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IN THE INTERNATIONAL COURT OF JUSTICE
AT THE PEACE PALACE, THE HAGUE, NETHERLANDS

Case Concerning Beaked Whales and Marine Seismic Surveys

The Kingdom of Aduncus,

Applicant

v.

The Republic of Mersenne,

Respondent

Fall Term 2009

Memorial for the Respondent

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STATEMENT OF JURISDICTION

On June 16, 2009, the Republic of Mersenne and the Kingdom of Aduncus submitted the following dispute to the Court by special agreement, in accordance with Article 40, paragraph 1, of the Statute of the International Court of Justice. Statute of the International Court of Justice, Art. 40(1), T.S. No. 993 (1945). Both parties have agreed not to contest the jurisdiction of the Court in their written pleadings or oral arguments. (R. ¶4). The Registrar of the Court acknowledged receipt of the parties' agreement on June 30, 2009. (R. ¶2). This Court's jurisdiction is proper under Article 36, paragraph 1 of the Statute of the International Court of Justice, which authorizes the Court to hear "all cases which the parties refer to it." Statute of the International Court of Justice, Art. 36(1), T.S. No. 993 (1945).

QUESTIONS PRESENTED

I. Whether the Republic of Mersenne properly interpreted its obligations under international law when it chose not to prepare an Environmental Impact Assessment with respect to the Mersenne Electric Company's (MECO's) use of seismic survey equipment within Mersenne's exclusive economic zone (EEZ), in the absence of clear evidence linking seismic surveys to adverse impacts on beaked whales.

II. Whether Mersenne's efforts to locate and develop natural resources within its EEZ through the use of seismic surveys is consistent with its rights and obligations under international law given Mersenne's current energy crisis and MECO's adoption of mitigation techniques.

STATEMENT OF FACTS

The Republic of Mersenne (Mersenne) and the Kingdom of Aduncus (Aduncus) are neighboring coastal states bordering on the Sedna Sea. (R. ¶1). Mersenne is a newly industrialized nation with a population of approximately 22 million people. (R. ¶3). Aduncus, which lies directly to the North of Mersenne, is a small, developing nation with a population of approximately 240,000 people. (R. ¶2).

Late in 2007, after nearly five years of robust economic growth, Mersenne faced an electricity crisis. MECO, the state-owned power company, was unable to import sufficient oil and natural gas to meet the country's energy needs. The situation was exacerbated by the global financial crisis. By 2009 Mersenne's unemployment rate reached 23%. (R. ¶3).

In mid-December of 2007, Mersenne responded to these pressures by authorizing MECO to conduct seismic surveys in its northern EEZ, roughly 250 nautical miles from Aduncus's EEZ and the Marine Protected Area (MPA) located therein. (R. ¶¶4, 17). Seismic surveys employ sound to detect oil and natural gas reserves below the ocean floor. (R. ¶14). MECO employs two mid-sized survey vessels equipped with a 20-airgun array. (R. ¶17).

In July 2008, the environmental NGO Bluewatch released a report (contested by Mersenne) indicating that beaked whales were avoiding areas where MECO was operating. (R. ¶18). Shortly thereafter, Aduncus contacted Mersenne with concerns about the environmental effects of MECO's activities. (R. ¶19). Some marine mammals, including beaked whales, may be adversely affected by sound. Whether a particular sound will affect a particular animal depends on many factors, including the source, quality, and intensity of the sound and the hearing capabilities of the animal. (R. ¶¶15-16).

Aduncus asserted that Mersenne was obligated to conduct an environmental impact assessment (EIA) of MECO's survey activities. (R. ¶¶19, 21). Mersenne responded that MECO's exploratory activities were not a covered by the Convention on Environmental Impact Assessment in a Transboundary Context (Espoo). Mersenne further noted that since April of 2008, MECO had used a 'soft-start' procedure—slowly ramping up the intensity of its airguns over a period of 20 to 40 minutes. Mersenne asserted that this measure reduced any potential risks to whales below the "significant" level. (R ¶¶20, 22).

On January 15, 2009, twelve beaked whales beached themselves on Mersenne's shoreline, approximately 20 kilometers south of Aduncus's border. The cause of death was not determined. (R. ¶24). Aduncus alleged a connection between MECO's activities and the stranding, and accused Mersenne of violating international law. (R. ¶25). Mersenne denied these accusations, but instituted additional mitigation measures to further decrease any threats MECO's actions might pose to marine mammals. MECO employed observers on its survey vessels, and suspended surveys when whales were spotted within 500 meters. (R. ¶26).

Unable to agree over whether MECO's survey activities had or were likely to cause significant transboundary harm, Mersenne and Aduncus submitted the question to an inquiry commission pursuant to Espoo. (R. ¶27). On April 15, 2009, the commission presented its final decision. One member answered in the negative, one in the affirmative, and one found that although MECO's activities may have caused adverse impacts in the past, they were unlikely to do so in the future given its adoption of further mitigation measures. (R. ¶28).

Having failed to resolve these matters through negotiations, Mersenne and Aduncus submitted this case to the International Court of Justice on June 16, 2009, by Special Agreement. (R. 2-3).

In addition to Espoo, Mersenne and Aduncus are Parties to the Statute of the International Court of Justice, the Vienna Convention on the Law of Treaties (Vienna Convention), the United Nations Convention on the Law of the Seas (UNCLOS), the Convention on Biological Diversity (CBD), and the International Convention for the Regulation of Whaling (ICRW). (R. ¶¶6-11). Aduncus has ratified the first and second amendments to Espoo, while Mersenne has not. (R. ¶8). Both countries are members of the United Nations, and both participated in the 1972 United Nations Conference on the Human Environment at Stockholm (Stockholm Conference), the 1992 United Nations Conference on Environment and Development at Rio de Janeiro (Rio Conference), and the 2002 World Summit on Sustainable Development at Johannesburg (WSSD). (R. ¶12).

SUMMARY OF ARGUMENT

I. Mersenne properly interpreted its obligations under international law when it chose not to prepare an EIA with respect to MECO's activities. Espoo does not require and EIA because MECO's seismic surveys do not constitute "hydrocarbon production" as listed under Appendix I of the treaty, or an activity likely to cause "significant adverse transboundary harm" under the criteria of Appendix III. Neither UNCLOS nor CBD require an EIA because seismic surveys have not been shown to significantly endanger the marine environment.

II. Mersenne's efforts to locate and develop natural resources within its EEZ are consistent with its rights and obligations under international law. Mersenne has not violated its duty under UNCLOS to protect the marine environment because anthropogenic noise does not constitute "pollution" as defined by the treaty. Moreover, in compliance with both UNCLOS and the precautionary principle, MECO has taken reasonable steps to reduce any potential adverse impacts. Aduncus has not shown that MECO's activities caused significant transboundary harm in violation of the "no-harm" principle, and it has not alleged the types of specific harm cognizable under CBD or ICRW. Finally, any breach of international law is excusable under the doctrine of necessity because Mersenne faces immediate peril under its current economic and energy crisis.

ARGUMENT

I. MERSENNE PROPERLY INTERPRETED ITS OBLIGATIONS UNDER INTERNATIONAL LAW WHEN IT CHOSE NOT TO PREPARE AN EIA WITH RESPECT TO MECO'S EXPLORATORY ACTIVITIES WITHIN THE EEZ.

Mersenne and Aduncus are Parties to three treaties that expressly require impact assessments in limited circumstances: Espoo, UNCLOS and CBD. (R. ¶¶8-10). None of these treaties requires Mersenne to prepare an EIA for marine seismic surveys conducted within its EEZ

A. Espoo does not require Mersenne to prepare an EIA for exploratory activities conducted within its EEZ.

Espoo requires parties to take "all appropriate measures to prevent, reduce and control" the transboundary impact of certain activities.[1] Member states are required to prepare an EIA prior to undertaking activities listed in Appendix I.[2] Activities not included in Appendix I may require an EIA when the size, location or effects of the project are "likely to have a significant adverse transboundary impact."[3] MECO's activities fit neither of these descriptions.

i. Marine seismic surveys undertaken entirely within the Republic of Mersenne's EEZ are not activities listed in Appendix I of Espoo.

Article 2, paragraph 3 calls on a State to prepare an EIA where an activity listed in Appendix I will likely have a significant adverse transboundary impact.[4] Appendix I lists only seventeen activities.[5] These activities include "crude oil refineries," toxic "waste disposal installations," nuclear fuel production installations, and the construction of long distance

[1] Convention on Environmental Impact Assessment in a Transboundary Context art. 2(1), Feb. 25, 1991, 30 I.L.M. (1997).
[2] *Id.* at art. 2(3).
[3] *Id.* at art. 2(5).
[4] *Id.* at app. I.
[5] *Id.*

highways.[6] Ultimately, all listed activities involve large-scale energy production, storage or transfer; major construction or environmental alteration; or, extremely hazardous chemicals or substances.[7]

Aduncus's assertion that MECO is engaged in "offshore hydrocarbon production" is irreconcilable with the definition included in the second amendment to Espoo. (R. ¶19). Espoo defines offshore hydrocarbon production as the "extraction of petroleum and natural gas for commercial purposes where the amount extracted exceeds" specified daily amounts.[8] In contrast, MECO's activities are limited to exploration for oil and gas reserves. (R. ¶17). While seismic surveys are a precursor to hydrocarbon production, there has been no extraction of petroleum or natural gas. Thus the offshore hydrocarbon production provision is inapplicable.

Aduncus asserts that the amendment to Appendix I is immaterial because Mersenne has not ratified it. (R. ¶21). The language of the original treaty fails to define hydrocarbon or production. As such, Article 31, paragraph 1, of the Vienna Convention requires that the terms be given their ordinary meaning.[9] Hydrocarbon is defined as "an organic compound containing only carbon and hydrogen and often occurring in petroleum, natural gas, coal and bitumen."[10] Production is defined as "the act or process of producing," which in turn means to "bring forth; yield" or "to manufacture."[11] Thus, hydrocarbon production is the process of manufacturing any of a number of organic carbon and hydrogen compounds used for fuel. In contrast, MECO's

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[6] *Id.*
[7] John F. Beggs, *Combating Biospheric Degradation: International Environmental Impact Assessment and the Transboundary Pollution Dilemma*, 6 FORDHAM ENVTL. L.J. 379, 388 (1995).
[8] Espoo, *supra* note 1, ann. VII.
[9] Vienna Convention on the Law of Treaties art. 31(1), May 23, 1969, 63 AJIL 875, 1155 U.N.T.S 331 [hereinafter Vienna Convention].
[10] "Hydrocarbon." Merriam-Webster Online Dictionary. 2009. http://www.merriam-webster.com/dictionary/hydrocarbon.
[11] "Production." Merriam-Webster Online Dictionary. 2009. http://www.merriam-webster.com/dictionary/production.

seismic surveys, while intended to locate natural gas or oil beneath the ocean floor, do not involve the removal or manufacture of hydrocarbon reserves.

The ordinary meaning of hydrocarbon production is consistent with Aduncus' own official viewpoint. Though the first and second amendments to Espoo have not entered into force, Aduncus has ratified both amendments. (R. ¶8). Ratification of the amendment is a strong indication that Aduncus approves of the clarified definition.

Although not obligated to complete an EIA under Appendix I, Mersenne abided by its responsibilities under Espoo and held discussions with Aduncus about the likelihood of significant adverse transboundary impacts. (R. ¶19-26). When these negotiations proved fruitless, Mersenne adhered to Article 3, paragraph 7, of Espoo and submitted its dispute with Aduncus to an inquiry commission.[12] By a 2 to 1 majority the commission determined that MECO's activities were unlikely to cause any future significant adverse transboundary impacts. (R. ¶28). Mersenne was therefore not obligated to perform an EIA because MECO's activities do not constitute hydrocarbon production under Appendix I and are not, in their current form, likely to cause transboundary harm according to the inquiry commission.

ii. Marine seismic surveys undertaken entirely within the Republic of Mersenne's EEZ do not trigger the need for an EIA under the general criteria in Appendix III of Espoo.

Mersenne is not obligated to perform an EIA under Appendix III of the treaty. Activities not expressly listed in Appendix I only require an EIA where the "Party of origin" and the "affected Party" agree that the proposed activity is likely to cause a significant adverse transboundary impact.[13] Appendix III identifies three factors to guide the Parties in reaching

[12] Espoo, *supra* note 1, art. 3(7), app. IV.
[13] *Id.*

agreement: size, location, and effects.[14] An activity may require an EIA by virtue of any one of these criteria. Assessed in terms of these three criteria, MECO's activities are unlikely to cause significant transboundary harm.

a. MECO's seismic surveys are not "large for the type of activity."

MECO's activities are unlikely to cause harm because they are not "large for the type of activity."[15] Today, virtually all marine seismic surveys conducted worldwide utilize airguns, and arrays with thirty or more guns are common.[16] In contrast, the MECO vessels are "modest in size" and use 20-gun arrays. (R. ¶¶17,22). No evidence presented in the record suggests that MECO's activities are greater in size or magnitude than the typical industrial marine seismic survey.

b. MECO's activities are not located "in or close to an area of special environmental sensitivity."

MECO's activities are not located "in or close to" a region of "special environmental sensitivity or importance."[17] Aduncus asserts that the MPA located in the southern portion of its EEZ qualifies as a "special environment," and that MECO's seismic surveys adversely affect beaked whales inhabiting the area. (R. ¶21). However, scientific studies have shown the effects of seismic surveys on whale behavior to be extremely localized, limited to a range of 3-12 km.[18] MECO operates entirely within Mersenne's EEZ, approximately 250 nautical miles (460 km) from the MPA located in Aduncus's territory. (R. ¶17). Thus, MECO's activities are unlikely to affect whales within Aduncus's MPA.

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[14] *Id.* at app. III(1)(a-c).
[15] *Id.*
[16] Gregory Parry and Anne Gason, *The Effect of Seismic Surveys on Catch Rates of Rock Lobsters in Western Victoria, Australia*,79 FISHERIES RESEARCH 272 (2006).
[17] Espoo *supra* note 1, app. III(1)(b).
[18] R.D. McCauley et al., *Marine Seismic Surveys: A Study of Environmental Implications*, 40 APPEA JOURNAL 692, 698 (2000).

c. MECO's seismic surveys do not present "particularly complex and potentially adverse effects" to beaked whales or to Aduncus's use of its MPA.

An EIA may be required for activities that create "particularly complex and potentially adverse effects."[19] Projects that meet this criterion include those giving rise to "serious effects on humans" or "valued species," or threatening the use of an affected area.[20] MECO's activities have not been shown to critically endanger any valued species, including beaked whales, or to threaten Aduncus's use of its MPA.

While certain types of anthropogenic noise may cause physical or behavioral stress in some species of marine mammal, the sound produced by seismic surveys has not been shown to pose a significant threat to whales.[21] Studies have indicated that seismic surveys are unlikely to cause direct tissue damage to whales because the sound output of the average airgun array is actually lower than the "highest components of whale songs or breaching/pec slapping sounds."[22] Moreover, whales tend to avoid seismic survey vessels, further reducing the risk of any physiological harm.[23] MECO has facilitated this avoidance behavior by adopting a soft-start procedure, which gives whales time to move away before the airguns reach their full intensity.[24] (R. ¶¶20, 22). Finally, while some strandings have been correlated with the use of military low-

[19] Espoo, *supra* note 1, app. III(1)(c).
[20] *Id.*
[21] Harm M. Dotinga and Alex Elferink, *Acoustic Pollution in the Oceans: The Search for Legal Standards*, 31 OCEAN DEV. AND INT'L LAW 151, 154 (2000); *see also* T.M. Cox et al., *Understanding the Impacts of Anthropogenic Sound on Beaked Whales*, 7(3) J. CETACEAN RES. MANAGE. 177 (2006); Karen N. Scott, *International Regulation of Undersea Noise*, 53 INT'L & COMP. L. Q. 287 (2004); Elena M. McCarthy, *International regulation of Transboundary Pollutants: The Emerging Challenge of Ocean Noise*, 6 OCEAN & COASTAL L.J. 257 (2001).
[22] McCauley, *supra* note 18.
[23] Bill Streever et al., *Managing Marine Mammal Issues: Corporate Policy, Stakeholder Engagement, Applied Research, and Training*, 2 SPE 111479 4 (2008).
[24] Jay Barlow and Robert Gisiner, *Mitigating, Monitoring and Assessing the Effects of Anthropogenic Sound on Beaked Whales*, 7(3) J. CETACEAN RES. MANAGE. 239 (2006).

or mid-frequency sonar technology, no stranding has been conclusively attributed to the use of airgun arrays in seismic surveys.[25]

There is no evidence that MECO's activities have threatened Aduncus's use of its MPA. Today, the area is used exclusively for subsistence fishing and eco-tourism activities, specifically, whale watching. (R. ¶¶2,6). Aduncus has not shown that MECO's seismic surveys have adversely impacted either activity.[26] Indeed, the whales within Aduncus's MPA are more likely to be adversely affected by the noise production and chase tactics of Aduncus's whale watching vessels than by seismic surveys occurring hundreds of kilometers away in Mersenne's EEZ.[27]

d. Mersenne and Aduncus have not agreed to the likelihood of transboundary harm as required under Appendix III.

After applying the general criteria listed in Appendix III, the parties must agree that the proposed activity is "likely to cause a significant adverse transboundary impact."[28] The provision is silent, however, on what procedure to follow when the Parties disagree on the likelihood and degree of transboundary impact. Because Mersenne and Aduncus have not reached agreement on this issue, Appendix III does not obligate Mersenne to prepare an EIA.

B. Neither UNCLOS nor CBD requires Mersenne to prepare an EIA for MECO's exploratory activities because seismic surveys have not been shown to cause significant harm to the marine environment or biodiversity.

Article 206 of UNCLOS creates a limited duty to prepare an EIA when a State has "reasonable grounds" for believing that its activities may create "substantial pollution" or cause

[25] Cox *supra* note 21, at 179.
[26] Beaked whales spend very little time at or near the surface, therefore it is unlikely that MECO's activities could harm Aduncus's whale watching industry. *See id.* at 173.
[27] *See* Whale Watching Guidelines, IWC Resolution 1996-1, IWC Chairman's Report of the 48th Annual Meeting, June 24-28, 1996, Appendix 2, Principle 2 (recommending measures to minimize risks posed to marine mammals by whale watch vessels).
[28] Espoo, *supra* note 1, art. 2(5).

"significant and harmful changes to the marine environment."[29] Similarly, Article 14 of CBD mandates that States "as far as possible and as appropriate" conduct EIAs for projects "likely to have significant adverse effects on biological diversity."[30] Mersenne's decision not to produce an EIA for MECO's activities is consistent with both of these provisions. The noise produced by seismic surveys has not conclusively been shown to cause harm to beaked whales.[31] Moreover, MECO's operations in Mersenne's EEZ are relatively small in scale and scope.[32] Thus, Mersenne had no reason to believe that the seismic surveys were likely to cause significant harm to either the marine environment or biological diversity.

i. Mersenne's decision not to prepare an EIA is warranted given the lack of scientific evidence linking seismic surveys with harm to marine mammals and the limited scope and scale of MECO's activities.

A reasonable belief of environmental harm must be based on objective criteria and scientific evidence. UNCLOS consistently encourages States to utilize the best available scientific data in their decision making process.[33] However, as previously stated, many studies suggest that seismic surveys pose only a minimal risk of harm to marine mammals.[34] In the absence of a clear causal link between the sounds used in seismic surveys and harm to beaked whales, Mersenne's decision not to prepare an EIA was reasonable.

Assuming, *arguendo*, that seismic surveys may in some situations adversely affect whales, Mersenne reasonably believed that the small scale of MECO's operations and MECO's adoption of mitigation techniques reduced any risk below the level of "significant." The risk of significant harm is judged on a sliding scale between the probability of a harmful result measured against the severity of that harm. Here, MECO was only operating two mid-sized

[29] United Nations Convention on the Law of the Sea art. 206, Dec. 10, 1982, 1833 U.N.T.S. 397.
[30] Convention on Biological Diversity art. 14(1)(b), Jun. 5, 1992, 1760 U.N.T.S. 79.
[31] *See supra* Part I(A)(ii)(c).
[32] *See supra* Part I(A)(ii)(a).
[33] UNCLOS, *supra* note 29 arts. 61(2), 200, 201, 202, 255, 256.
[34] *See supra* note 21 and accompanying text.

vessels in a limited area. (R. ¶22). Moreover, MECO used various mitigation techniques, such as the 'soft-start' procedure and the employment of marine mammal observers, to reduce any risk that its activities may pose to marine mammals. (R. ¶ ¶22, 26). Where, as here, a State's actions create only a slight risk of some unascertainable harm to the marine environment, an EIA is not required under CBD or UNCLOS.

ii. Domestic caselaw does not support an assertion that seismic surveys pose significant harm to marine life.

Aduncus may try to rely on domestic case law to assess the environmental consequences of sound-related research.[35] The majority of these cases involved low-frequency sonar rather than seismic survey equipment.[36] Because the effects a particular sound will have on marine life are highly dependent on the characteristics of that sound,[37] decisions dealing with military low- and mid-frequency sonar technology have no bearing on this case.

No decision from the United States has conclusively held that seismic surveys pose a risk of significant harm to the environment. For example, in *Center for Biological Diversity v. National Science Foundation*, the Court held only that the plaintiff had alleged a significant enough threat of irreparable harm to warrant a temporary restraining order.[38] Responding to the Although the plaintiff could not show a causal connection between the seismic surveys and the alleged harm to whales, the Court stated that such a link was not necessary for the granting of temporary injunctive relief.[39] The Court never reached the merits of the plaintiff's claim that the

[35] 42 U.S.C. §4332 (NEPA) requires the U.S. government to prepare and environmental impact statement (EIS) for "major Federal actions" significantly affecting the human environment. This duty is similar to States' duties under Art. 206 of UNCLOS and Art. 14 of CBD.
[36] *See, e.g., NRDC v. Dept. of the Navy*, 2002 WL 32095131 (C.D. Cal. Sept. 17, 2002) (challenging military use of experimental mid- and low-frequency sonar), *and NRDC v. Evans*, 279 F.Supp.2d 1129 (N.D. Cal. 2003) (challenging adequacy of EIS assessing risks of experimental low-frequency sonar).
[37] Streever et al., *supra* note 23, at 2-3.
[38] *Ctr. For Biological Diversity v. Nat'l Sci. Found.*, 2002 WL 31548073 (N.D. Cal. Oct. 30, 2002).
[39] *Id.*

survey activities required the preparation of an EIA. Therefore this line of caselaw does not further Aduncus's claim that an EIA was required for MECO's activities.

II. MERSENNE'S EFFORTS TO LOCATE AND DEVELOP NATURAL RESOURCES WITHIN ITS EEZ ARE CONSISTENT WITH ITS RIGHTS AND OBLIGATIONS UNDER INTERNATIONAL LAW.

Pursuant to Article 38(1)(b) of the Statute of the International Court of Justice, when deciding a case this Court must consider international conventions recognized by the contesting parties. [40] Mersenne and Aduncus have fully participated in many significant international environmental conventions, including the Stockholm Conference, the Rio Conference, and WSSD. (R. ¶12). While Mersenne takes seriously its responsibilities under these conventions, it also notes that they constitute "soft international law."[41] Soft or non-binding laws represent ideas and trends that may eventually lead to enforceable multilateral agreements, but do not create actual duties or obligations.[42] Thus any discussion of a violation of international law must be based on binding treaties and norms of customary international law. Mersenne is a party to UNCLOS, CBD, and the ICRW. (R. ¶¶9-11). Its actions have been consistent with these treaties, as well as with the precautionary and no-harm principles.

A. Mersenne has acted in accordance with its rights and obligations under binding international treaties because its actions have not polluted the environment in violation of UNCLOS and are outside the scope of CBD and ICRW.

i. Mersenne has not violated any obligation under UNCLOS.

UNCLOS provides a framework for nations to use and protect ocean resources. UNCLOS guarantees States the sovereign right to develop the resources of their EEZs.[43] This right is subject to a State's other duties under the convention, including the duty to "protect and

[40] Statute of the International Court of Justice art. 1, Jun. 26, 1945, T.S. No. 993.
[41] Pierre-Marie Dupoy, *Soft law and the International Law of the Environment*, 12 MICH. J. INT' L. L. 420, 429 (1991).
[42] *Id.*
[43] UNCLOS, *supra* note 29 art. 55.

preserve the marine environment."[44] Preservation of the marine environment is addressed in Title XII, requiring States to undertake measures to "prevent reduce and control pollution."[45] Sound is not within the definition of pollution presented in UNCLOS. Moreover, by undertaking best practices to mitigate any possible harm, Mersenne has complied with any duties under UNCLOS.

a. Sound does not constitute pollution within the definition provided by UNCLOS.

UNCLOS defines pollution of the marine environment as anthropogenic additions "of substances or energy into the marine environment" which result in "deleterious effects."[46] Sound is not included in the term "energy" within the UNCLOS understanding of pollution.[47] Further, no "deleterious effects" have been adequately linked to the use of airgun arrays.

Under the Vienna Convention, terms are understood "in their context and in the light of [the treaty's] object and purpose."[48] The addition of the term energy to the UNCLOS definition of pollution was directly related to the problem of thermal pollution to seawater.[49] The inclusion of noise within the definition of energy is not contemplated within the Articles of UNCLOS.[50] Since the adoption of UNCLOS a number of competent international organizations, including the International Whaling Commission and the U.N. Environmental Program, have elected not to classify sound as marine pollution.[51] Thus sound does not belong within the definition of

[44] *Id*. art. 192.
[45] *Id*. art. 194.
[46] *Id*. art. 1(1)(4).
[47] Scott, *supra* note 21, at 273.
[48] Vienna Convention, *supra* note 9 art. 31(1).
[49] Dotinga, *supra* note 21, at 158.
[50] McCarthy, *supra* note 21, at 257 (other than underwater explosives UNCLOS has no "reference to underwater acoustics or the regulation of sonar"); *see also* Daniel Inkelas, *Security, Sound, and Cetaceans: Legal Challenges to Low Frequency Active Sonar Under U.S. and International Environmental Law*, 37 GEO. WASH. INT'L L. REV. 207, 224 (2005) ("UNCLOS does not specifically regulate acoustic pollution").
[51] *Id*. at 278-79. *See also* Alan E. Boyle, *Marine Pollution Under the Law of the Sea Convention*, 79 AM. J. INT'L L. 347, 370 (1985).

pollution under UNCLOS. Moreover, such an expansion would subject a large number of innocuous activities to regulation as marine pollution.

Few countries have elected to regulate noise as marine pollution. Canada, United States, Norway, and the United Kingdom, for example, have adopted limitations on the use of devices that produce underwater noise.[52] While these regulations indicate that acoustic activities can sometimes constitute marine pollution, they have no bearing on the UNCLOS definition because they are based on domestic rather than international law. While domestic laws adopted by the vast majority of countries can rise to the level of customary international law,[53] these countries do not represent a significant majority.

The UNCLOS definition of marine pollution includes a requirement of "deleterious effects."[54] The examples provided in the treaty include "harm to living resources," "hazards to human health," and "hindrance to marine activities."[55] As previously explained in Part I, there is insufficient evidence that seismic surveys—particularly seismic surveys so limited in scope and scale as those conducted by Mersenne—cause such "deleterious effects."

b. Mersenne's voluntary adoption of the accepted best mitigation practices shows compliance with the terms of UNCLOS.

When a State's activity does harm the marine environment, UNCLOS requires mitigation of harmful effects using the "best practicable means at their disposal and in accordance with their capabilities."[56] UNCLOS balances preservation of the marine environment against considerations such as practicality and the circumstances of the coastal state.[57] Although Mersenne disputes allegations that MECO's activities have harmed the marine environment, it

[52] Dotinga, *supra* note 21, at 165.
[53] *Id.*
[54] UNCLOS, *supra* note 29 art. 1(1)(4).
[55] *Id.*
[56] *Id.* art. 194.
[57] Dotinga, *supra* note 21, at 157.

has taken measures to mitigate any environmental risks its seismic surveys may pose. As elaborated in Part II(B)(ii)(a), Mersenne has ensured that MECO's operations are consistent with recommended best practices for seismic surveys.[58] Mersenne is thus taking all reasonable precautions to minimize the consequences of its actions without sacrificing its pursuit of energy independence.

Mersenne cannot abandon its search for domestic sources of hydrocarbons. Energy independence is an important national goal of Mersenne. (R. ¶20). Mersenne requires energy to sustain its developing economy, and has no viable alternative supply. (R. ¶20). Given Mersenne's economic and energy needs, ceasing exploratory activities is not a practical measure. Having adopted reasonable mitigation measures, Mersenne's actions have been consistent with its sovereign right under UNCLOS to develop the natural resources within its EEZ.

ii. Mersenne has not breached any obligation under CBD.

CBD establishes certain provisions for the conservation and sustainable use of biological diversity.[59] The Convention focuses primarily on the direct use of "biological resources," defined as "genetic resources, organisms or parts thereof, populations, or any other biotic component of ecosystems with actual or potential use or value for humanity."[60] It thus has minimal bearing on this case, which concerns allegations of incidental rather than direct effects on such resources. Article 6 calls on States to establish general measures for the conservation of biological diversity "in accordance with [their] particular conditions and capabilities."[61] However, this indefinite and flexible provision should not be read as requiring any specific action from Mersenne with respect to its search for new energy sources.

[58] *See infra* Part II(B)(ii)(a).
[59] CBD, *supra* note 30 preamble.
[60] *Id.* art. 2.
[61] *Id.* art. 6.

iii. Mersenne has not breached any obligation under ICRW.

While ICRW prohibits the hunting and killing of whales for commercial purposes,[62] it does not purport to regulate activities that cause only incidental harm to whales. Moreover, ICRW has not traditionally been interpreted as protecting small cetaceans like dolphins, porpoises, and beaked whales.[63] Thus even if MECO's activities could be shown to adversely affect beaked whales, this would not constitute a violation of ICRW.

B. Mersenne has not violated customary international law since Mersenne has not caused transboundary harm and has taken a precautionary approach to its seismic surveys.

i. Mersenne has not violated the 'no-harm' principle.

The obligation to conduct national activities in a way that does not cause harm to other States (*sic utere tuo ut alienum non laedas*) is an accepted norm of customary international law. This obligation is reinforced by the Charter of the United Nations, UNCLOS, and Principle 21 of the Stockholm Declaration. It is also articulated by Article 3 of CBD, which reads, "States have … the sovereign right to exploit their own resources pursuant to … the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction."[64] Mersenne's actions have been entirely consistent with its sovereign right under these same treaties to develop its natural resources. Aduncus has failed to show that MECO's activities, which have been carried out entirely within Mersenne's EEZ, have caused transboundary harm. Thus Mersenne has not violated the no-harm principle.

[62] *See* International Convention for the Regulation of Whaling ¶10(e), Feb. 12, 1946, 161 U.N.T.S. 2124.
[63] *See* Patricia W. Birnie, *Small Cetaceans and the International Whaling Commission*, 10 GEO. INT'L. L.REV. 1, 24 (1997) (the Commission "collects data on, but does not regulate, small-type whaling"); Dotinga, *supra* note 21, at 168.
[64] CBD, *supra* note 30 art. 3.

a. Aduncus has not shown by "clear and convincing" evidence that MECO's activities caused the stranding of beaked whales, or that the stranding constituted transboundary harm.

Aduncus cannot meet the exacting causation requirements established in the Trail Smelter arbitration, the leading case on transboundary harm.[65] There, the Tribunal found that the Unite States had produced "clear and convincing" evidence that fumes emitted by a Canadian copper smelter had caused damages to property within its borders.[66] Here, in contrast, Aduncus has merely implied a connection between MECO's activities and supposed adverse effects on beaked whales.

Aduncus has alleged that MECO was responsible for the January 15th stranding of twelve beaked whales. (R. ¶25). This conclusion is not supported by the autopsy results, which failed to reveal a cause of death. (R. ¶24). Nor is it supported by scientific understanding of past sound-related stranding events. Only one stranding has been linked, even remotely, to seismic surveys. Two Cuvier's Whales were found by chance on a beach approximately 22 km from survey vessels employing multiple types of acoustic devices in the Gulf of California.[67] A causal link between the survey and the stranding could not be established because of the unusually small number of whales and variety of technologies involved, and the lack of information about when the stranding actually occurred.[68] To date, no stranding has been conclusively attributed to the use of airguns in seismic surveys.[69] Moreover, assuming a link between MECO's activities and the January 15th stranding, this unfortunate event did not constitute *transboundary* harm, because it occurred well within Mersenne's borders. (R. ¶24).

[65] Trail Smelter (U.S. v. Can.) 3 R.I.A.A. 1905 (1949).
[66] *Id.*
[67] Cox et al., *supra* note 21, at 179.
[68] *Id.*
[69] *Id.*

b. Aduncus has not shown by "clear and convincing" evidence that MECO's activities are causing whales to avoid the area, or that such an effect would constitute transboundary harm.

Aduncus will likely claim that the noise associated with MECO's activities is causing whales to avoid areas where the surveys are being conducted. Mersenne disputes this claim; but even if it were true, such an effect does not rise to the level of transboundary harm. Experiments testing humpback whales' reactions to seismic surveys have shown relatively minor disruptions to whale migration patterns, "confined to a comparatively short period and a small range [approx. 3 km] of displacement."[70] The avoidance range of more sedentary animals—those using an area for long-term feeding, breeding, or nursing—was somewhat greater, ranging between 7 and 12 km.[71] The results of these studies indicate that MECO's activities are unlikely to disrupt whales 250 nautical miles (460 km) away, in Aduncus's EEZ. (R. ¶17).

ii. Mersenne has taken a precautionary approach to its exploratory activities consistent with the precautionary principle.

There is no consensus over whether the precautionary principle is a norm of customary international law.[72] The United States has explicitly argued that it is not,[73] and this Court has yet to conclusively address the question.[74] Even assuming an obligation to take a precautionary approach to activities that may have serious environmental consequences, Mersenne has fully met this obligation. Mersenne has directed MECO to implement mitigation techniques which have reduced any risks the use of its seismic survey equipment may pose to marine mammals.

a. MECO has taken reasonable steps to mitigate any risks posed to whales by the use of its survey equipment.

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[70] McCauley, *supra* note 18.
[71] *Id.*
[72] Russell Unger, *Brandishing the Precautionary Principle through the Alien Tort Claims Act*, 9 N.Y.U. ENVTL. L.J. 638, 647-69 (2001).
[73] *See* EC Measures Concerning Meat and Meat Products (Hormones), Report of Appellate Body, Adjusted Basis 1997-4, WT/DS26/AB/R (Jan. 16, 1998), 1998 WL 25520 (W.T.O.), ¶122 (citing United States' appellee's submission, ¶92).
[74] *See* Nuclear Tests (N.Z. v. Fr.) 1974 I.C.J 253 (Dec. 20), ¶63 (refusing to consider New Zealand's precautionary principle claims).

MECO currently observes essentially the same procedures outlined in the UK Joint Nature Conservation Committee Guidelines for Minimising Acoustic Disturbance to Marine Mammals from Seismic Surveys.[75] MECO employs marine mammal observers on all of its survey vessels, and refrains from firing airguns when a whale is spotted within a 500-meter range. (R. ¶26). MECO also uses a "soft-start" procedure when commencing survey activity, slowly ramping up the intensity of its airguns over a period of 20 to 40 minutes in order to alert animals to the presence of the survey vessel and give them time to move away. (R. ¶22). Scientific studies have shown these to be the most effective means of mitigating the environmental impact of seismic surveys.[76] Further the inquiry commission's majority held that any risk of transboundary harm posed by MECO's activities has fallen below the level of "significant" following the adoption of these measures. (R. ¶28).

b. The precautionary principle does not dictate the total suspension of important state programs on the basis of uncertain environmental consequences.

Aduncus's demand that MECO suspend its activities "pending further study" has no basis in the precautionary approach as embodied in binding international agreements and as interpreted by members of this Court. (R.¶25). Principle 15 of the Rio Declaration states, "Where there are threats of *serious or irreversible damage*, lack of full scientific certainty shall not be used as a reason for postponing *cost-effective* measures to prevent environmental degradation."[77] Similarly, Judge Koroma states in his dissent in the Nuclear Tests case, "there is

[75] *See* Joint Nature Conservation Committee, *Annex A – JNCC Guidelines for Minimising the Risk of Disturbance and Injury to Marine Mammals from Seimic Surveys*, available at http://www.jncc.gov.uk/PDF/Seismic Guidelines June 2009_ver01.pdf, (June 2009).
[76] *See* Barlow, *supra* note 24.
[77] United Nations Conference on Environmental and Development Principle 15, June 3-14, 1992, *Rio Declaration on the Human Environment*, U.N. Doc. A/CONF. 151/26 (1992) (emphasis added); *see also* CBD, *supra* note 30, preamble (stating "where there is a threat of significant reduction or loss of biological diversity, lack of full scientific certainty should not be used as a reason for postponing measures to avoid or minimize such a threat").

probably a duty not to *cause gross or serious damage* which can *reasonably* be avoided …"[78] These formulations of the precautionary approach, with their emphasis on "reasonable" and "cost-effective" measures to prevent "serious" harm, cannot be read as requiring a State to halt activities vital to its energy independence on the basis of largely unsubstantiated concerns about adverse environmental effects.

C. If Mersenne has breached an obligation under international law, the breach is excused under the doctrine of necessity.

Mersenne's actions are permissible in light of the financial collapse and energy shortage that have devastated its economy. A state of necessity precludes "the wrongfulness of an act not in conformity with an international obligation."[79] Admittedly, the doctrine may only be invoked "on an exceptional basis."[80] The current state of crisis in Mersenne meets this high standard.

The ILC states that a breach of international law is excusable where the act was the only way of safeguarding an essential State interest against "grave and imminent peril."[81] In the Gabcikovo-Nagymaros Project Case this Court held that Hungary's termination of a joint project with Slovakia due to "ecological necessity" constituted an essential interest.[82] Nonetheless, Hungary failed to establish a state of necessity because project abandonment was not the only way to protect the region. Further, Hungary was not facing adequate peril because the environmental effects of continued construction were uncertain.[83]

Mersenne's actions are an attempt to safeguard an essential interest, energy. Mersenne has been unable to import sufficient amounts of oil and natural gas. (R. ¶3). This inability has been compounded by the global financial crisis. Mersenne is facing its greatest economic in

[78] Nuclear Tests, *supra* note 74, at 378 (emphasis added).
[79] Gabcikovo-Nagymaros Project, (Hung. v. Slovk.) 1997 I.C.J. 7, 39 (Judgment Order of Sept. 25).
[80] *Id*. at 40.
[81] *Id*.
[82] *Id*. at 41.
[83] *Id*. at 42.

eighty years, a "certain and inevitable peril."[84] (R. ¶26). The once robust economy has collapsed, the prices of goods have plummeted, and nearly one-quarter of the population is unemployed. (R. ¶3). Mersenne's only remaining option is to exercise its sovereign right to search for hydrocarbon reserves within its EEZ. In light of these extraordinary circumstances, Mersenne should be absolved from responsibility for any violations of international law associated with its seismic surveys.

[84] *Id.*

CONCLUSION

For the foregoing reasons, Mersenne respectfully requests that this Court:

1. Declare that MECO's actions within Mersenne's EEZ do not require the preparation of an EIA, and;
2. Declare that MECO's actions did not violate international law.

Respectfully Submitted

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Agents for the Republic of Mersenne