
Falkland Islands Government
Department of Mineral Resources



Petroleum Operations Notice 3
Notification of Geophysical Surveys Form

Revised April 2016

Operator Information

| | |
|---|--|
| Operator | |
| Primary Contact Name | |
| Primary Contact Position | |
| Primary Contact Address | |
| Primary Contact Telephone Number | |
| Primary Contact Email Address | |
| Name of Falkland Islands representative | |
| Falkland Islands telephone number | |

Survey Contractor Information

| | |
|------------------------------------|--|
| Survey Contractor | |
| Contact Name for Survey Contractor | |
| Position in Company | |
| Address of Survey Contractor | |
| Telephone Number | |
| Email Address | |

Purpose of Application

| | |
|---|--|
| Please indicate the purpose of this application | |
|---|--|

Exploration/Survey/Licence Number(s)

| | |
|------------------------------------|--|
| Operators Production Licence No | |
| Survey Reference No | |
| Contractors Exploration Licence No | |

Nature of Survey

| | |
|--|--|
| Please indicate the nature of the survey | |
|--|--|

Other survey methods to be employed that do not require consent

| | |
|--|--|
| Please indicate any other survey methods to be employed that do not require consent | |
| Please confirm the survey methods and provide a brief description of survey equipment and survey programme | |

Survey Description

The Falkland Islands do not require a full Environmental Impact Assessment (EIA) for acoustic surveys. However, any survey that may have a significant impact on the marine environment, protected habitats, or species, or other users of the sea must be considered following the JNCC Guidelines http://www.jncc.gov.uk/marine/seismic_survey/acousticdisturbance.htm

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| Please provide a brief description of the proposed survey, the survey equipment, the survey programme and the survey area | |
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Survey Vessels

| | |
|---|----------------|
| If the proposed survey programme involves the use of survey vessels, please provide details for each vessel | |
| Number of vessels involved: | |
| Vessel identification | Vessel Details |

Survey Name or Identifier

| | |
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| What is the survey name or identifier (e.g. name of well, field, quadrant or block, geographical area, and/or type of survey) | |
|---|--|

Areal Extent of Proposed Survey Programme

| | |
|---|--|
| What is the areal extent of the proposed survey programme | |
|---|--|

Commencement and Completion Dates

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| What is the earliest commencement date for the proposed survey programme? | |
| What is the latest completion date for the proposed survey programme? | |

Estimated Number of Working Days

| | |
|--|--|
| How many working days do you estimate will be spent in the survey programme? | |
|--|--|

Survey Area

| | | | | |
|---|---------------|---------------|---------------|--|
| Please confirm the survey area, the quadrant and block(s) covered by the survey and the location of boundary coordinates of the survey area | | | | |
| Survey Area (km ²) | | | | |
| Quadrant/Block numbers | | | | |
| Quadrant | Block | | Suffix | |
| Datum | | | | |
| Coordinates | | | | |
| | Degree | Minute | Second | |
| Latitude | | | | |
| Longitude | | | | |

Greater Work Area

| | | | | |
|--|---------------|---------------|---------------|--|
| Is there a greater work area (including line turns) that is larger than the survey area? | | | | |
| Please confirm the greater work area, any additional quadrant and block (s) covered by the greater work area and the boundary coordinates of the greater work area | | | | |
| Greater work Area (km ²) | | | | |
| Quadrant/Block numbers | | | | |
| Quadrant | Block | | Suffix | |
| Datum | | | | |
| Coordinates | | | | |
| | Degree | Minute | Second | |
| Latitude | | | | |
| Longitude | | | | |

Coastline and Median Line

| | |
|--|--|
| Please confirm the minimum distance to, and identity of, the nearest Falklands coastline, and the minimum distance to, and identity of, the nearest median line | |
| Nearest Coastline Distance (km) | |
| Which Coastline | |
| Nearest Median Line Distance (km) | |
| Which Median Line | |

Survey maps

Please attach a map, or maps, showing the survey location or area, and, if appropriate, the greater work area and the survey sail (transect) line

| File name | Description |
|-----------|-------------|
|-----------|-------------|

Seismic Surveys

If you intend to carry out a seismic survey, please provide the following information

| | |
|---|--|
| Energy Source type | |
| Maximum Energy Source Volume (cu in) | |
| Sound Exposure level (SEL) @ 1 metre measured over frequency band 10Hz to 10kHz (dB re: 1 μ Pa ² -s) | |
| Sound Pressure Level (SPL) @ 1 metre measured over frequency band 10Hz to 10kHz (dB re: 1 μ Papeak (flat)) | |
| If the peak energy is in the range of 10Hz to 10kHz please confirm the Peak Energy Frequencies (Hz/kHz) | |
| Shot interval (secs) | |
| Number of cables, if appropriate | |
| Length of towed equipment, if appropriate, including tall-buoys (m) | |
| Width of towed equipment, if appropriate | |
| Depth of towed equipment, if appropriate | |

Survey Speed, Sail Line Spacing, Line Turns and Turn Duration

Please confirm the survey speed and, if appropriate, the sail (transect) line spacing, the estimated number of line turns and the estimated duration of the line turns (please leave blank if not applicable)

| | |
|--|--|
| Survey Speed (knots) | |
| Sail Line Spacing | |
| Estimated Number of Turns | |
| Estimated Duration of Line Turns (minutes) | |

Duration of Acoustic Activity

Please confirm the estimated number of survey days per block per month (part days should be counted as one day)

| | | | | | | | | | |
|----------|--|-----|--|-----|--|-----|--|-----|--|
| Quadrant | | Jan | | Feb | | Mar | | Apr | |
| Block | | May | | Jun | | Jul | | Aug | |
| Suffix | | Sep | | Oct | | Nov | | Dec | |

Sub-bottom Profiler Surveys

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| <i>If you intend to carry out a sub-bottom profiler survey, please provide the following information</i> | |
| Sound Exposure Level (SEL) @ 1 metre measured over frequency band 10Hz to 10kHz (dB re: 1 μ Pa ² -s) | |
| Sound Pressure Level (SPL) @ 1 metre measured over frequency band 10Hz to 10kHz (dB re: 1 μ Pa _{peak} (flat)) | |
| If the peak energy is in the range of 10Hz to 10kHz please confirm the Peak Energy Frequencies (Hz/kHz) | |
| Sound interval (secs) | |

Survey Speed, Sail Line Spacing, Line Turns and Turn Duration

| | |
|--|--|
| <i>Please confirm the survey speed and, if appropriate, the sail (transect) line spacing, the estimated number of line turns and the estimated duration of the line turns (please leave blank if not applicable)</i> | |
| Survey Speed (knots) | |
| Sail Line Spacing | |
| Estimated Number of Turns | |
| Estimated Duration of Line Turns (minutes) | |

Duration of Acoustic Activity

| | | | | | | | | | |
|--|--|-----|--|-----|--|-----|--|-----|--|
| <i>Please confirm the estimated number of survey days per block per month (part days should be counted as one day)</i> | | | | | | | | | |
| Quadrant | | Jan | | Feb | | Mar | | Apr | |
| Block | | May | | Jun | | Jul | | Aug | |
| Suffix | | Sep | | Oct | | Nov | | Dec | |

Arrangements for Marine Mammal Observers (MMOs)

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|--|--|
| Have you made arrangements for Marine Mammal Observers (MMOs)? | |
|--|--|

Arrangements for Passive Acoustic Monitoring (PAM)

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|---|--|
| Have you made arrangements for Passive Acoustic Monitoring (PAM)? | |
|---|--|

Arrangements for Fisheries Liaison

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|---|--|
| Have you made arrangements for Fisheries Liaison? | |
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Additional Requirements

1. The Operator must advise the Director of Mineral Resources of his intention to conduct the survey, completing the above form, at least 30 days in advance of the start of operations.
2. The Contractor must read and comply with Additional Conditions included in Production Licences as Schedules 6 (Schedule 7 in Open Door Licences) Section B4, A copy of which is attached to this notice.
3. The Contractor must also comply with the notice “Restrictions to Seismic Surveys in Falklands Waters” (Schedule 8 in Open Door Licences), a copy of which is attached.
4. The Operator must submit a plan of the proposed survey grid at an appropriate scale indicating preliminary line numbers and any turning areas outside the Operators licensed acreage. If shooting is proposed in adjacent acreage licensed by another Operator proof must be furnished that the licensee has given permission for any survey work over his acreage.
5. The Operator and Contractor should note that they may be required by the Falkland Islands Director of Fisheries to carry a Fisheries Observer.
6. The Contractor shall provide a weekly report of survey progress to the Director of Mineral Resources. This report should be submitted to the Department of Mineral Resources by 12.00 hours local time each Monday of the Survey.
7. The Contractor must report the completion of the Survey to the Director of Mineral Resources within 24 hours of the end of the work programme.
8. Within 30 days at the end of the Survey the Operator must provide the Director of Mineral Resources with a full report of the survey including a final shot point map at an appropriate scale and projection. The Director of Mineral Resources also requires copies of the ship’s bridge and survey logs at the same time.
9. The Contractor must immediately report any incident involving another vessel or submerged object to the Director of Mineral Resources. He must also report any significant damage to, or the loss of, any gear.

For and on behalf (insert name of Operator)

Signed

Status

Date

Department of Mineral Resources

Ross Road

Stanley, Falkland Islands FIQQ IZZ

Tel: # 500 27322

Fax: # 500 27321

E-mail reporting@mineralresources.gov.fk

Additional Conditions

Schedule 6/7 Section B4.

The Licensees shall in conducting seismic exploration operations and other operations under the licence:

- 1) not deliberately kill or injure any cetacean (otherwise than for the purpose of relieving suffering) such being prohibited by the Marine Mammals Ordinance 1992;
- 2) take all reasonable practicable steps to avoid any accidental killing, injury or disturbance (including in particular acoustic disturbance) of cetaceans and fishing (including squid);
- 3) Take into account:
 - a) that even when quite close to vessels, cetaceans are often difficult to detect and allow adequate times for sightings to be made once vessels have arrived in an area where seismic surveying is to take place;
 - b) that some species of cetaceans may be attracted to a vessel from some distance away, for example by engine noise any may accompany a vessel for some distance and even bow-ride if the vessel is fast-moving, that the arrays of hydrophones towed by survey vessels may attract dolphins and that they are naturally inquisitive any may be attracted to areas where human activity is about to take place;
 - c) that cetaceans if disturbed may alter their heading rapidly and are capable of brief bursts of swimming at a speed of up to 30 knots and a sustained speed of 8 knots;
- 4) Use hydrophones whenever possible to detect animals that may be invisible from the surface (cetaceans communicate with each other using whistles, creaks, chirps and moans which may be heard over considerable distances and trains of clicks are used by them for echolocation and whilst foraging and can be heard with a hydrophone at a distance of several miles).
- 5) Before any survey line is started make a careful visual check whether there are any cetaceans within 500 metres and, if there are, delay the start of the line until they have moved away.
- 6) Where equipment allows a build up of power slowly from a low energy start-up to give cetaceans adequate time to leave the vicinity and throughout the survey use the lowest practicable energy levels.

Further information on minimising acoustic disturbance to marine mammals can be found on JNCC's notice available on website:-

http://www.jncc.gov.uk/marine/seismic_survey/acousticdisturbance.htm

SCHEDULE 8 Restrictions to Seismic Surveys in Falkland Waters

The following restrictions apply to seismic surveys unless prior approval has been obtained from the Director of Natural Resources (Previously Fisheries):

- 1) No seismic surveying within 12 miles of coasts.

If, however, there is an overwhelming requirement to conduct seismic within 12 miles of coasts, requests will be considered on a case by case basis. The same will apply to any tie lines, which extend beyond the boundaries of allocated tranche(s).

- 2) *Loligo* squid move offshore in January and remain in offshore feeding grounds until October. In view of this, seismic surveys in those areas of Quadrants 59, 60, 61, 51 and 40, which lie to the north of 53° 15'S and where the water depth is less than 400m, should ideally take place between mid-October and mid-January. Applications to conduct seismic surveys in these areas outside this period will be considered on a case by case basis, but approval is only likely to be given in exceptional circumstances.
- 3) A large fishery for *Illex* squid takes place in the north-western sector of Falkland waters during February – June. As a consequence, seismic surveys of those parts of Falkland Waters, which lie north of 52°S, west of 58°S and where the water depth is less than 200m, are likely to face restrictions during this period. Such restrictions will not apply during the seven-month period from July to January.

Further details concerning these restrictions can be obtained from Mr John Barton, Director of Natural Resources, Stanley, Falkland Islands on telephone +500 27260, fax +500 27265 or e-mail: director@fisheries.gov.fk