

**Bureau of Ocean Energy Management  
Interim Policy Document**

**Effective Date:** APR 02 2013

**IPD No:** 2012-07

**Program:** Strategic Resources Program

**Title:** Internal Procedures and Responsibilities for the Management of Geological and Geophysical (G&G) Activities on the Outer Continental Shelf (OCS)

**Originating Office:** Resource Evaluation Division (RED)

**1. Purpose.** This Interim Policy Document (IPD) establishes procedures and responsibilities for reviewing and approving G&G surveys on the OCS.

**2. Objective.** The objective of this IPD is to ensure that G&G data are collected in an environmentally safe manner and are available to the Bureau of Ocean Energy Management (BOEM) so as to assure that the public receives a fair return for OCS oil and gas leases.

**3. Authorities.** OCS Lands Act (OCSLA), as amended (43 U.S.C. 1331-1356).

**4. References.**

- A. Regulations at 30 CFR Parts 250, 550
- B. Regulations at 30 CFR Part 551
- C. Regulations at 30 CFR Part 580
- D. Notice to Lessees and Operators No. 2009-G34 "Ancillary Activities"

**5. Definitions.**

A. Airgun means a device that releases compressed air into the water column, creating an acoustical energy pulse that penetrates the seafloor and subsurface layers of the earth. The pulses are subsequently reflected or refracted back to the sea surface where hydrophones (in the water column) or geophones (on the ocean floor) gather the reflected or refracted signals and are compiled and then processed into seismic records that help reveal the subsurface structure of the earth.

B. Ancillary Activities means those preliminary G&G activities on a lease or unit that an operator conducts as part of the implementation of an Exploration Plan, Development and Production Plan (DPP) or Development Operations and Coordination Document (DOCD), to obtain data and information to ensure proper exploration or development. Ancillary activities may precede the submittal of an EP, DPP, or DOCD.

C. Common Depth Point (CDP) means a reflection point on the seafloor and/or subsurface strata located midway between the source (airgun array) and detector (hydrophone). Acoustic pulses

emanating from the source are gathered by multiple detectors in a towed hydrophone cable or by receiver on the ocean bottom. Side-by-side CDP traces, also called gathers, corresponding to the same reflection point are mathematically summed (stacked) for reflection points beneath the survey line. After processing, these data can be interpreted to yield a profile of the earth's shallow (~ 30,000 feet) structure. It is also known as common midpoint or common reflection point.

D. Data Acquisition Plan refers to the BOEM bureauwide G&G Data Acquisition Priority List.

E. Development and Production Plan means the document which an operator is required to submit to BOEM for approval before conducting any development and production activities on a lease or unit in any OCS areas other than the Western Gulf of Mexico (WGOM) as defined in 30 CFR 550.201.

F. Development Operations and Coordination Document means the document which an operator is required to submit to BOEM for approval before conducting any development and production activities on a lease or unit in the WGOM as defined in 30 CFR 550.201.

G. Exclusion Zone, established for the protection of marine mammals, sea turtles, and other protected species from harassment, means the area at and below the sea surface surrounding the center of an airgun array and the survey vessel as specified in either Marine Mammal Protection Act (MMPA) authorizations issued by the regulatory agencies or determined from consultation with the appropriate regulatory agency. The exclusion zones shall be free of protected species before the survey can begin. Each survey vessel must maintain its own Exclusion Zone.

H. Exploration Plan means the document which an operator is required to submit to BOEM for approval before conducting any exploration activities on a lease or unit.

I. High-Resolution means higher frequency acoustic sources used to delineate geological hazards, seafloor outcrops, and areas of archaeological or biological interest at or near the seafloor. Using higher frequencies allows for better resolution of seafloor and subseafloor features. Deeper penetration of the subbottom, in the form of CDP information, is used mainly in determining structural and stratigraphic configurations conducive to the entrapment of oil and gas.

J. Permit means the contract or agreement, other than a lease, approved for a specified period of not more than 1 year (or 3 years for prospecting minerals other than oil, gas, or sulphur) under which a person acquires the right to conduct (1) geological exploration for mineral resources; (2) geophysical exploration for mineral resources; (3) geological scientific research; and or (4) geophysical scientific research. This does not refer to an Application for a Permit to Drill (APD) under 30 CFR Part 550.

K. Plan means the Exploration Plan (EP), Development and Production Plan (DPP), or Development Operations and Coordination Document (DOCD) provided to BOEM to address ancillary activities triggered under 30 CFR 550.209.

L. **Seismic** (although an adjective, sometimes used as a noun) means acoustic energy waves generated with artificial sources which are reflected (or refracted) by impedance contrasts in the earth's surface. The recorded data are then further processed and can be used to map geologic structures or detect sediment contrasts. The type of acquisition process can be 2- or 3-dimensional (2D/3D) deep focused seismic, downhole seismic (vertical seismic profiling (VSP), or high resolution (shallow focused) seismic. The energy sources for all types of seismic acquisition can be airguns, airgun arrays, side-scan sonar, sparkers, boomers, or vibrators used for acquisition in the marine environment. The receiver systems can be towed streamer cables, ocean-bottom placed cable receivers, on-bottom autonomous nodes, receivers placed down the well bore, on-ice receivers, or receivers suspended under the ice.

## **6. Policy.**

As the Nation's principal conservation agency, the Department of the Interior, through BOEM, has responsibility for managing our nationally owned public lands offshore and their associated natural resources. The Department assesses our energy and mineral resources and works to ensure that their development is in the Nation's best interest.

For Federal offshore lands, the OCSLA authorizes the Secretary of the Interior to promulgate rules and regulations to carry out its provisions. BOEM administers the provisions of the OCSLA primarily through Chapter V of the regulations found at Title 30 of the CFR. These regulations govern permitting, data acquisitions and release, leasing, and postlease operations on the OCS.

With regard to the Resource Evaluation Program, authority has been vested in the Secretary of the Interior under 30 CFR Part 551 to regulate prelease G&G exploration for oil, gas, and sulphur resources on the OCS. Part 551 applies not only to G&G exploration but to scientific research as well. The purpose of these regulations is to prescribe (1) when a permit or the filing of a notice is required to conduct G&G activities on the OCS and (2) operating procedures for conducting exploration, as well as requirements for disclosing data and information, conditions for reimbursing permittees for certain costs, and other conditions under which exploration shall be conducted. Similar regulations addressing prelease prospecting activities for minerals other than oil, gas, or sulphur can be found in 30 CFR Part 580.

These regulations are intended to ensure that activities on unleased lands are carried out in a safe and environmentally sound manner as to prevent harm or damage to any natural resource, any life, property, or marine, coastal, or human environment.

## **7. Responsibilities.**

A. Chief, Office of Strategic Resources Programs is responsible for making a final decision on the G&G Data Acquisition Plan for each fiscal year and signing off on appropriate regulations.

B. Chief, Resource Evaluation Division is responsible for developing and executing a National G&G Data Acquisition Plan for each fiscal year; maintaining the permitting forms for prelease G&G exploration and prelease G&G prospecting on the OCS; and for identifying and communicating to the appropriate Resource Evaluation Program offices the need for amendments to existing regulations as well as the need for new regulations and the proposing

and promulgating of appropriate regulations as part of the BOEM rule-making team.

C. Regional Directors are responsible for overseeing both pre- and post lease exploration as well as development and production activities and signing off on G&G data acquisition priority lists for their appropriate Region.

D. Resource Evaluation (RE) Regional Supervisors are responsible for issuing G&G permits, enforcing terms and conditions of those permits, prioritizing potential G&G data acquisitions for inclusion in the Bureau-wide G&G Data Acquisition Priority List, reimbursement to companies for reproduction costs associated with copying the data, protecting the data during the proprietary term, and the release of the G&G data to the public at the conclusion of that proprietary term. This office is under the authority of the Regional Supervisor, Office of Strategic Resources, in the Pacific Region. For discussions in this document, the Office of Strategic Resources in the Pacific will be generally included as "RE".

E. Regional G&G Resource Studies Section Chief in the Gulf of Mexico and Resource Analysis Section Chief in the Alaska Region are responsible for the implementation of the G&G Data Acquisition Plan for their respective Region; evaluating potential available areas for G&G data collection in upcoming lease sales; updating presale Geographic Information System (GIS) database(s); reviewing technical parameters identified by industry in the permitting process; validating approval or denial of a permit application; and evaluating the adequacy of available seismic information and alternative sources for this information. In the Pacific Region, this authority is assumed by the Regional Supervisor, Office of Strategic Resources.

F. Regional Office of Environment (OE) Supervisors review exploration, development, and production activities for active leases, production facilities, and activities on all OCS lands to ensure that such activities are conducted in a safe and environmentally sound manner. This is accomplished through the environmental review of proposed activities and the development of appropriate mitigation and monitoring measures to assure compliance with existing Laws and Acts, such as the National Environmental Policy Act (NEPA), the Endangered Species Act (ESA), the Marine Mammal Protection Act (MMPA), the National Historic Preservation Act (NHPA), the Coastal Zone Management Act (CZMA), and others.

G. Bureau of Safety and Environmental Enforcement (BSEE) Regional Supervisors regulate exploration, development, and production activities for active leases, production facilities, and activities on leased lands to ensure that such activities are conducted in a safe and environmentally sound manner.

## **8. Procedures.**

### **A. Regulations**

The regulations governing pre- and/or off-lease G&G exploration activities for oil, gas, and sulphur are set forth in 30 CFR Part 551, and those governing prospecting for minerals other than oil, gas, and sulphur are in 30 CFR Part 580. These regulations govern the permitting, authorization, data acquisition, and release of G&G information by BOEM. They prescribe

when a permit is required, operating procedures, conditions of operational compliance, and conditions for release of data and information. They also prescribe reimbursement to permittees for reproduction costs of any data and information submitted to BOEM. These regulations and associated permit forms are available at: <http://www.boem.gov/Regulations/Current-Regulations.aspx> and <http://www.boem.gov/About-BOEM/Procurement-Business-Opportunities/BOEM-OCS-Operation-Forms/BOEM-OCS-Operation-Forms.aspx>. The regulations governing pre- and/or off-lease G&G exploration activities related to the drilling of deep stratigraphic tests for oil, gas, and sulphur are set forth in 30 CFR 551.7.

The general purpose of the regulations cited at 30 CFR 551 is to ensure that exploration, prospecting, and scientific research operations on unleased lands in Federal waters do not interfere with each other, with lease operations, or with other uses of the area; are conducted in an environmentally safe manner; and that BOEM has access to the information generated. The regulations also encourage G&G data acquisition while adequately protecting the investment of data gathered and still assuring equal access and competitive balance. Adherence to these regulations will help ensure that exploration and research activities will be conducted in an environmentally sound manner.

## **B. Instructions**

### **(1) Pre-Lease & Off-Lease Seismic Surveys**

(a) **Regulatory Requirements:** Consistent with DOI mandates under the OCSLA, BOEM ensures that seismic-survey data and information collected by industry and government are obtained in a technically safe and environmentally sound manner. BOEM regulations governing pre- or off-lease seismic survey activities include 30 CFR 551 (for oil, gas, and sulphur) and 30 CFR 580 (for minerals other than oil, gas, and sulphur). These surveys generally include high-resolution geophysical techniques, as well as 2D and 3D seismic surveys.

The most current versions of these regulations can be found on-line at: <http://www.boem.gov/Regulations/Current-Regulations.aspx>. The regulations, in part, state that geological and geophysical activities cannot:

- interfere with or endanger operations under any lease or right-of-way easement, right-of-use, scientific notice, or permit issued or maintained pursuant to the OCSLA;
- cause harm or damage to aquatic life, property, or the marine, coastal, or human environments;
- cause pollution;
- create hazardous or unsafe conditions;
- unreasonably interfere with or harm other uses of the area;
- disturb archaeological resources; or
- cause hazardous or unsafe conditions.

When BOEM reviews a G&G permit application to acquire geological or geophysical survey information and determines that resources of concern (e.g., archaeological resources, sensitive benthic resources, or protected species) could be adversely affected, the applicant is required to commit to any or all of the following before G&G activities may commence:

- employ specific operational procedures to protect the resources of concern;
- adjust the location of the proposed activity(ies) to a distance necessary to minimize disturbance of the resource(s) of concern;
- adjust the timing of the proposed activity to avoid conflicts or minimize disturbance to the resource(s) of concern; or,
- demonstrate that the resources of concern do not exist in the survey area or will not be adversely affected by the proposed G&G activity.

BOEM may add various stipulations to the permit in order to assure that the objectives of the permit are maintained. Under 30 CFR 551.9, BOEM may suspend or cancel a permittee's authority to conduct G&G exploration if the permittee fails to adhere to such requirements or stipulations. In addition, pre- or off-lease G&G operations permitted by BOEM must be conducted in a manner that is consistent with environmental laws, including but not limited to: the National Environmental Policy Act, the Endangered Species Act, the Marine Mammals Protection Act, the National Historic Preservation Act, and the Coastal Zone Management Act. More information on these statutes can be found online at: <http://www.boem.gov/Environmental-Stewardship/Environmental-Assessment/Index.aspx>.

(b) Permit Information: Processing, review, and approval of exploration and prospecting permits are responsibilities of RE and OE and include: (1) environmental review by OE of applications for permits (Form BOEM-0327 for G&G Explorations and Form BOEM-0134 for G&G Prospecting) and agreements for OCS geological or geophysical scientific research or exploration for mineral resources and the development of mitigations to minimize the environmental impact of the proposed activity; (2) issuance of permits and agreements, including terms, conditions, mitigations, and stipulations; and (3) monitoring of the permit activity to verify compliance with all permit conditions and environmental mitigations. The actual permit itself is submitted as part of the permit application process and is signed by the prospective permittee. Upon approval of the application, it is then signed by BOEM and returned to the permittee. The final signed permit is Forms BOEM-0328 (Geophysical Exploration), BOEM-0329 (Geological Exploration), BOEM-0135 (Geophysical Prospecting), or BOEM-0136 (Geological Prospecting).

Applicants must submit the following information with permit filings under Forms BOEM-0327 or BOEM-0134:

- i. One original signature copy of application and permit, one public information copy of application and permit, and two complete additional copies of applications and permits. (One non-public information copy should be digital.)
- ii. Proprietary map of the area containing outline of the survey and protraction area with OCS blocks and numbers.
- iii. Non-refundable fee, as identified in the appropriate regulations at 30 CFR Part 551.5(a).

iv. A thorough description of “activities to be conducted and equipment to be used” shall be completed under “Section D. Proprietary Information Attachment.”

v. Copies of lessee notification letters if the survey extends onto leased OCS blocks. The original notification letters should be sent to the appropriate operational company personnel indicating an approximate time frame and nature of the permit activity. Note: In the Pacific Region, applicants must also notify other users of the OCS, including the military, fishers, CZMA agency, etc. Proof of notification must also be supplied to the Regional Supervisor, Office of Strategic Resources.

If the permit application is deemed complete on the basis of the above (and not on environmental content), RE will assign a tracking permit number to the application and begin to coordinate the exchange of environmental information with OE. OE will review the permit application (or application for authorization) to determine if additional information is needed for NEPA analysis and other environmental compliance mandates such as MMPA, ESA, NHPA, CZMA, etc., and respond back to RE in writing. Unless otherwise agreed, RE coordinates the information exchange for additional information between the applicant and OE.

After any additional information is received, OE provides RE with an estimate of the time for completing the environmental review. RE then communicates this to the applicant. OE must then advise RE that at any point these timelines may change through the environmental review process. RE should also be aware that additional information may be requested by OE as it gets into the specifics of the analysis. RE will continue to coordinate the additional information needs between OE and the applicant. During this process, OE coordinates with other agencies, particularly the National Marine Fisheries Service or the Fish and Wildlife Service, for compliance with existing Laws and Acts that may affect other programs (e.g., ESA). RE also remains available to work with agencies to address additional technical questions.

OE may request additional information as specific issues arise. After the NEPA analysis is complete and other environmental compliance needs are met (including those of other appropriate agencies), OE may then recommend the permit application be: (1) approved with no mitigation; (2) approved with additional specific mitigation or monitoring; or (3) denied as currently proposed but recommend changes to allow for approval. OE and RE then continue to coordinate on mitigation and monitoring measures. RE then issues the signed permit with an approval letter with attached mitigation, or recommends that the applicant revise its request and resubmit for approval based on recommended changes. This process could take from several weeks to several years to complete depending on the requested activity and location, and the type of environmental analyses for that specific Region. There is no specific time frame to complete this process

## **(2) Post-Lease (On-Lease) Seismic Surveys**

Seismic surveys occurring on leases are generally of two types:

- exploration and development seismic surveys (sometimes referred to as “deep penetration seismic”) usually conducted with a seismic airgun array; and

- high-resolution seismic (sometimes called high-resolution geophysical surveys) conducted for a variety of site-specific purposes (e.g., shallow geologic hazards, archaeological sites, pipeline routes, etc.) that usually require a shallower subsurface focus than exploration and development seismic surveys.

On-lease seismic surveys are conducted under regulations (30 CFR Part 550), as well as under additional guidance in Regional Notices to Lessees (NTLs), and lease stipulations. The purposes of these surveys are: (1) to locate or refine the best sites on the leased blocks or unit (several leases managed as a group to produce common reservoirs) for exploration/delineation drilling; (2) to identify site-specific geologic hazards and sensitive seafloor resources to support the preparation of an EP, DPP, DOCD, or other on-lease activity; and (3) to externally inspect a pipeline and alignment within a right-of-way (ROW). These surveys generally include high-resolution geophysical techniques; 2D, 3D, and 4D seismic surveys; and vertical seismic profiling.

Unlike the off-lease seismic survey approval process, on-lease surveys, in most cases, do not require a G&G permit. However, a post- or on-lease G&G survey may require a permit in accordance with 30 CFR Part 551 regulations when the activity:

- includes acreage beyond the confines of the operator's lease(s) or ROW or,
- is conducted by a third party not affiliated with the lease/unit.

In an attempt to track on-lease G&G activities and ensure NEPA analysis of similar G&G activities conducted on-lease and off-lease, the GOM Region issued *NTL 2009-G34 ("Ancillary Activities")*, which requires lessees and operators to notify BSEE in advance of conducting certain on-lease surveys. The ancillary activity notification is received in BSEE and submitted to BOEM for review. Once received, the respective ancillary activity, EP, DPP, or DOCD, may be entered into the Technical Information Management System (TIMS) and OE conducts the appropriate level of NEPA analysis. Once complete, BOEM notifies BSEE of the final NEPA Determination and uses TIMS to prepare the plan approval for submittal back to the operator. The use of G&G deep seismic information, in the post lease phase, is for the establishment of well locations. The use of the shallower high resolution seismic information in the post lease phase is primarily for the identification of geologic hazards. Because these activities occur on a lease, they do not require a G&G permit as they are part of the plans submissions.

Since the same Extraordinary Circumstance triggers actions for both BOEM and BSEE, the Regions are able to ensure consistent NEPA coverage for similar G&G activities conducted both on-lease and off-lease.

On-lease seismic surveys are required to comply with the same environmental requirements as off-lease surveys. In addition, mitigation measures for these surveys, conducted under 30 CFR Part 250 or 550, are often required through lease stipulations or addressed separately through Regional NTLs. BOEM also requires lessees to provide information in their EPs, DPPs, and DOCDs on how they will conduct their proposed activities in a manner consistent with provisions of the ESA and MMPA (see Subpart B of 30 CFR 550). These collective



requirements help BOEM ensure that on-lease seismic surveys are in compliance with the OCSLA, as well as other statutes, such as the ESA, MMPA, and CZMA.

**9. Cancellation.** This IPD will remain in effect until incorporated into the BOEM Manual, cancelled, or superseded with another IPD.



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