Division of Ocean Sciences

Clarification on Permitting and Clearance Procedures for Projects Using Seismic Reflection Equipment in Waters Under Jurisdiction of Foreign Governments.

Obtaining permission for the use of seismic reflection equipment in marine research is a complicated process, involving the issuance of a permit by the U.S. Government for essentially all such research, and a formal clearance from a foreign government if the research is to be conducted in waters under the jurisdiction of a foreign government. The NSF, the Department of State and other U.S. government agencies, the vessel operator, and the scientific investigators will all be involved at different stages in the formal permitting and clearance processes.

Sections 715a and 763a of the NSF Grant Policy Manual (NSF 02-151; http://www.nsf.gov/pubs/2002/nsf02151/gpm02_151.pdf) directly address obtaining "permits" for foreign research. This document is intended to clarify the roles and responsibilities of the NSF, the ship operator and principal investigators in the permitting and clearance process for proposals to use seismic reflection equipment that are under consideration by the NSF Division of Ocean Sciences (OCE) and Division of Earth Sciences (EAR).

This document first reviews the acronyms and terms related to the permit and clearance processes. Section 2 discusses the pre-proposal phase of the foreign clearance process, including timing of proposal submissions to OCE and EAR and survey design principles that can ease the foreign clearance process. Section 3 covers the scoping phase of a project, which a PI may be instructed to undertake at the request of an NSF program officer. Section 4 addresses responsibilities during the pre-cruise phase, once a funding decision has been made and a cruise scheduled. Section 5 discusses the cruise phase and details management issues and environmental mitigation measures unique to seismic research cruises. Section 6 describes the post-cruise phase, when PIs must meet obligations to the U.S. Department of State and to foreign collaborators.

Section 1. Acronyms and Definitions

ACRONYMS

DOS	U.S. Department of State
EA	Environmental assessment
EAR	NSF Division of Earth Sciences
EEZ	Exclusive Economic Zone (200 nm)
EIS	Environmental Impact Statement
ESA	U.S. Endangered Species Act
GPM	NSF Grant Policy Manual (NSF 02-151)
IHA	Incidental Harassment Authorization
MMO	Marine mammal observer
MMPA	U.S. Marine Mammal Protection Act
NGO	Non-governmental organization
NMFS	National Marine Fisheries Service
OCE	NSF Division of Ocean Sciences
PI	Principal investigator
S&T	U.S. embassy science and technology officer
UNOLS	University-National Oceanographic Laboratory System (www.unols.org)

DEFINITIONS

Operator
The institution or organization that operates a research vessel under support from the NSF.

Embassy
As used in this document, the *embassy* refers to the U.S. embassy in the country from which a clearance is sought.

Permit
As used in this document, a *permit* refers to documents issued by the U.S. Government (http://www.nmfs.noaa.gov/prot_res/index.html) and required for U.S. scientists and/or vessels to conduct seismic reflection work if the activity could disturb marine mammals or other organisms governed by the Marine Mammal Protection Act (MMPA) and Endangered Species Act (ESA). The *permit* consists of an Incidental Harassment Authorization (IHA) issued to the operator in accordance with the MMPA and a biological opinion, and a separate "small take authorization" issued to NSF to comply with the ESA. These documents may be issued by the U.S. National Marine Fisheries Service (NMFS) following: (a) Submission (by NSF and the operator) of an Environmental Assessment (EA) and an IHA application; (b) Subsequent publication (within 45 days) by NMFS of a notice of the IHA application in the Federal Register; (c) A 30-day public comment period; (d) a NMFS review of up to 45 days following the close of the public comment period. From the submission of the EA and IHA application to issuance of the permit typically takes 4 to 6 months. An IHA is valid for one year from the issue date, although it may have to be reassessed if the cruise dates change significantly and slide the research into a timeframe with different environmental sensitivities. The permit is required for operations in international waters, the US EEZ, or a foreign EEZ. A permit is not required for operations that take place entirely within the territorial waters (generally 12 nautical miles) of a foreign country.

Clearance
As used in this document a *clearance* is permission granted by a foreign government that allows research to be conducted within waters under their jurisdiction (http://ww.state.gov/g/oes/ocns/rvc/). The responsibility for seeking clearances rests with the ship operator and the Department of State, although they will require details about cruise plans and requirements that must be provided by the PI. Although requirements for obtaining a clearance vary, the DOS usually requests the U.S. Embassy to formally request a clearance from a country's foreign ministry on behalf of the operator. In some cases, the foreign ministry may require an assessment of the project by other internal ministries, particularly the ministry responsible for environmental matters. In this case, it may be necessary for NSF and/or the operator to submit auxiliary documents to describe the project and comply with local environmental regulations.

Section 2: Proposal Preparation Phase

1. *Collaborations*. It is strongly recommended that PIs develop substantive collaboration with scientists in each country from which a clearance will be required. Collaboration is encouraged in all phases of the project, including survey design, participation in field work, data analyses, interpretation, and publication. NSF proposals should include support letters from these collaborators, who will likely be critical for promoting the project within the country.

2. *Survey Design*. It is recommended that surveys be designed to avoid culturally, economically, or environmentally sensitive areas (e.g., marine protected areas, national parks, coral reefs) for which obtaining a clearance could be difficult. Foreign collaborators or their professional colleagues can be helpful in identifying such problem

areas based on their knowledge of the local environment. NSF recommends that PIs carefully choose the time of year during which research is planned, with the goal of avoiding sensitive fisheries, breeding and feeding seasons, and major economic and recreational activities. PIs should plan to use the smallest source array that can achieve the scientific objectives. When possible, projects should avoid surveys in very shallow water (< 40 m), as such areas tend to be more environmentally-sensitive than deeper waters. Survey design and duration may also be affected by the mitigation procedures suggested by the operator as part of the IHA application or requested by NMFS and/or foreign governments as a condition of granting a clearance. The PI should consult the operator early in the proposal preparation process about survey design options, contingency plans, and the mitigation procedures likely to be recommended for the project.

3. *UNOLS Ship Requests*. Ship request forms must be filled out accurately, including information about all sound sources that will be used and clearances that will be required. The information on these forms serves as the basis for a variety of planning, management and logistics decisions made about a cruise by NSF, UNOLS, and the operator. Excessive modifications to the EEZ clearance list due to changes in survey plans or the PI's ignorance that his or her research would occur within a foreign EEZ may seriously jeopardize scheduling of the cruise.

4. *Timing of Proposal Submissions.* All projects that require a foreign clearance and a permit for seismic reflection work must have completed review through OCE and EAR mail and panel procedures at least 12 months prior to the earliest month (January) in the ship operations year for which they could be scheduled. Scheduling is normally done at a UNOLS meeting in July preceding the beginning of the operating year. (For scheduling in year *N* this would mean completion of panel review by at least December of year *N-2*, and consideration at the scheduling committee in July of *N-1*). These guidelines are necessary to allow sufficient time for a detailed and thorough consideration of the permitting and clearance issues of a proposed project prior to the scheduling meeting, as discussed in Section 3.

Section 3. Scoping Phase

At any time following submission of a proposal, a NSF program officer may request a PI to supplement or amplify information in the proposal related to permitting and clearance issues. This scoping phase in no way implies that the project will be recommended for an award. The scoping phase is nominally an unfunded 6- to 12-month period during which the PIs may be required to work extensively with their collaborators and Embassy personnel to determine whether and which special country procedures may be required when the clearance is sought. NSF Division of Ocean Science staff will develop and modify recommendations for best practices and questions to be addressed during the scoping phase. The cognizant Program Officer will provide these to the PI if a scoping phase is requested.

Regardless of whether the project is submitted to OCE or EAR, the project will not be considered for UNOLS scheduling or possible funding until after the NSF-mandated scoping phase has been completed to the satisfaction of the program manager, OCE Integrative Programs Section (responsible for ship operations), and the OCE Division Director.

Depending on the degree to which permitting and clearance requirement issues have been addressed in the proposal, key additional steps in the scoping phase might be:

1. *Evaluation of Previous Cruises in the Same EEZ.* The PI should determine whether other recent cruises (including non-U.S. cruises) have completed similar experiments within the same country's EEZ that might offer useful information/precedents. UNOLS, DOS, potential operators for the proposed project, and past PIs are possible sources for information.

2. *U.S. Embassy and Foreign Ministry Contacts*. The PI should consult with DOS and NSF to facilitate contact with the U.S. embassy in the country from which a clearance will be required before discussing the project with any official of the foreign government. All embassies have a staff member who is assigned responsibility for science matters, and who will likely become the PI's main point of contact for in-country clearance issues. In some cases, the embassy may directly assist the PI in contacting ministries. If the embassy counsels against direct contact with government ministries or other officials, the PI should not proceed against the advice of the embassy.

3. *Foreign Collaborator Guidance*. The PI should ask foreign collaborators for their advice about ways in which clearance requests might best be expedited. In some cases, the in-country colleague may be able to help with little or no involvement from the U.S. PI. In other cases, it may be advisable for the PI to take a more active role that may include visiting the country and meeting appropriate officials in the company of the colleague and embassy personnel. The PI is strongly advised to integrally involve the in-country colleague in all dealings with foreign government ministries and local officials.

Upon acquiring additional information about the clearance procedure, the PI should notify NSF and the ship operator, providing (a) names and titles of all relevant officials, including contacts at ministries, the in-country colleague, and the cognizant U.S. embassy official; (b) information about timelines and documents to be submitted; (c) copies of the exact wording of any statutes that describe environmental procedures that must be followed and copies of any example documents; (d) notes in both the original language and English translation regarding any supplementary information provided to clarify the requirements; (e) any other information that could assist in timely completion of the clearance procedure. A brief narrative that describes the major meetings held and the outcome of these meetings is also helpful in case the operator or NSF must independently pursue contacts with the same set of officials in the future.

Section 4. Pre-Cruise Phase (6-10 months pre-cruise)

1. *Operator and NSF Responsibilities for Clearances and Permitting*. Once a funding decision has been made and the cruise scheduled, the permitting and clearance processes become the responsibility of NSF and the operator, though the PI will be kept informed and will be involved as required. Therefore, following scheduling, the terms "grantee" and "awardee" in Sections 715 and 723 of the GPM refer not to the PI, but to the ship operator as the "grantee" responsible for providing the facility capability for the project. Information about foreign clearances can be found on the UNOLS website. Note that this part of the process is almost always the sole responsibility of the ship operator.

2. *PI Responsibilities*. During the clearance/permit process the PI may be requested to provide additional information or assistance by the operator or NSF. NSF, the operator, and even the embassy may also continue to rely on the in-country collaborator for assistance. Potential changes to the cruise plan or objectives that may be required will be discussed with the PI by NSF and the operator.

3. *Environmental Assessment and IHA Application*. The EA and IHA application are typically prepared about 6 months before the cruise. At present, operators use private firms with expertise in the MMPA and ESA to prepare most of the EA. The PI may be asked to participate in email exchanges or teleconferences that include the operator, the firm preparing the EA, and NSF, particularly if there are questions about possible modifications to the scientific program or issues that have emerged during the operator's analysis of the NSF proposal. The PI receives a copy of the IHA application and EA when they are complete, and it is the PI's responsibility to check them promptly and thoroughly to ensure that the survey locations and contingency sites are correct and that the seismic array, cruise plan, and various instrumentation are fully and accurately described. It is good practice to assume that the EA and IHA application describe the exact program that will be conducted and that significant deviations from this program (particularly in terms of geographical region or increased source size) will be strongly discouraged.

4. *Outreach Plans*. To ensure consistency in documentation and planning for the cruise, the PI should inform the NSF program manager about any pre-cruise outreach plans that include websites or articles in the popular press.

Section 5: During the Cruise

1. *Mitigation Procedures*. The scientific party should be aware that mitigation procedures proposed by the operator/accepted by government agencies as part of the permit or clearance process may result in the loss of scientific operations time, and this time is often very difficult to recover due to scheduling conflicts and cost. Standard mitigation procedures include (a) ramp-up and shut-down protocols for normal operations; (b) immediate power-down procedures to be implemented in certain specific circumstances; and (c) on-duty MMOs whenever sound sources are being used. Other mitigation procedures that may be used for a particular program or part of a program include passive acoustic monitoring (PAM) to listen for marine mammal vocalizations; a chase boat to warn economic and

recreational boaters/divers of the oncoming seismic ship; alteration of the ship's course or the shooting program to accommodate environmental, economic, or human factors; and/or cessation of all operations at night due to the increased difficulty of observing marine mammals after dark. Neither the ship's officers nor the MMOs nor the scientific party is permitted to alter the mitigation procedures outlined in the permit and clearance documents.

2. *Changes to Cruise Plans*. The scientific party should not pressure the ship's officers to work in geographical regions other than those described in the permit and clearance documents. The scientific party should bear in mind that use of a more energetic sound source, longer duration pulses, or frequencies outside the ranges described in the approved clearance and permit documents will not be allowed.

3. *Operations with Marine Mammal Observers*. Operators may have marine mammal observers (MMOs) onboard during seismic cruise and will have established policies and procedures related to their responsibilities and authority. The PI and other members of the scientific party should be familiar with these policies and procedures at the start of the cruise. MMOs may dictate the cessation of seismic operations or alterations to the seismic plan, based on their observations during the cruise.

4. *Marine Mammal Incidents*. A ship operating under an IHA and small take authorization issued by the U.S. Government must cease the use of sound sources when a dead or injured marine mammal is encountered, regardless of whether the ship is operating in international waters, the U.S. EEZ, or a foreign EEZ. The operator will notify the appropriate government agencies, which always include the U.S. NMFS, and the MMOs and ship's officers may be involved in documenting the finding and other information about the ship's cruise track, use of sound sources, and other pertinent information. The scientific party may have no control over when or whether operations resume.

Section 6: Post-Cruise Responsibilities

1. *Preliminary Cruise Report*. Within 30 days following completion of the cruise, the Chief Scientist must file with the DOS a completed Preliminary Cruise Report form and a page-sized chart showing the complete cruise track. A link to the form and information about how to meet this and other post-cruise obligations for the DOS can be found at: http://www.state.gov/g/oes/ocns/rvc/3504.htm

2. *Preliminary report.* The Operator must submit a preliminary report to NMFS within 90 days post-cruise detailing the results of the marine mammal and endangered species protocols and observations, and how they relate to the seismic operations. Unless specific changes are requested by NMFS, this report will become the final report 60 days after receipt.

3. *Final Cruise Report*. A final cruise report must be submitted to DOS, with appropriate translations, cruise report copies, and data media (e.g., data CDs), according to the timeline given on the preliminary cruise report form. Some foreign countries have other

specific post-cruise requirements that are detailed on the DOS website and that must be honored by the Chief Scientist.

4. *Fulfilling Obligations to Collaborators*. As soon as possible post-cruise, NSF PIs should provide their foreign collaborators with any data, samples, or other information necessary to facilitate the collaborators' full participation in the scientific process. In most cases, it is best to provide data media and samples to collaborators before the NSF PI even departs the ship.