



Check the following before submitting:

- Activity schedule information should match information included in spreadsheets
- Verify horsepower ratings
- Verify distance to shore (available on website)
- Check units
- Check for inconsistencies
- Avoid cutting and pasting to minimize errors



- Check the appropriate AQ Screening Checklist questions.
- Use remarks section to indicate a change to default values.
- Be prepared for possible mitigation on plan submittal.
- If H₂S is present in operations, please indicate this in the plan and include H₂S concentration.
- If proposed activities exceed the exemption levels, please submit air quality modeling.



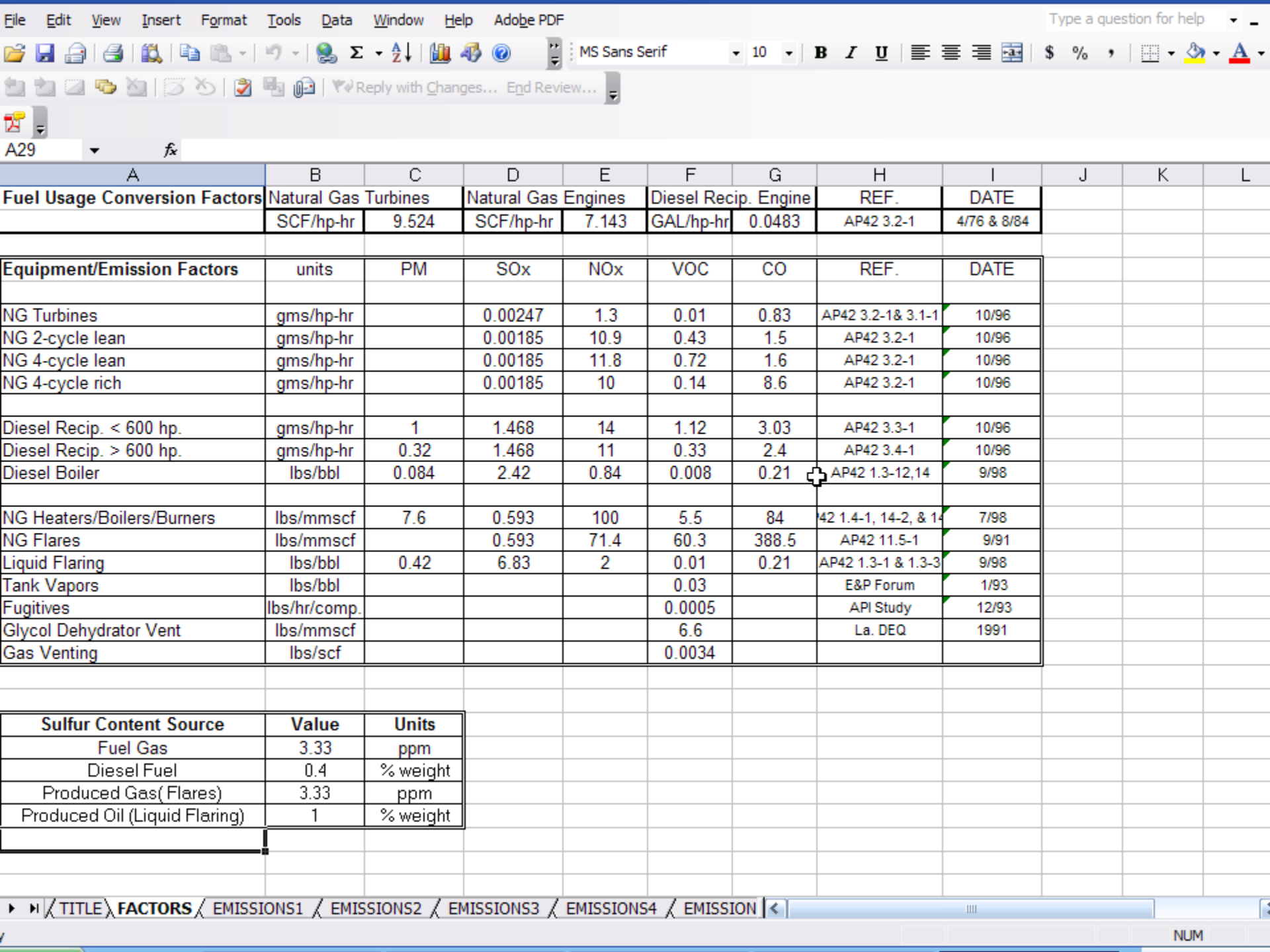
- OCD modeling
- H₂S modeling
- Fish and Wildlife Service review and possibly additional modeling
- 1-hr NO_x standard
- 1-hr SO_x standard



The screenshot displays the BOEM website interface. At the top left is the BOEM logo. To its right are navigation links for 'Sitemap', 'Contact Us', and 'Employment', followed by a search bar. Below this is a horizontal menu with categories: 'About BOEM', 'Newsroom', 'Oil & Gas Energy Programs', 'Renewable Energy Programs', 'Environmental Stewardship' (which is highlighted), and 'Regulations'. The main content area is titled 'Environmental Compliance' and includes a paragraph about BOEM's regulatory role in the Gulf of Mexico Region. It lists various resources such as 'Air Quality', 'Archaeology', 'Artificial Reefs', 'Biological Data', 'Drainage', 'Flow Control', 'Military Warning', 'Oil Spill Risk Analysis Model', and 'Ordinance Dumping Areas'. A sub-section for 'Air Quality' provides a list of links to various spreadsheets and reports. At the bottom, there is a section for 'Archaeology' with links to 'Archaeological Resources Regulation' and 'Archaeology Survey Blocks'.

<http://www.boem.gov/Environmental-Stewardship/Environmental-Studies/Gulf-of-Mexico-Region/GOMR-Environmental-Compliance.aspx>





A	B	C	D	E	F	G	H	I	J	K	L
Fuel Usage Conversion Factors	Natural Gas Turbines		Natural Gas Engines		Diesel Recip. Engine		REF.	DATE			
	SCF/hp-hr	9.524	SCF/hp-hr	7.143	GAL/hp-hr	0.0483	AP42 3.2-1	4/76 & 8/84			

Equipment/Emission Factors	units	PM	SOx	NOx	VOC	CO	REF.	DATE
NG Turbines	gms/hp-hr		0.00247	1.3	0.01	0.83	AP42 3.2-1& 3.1-1	10/96
NG 2-cycle lean	gms/hp-hr		0.00185	10.9	0.43	1.5	AP42 3.2-1	10/96
NG 4-cycle lean	gms/hp-hr		0.00185	11.8	0.72	1.6	AP42 3.2-1	10/96
NG 4-cycle rich	gms/hp-hr		0.00185	10	0.14	8.6	AP42 3.2-1	10/96
Diesel Recip. < 600 hp.	gms/hp-hr	1	1.468	14	1.12	3.03	AP42 3.3-1	10/96
Diesel Recip. > 600 hp.	gms/hp-hr	0.32	1.468	11	0.33	2.4	AP42 3.4-1	10/96
Diesel Boiler	lbs/bbl	0.084	2.42	0.84	0.008	0.21	AP42 1.3-12,14	9/98
NG Heaters/Boilers/Burners	lbs/mmscf	7.6	0.593	100	5.5	84	42 1.4-1, 14-2, & 14-3	7/98
NG Flares	lbs/mmscf		0.593	71.4	60.3	388.5	AP42 11.5-1	9/91
Liquid Flaring	lbs/bbl	0.42	6.83	2	0.01	0.21	AP42 1.3-1 & 1.3-3	9/98
Tank Vapors	lbs/bbl				0.03		E&P Forum	1/93
Fugitives	lbs/hr/comp.				0.0005		API Study	12/93
Glycol Dehydrator Vent	lbs/mmscf				6.6		La. DEQ	1991
Gas Venting	lbs/scf				0.0034			

Sulfur Content Source	Value	Units
Fuel Gas	3.33	ppm
Diesel Fuel	0.4	% weight
Produced Gas(Flares)	3.33	ppm
Produced Oil (Liquid Flaring)	1	% weight

A	B	C	D	E	F	G	H	I	J	K
COMPANY	AREA	BLOCK	LEASE	PLATFORM	WELL		CONTACT			PHONE
0	0	0	0	0	#REF!			0		0
OPERATIONS	EQUIPMENT	RATING	MAX. FUEL	ACT. FUEL	RUN TIME		MAXIMUM POUNDS PER HOUR			
	Diesel Engines	HP	GAL/HR	GAL/D						
	Nat. Gas Engines	HP	SCF/HR	SCF/D						
	Burners	MMBTU/HR	SCF/HR	SCF/D	HR/D	DAYS	PM	SOx	NOx	VOC
DRILLING	PRIME MOVER>600hp diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00
	PRIME MOVER>600hp diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00
	PRIME MOVER>600hp diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00
	PRIME MOVER>600hp diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00
	BURNER diesel	0			0	0	0.00	0.00	0.00	0.00
	AUXILIARY EQUIP<600hp diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00
	VESSELS>600hp diesel(crew)	0	0	0.00	0	0	0.00	0.00	0.00	0.00
	VESSELS>600hp diesel(supply)	0	0	0.00	0	0	0.00	0.00	0.00	0.00
	VESSELS>600hp diesel(tugs)	0	0	0.00	0	0	0.00	0.00	0.00	0.00
PIPELINE	PIPELINE LAY BARGE diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00
INSTALLATION	SUPPORT VESSEL diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00
	PIPELINE BURY BARGE diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00
	SUPPORT VESSEL diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00
	VESSELS>600hp diesel(crew)	0	0	0.00	0	0	0.00	0.00	0.00	0.00
	VESSELS>600hp diesel(supply)	0	0	0.00	0	0	0.00	0.00	0.00	0.00
FACILITY	DERRICK BARGE diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00
INSTALLATION	MATERIAL TUG diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00
	VESSELS>600hp diesel(crew)	0	0	0.00	0	0	0.00	0.00	0.00	0.00
	VESSELS>600hp diesel(supply)	0	0	0.00	0	0	0.00	0.00	0.00	0.00
PRODUCTION	RECIP.<600hp diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00
PRODUCTION	RECIP.<600hp diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00
	RECIP.>600hp diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00
	SUPPORT VESSEL diesel	0	0	0.00	0	0	0.00	0.00	0.00	0.00

HISTORIC PRESERVATION

Jack Irion



AUTHORITY

Section 106 of the National Historic Preservation Act of 1966 (NHPA)

- Requires Federal agencies to take into account the effects of their undertakings on historic properties.
- Historic preservation process mandated by Section 106 is outlined in regulations issued by the Advisory Council on Historic Preservation (ACHP) at 36 CFR 800.

National Environmental Policy Act of 1969

- Preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity, and variety of individual choice



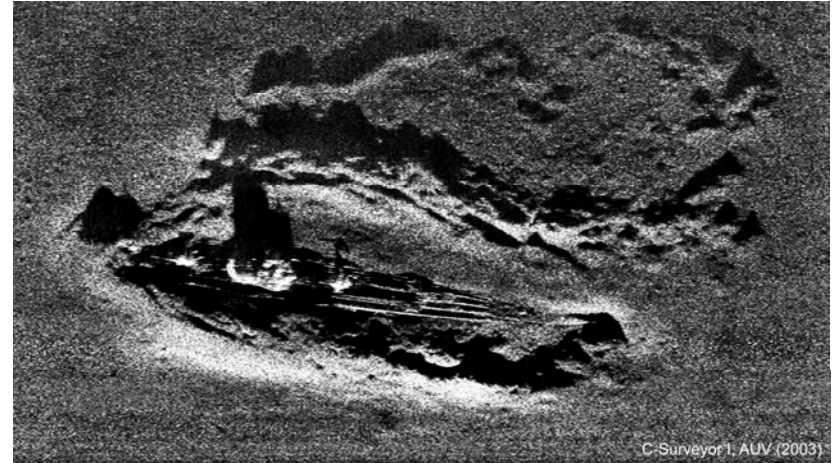
IDENTIFYING HISTORIC PROPERTIES

- As a result of oil and gas surveys, **27 historic shipwrecks** have been positively identified since 2005.
- Over half of these historic wrecks have been found in deepwater blocks.



Mitigation 3.20

Beginning in March 2011, BOEMRE began requiring operators to certify that their actions would have no effect on significant archaeological resources within the Area of Potential Effect of their project after conducting ROV or AUV investigations. This was needed so that the Agency could reach a Finding of No Significant Impact (FONSI) in its NEPA analyses.



Surveys required under a 3.20 mitigation would be submitted after the plan was approved.

After the survey is complete, send a certification email to: ENV-Compliance-ARC@boem.gov

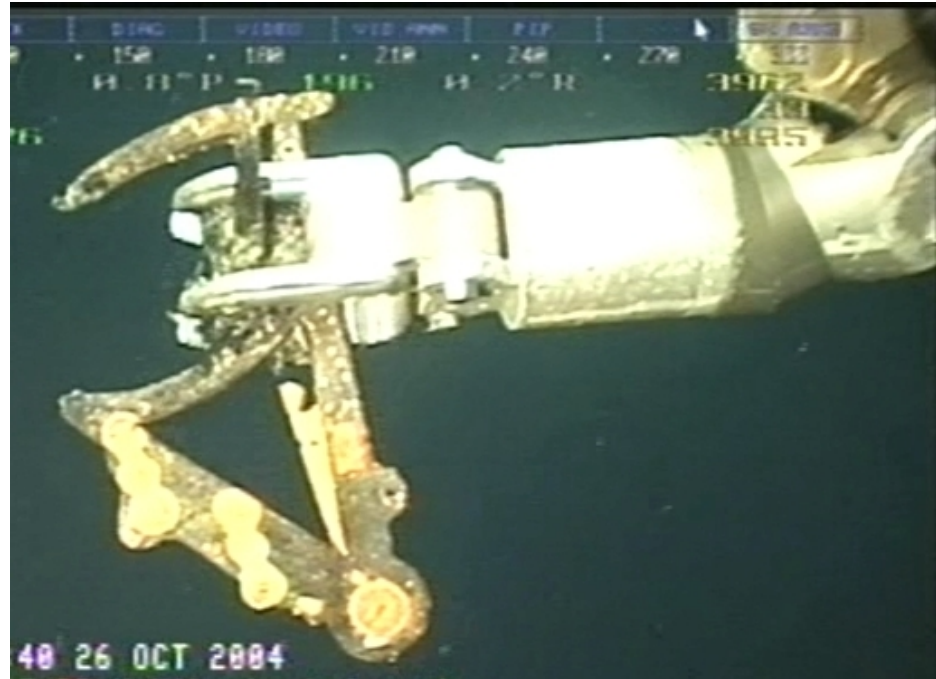
In the written report, please include the PLAN NUMBER on the title page.



NEPA Categorical Exclusions: Extraordinary Circumstances

43 CFR 46.215

Have significant impacts on properties listed, or eligible for listing, on the National Register of Historic Places as determined by the bureau.



Eight potential shipwrecks have been reported in areas outside the current archaeology “high-probability” areas in Keathley Canyon, Walker Ridge and Desoto Canyon since March 2011.

Two of these have been confirmed through industry or BOEM investigations as historic sites.



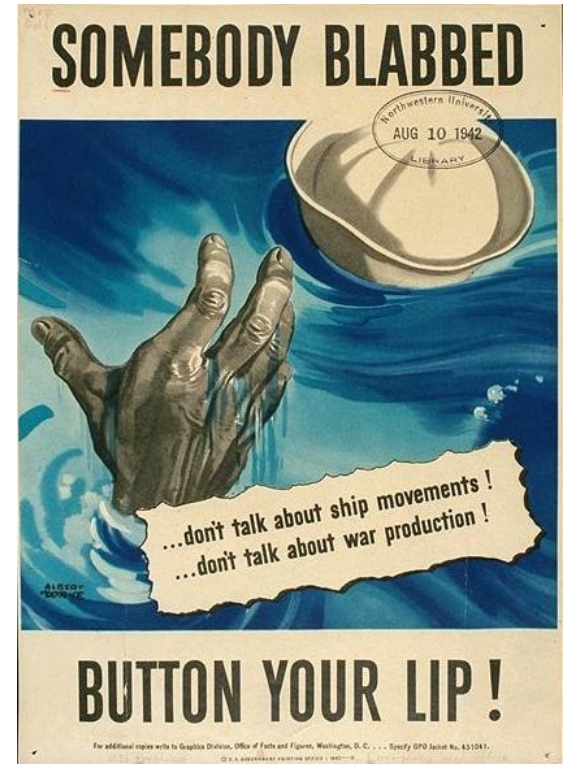
NTL 2011-JOINT-G01

1. Added blocks to list requiring submittal of survey reports at the same time or before the application is submitted.
2. With a few exceptions, blocks are all shoreward of the 200-m depth contour, where high resolution survey is required for shallow hazards (NTL 2008-G05).
3. Other blocks added to this NTL include those where shipwrecks have already been discovered.

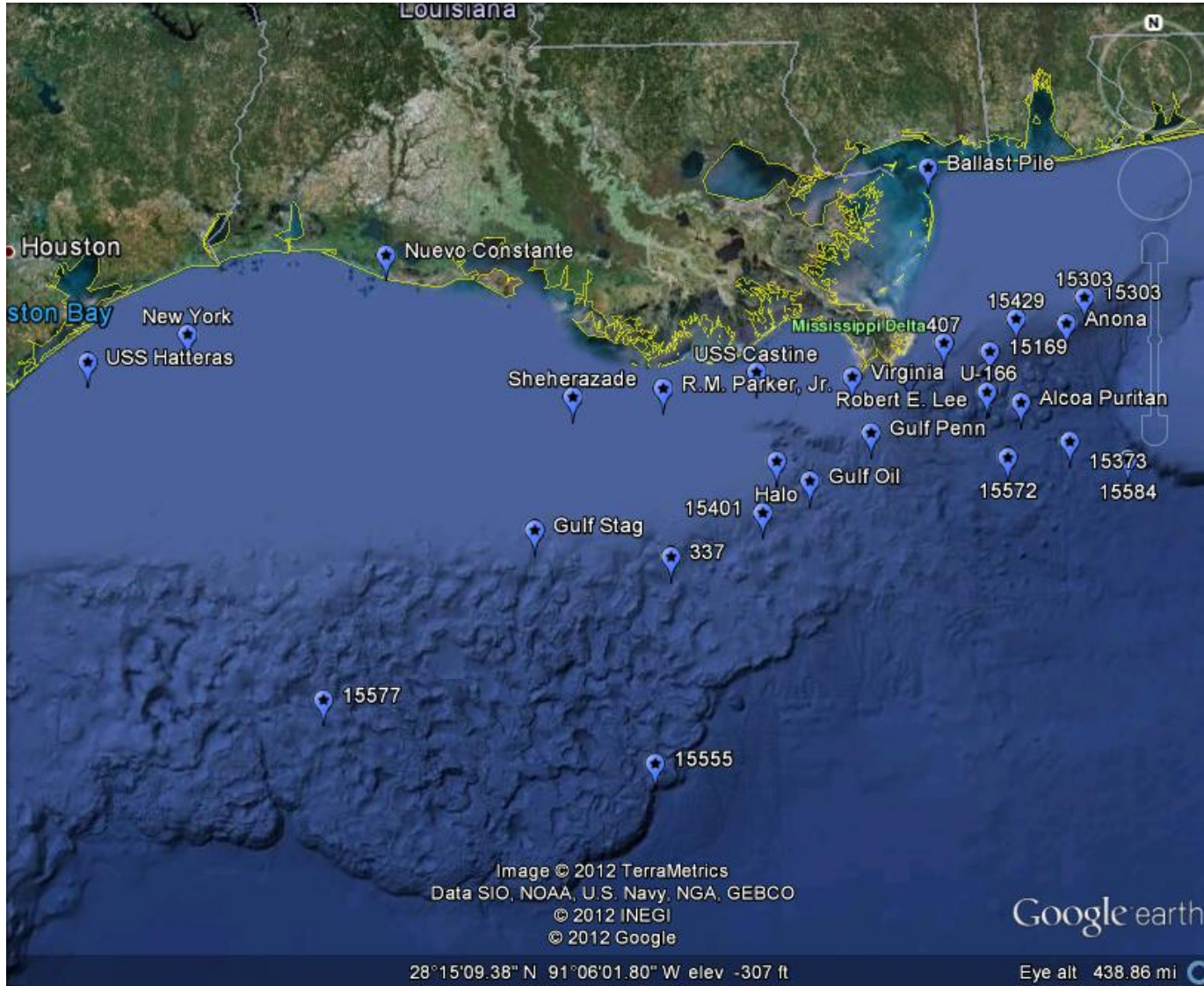


DO YOUR PART TO PROTECT HISTORIC SHIPWRECKS

1. BOEM considers archaeological site location information to be confidential in order to protect these sites from harm.
2. Please do not disclose site location coordinates (including magnetic anomalies or unidentified sonar targets) in public copies of plans.
3. Ask your consultant to prepare a “sanitized” version without coordinates of any archaeological analysis that will be included in the public version of the plan posted on the internet.



Confirmed Historic Shipwrecks



WASTE AND DISCHARGE TABLES

Erin O'Reilly



Necessary:

- 30 CFR 550 subpart B
 - Recently moved from 30 CFR 250
 - NTL No. 2008-G04
 - “Approval Requirements for Activities that Involve the Use of a Subsea Blowout Preventer (BOP) or a Surface BOP on a Floating Facility”
- CZM information



Audience:

- BOEM
- BSEE
- States
- Environmental Protection Agency
- Public
 - http://www.data.boem.gov/homepg/data_center/plans/plans/master.asp



Two new streamlined tables:

- Designed to increase efficiency
- Available for download:
<http://www.boem.gov/Oil-and-Gas-Energy-Program/Plans/Water-Quality-Spreadsheets.aspx>
- The first table is for wastes that will be discharged to the Gulf of Mexico or disposed of downhole
- The second table is for wastes that will be transported and disposed of onshore



Streamlined tables replace the following five tables:

- General Information (30 CFR 550.213 and 550.243) (b) Drilling fluids.
- Waste and Discharge Information (30 CFR 550.217 and 550.248) (a) Projected generated wastes, (b) Projected ocean discharges
- Support Vessels and Aircraft information (30 CFR 550.224 and 550.257) (d) Solid and liquid wastes transportation,
- Onshore Support Facilities Information (30 CFR 550.225 and 550.258) (d) Waste disposal.



Using the older tables:

- Five tables described in NTL No. 2008-G04 may still be used
- Older tables lengthen review process
- Older tables increases chance of plan having inconsistencies (errors)



Tips for filling out the streamlined tables:

- Proofread!
- Be sure the tables are filled out to match the actions in the document
 - Production wastes for production
 - Exploration wastes for exploration
- Be sure any described wastes in the text match that listed in the tables
- Be sure the tables show NPDES permit compliance



Tips for filling out the streamlined tables:

- Include the appropriate units with numbers
- NPDES permit coverage question
 - General/individual
 - *Not* yes/no
- NA may only be used if you do not have a waste
- Fill in all blanks
 - NA
 - Values
 - Ranges, if logical for the waste stream
 - Averages



Tips for filling out the streamlined tables:

- Disposal is not a disposal method
- More than one disposal method may be stated
- Be sure the location listed handles the waste disposal method
- It is unrealistic to expect all trash to be recycled.
Break entry up into recyclable and non-recyclable
- The projected amount can be the total amount projected for the planned action or the total amount per well for the planned action
- The rate is generally the amount of waste generated per a relevant unit of time.



FREQUENT ERRORS AND TIPS TO RESOLVE

**Karen Dunlap
Michelle Griffitt Evans
James Webb**



- Plan contents
- Coordinate consistency TV/MD
- Distance to shore
- Worst case well volume
- Blowout scenario plan
- WCD calculations/assumptions not required
- Anchors/Maps
- Consistency of activity days & timeframes
- AQR spreadsheets for multiple rigs
- Calculate new commencement date
- Proprietary data in public version
- Ancillary activity notification with air gun
- Proofreading and copy errors



Clearly state on the BOEM 0137 your **proposed** activity:

- Exploration drilling
- Development drilling
- Well completion
- Well test flaring (for more than 48 hours)
- Installation or modification of structure
- Installation of production facilities
- Installation of subsea wellheads and/or manifolds
- Installation of lease term pipelines
- Commence production
- Other (Specify and attach description)



If more than one type of rig will be utilized, check the appropriate box(es) on Form 137, and under Proposed Activity select Other and include an attached description identifying the wells that will be drilled with a specific rig.

Storage tanks and production vessels charts. If more than one rig type will be utilized, include each type as noted in the below chart.



In each Storage tank chart, identify the type, i.e, diesel, or the API gravity and verify that the tank capacity times the number of tanks equals the total capacity.

Type of Storage Tank	Type of Facility	Tank Capacity ((Barrels)	Number of Tanks	Total Capacity (barrels)	Fluid Gravity (API)
Fuel Oil	Semi-submersible	250	2	500	No. 2 Diesel
Fuel Oil	Drillship	500	3	1500	37°



Consistency of Coordinates and True Vertical Depth/Measured Depth of well(s)

- BOEM 0137
- Location Plats
- Bathymetry map
- Anchor Radius map
- Hazard assessment
- Structure map
- Cross sections and structure maps in the Geological section of plan



Consistency of Distance to Shore

- BOEM 0137
- Vicinity map
- AQR spreadsheets
- OSRP comparison chart and spill response discussion
- NTL 2010-N06 data submitted with the plan
- Environmental Impact Assessment



Regional OSRP Worst-Case calculations/assumptions do not need to be resubmitted if they have been submitted in a previous EP/DOCD. Please reference the previous plan control number.

Category	Regional OSRP	EP or DOCD
Type of Activity	Drilling	Drilling
Facility Location (area/block)	EI 250	MC 900
Facility Designation	Well No. 2*	Platform JA
Distance to Nearest Shoreline	45 miles	160 miles
Volume Storage tanks (total) Flowlines (on facility) Lease term pipelines Uncontrolled blowout (volume per day) Total Volume	1600 bbls	1000 bbls
Type of Oil(s)-(crude oil, condensate, diesel)	Crude oil	Crude Oil
API Gravity	37°	37°

*Reference the control number.



Blowout scenario in public and proprietary versions
(per NTL 2008-G04 and NTL 2010-N06)

- Estimated flow rate
- Duration
- Total volume
- Relief well information
- Measures to reduce the likelihood of a blowout
- Bridging over,
- Likelihood for surface intervention
- Availability of a rig to drill the relief well
- Rig package constraints
- Estimated time to drill the relief well

Calculations and assumptions are the only portion that is considered proprietary



WCD Calculations/assumptions for a supplemental or revised EP or DOCD are not required if

- BOEM has verified the plan/project worst case well in a previously approved EP or DOCD, then reference the plan control number in the blowout scenario section, and submit.

If your plan involves drilling, ensure the plan contains a description of how you will:

- enhance your ability to prevent a blowout,
- reduce the likelihood of a blowout, and
- conduct effective and early intervention in the event of a blowout, including your arrangements for drilling relief wells, and any other measures you propose

WCD volume number should be identified and consistent in the Blowout Scenario, OSRP comparison chart, BOEM 0137, and spill response discussion



Consistency of Activity Days and Timeframes

- BOEM 0137
- AQR spreadsheets

Support Vessels

- Check number of vessels



Biological Anchors/Maps (NTL 2009-G40)

- When utilizing a rig which requires anchors, ensure that the anchor radius or specific pattern is depicted on the map, as well as the 2,000-foot radius around each surface location.
- Ensure that the radius is consistently stated on the:
 - BOEM 0137
 - Hazard assessment
 - Features/bathymetry maps



Consistency of Tentative Activity Schedule

- Plan drilling, completion, structure installation days, etc. should be consistently stated on the:
 - BOEM 0137
 - AQR spreadsheets

Should the commencement date as originally submitted no longer be feasible due to amendments/modifications, then calculate the commencement date based off the date of last submittal.



NTL 2009-G34 requires submittal of notification for proposed activities 15-30 days before your proposed start date.

Correct common errors by

- Submit notification 15-60 days before start date (30 days added for Revised EP process)
- Per 550.208(a)(4), submit letters of notification to offset operators with your notification of proposed activities



- **Use of an airgun or explosives will force this to BOEM Revised EP process**
- **If activity is on a well, include Form 0137**
- **Include a public version of your notification - this will be posted on the BOEM and offered for NMFS review**
- **FAQs for ancillary activities can be found at the following web address:**

<http://www.boem.gov/Oil-and-Gas-Energy-Program/Plans/Ancillary-Activities-FAQ.aspx>



- **Ensure Proprietary data not included in Public Information copy**
- **Proofreading and copy errors**



Contact: Karen.Dunlap@boem.gov
Michelle.Griffitt@boem.gov
James.Webb@boem.gov

Website: <http://www.boem.gov/Oil-and-Gas-Energy-Program/Plans/index.aspx>



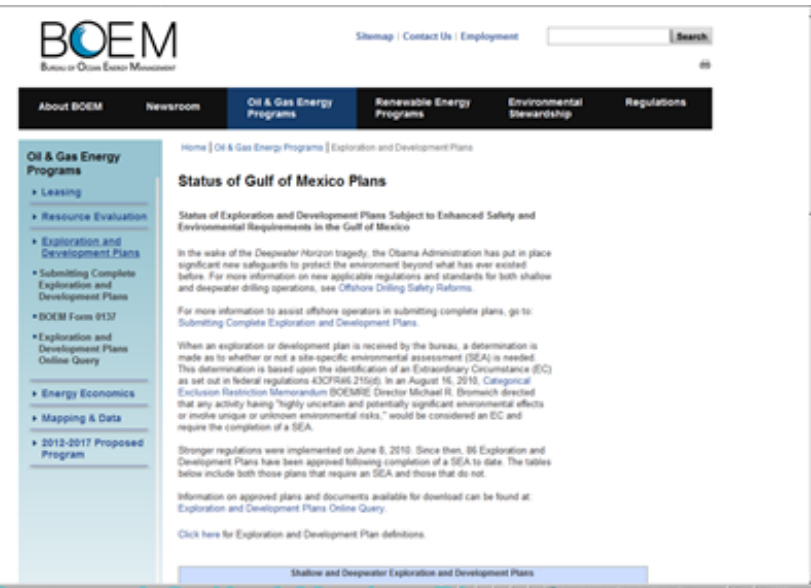


Easier access to plans information by selecting “Exploration and Development Plans” from one of the main menus

<http://boem.gov/>

Additional menu options for:

- Guidance submitting a complete plan
- Form 0137
- Exploration & Development Plan Online Query

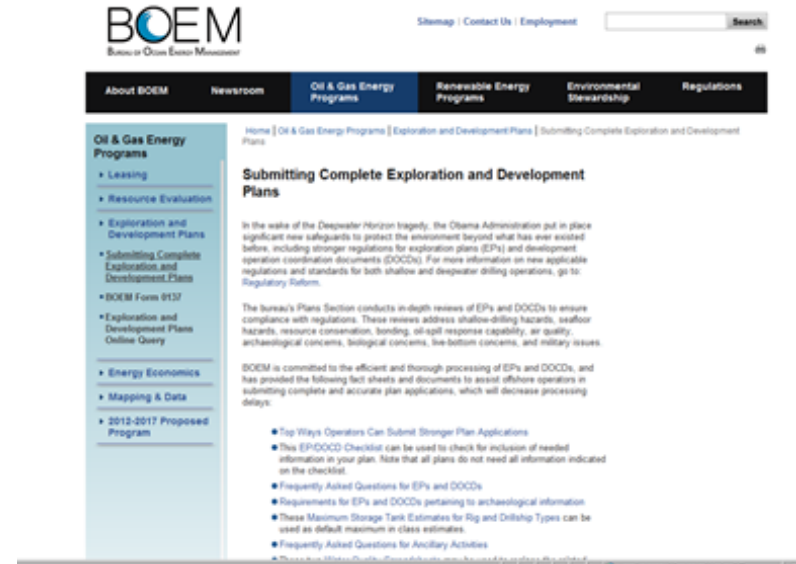


<http://boem.gov/Oil-and-Gas-Energy-Program/Plans/Status-of-Gulf-of-Mexico-Plans.aspx>



The updated pages provide:

- EP/DOCD Checklist
- FAQs for EPs & DOCDs
- Archeology Requirements
- Maximum Storage Tank Estimates
- FAQs for Ancillary Activity
- Water Quality Spreadsheets
- eWell changes re: Eps & DOCDs
- Additional guidance



The screenshot shows the BOEM website interface. At the top, there is a navigation bar with links for 'About BOEM', 'Newsroom', 'Oil & Gas Energy Programs', 'Renewable Energy Programs', 'Environmental Stewardship', and 'Regulations'. A search bar is located on the right. The main content area is titled 'Submitting Complete Exploration and Development Plans'. It includes a sub-header 'Submitting Complete Exploration and Development Plans' and a paragraph of text: 'In the wake of the Deepwater Horizon tragedy, the Obama Administration put in place significant new safeguards to protect the environment beyond what has ever existed before, including stronger regulations for exploration plans (EPs) and development operation coordination documents (DOCDs). For more information on new applicable regulations and standards for both shallow and deepwater drilling operations, go to Regulatory Reform.' Below this, there is a section titled 'BOEM is committed to the efficient and thorough processing of EPs and DOCDs, and has provided the following fact sheets and documents to assist offshore operators in submitting complete and accurate plan applications, which will decrease processing delays.' This section lists several bullet points: 'Top Ways Operators Can Submit Stronger Plan Applications', 'This EP/DOCD Checklist can be used to check for inclusion of needed information in your plan. Note that all plans do not need all information indicated on the checklist.', 'Frequently Asked Questions for EPs and DOCDs', 'Requirements for EPs and DOCDs pertaining to archeological information', 'These Maximum Storage Tank Estimates for Rig and Drilling Types can be used as default maximum in class estimates', and 'Frequently Asked Questions for Ancillary Activities'.

<http://www.boem.gov/Oil-and-Gas-Energy-Program/Plans/index.aspx>



General Question & Closing Remarks

