

## **Letter of Authorization Application – Addendum to G&G Permit Application**

**Short Form** – Assumes proprietary materials of BOEM G&G application are provided to NMFS

### **A. Type of Survey:**

Please indicate which type of survey will be used in the proposed activity

**Deep Penetration Seismic (greater than 1,500 in<sup>3</sup> total airgun array volume)**

- 2D Seismic-towed Streamer
- 2D Seismic-Sea-floor Cable or Nodes
- 3D Seismic-towed Streamer
- 3D Seismic-Sea-floor Cable or Nodes
- NAZ
- WAZ
- 4D (Time Lapse)
- Vertical Cable
- Borehole Seismic (VSP)

**Shallow Penetration Seismic (less than 1,500 in<sup>3</sup> total airgun array volume)**

- Surface Vessel
- Surface Vessel and AUV/ROV
- Borehole Seismic (VSP)

**HRG Surveys (no airguns used)**

- Surface vessel
- AUV/ROV
- Both

**Other**

Describe (if Other):

**B. Survey Area and Operational Plan:**

<b>Question:</b>	<b>Response</b>
<b>Overall Duration of the Activity (days):</b>	40 days
<b>Areal extent of the survey area:</b> (in OCS lease blocks or km <sup>2</sup> ) (Attach GIS file(s) of survey lines and/or survey area perimeter)	Portions of Green Canyon blocks = 395.5mi <sup>2</sup> /1,024 km <sup>2</sup>
<b>G&amp;G ITR/PEIS Modeling Zone(s) in which the activity will occur (1-7):</b>	Zone 5
<b>Number of days during the overall activity period on which the sound source(s) listed in Section C will operate:</b> (If the activity will occur in more than one Modeling Zone, provide the number of operating days within each modeling zone.)	40 days of active source operations, planned for Q1 2024. Desired effective dates February 1, 2024-April 30, 2024. For analysis purposes, all 40 days have been calculated under the “winter” schedule.

**C. Sound Sources:**

- List the same sound sources provided in response to question #3 in “Section D Proprietary Information Attachment” to the G&G Permit Application and indicate their Duration of Use.

<b>Energy Source</b>	<b>Manufacturer &amp; Model</b>	<b>Duration of Use</b> (Number of Days or Percent of Active Sound Source Days)
Air Gun	Bolt Technology Long Life	40 days active sourcing
Pressure Inverted Echo Sounder (PIES)	Sonardyne 8036	Deployment to be less than the 40 days max stated above for air gun array

## D. Take Estimate:

Parameters	
Survey Type	COIL
Zone Number	5

Schedule	
Season	# days
Summer	0
Winter	40

Exposures by Metric			
	Summer	Winter	Total
<b>Level A</b>			
<b>Low-Frequency Hearing Group</b>			
Bryde's whale	< 0.01	0.40	0.40
<b>High-Frequency Hearing Group</b>			
Kogia (dwarf, pygmy sperm whale)	< 0.01	21.04	21.04
<b>Level B</b>			
<b>Low-Frequency Hearing Group</b>			
Bryde's whale	< 0.01	17.26	17.26
<b>Mid-Frequency Functional Hearing Group</b>			
Beaked whales (Cuvier/Blainville/Gervais)	< 0.01	4,643.68	4,643.68
Bottlenose dolphin	< 0.01	3,783.23	3,783.23
Short-finned pilot whale	< 0.01	426.99	426.99
Sperm whale	< 0.01	1,042.61	1,042.61
Atlantic spotted dolphin	< 0.01	1,511.17	1,511.17
Clymene dolphin	< 0.01	2,246.77	2,246.77
False killer whale	< 0.01	552.69	552.69
Fraser's dolphin	< 0.01	252.31	252.31
Killer whale	< 0.01	14.88	14.88
Melon-headed whale	< 0.01	1,476.15	1,476.15
Pantropical spotted dolphin	< 0.01	10,195.62	10,195.62
Pygmy killer whale	< 0.01	347.40	347.40
Risso's dolphin	< 0.01	660.12	660.12
Rough-toothed dolphin	< 0.01	798.44	798.44
Spinner dolphin	< 0.01	2,731.95	2,731.95
Striped dolphin	< 0.01	877.53	877.53
<b>High-Frequency Hearing Group</b>			
Kogia (dwarf, pygmy sperm whale)	< 0.01	376.61	376.61

Level A Color Legend:	
	Level A SEL
	Level A Peak

\*If no color highlight, both level A peak and SEL are <0.01

Total take, including Level B Scaling (where appropriate)		
Summer	Winter	Total
< 0.01	3.65953778	3.66
< 0.01	469.01	469.01
< 0.01	1085.79	1085.79
< 0.01	125.96	125.96
< 0.01	441.02	441.02
< 0.01	433.71	433.71
< 0.01	644.82	644.82
< 0.01	163.04	163.04
< 0.01	72.41	72.41
< 0.01	4.39	4.39
< 0.01	435.47	435.47
< 0.01	2926.14	2926.14
< 0.01	102.48	102.48
< 0.01	194.74	194.74
< 0.01	229.15	229.15
< 0.01	784.07	784.07
< 0.01	251.85	251.85
< 0.01	141.93	141.93

**E. Mitigation and Monitoring Efforts:**

<b>Question:</b>	<b>Response:</b>
Please indicate which set of monitoring and mitigation measures from the ITR apply to the planned activity:	All mitigation and monitoring methods specified in the ITR for arrays >1500 in <sup>3</sup> will be applied to the planned activity.
Confirm that you will apply this set of monitoring and mitigation measures during the activity:	Yes

## F. Map of Survey Area and Transit Route:

