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5th January 2018

TO: **Director-General**
Department of Mineral Resource
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Director: Legal Services
Attention: Mr Pieter Alberts (Pieter.Alberts@dmr.gov.za)

COPIED TO: **Appeals & Legal Review**
Department of Environmental Affairs,
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Chief Executive Officer
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Attention: Chief Executive Officer (plu@petroleumagencysa.com)
CC: Ms Lindiwe Mekwe (mekwel@petroleumagencysa.com)

Dear Sir,

RE: Petroleum Geo-Services ("PGS"): Speculative 2D And 3D Seismic Surveys Off The South And East Coasts of South Africa: Notification of EMP Approval and Commencement of a 2D and 3D Seismic Survey Programme off the South and East Coasts of South Africa
(SLR Project Ref: 720.16030.00003).

This letter serves as an appeal against the decision to grant the Reconnaissance Permit to the speculative two-dimensional (2D) seismic and three-dimensional (3D) seismic survey by Petroleum Geo-Services (PASA Ref: 12/1/028) off the Southern and Eastern coasts of South Africa in the area situated approximately 15 km offshore roughly between Mossel Bay and Port Edward.

The aforesaid permit was awarded despite objections and concerns raised by government departments, NGO's and members of the public. Furthermore, a petition to the Minister of Environmental Affairs in respect of this issue has not yet been sufficiently addressed.

It is my understanding that PASA advised PGS that their Reconnaissance Permit in respect of the aforesaid activities was awarded in or about the middle of December 2017 after approval by the Department of Mineral Resources. I am unable to state precisely when such authorisation was granted as no formal document from PASA has been or could be provided by the SLR Consulting (South Africa) (Pty Ltd) (SLR), the company appointed to compile an Environmental Management Programme (EMP).

According to correspondence received from SLR Consulting, the seismic survey programme will commence on 15 January 2018.

I request that the decision to award the reconnaissance permit be reconsidered and set aside and that the seismic activity be suspended pending the completion of the appeal process/procedure.

It is my contention that the awarding of the permit as aforesaid is premature, regard being had to the fact that the usual more stringent requirements provided for in NEMA, read with the EIA Regulations, particularly those such as scoping and environmental impact reporting, are not required for such an authorisation.

The petition to the Minister referred to above, addresses the issue of there being no legislative oversight for seismic activities since oil reconnaissance and other activities relating to mineral exploration are no longer included in the list of activities in the schedules to the Environmental Impact Assessment regulations.

The repeal of sections 38 and 39 of the Minerals and Petroleum Resources Development Act (Act 28 of 2002) is furthermore of great concern.

For the Minister of Mineral Resources to authorise seismic applications that no longer require Environmental Impact Assessments is contrary to the provisions of the National Environmental Management Act and the provisions of the Constitution. Until environmental impact assessments work within the 'One Environmental System' and the requisite principle of prohibition against harm is applied, the process of seismic surveying along the South African coastline should be resisted.

As a result of the current lack of legislative protection, a seismic survey had previously been extended, without consultation, well into the whale migratory season of 2016. I refer to the survey undertaken by Schlumberger, where notification of the authorisation by PASA was communicated to Interested and Affected Parties on 18 January 2016 by Environmental Resource Management (ERM); Ref: 0314048.

The effects of this seismic activity included, *inter alia*,

- the first recorded mass stranding of pilot whales which took place within the iSimangaliso Wetland Park;
- a case of barotrauma in a Trues Beaked Whale;
- a number of unusual and unprecedented strandings of whales and dolphins;
- the highest number of whale strandings in the history of the east coast of South Africa ever has been recorded, during 2016[1].

The provisions of NEMA, and of the Constitution, demands a critical and more thorough review of any suspected risk by all relevant governmental departments and organisations.

It appears that marine seismic surveys are allowed to be conducted in South Africa as there is an assumption is that impacted species will move away from the sound source[2]. This is not correct as recent studies disprove this assumption[3] and reveal a growing concern for those animals that are unable to avoid the airgun arrays:

- *In 2017, McCauley et al., showed that marine seismic survey air gun operations can kill large swathes of plankton, the basis of the marine food chain, up to 1.2km from the sound source. Within the study area, zooplankton abundance dropped by two-thirds. Furthermore, all larval krill, the primary food source of whales, were killed. Considering the enormity of the PGS survey area (227 584 km^2), the Agulhas current which can move at meters per second, and the increase in biomass distribution in this area, it would therefore be prudent that up-to-date and evidence based science be considered. The EMP's final Potential Impact Assessment ignored these recent studies brought to their attention by objections and have not urged an increase in risk reduction.*

- *Turtle hatchlings will be swimming in the same current and area in which PGS intends operating from January until early April. This is 4 months of the projected 6 months of the PGS survey, with a high likelihood of encounter especially considering surveys in the western-most 3D target area and the 2D survey target lines located between Port Elizabeth and KwaZulu-Natal will be undertaken between January and May. Baby turtles are entirely at the mercy of ocean currents and cannot evade sounds at*

levels which may cause injury, nor can they avoid these huge airgun arrays travelling at 4 – 6 knots. Given this survey begins during turtle hatching season reveals once again the need for an independent EIA process.

It cannot be disputed that South Africa's marine resources are not infinite and have, in fact, become increasingly threatened. Existing renewable ocean resources are collapsing and there has never been an effective mechanical recovery of a large marine oil spill[4].

It is imperative that there be concerted efforts by the State and those departments tasked with the protection of the environment to prevent any further loss of South Africa's fish and marine life biodiversity. President Jacob Zuma, himself reiterated that "fish resources are becoming more limited and are also being exploited to the maximum"[5]. This should involve a particular scrutiny of the apparent partisan/insular objective of oil and gas development at a time when there is a global divestment[6] from the oil and gas industry and pursuit of renewable energy.

The proposed 2D and 3D seismic surveys to be conducted in this case have the potential to exert significant deleterious effects - both in the short term and in the long term (see Madsen et al., 2006) - on the physical health, behaviour, distribution, communication, feeding, and social dynamics of marine mammals, particularly cetaceans. There is extensive scientific literature documenting the effects of underwater noise, including oil exploration seismic arrays, on marine organisms, in particular marine mammals[7,8,9,10,11,12,13].

These effects can include hearing loss (temporary or permanent), masking of communication, physiological stress, acoustic resonance in air cavities, organ rupture, behavioural responses, avoidance of critical habitat areas, decompression sickness, and mass strandings[14,15].

Effects of air gun pulses on fish includes:

- serious injury at short ranges, where seismic noise has deafened fish with no recovery after 58 days[16];
- massive hearing trauma in four squid species[17];
- increased stress signals[18,19,20,21];
- disruption in schooling and migration[22];
- disruption of homing or orientation[23];
- decreased feeding efficiency[24]; and
- reduced catch rates of 40-80% in areas more than 30 km from seismic surveys[25,26,27].

It appears that there is support by the State for seismic survey activities to take place on an annual basis, creating chronic underwater noise pollution in the oceans for months at a time. Stress in marine mammals related to anthropogenic noise exposure has been conclusively proven, and prolonged exposure to noise stressors is known to cause significant impacts to marine mammals (Wright et al., 2007).

For all the above reasons, it is my contention that there is a tangible need for responsible practice guidelines to be developed for marine surveys in South African waters prior to the grant of permits or authorisation for any kind of activity that will have an impact on marine life. There should be a shift towards a wider and more holistic management of authorisations that begins earlier in the process of the granting of permits and one which is based on effective reduction of noise and other pollution in any marine habitat.

In 2012, the Endangered Wildlife Trust, in its Research & Technical Paper No. 1, suggested that the South African Government generates a White Paper for effective management of ocean noise pollution. It recommended that the paper should list all resolutions and mitigation measures regarding ocean noise pollution and that a local dedicated organization should be established that aims to achieve the resolutions stipulated in the ocean noise White Paper and to communicate with international organizations to contribute to the establishment of a global approach for effective management of ocean noise pollution.

The above recommendations should be applied as a matter of urgency.

The reality is that ocean health is grounded in, and conditioned by, our relationship to it. The objections to the survey that forms the subject matter of this appeal cite large-scale environmental harm.

It can no longer be disputed that the pursuit of non-renewable fossil fuel by way of seismic surveys produces chronic acoustic disturbance of marine ecosystems and potential loss of biological diversity. These effects can certainly be minimised and remedied by precautionary assumptions about sound propagation and the auditory sensitivity, behavior, and vulnerabilities of marine animals.

It goes without saying that ecological degradation can be avoided altogether by a national commitment to the Paris Agreement - in which South Africa agreed to a reduction in carbon emissions and a pursuit renewable energy - guided by existing climate change policies.

For all the above reasons, I reiterate my request that the decision to grant the permit referred to above be reconsidered and set aside.

I look forward to your most urgent response.

Yours faithfully,

Janet Solomon

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