

Mr. Rory Boyd
Petroleum Affairs Division
Department of Communications, Marine and Natural Resources
Beggars Bush
Haddington Road
Dublin 4

Re: Mitigation requirements as issued by the Underwater Archaeology Unit (UAU) for the protection of underwater cultural heritage during exploration works for oil and gas in Ireland's offshore Atlantic waters to be included in the SEA1 as presently being finalised by the Petroleum Affairs Division (PAD)

A Chara,

I would like to thank you and your colleagues for taking the time to meet this morning to clarify the measures being undertaken as part of the SEA1 Report as drafted by PAD. The meeting was both informative and helpful. It was agreed that the requirements of the Underwater Archaeology Unit in the National Monuments Service of the Department of Environment, Heritage and Local Government will now be included as part of this draft document.

Outlined below are the generic recommendations that we issue for any proposed investigation for oil or gas exploration works. I have broken these into two sections – one for the +40m and deeper offshore exploration works (which you have explained is the focus of the SEA1 report) and the second for any future SEA report for the –40m and inshore landfall areas. A Draft Report was commissioned by PIPCo and ISPSG drawn up by Dr. Rory Quinn where offshore exploration works are concerned. This report is titled: *Acquisition and Interpretation of Geophysical Data for Archaeological Assessment during Oil Industry Geophysical Route Survey and Site Surveys in Water Depths exceeding +50m*. The UAU was involved as part of the consultation process for this initiative and, though we broadly support the proposed guidelines, we do not presently know where they stand in regard to signing off on the report or adoption of the guidelines themselves. Until this has been finalised we are not in a position to recommend using this report as a working document.

In regard to the GSI generated seabed survey wreck map that is included on page 5-3 of the SEA1 draft report. Though this is a useful map when considering the locations of identified wrecks through the work of the GSI. This work would, however, have a bias towards the WWII wrecks as they show up more distinctly on the geophysical surveys, but would not be representative of earlier wooden wrecks. The map therefore is not representative of all the available information on wrecks for this area. The UAU has its own shipwreck database and archive, with many more recorded wrecks included. Discussions and direct liaison are ongoing between the UAU and GSI, with the UAU and GSI wreck data being presently integrated to produce a comprehensive map and database of all recorded wrecks in the area from all known periods. The UAU records should be consulted independently of the GSI information for any assessments being done for oil or gas exploration.

I have also included at the end of this letter contact details for the UAU and our Department to be included in any future update of your Rules and Procedures, or indeed any other documentation, particularly where the reporting of archaeological discoveries is concerned.

Clarification as to Heritage Legislation:

- National Monuments Act 1930-2004 (Section 3): all wrecks over 100 years old and archaeological objects are automatically protected. There is a further provision that wrecks less than 100 years old, but due to their intrinsic historical or artistic value, can be protected by the placement of an Underwater Heritage Order. The latter designates and protects an area of the seabed. Under Section 3(3) no wreck over 100 years old or within a restricted area should be tampered with, damaged, impacted, material removed from or material dumped upon without prior consent from the Minister of the Environment, Heritage and Local Govt. Under section 3(5) any discovery of wrecks should be reported to the relevant authorities (The UAU or Garda Síochána) within 4 days of the discovery. Any discovery of an archaeological object should be reported to both the Receiver of Wreck (under the Merchant Shipping (Salvage and Wreck) Act 1993) and to the Director of the National Museum of Ireland within 4 days.

- Continental Shelf Act 1968 (Section 2): allows for the protection of wrecks and archaeological objects beyond the limits of the territorial waters of Ireland. Presently no designation has been place on any wreck site under this Section.
- UNESCO Convention on the Protection of the Underwater Heritage: Though not yet ratified, Ireland would work closely with other nations in regard to their particular legislation that may have relevance to wrecks within the territorial waters of Ireland. To this end, and bearing in mind for example, the UK Legislation on War Grave Wrecks, any proposed offshore works that would have the potential to impact negatively on wrecks from either of the World Wars, including wrecks associated with war events such as ocean liners, would be considered for protection on an individual basis. It would be advised that any contractor or developer contact the UAU as early as possible where such a wreck has been identified in order to prevent any delays down the line.

The requirements for an underwater archaeological impact assessment in advance of any works taking place should take the following format:

Underwater Archaeological Impact Assessment(s) for +40m offshore exploration should be compiled as follows :

1. The Contractor/Developer undertaking the Environmental Impact Assessment or any exploratory work for offshore oil or gas exploration shall be required to engage the services of a suitably qualified archaeologist to carry out an underwater archaeological assessment of the areas to be impacted.
2. The archaeologist should carry out any relevant documentary research including consulting with the Shipwreck Archive held by the UAU in the Department of Environment, Heritage and Local Government, GSI data, local sources and Topographical Files held in the National Museum of Ireland.
3. Geophysical survey undertaken to the specifications for archaeological investigations (please see attached below) should be carried out for all areas to be impacted and the results interpreted by a suitably qualified archaeo-geophysicist. If such survey have previously been undertaken then results from these can be looked at, as they may be suitable for archaeological consideration. However, if results are not suitable, then geophysical survey undertaken for archaeological assessment may have to be carried out independently.
4. All identified anomalies should be archaeologically diver-truthed up to a depth of 50m if conditions allow, with hand-held metal detection survey. Otherwise, and in prior consultation with the UAU, ROV survey, with agreed locational ability, can be considered for deeper anomalies identified.
5. The surveys should be licensed under the National Monuments Acts 1930-2004 and it is advised that all diving, if undertaken, be done to the Health and Safety Authority's Safety in Industry (Diving Operations) Regulations 1981, SI422.
6. Results from all other investigations (grab samples, coring, etc.) or surveys (ROV, etc) should be made available to the archaeologist for consideration and inclusion in the assessment report.
7. Having completed the work, the archaeologist should submit a written report to the UAU or the full assessment results should be included as part of the EIS. The report should put forward definitive recommendations to mitigate against impacts on identified or potential archaeological remains.
8. Upon consideration of the results of the archaeological assessment and where archaeological material/features are shown to be present, preservation *in situ*/avoidance, preservation by record (excavation) or archaeological monitoring of the exploration works may be required.

Generic requirements for inshore works (and for future SEA document) which would form part of the overall assessment, particularly for any EIS.

Underwater Archaeological Impact Assessment(s) for -40m inshore exploration/landfall works should be compiled as follows :

1. The Contractor/Developer undertaking the Environmental Impact Assessment or any exploratory work for oil or gas exploration that is due to have a landfall requirement shall be required to engage the services of a suitably qualified archaeologist to carry out an underwater archaeological assessment of the areas to be impacted.
2. The archaeologist should carry out any relevant documentary research including consulting with the Shipwreck Archive and/or Ports and Harbours Archive held by the UAU in the Department of Environment, Heritage and Local Government, GSI data, local sources and Topographical Files held in the National Museum of Ireland.
9. Geophysical survey should be undertaken for any pipeline landing to the specifications for archaeological investigations (please see attached below) and the results interpreted by a suitably qualified archaeo-geophysicist. If such survey have previously been undertaken then results from these can be looked at, as they may be suitable for archaeological consideration. However, if results are not suitable, then geophysical survey undertaken for archaeological assessment may have to be carried out independently.
3. An intertidal/foreshore survey should be undertaken of all areas to be impacted by the proposed landfall works for the exploration. This should include all proposed impacts from construction traffic, works compounds, construction plant, etc.
4. All identified anomalies should be archaeologically diver-trueed with hand-held metal detection survey.
5. The surveys should be licensed under the National Monuments Acts 1930-2004 and it is advised that all diving be undertaken to the Health and Safety Authority's Safety in Industry (Diving Operations) Regulations 1981, SI422.
6. Results from all other investigations (grab samples, coring, etc.) or surveys (ROV, etc) should be made available to the archaeologist for consideration and inclusion in the assessment report.
7. Having completed the work, the archaeologist should submit a written report to the UAU or such a report should be included as part of the EIS. The report should put forward definitive recommendations to mitigate against impacts on identified or potential archaeological remains.
8. Where archaeological material/features are shown to be present, preservation *in situ*, preservation by record (excavation) or archaeological monitoring of the exploration works may be required.

Contact details:

It is noted from your Rules and Procedures Document that contact details for this Department are given as the Development Applications Unit in Ely Place. This information is now out of date.

The following are the present up to date contact details:

For all proposed oil or gas exploration applications please contact:

Mr. Noel Sheahan,
Development Applications Unit,
Dept. of Environment, Heritage & Local Govt.
Floor 4,
Dún Scéine,
Harcourt Lane, Dublin 2
Ph. 01-8883181. Email: noel_sheahan@environ.ie

For all discoveries of wrecks or enquiries as to archaeological mitigation for surveys/developments please contact:

Ms. Connie Kelleher,
Underwater Archaeology Unit,
Dept. of Environment, Heritage & Local Govt.,
Floor 2,
4 -5 Harcourt Road, Dublin 2.
Phone: 01-4189788; 087-2333859
Email: connie.kelleher@environ.ie

Please do not hesitate to contact me should you have any further queries.

Is mise le meas,

Connie Kelleher
Underwater Archaeology Unit
4th May 2006

Draft requirements for a geophysical survey for archaeological purposes:
The Underwater Archaeology Unit, Department of the Environment,
Heritage and Local Government

General:

Geophysical survey is usually required as part of an underwater archaeological assessment. The results of the geophysical survey should therefore form part of the overall archaeological assessment report.

This report should comprise of the following:

- Introduction/Summary of requirement for survey and brief background to proposed work/development including who is undertaking the proposed works and any reference numbers, detection device licence numbers, date of report, etc.
- Details of equipment and personnel used, including qualifications.
- Details of survey methodology.
- Site location map showing proposed development/works.
- Survey grid superimposed on location map.
- Impact Statement detailing the possible impact of the proposed works on known or potential underwater archaeology.
- Historical and Archaeological section detailing background to area to be impacted. This should include (where relevant) consultation with the National Shipwreck Inventory for the area, Ports and Harbours Archive and Record of Monuments and Places, all held by the National Monuments Service of the Department of the Environment, Heritage and Local Government; Topographical Files of the National Museum of Ireland; Local sources and printed material such as books on shipwrecks, local journals and histories, etc.
- Track plots of the geophysical survey over the survey area.
- Raw geophysical data on CD to be included at end of report with details of software used.
- List of any anomalies identified and images of the anomalies with positions.
- Recommendations as to further archaeological mitigation requirements for the proposed works.

- Section 2(2) of the 1987 (Amend.) National Monuments Act states that it is prohibited to use without the consent of the Minister for Department of the Environment, Heritage and Local Government any detection devices in any place *'for the purpose of searching for archaeological objects'*. It is therefore necessary for any geophysical survey to be licenced by the National Monuments Service of the Department of the Environment, Heritage and Local Government. Application forms are available from the licensing section of the Department of the Environment, Heritage and Local Government, Dún Scéine, Harcourt Lane, Dublin 2.

- It should be noted that all sites should be dealt with on an individual basis. As such, each site will have its own specific requirements. Therefore a method statement should be attached to the application when applying for the survey licence. A copy of this method statement should also be forwarded to the

office of the Underwater Archaeology Unit, Floor 2, 4-5 Harcourt Road, Dublin 2 so that the proposed methods are in line with the necessary requirements.

Specifications for geophysical survey undertaken for archaeological purposes:

Side-scan sonar:

- For archaeological purposes the side-scan sonar should have an operational frequency of 410/500 khz.
- Side-scan should be set at 50m survey line spacing
- If this is narrower then it should be corrected
- This should not be slant-range corrected
- There should be 100% coverage of sites and therefore overlap of areas may be required.

Magnetometer:

- A magnetometer should always be used in tandem with side-scan sonar
- Proton or caesium magnetometer should be used with 50m side spacing
- This should be used with DGPS

Sub-bottom profiler (optional):

- If using a sub-bottom profiler then the Chirp system is the preferred one as this gives the best resolution
- This should be used in conjunction with DGPS

General:

- Co-ordinates should preferably be given in National Grid references but supported by latitude and longitude
- Track plots should also be recorded and included in the archaeological assessment report
- Track plots should be superimposed onto a locational chart
- All geophysical survey should be carried out by suitably qualified personnel. Preferably they should also have underwater archaeological experience. If this is not possible then the results must be viewed and interpreted by a qualified archaeo-geophysicist, details of whom should be included with the method statement accompanying the Detection Device licence application.
- A copy of the original Raw data/traces as well as the interpreted results of the geophysics should be sent to the Underwater Archaeology Unit of Department of the Environment, Heritage and Local Government or should be included with the Underwater Archaeological Assessment Report. Further archaeological mitigation may be required once the data has been reviewed.