



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Office for Coastal Management
Silver Spring Metro Center, Building 4
1305 East-West Highway
Silver Spring, Maryland 20910

Mr. Braxton C. Davis
Director, North Carolina Division of Coastal Management
Department of Environment and Natural Resources
400 Commerce Avenue
Morehead, NC 28557-3421

NOV 18 2014

Re: Request to Review Authorizations for Geological and Geophysical Surveys in Federal Waters in the Mid- and South Atlantic

Dear Mr. Davis:

Thank you for your request to review the federal applications by several companies to the Department of the Interior's Bureau of Ocean Energy Management (BOEM) to conduct Geological and Geophysical (G&G) surveys in federal waters offshore of the Mid- and South Atlantic states (includes 2D and 3D seismic surveys and non-seismic gradiometry aerial surveys).^{1 2} You requested that the National Oceanic and Atmospheric Administration's (NOAA's) Office for Coastal Management³ approve North Carolina's review of the applications from TGS (E14-001), SeaBird (E14-002), GXT (E14-003), Western (E14-004), CGG (E14-005), Spectrum (E14-006 and E14-009), PGS (E14-007) and ARKeX (E14-008) as unlisted activities under the Coastal Zone Management Act (CZMA) § 307(c)(3)(A) (16 U.S.C. § 1456(c)(3)(A)), and NOAA's regulations at 15 C.F.R. Part 930, Subpart D.

For the reasons stated below, the Office for Coastal Management approves the State of North Carolina's request to review the G&G applications for TGS (E14-001), GXT (E14-003), Western (E14-004), CGG (E14-005), Spectrum (E14-006 and E14-009) and PGS (E14-007) as unlisted activities for federal consistency with the federally approved North Carolina coastal management program. The Office for Coastal Management has determined that these activities, if permitted, would have reasonably foreseeable effects on coastal uses or resources of North Carolina's coastal zone. Therefore, TGS, GXT, Western, CGG, Spectrum and PGS must prepare and submit to North Carolina's Department of Environment and Natural Resources' Division of Coastal Management a certification that the activity will be conducted consistent with the federally approved enforceable policies of the North Carolina coastal management program, including the

¹ Letter from Braxton C. Davis, Director, North Carolina Division of Coastal Management, to Mr. Paul Scholz, Acting Director, Office of Ocean and Coastal Resource Management (Aug. 20, 2014).

² Eight companies have submitted nine applications to BOEM: TGS, SeaBird, GXT, Western, CGG, Spectrum, PGS and ARKeX. The BOEM Outer Continental Shelf Lands Act (OCSLA) permit numbers are E14-001 to E14-009.

³ NOAA's Office for Coastal Management was formerly the Office of Ocean and Coastal Resource Management and the Coastal Services Center; these two offices were integrated in September 2014 into the Office for Coastal Management.

submission of necessary data and information required by 15 C.F.R. § 930.58. BOEM may not authorize the G&G surveys until either North Carolina concurs with the consistency certification or North Carolina's concurrence is presumed.⁴ The Office for Coastal Management's approval of the North Carolina request to review the G&G surveys does not address whether the activity is consistent with the enforceable policies of the North Carolina coastal management program. Rather, the Office for Coastal Management's approval merely authorizes North Carolina's review under CZMA § 307(c)(3)(A) and NOAA's regulations at 15 C.F.R. Part 930, Subpart D.

For reasons stated below, the Office for Coastal Management denies North Carolina's request to review the applications submitted by SeaBird (E14-002) and ARKeX (E14-008).

CZMA UNLISTED ACTIVITY REVIEW REQUESTS

Federal license or permit activities that are listed in a state's federally approved coastal management program and that would occur within a state's coastal zone are subject to federal consistency review.⁵ Listed activities are presumed to have coastal effects and provide notice to applicants and federal agencies that the activity is subject to state federal consistency review. If an activity is unlisted or outside of the geographic scope of state CZMA federal consistency review approved by the Office for Coastal Management, a state must request approval from the Office for Coastal Management to review the activity.⁶ The request must be submitted within 30 days of receiving notice of the application, and must notify the applicant, relevant federal agency, and the Office for Coastal Management that the state intends to review the activity and demonstrate that the activity would have reasonably foreseeable effects on the coastal uses or resources of the state; otherwise a state waives its right to review the unlisted activity.⁷

The Office for Coastal Management must either approve or deny a state's request to review an unlisted activity for consistency. The applicant and federal agency have 15 days from receipt of a state's request to provide comments to the Office for Coastal Management. The Office for Coastal Management will make a decision usually within 30 days of receipt of a state's request, although NOAA's regulations allow for extensions. Due to the number and complexity of simultaneous state G&G unlisted activity requests, the Office for Coastal Management extended its review on September 19, 2014, for all of the pending review requests to November 18, 2014.

In considering a state's request to review an unlisted activity, the Office for Coastal Management first determines if there are any threshold issues to address (e.g., timeliness of a state's request). Then, the Office for Coastal Management will decide whether the proposed activity will have reasonably foreseeable effects on any land or water use or natural resource of the state's coastal zone.⁸ The federal agency may not authorize the activity unless the Office for Coastal Management denies the state's request or, if the Office for Coastal Management approves the

⁴ For the review of unlisted activities a state's concurrence is presumed if the state does not issue a decision within six months from receipt of the original federal agency notice to the state, or within three months from receipt of the applicant's consistency certification, whichever period terminates last. 15 C.F.R. § 930.54(e).

⁵ 15 C.F.R. § 930.53.

⁶ 15 C.F.R. §§ 930.53 and 930.54.

⁷ *Id.*

⁸ 15 C.F.R. § 930.54(c).

state's request, the state concurs with the applicant's consistency certification.⁹ If the state objects to the consistency certification and the applicant appeals the state's objection to the Secretary of Commerce, pursuant to 15 C.F.R. Part 930, Subpart H, and the Secretary overrides the state's objection, then the federal agency may authorize the activity.^{10 11}

PROJECT DESCRIPTION

BOEM has nine pending permit applications under the Outer Continental Shelf Lands Act (OCSLA) for G&G surveys in federal waters in the Mid- and South Atlantic.¹² These surveys are for the purpose of identifying potential areas for oil and gas exploration. Most of the G&G applications identify a large "Area of Interest" where surveys would be conducted and many of those areas overlap.

Three types of surveys are proposed: 2D (two-dimensional) seismic surveys; a 3D (three-dimensional) seismic survey; and an airborne gravitational gradiometry survey. 2D and 3D seismic surveys use compressed air to emit acoustic energy pulses whose refraction from the seabed are recorded by hydrophones that are towed on streamers behind a ship. The proposed seismic sources are of the type and volume frequently used in the Gulf of Mexico and around the world.

TGS, SeaBird, GXT, CGG and Spectrum have proposed conducting 2D surveys. Ships conducting 2D surveys are typically 30-90 m (98-295 ft) long and tow an array of airguns 100-200 m (328-656 ft) behind the ship. Following behind the source array is a single streamer approximately 5-12 km (3.1-7.5 mi) long. The ship tows this apparatus at a speed of approximately 3-5 knots. Approximately every 10-15 seconds, the air source array is activated. The spacing between track lines that the ship navigates can be 1-10 kilometers.¹³

Western has proposed conducting a 2D seismic survey in which one or more vessels follow a circular or spiral path rather than grid lines.

PGS has proposed conducting a 3D seismic survey which involves a larger vessel (60 to >120 m long) typically towing two source arrays 200-300 m (656-984 ft) behind them. Behind the source arrays are 8-24 streamers which may exceed 80 km (50 mi) long. With the streamers approximately 75-150 m (246-492 ft) apart, ten streamers would occupy a swath 675-1,350 m

⁹ 15 C.F.R. § 930.54(d).

¹⁰ The Secretary has delegated CZMA appeal decision authority to the NOAA General Counsel, regarding threshold issues (i.e., issues related to whether an appeal meets the form and timeliness requirements set forth by regulation), and to the Under Secretary for Oceans and Atmosphere for substantive appeal decisions.

¹¹ During the Office for Coastal Management's review of a state's unlisted activity request and a state's CZMA consistency review, the authorizing federal agency continues to review the project under its statutory and regulatory authority and may deny the activity.

¹² BOEM subsequently received a tenth application from TDI-Brooks International, Inc. (E14-010), but that application is not subject to this request and the Office for Coastal Management's decision.

¹³ Letter by email from Karen St. John, Group VP, International Association of Geophysical Contractors, to Paul M. Scholz, Acting Director, Office of Ocean and Coastal Resource Management (Sept. 3, 2014).

(2,215-4,429) ft wide. The ship tows the apparatus at a speed of 3-5.5 km during production. Approximately every 11-15 seconds one of the arrays of air guns is fired.¹⁴

ARKeX has proposed a gravitational gradiometry aerial survey to be conducted by a fixed wing aircraft with no component of the survey being within state or federal waters.

The seismic surveys may take approximately 6 months to complete. In addition to the seismic survey vessel, there is usually at least one support vessel, which supports the seismic vessel by, among other things, acting as a lookout to ensure safe marine operations through monitoring and maintaining lines of communication with any incoming or surrounding traffic. There is also usually at least one supply vessel to provide for resupplying while the seismic vessel is operating.

DISCUSSION

1. The Timeliness of the State's Request to Review the G&G Applications

During the Summer of 2014, the Office for Coastal Management coordinated with BOEM, the Mid- and South Atlantic coastal states and the applicants to ensure that applicable states were uniformly notified of the G&G applications to avoid uncertainty as to when requests for approval to review were due to the Office for Coastal Management. Both the Office for Coastal Management and BOEM included each other in briefings for states and survey applicants. In August 2014, in coordination with the Coastal States Organization (CSO), the Office for Coastal Management conducted a briefing for states on the submission process for requesting review approval and establishing reasonably foreseeable effects. In coordination with the International Association of Geophysical Contractors (IAGC), the Office for Coastal Management conducted a briefing for survey applicants on the approval process for state reviews, the CZMA review process if state requests are approved, and the type of operational information that would be helpful from the surveyors in commenting on state requests. In addition, at the Office for Coastal Management's suggestion, on September 12, 2014, the IAGC and its members held a briefing for CSO and its members on the various types of surveys and their operations.

The CZMA Federal Consistency regulations at 15 C.F.R. § 930.54(a)(1) require that state requests to review unlisted activities be made within 30 days of notice of the activity. The computation of time for notice by email begins with the date of receipt.

On July 23, 2014, the North Carolina coastal management program was contacted by a representative of TGS through an email message in regard to their project application (E14-001). This contact served as notice to the state for the TGS (E14-001) application. On August 5, 2014, BOEM notified North Carolina and other states of the pending G&G applications. This served as notice to the state for applications E14-002 to E14-009.

¹⁴ *Id.*

On August 20, 2014, the North Carolina coastal management program requested approval by the Office for Coastal Management to review as unlisted activities all nine G&G applications (E14-001 to E14-009). The Office for Coastal Management finds that the state's request to review the applications as unlisted activities is timely.

2. Whether the Proposed Activity Has Reasonably Foreseeable Effects on Any Land or Water Use or Natural Resource of the State's Coastal Zone

With the exception of the PGS and ARKeX applications, the G&G applications pending before BOEM do not describe the specific areas in which G&G surveys will be conducted. The applications include maps with delineations of broad expanses of Areas of Interest somewhere within which surveys may be conducted. In information submitted to the Office for Coastal Management, TGS, SeaBird, GXT, CGG, Spectrum, PGS and ARKeX provided more specific information on the location of their projects or the closest points to the shores of those states which have requested to review the surveys. Without more specific information on the location of projects, it must be presumed that the surveys will be conducted within any and all parts of the Areas of Interest, except where an applicant has provided more specific geographic descriptions. If a state shows reasonably foreseeable effects within an Area of Interest proposed by an applicant, the entire project and any activity throughout the entire proposed Area of Interest is subject to review by the state.

In order to grant a state request to review an unlisted activity, the Office for Coastal Management must find that the state has shown that there are reasonably foreseeable effects to uses or resources of the coastal zone of the state.¹⁵ Effects include direct, indirect and cumulative effects; effects to resources as well as coastal uses.¹⁶ The activity, resources, uses and effects can occur within and outside of the coastal zone.¹⁷ That finding is based on the analysis of coastal effects provided by the state, comments received on the state's request, the application before the federal agency, any National Environmental Policy Act (NEPA) documents and other environmental evaluations related to the federal applications and other information the Office for Coastal Management determined was needed to assess the states' coastal effects arguments. Findings of effects in regards to a particular activity must also consider proposed and required mitigation measures, as in this instance where the Programmatic Environmental Impact Statement (PEIS)¹⁸ for surveys in the Mid- and South Atlantic includes specific mitigation measures and recognizes that the applicable protection standards under the Marine Mammal Protection Act may require additional mitigation to prevent harm to species. The burden of asserting and adequately supporting an effects arguments lies with the states. In meeting that burden, a state request must persuasively address any arguments countering its assertion of effects.

¹⁵ 15 C.F.R. § 930.54(c).

¹⁶ 15 C.F.R. § 930.11(g).

¹⁷ See 16 U.S.C. § 1456(c)(3)(A), 15 C.F.R. § 930.11(g), and 65 Fed. Reg. 77124-77175, 77130 (Dec. 8, 2000), for the geographic scope of federal consistency.

¹⁸ Final Programmatic Environmental Impact Statement (PEIS) for Atlantic OCS Proposed Geological and Geophysical Activities, Mid-Atlantic and South Atlantic Planning Areas (OCS EIS/EA BOEM 2014-001) [hereinafter PEIS].

Seven states have requested approval by the Office for Coastal Management to review some or all of the nine G&G permit applications. These states are New York, Delaware, Maryland, North Carolina, South Carolina, Georgia and Florida.¹⁹ The Office for Coastal Management reviewed each state's unlisted activity request to determine if a state was able to demonstrate that there would be reasonably foreseeable coastal effects. However, because there were multiple permit applications and several state requests for the same activities in the same Areas of Interest, the Office for Coastal Management also evaluated coastal effects by looking at the totality of the arguments within the states' requests. In reviewing the states' requests, the Office for Coastal Management recognizes that if one state makes a persuasive argument in regard to effects, and that finding would be applicable to another state, the Office for Coastal Management should recognize that effect in another state even if that other state's effects argument was not as persuasive. Nonetheless, a finding that a proposed survey may have reasonably foreseeable effects for one state does not relieve another state from the burden of showing that it has a specific interest in a specific area that would be affected.

All of the proposed activities would be conducted in federal waters. For the Office for Coastal Management to find that an activity in federal waters may have reasonably foreseeable effects, a state must show that the impact from an activity will have a reasonably foreseeable effect to coastal uses and resources of the state. A state must show that it has a specific interest that may be affected by the activity. The Office for Coastal Management interprets a state's burden to demonstrate coastal effects to mean that a mere assertion that an activity in federal waters will have an impact is insufficient to make a finding of reasonably foreseeable coastal effects. Likewise, a state's effects analysis must provide more than general assertions of impacts or that resources or uses are "important," or should be reviewed because of the proximity of an activity to state coastal uses or resources; there must be a causal connection between the activity and coastal effects. Moreover, given the availability of space in the broad expanse of federal waters, a state must show that this interest lies in specific areas within federal waters due to distinguishing characteristics of those areas (e.g., a specific area used by commercial fishermen).²⁰ In this case, the State of North Carolina alleges that the surveys may result in reasonably foreseeable effects to, among other coastal uses or resources, commercial and recreational fisheries.

¹⁹ New Jersey and Virginia were notified of the G&G permit applications and the deadlines for submitting unlisted activity requests to the Office for Coastal Management, but did not submit a request.

²⁰ To ensure that the importance of specific geographic location information to the Office for Coastal Management's consideration of unlisted activity requests was understood, the Office for Coastal Management requested such information from interested parties on October 6, 2014, with a submittal deadline of October 17, 2014.

Commercial and Recreational Fisheries

North Carolina asserts that seismic surveys will have reasonably foreseeable effects to commercial and recreational fishing industries; both of which are coastal uses.

Commercial and recreational fishing throughout the states of the Mid- and South Atlantic contribute to local and regional economies. According to the National Marine Fisheries Service (NMFS), the value of commercial landings within the Area of Interest offshore of North Carolina during 2012 was over \$22M.²¹ According to the state, North Carolina's commercial fishing industry generates an estimated 5,180 jobs with an annual income exceeding \$105 million and an overall economic impact of \$255 million. Recreational fishing activity produces an estimated 18,200 jobs, \$692 million in income and \$1.87 billion in overall economic impacts for the state's economy.²²

The state notes that the South Atlantic Fishery Management Council, acting through NMFS, has designated Habitat Areas of Particular Concern where the importance of the ecological functions of the habitat and the risk to the habitat and species within due to their rarity or sensitivity to human degradation require additional levels of protection. The state's analysis identifies specific areas where it has an interest. These include The Point, Ten Fathom Ledge, Big Rock and the shoals of Cape Lookout, Cape Fear and Cape Hatteras. The state also notes that the area offshore of North Carolina is heavily used year-round for commercial and recreational fishing, with as many as 43 annual fishing tournaments. In North Carolina, much of the diving and fishing activities occur more than 3 miles offshore, primarily from north of Oregon Inlet to the South Carolina state line. Offshore natural habitats and artificial reefs are the most heavily used areas for these activities, both recreationally and commercially. For example, the area off Cape Hatteras known as The Point is heavily used year-round for commercial longlining and recreational fishing charters and tournaments.

Although the findings of studies of the impacts of seismic surveys to fish catch vary, catch reductions of nearly 70 percent have been found for a period of at least five days.²³

In addition to the potential for catch reductions, the space and operational requirements of survey vessels may create potential conflicts with other vessels and uses. Vessels towing streamers during 2D and 3D seismic surveys follow pre-plotted track lines and have limited maneuverability during data acquisition. Survey operators attempt to keep a zone around the source vessel and its towed streamer arrays clear of other vessel traffic. The size of the area to be

²¹ PEIS, *supra* note 18, at Tables-72 (Table 4-30).

²² Letter from Braxton C. Davis, Director, North Carolina Division of Coastal Management, to Paul Scholz, Acting Director, Office of Ocean and Coastal Resource Management (Aug. 20, 2014).

²³ A. Engås, et al., *Comparative trials for cod and haddock using commercial trawl and longline at two different stock levels*, *Journal of the Northwest Atlantic Fishery Science* 19:83-90 (1993); A. Engås, et al., *Effects of seismic shooting on local abundance and catch rates of cod (*G. morhua*) and haddock (*M. aeglefinus*)*, *Canadian Journal of Fisheries and Aquatic Science* 53:2238-2249 (1996); *cf.* G. La Bella, et al., *First Assessment of Effects of Air-Gun Seismic Shooting on Marine Resources in the Central Adriatic Sea*, Society of Petroleum Engineers, Inc. (1996).

kept clear of other vessels is typically 8.5 km (4.6 nautical miles (nm)) long and 1.2 km (0.6 nm) wide, covering a total of 1,021 hectares (2,520 acres) of sea surface. While the U.S. Coast Guard issues a Local Notice to Mariners for areas where seismic surveys will take place, no official exclusion zones are established or enforced. Data acquisition takes place day and night and may continue for days, weeks, or months, depending on the size of the survey area.²⁴

Given the nature of the proposed surveys, the Areas of Interest, and existing uses, the Office for Coastal Management finds that there are reasonably foreseeable effects to coastal uses of North Carolina from seismic survey operations including potential user conflicts and catch reductions. The finding of reasonably foreseeable effects is not a determination that user conflicts will occur. The finding is a determination that there is a reasonably foreseeable potential for user conflicts that could affect fishing uses and catches. The finding of reasonably foreseeable effects is also not a determination that seismic survey operations are incompatible with fishing. The purpose of the CZMA review process is to ensure that the state's interests, as embodied in the state's enforceable policies, are recognized so that activities authorized by federal agencies are conducted in a manner that is consistent with those policies.

CONCLUSION

North Carolina has shown that seismic surveys occurring in specific areas in the federal waters offshore of the state may have reasonably foreseeable effects on coastal uses (commercial and recreational fishing).

Based on the Areas of Interest described in the publicly available applications and supplemental information provided by the applicants,²⁵ TGS, GXT, Western, CGG, Spectrum (E14-006 and E14-009) and PGS seismic survey activities may occur in areas in the federal waters identified by North Carolina as areas where commercial and recreational fishing are concentrated. The state's interests extend beyond these distances. As discussed above, these surveys could have reasonably foreseeable coastal effects.

The Office for Coastal Management denies North Carolina's request to review the applications of SeaBird (E14-002) and ARKeX (E14-008). For Seabird, the state has not shown a specific interest that would be affected in a specific area within the Area of Interest. The state's request for approval to review the ARKeX application makes no mention of reasonably foreseeable effects to coastal uses or resources of the state resulting from the survey.

Based upon a review of the information presented by North Carolina, the applicants and BOEM, the Office for Coastal Management approves the state's request to review the proposed G&G surveys for the following BOEM applications: TGS (E14-001), GXT (E14-003), Western (E14-004), CGG (E14-005), Spectrum (E14-006 and E14-009) and PGS (E14-007). BOEM may not authorize activities under these permit applications until a consistency certification has been submitted to the North Carolina Department of Environment and Natural Resources' Division of

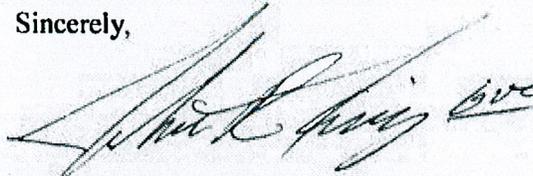
²⁴ PEIS, *supra* note 18, at 3-32.

²⁵ BOEM Atlantic Pending Surveys Map, <http://www.boem.gov/Atlantic-Pending-Permit-Map/> (last visited Nov. 3, 2014).

Coastal Management by each applicant, and the state has either found the proposed activities to be consistent or presumptively waived its review authority. Pursuant to 15 C.F.R. § 930.54(e), the state's decision will be due three months after receipt of the applicant's consistency certification and necessary data and information.²⁶

Please contact David Kaiser, Senior Policy Analyst, Office for Coastal Management, at 603-862-2719, or Kerry Kehoe, Federal Consistency Specialist, Office for Coastal Management, at 301-563-1151, if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Jeffrey L. Payne", with a stylized flourish at the end.

Jeffrey L. Payne, Ph.D.
Acting Director

cc:

Gabrielle Rolland, TGS
Matthew Padon, SeaBird
Daniel Virobik, GXT
Steve Chang, Western
J. Mayville, Western
Michael Whitehead, CGG
Knut Fostad, Spectrum
Michael Saunders, Spectrum
David Lippett, PGS
Gary Morrow, PGS
Ian Lambert, ARKeX
Brian Cameron, BOEM
Benjamin Laws, NMFS/OPR

²⁶ See 15 C.F.R. § 930.54(e).