REGIONALNY DYREKTOR
OCHRONY ŚRODOWISKA
W SZCZECINIE

REGIONAL DIRECTOR
FOR ENVIRONMENTAL PROTECTION
IN SZCZECIN

Generalna Dyrekcja Ochrony Środowiska
SEKRETARIAT
Departamentu Ocen Oddziaływania na Środowisko
WPŁYNĘŁO
2017 -06- 05
Nr z rejestru 2650 Podpis

WONS-OŚ.442.3.2017.AT.7

Szczecin, 30 May 2017

Ms Katarzyna Twardowska
Deputy Director,
Department for
Environmental Impact
Assessment
ul. Wawelska 52/54
00-922 Warsaw

Re: **Nord Stream 2** pipeline: Environmental impact assessment in a transboundary context

Further to your letter dated 12/04/2017, ref. DOOŚ-tos.442.12.2013.JA.40, on the transboundary assessment of environmental impacts from the implementation of the Nord Stream 2 project, and having considered the documents submitted to the Polish party, including the documentation referred to as the Espoo Report and the documentation submitted by the German party, the Regional Director for Environmental Protection in Szczecin hereby presents its proposed position and comments below.

According to the documentation, the final pipeline route has yet to be decided as the route is still at the optimisation stage, while the project's technical design shall be subject to further modification. Therefore, a number of issues relevant to the transboundary assessment of the environmental impact have been presented incomplete and with only estimated figures. This includes the construction area, gas pipeline technical specifications, the location of dumped ammunition, historical locations, the approach to the final monitoring programme or actions related to the implementation of mitigation measures should seals be present (during the breeding season).

The anticipated scope and scale of the project, as well as the two existing Nord Stream pipelines in the vicinity, suggest the possible risk of a significantly negative impact on the environment in the Baltic Sea. Given that the Baltic Sea is a sensitive ecosystem where protected and valuable types of fauna live and is an area where various countries and organisations conduct economic activities, the Regional Director for Environmental Protection in Szczecin believes the submitted documentation requires the above-mentioned issues to be addressed additionally, in particular:

1. According to the map documentation, the project will pass through a number of Natura

2000 areas of countries in the Baltic basin, thereby affecting habitats (shoals, reefs etc.) of fish and birds, e.g. populations of hibernating, migrating and breeding birds in the Pomeranian Bight. The Report, however, failed to present specific information (species composition, locations of protected species habitats, population sizes and condition, type of habitats); therefore, no full assessment has been carried out on the degree of damage to species and habitats protected under Natura 2000 or of the links between individual Natura 2000 areas.

2. A broader coverage of the noise impact on marine mammals is required: according to the submitted documentation, such impact would only affect the Gulf of Finland. In fact, these mammals also populate other parts of the Baltic Sea. Based on the Report, no underwater noise propagation model was constructed for the noise generated during the disposal of ammunition in the territories of Sweden, Denmark and Germany. The Report makes no reference to sites in Poland, etc., of marine mammals, including harbour porpoises, e.g. within Natura 2000 PLH990002 Ostoja at the Pomeranian Bight (formerly the Pomeranian Bight) *[sic]*. Therefore, the reference to these animals does not cover their entire population in the Baltic Sea.
   It follows from the Report that the most significant risk to marine mammals will be from the noise related to the presence and disposal (e.g. detonation) of ammunition dumped on the route of the gas pipeline. However, information included in the documentation on the locations of disposed weapons and ammunition is not sufficiently specific. The Report also suggests that the pipeline route may change (which will be taken into account in the Assessment processes in the individual countries). In addition, no impact ranges have been defined in the habitats of marine mammals, other than in the Gulf of Finland. Therefore, the Report's conclusion that there would be no relevant impact in Polish territory is not justified.

3. Information needs to be added on the method of implementing and planning mitigation or minimising measures regarding underwater noise generated from ammunition disposal to which the fish will be exposed.

4. Emergency and extraordinary situations that may occur during implementation, operation and decommissioning, for example: collisions of vessels, discovery of undetonated explosive charges, construction accidents, storms of unusual force or other events, are discussed in general terms without defining the impact range of such cumulative risk. A more specific analysis is required of the issues related to the seismic activity risks in or around the project area, including any planned measures to protect the gas pipeline and the environment against the consequences of such activity; the scale of any environmental impact should also be determined. In theory, the Baltic area is considered aseismic, however, two tectonic plates, European and Asian, meet at Bornholm Island. Seismic activity in this region may pose a risk for a pipeline with such a large diameter and flow capacity.
   When analysing the risk, the proximity of the existing Nord Stream 1 pipeline must be considered.

5. An important issue is the cumulative impact of the planned project together with the other planned activities in the Baltic Sea based on plans of marine spatial development, business uses and the environmental plans of the individual countries.
   Regarding Poland, the previous correspondence raised the need for planning the gas pipeline construction project in a manner which that allow for the safe entry of vessels into Polish sea ports (ensuring water depth of 17.5m across the full length of the pipeline crossing the northern bypass fairway to the ports of Szczecin and Świnoujście). The Espoo Report contains no reference to this comment from the Polish party. The report summary prepared for the purposes of the national procedure in Germany contains a short reference to the location of the gas pipeline at the crossing with the approach fairways to the Polish ports of Szczecin and Świnoujście. However, this document assumes the current draft of vessels entering the ports of Szczecin and Świnoujście as

the point of reference without considering the development plans for Świnoujście port. In order to prevent any hindrance to the development of the ports, the Nord Stream 2 pipelines must be embedded when they are laid at the crossing to the northern approach fairway to Świnoujście in places where the sea depth is less than 19.0 m.

6 In addition, decommissioning of the gas pipeline must be expected to cause a significant disruption to the ecosystem; it may also be an obstacle to shipping traffic, including where it crosses the approach fairways to the sea ports of Szczecin and Świnoujście. It is not sufficient to state that decommissioning will be carried out using the equipment and technologies available at the time (i.e. in 50 years). It must be specified how the installations would be decommissioned assuming current knowledge and technological potential. Should better and more environmentally-friendly technologies become available at the time of the actual decommissioning, it will always be possible to use those technologies.

This authority believes that the report cannot be accepted in its present form and any further assessment of the project impact in a transboundary context requires taking the issues raised into account and completing the Report accordingly.

Radoslaw Grzegorczyk

REGIONAL DIRECTOR

FOR ENVIRONMENTAL PROTECTION

in Szczecin

DOOŚ M. Adamaitis 2017.VI.12

GDAŃSK REGIONAL ENVIRONMENTAL PROTECTION DIRECTORATE
Environmental Impact Assessment Department

Gdansk, 06 June 2017

Ref. No. RDOŚ-Gd-WOO.442.1.2017.KSZ-6.

(Rectangular stamp:
General Directorate
of Environmental Protection
SECRETARIAT
Date received: 2017-06-12
Reg. No. 11084.....Signature.....)

(Rectangular stamp:
General Directorate
of Environmental Protection
OFFICE
Date received: 2017-06-12
Reg. No.2765.....Signature.....)

General Directorate of Environmental Protection
Ul. Wawelska 52/54
00-922 Warsaw

In response to your letter No.DOOŚ-tos.442.12.20.2013.JA.40 of 12.04.2017 concerning the environmental impact assessment procedure in a transboundary context, and relating to the expansion of Nord Stream 2 through the addition of a third and a fourth leg, herewith the position of the Gdańsk Regional Environmental Protection Directorate, which includes the comments and views of its regional bodies:

1. The Directorate and the regional stakeholders which had participated in the EIA procedure at the scoping stage and set out their positions in response to the above General Directorate of Environmental Protection letter, consider that the suggestions and comments on the documentation prepared for the project, which were raised at the time, have been taken into account.
2. In addition, they have submitted comments on the project's environmental impact, which:

    a. note the need for an international treaty dealing with the border between the EEZ of Denmark and Poland (south of Bornholm);
    b. note that the construction of Nord Stream 2 undermines European solidarity and could lead to total dependence on Russian gas as well as a stoppage of the flow of gas from the Yamal Gas Pipeline;
    c. note that Section 0.10 of the Nord Stream 2 Espoo Report, entitled "Maritime Spatial Planning" contains no information about Directive 2014/89/EU of the European Parliament and of the Council of 23 July 2014 establishing a framework for maritime spatial planning;
    d. note the need to clarify and expand the information on the progress of work on maritime spatial planning of the areas within the context of the information contained in Section 3.4.4 of the Espoo Report which states that "no official plans have been adopted to date";
    e. note the fact that in the "Atlas Espoo. Nord Stream 2" the map entitled "Existing and proposed wind farms" (p. 86) includes "reserved areas" of the Polish territorial waters, whereas existing regulations forbid the installation and operation of wind farms in internal and territorial marine waters.

f. emphasise that project implementation will involve underwater noise and its propagation by the exploding munitions. They draw attention to the hazards associated with the chemical weapons abandoned on the Baltic seabed and with any potential gas pipeline breakdowns, and thus to the need to monitor any potential threats and to implement measures mitigating project impacts;
g. draw attention to the need for clear identification of the authority responsible for environmental oversight, including monitoring during the gas pipeline construction and operation period, and of the method of responding to information about breakdowns and environmental changes as they occur;
h. note the need for consideration of the possibility of verification of the final monitoring programme against the requirements of the different parties;
i. emphasise the impact of project implementation works on bottom sediments and on the transport of suspended solids.

In addition, the wish to participate in an information meeting on the project to be held in Szczecin was expressed by: Słupsk Maritime Office, Baltic Trade and lnvest (2 participants) and Lotos Petrobaltic S.A. (4 participants).

Enclosed please find copies of position statements on the project provided by:
1. The Head of Administration of the Commune of Choczewo
2. The Head of Local Government of Nowy Dwór District
3. The Head of Lębork City Council
4. The Head of Puck City Council
5. The Director of the Słupsk Maritime Office
6. The Director of the Gdynia Maritime Office
7. The Director of the Gdańsk Regional Water Authority
8. The Director of the Gdynia Office of the Institute of Meteorology and Water Management

(Signature stamp:
Danuta Makowska
Gdańsk Regional Environmental Protection Director)

Distribution:

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CHOCZEWO MUNICIPAL OFFICE

84-210 Choczewo, ul. Pierwszych Osadników 17
tel. 58 572 39 13, fax 58 676 30 12,
www.clioczevvo.com.nl. sekretariat@choczewo.cggi.pl

gionalna Dyrekcja
Środowiska w Gdańsku
2017 -05- 17
ŁYNĘŁO / WYSŁANO
..... podpis .....

(Rectangular stamp:
Gdańsk Regional Environmental Protection Directorate
Date received/sent: 2017-05-17
Signature:.....)

Choczewo, 08.05.2017

IKS.620.01.2017

Gdańsk Regional Environmental Protection Directorate
Ul. Chmielna 54/57
80-748 Gdańsk

Re: Your letter No. DROŚ-GD-WOO.442.1.2017.KSZ.2

In the view of the Head of Administration of the Commune of Choczewo, the construction of the Nord Stream 2 gas pipeline would undermine European solidarity and could lead to total dependence on Russian gas. Gazprom will become the owner and at the same time the supplier of this resource. This conflicts with one of the key principles of the Energy Union, which states that the same company cannot be simultaneously responsible for transport and production.

A further question that arises is whether the commissioning of the Nord Stream 2 gas pipeline would lead to the stoppage of gas transport via the Yamal Gas Pipeline which runs through Belarus and Poland, especially as Russia is striving to sell gas without using intermediaries.

Poland is not the only country opposed to this project. Other countries which have declared their opposition include i.a. Denmark and the remaining Visegrad Group countries.

Yours sincerely,

Wiesław Gębka,
Head of Administration,
Commune of Choczewo

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(Rectangular stamp:
Gdańsk Regional Environmental Protection Directorate
80-748 Gdańsk, Ul. Chmielna 54/57
Tel. (058) 683 68 00, Fax (058) 683 68...

Manager

Certified true copy of the original
Katarzyna Szopińska
.....
Date, signature, official positon

DISTRICT ADMINISTRATION
Nowy Dwór Gdański
ul. gen. Władysława Sikorskiego 23
82-100 Nowy Dwór Gdański

Nowy Dwór Gdański, 19.05.2017

19.05.2017.

2017 -05- 25
WPŁYNĘŁO / WYSŁANO
Nr ... 3730 ... podpis .....

Gdańsk Regional Environmental Protection Directorate

(Rectangular stamp:
2017-05-25
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No. 3730...Signature.....)

Further to your letter No. RDOŚ-Gd-WOO.442.1.2017.KSZ.2 of 20.04.2017 requesting our views of the proposed Nord Stream 2 gas pipeline, Nowy Dwór Gdański District Administration is of the opinion that the construction of the pipeline will require highly specialised knowledge of the best available techniques and technologies, both those to be employed in its installation, materials and operation, and in monitoring and eliminating breakdowns. It follows therefore that to determine the environmental impacts and the associated threats in such unique conditions at the construction, operation and decommissioning stage will involve properly prepared services with the appropriate knowledge, capable of providing unequivocal and professional answers.

This being the case, the most valid response is for specialised institutions and research organisations to analyse the project in order to provide authoritative expert assessments to be used in determining the existence or otherwise of threats and in adopting the appropriate stance.

Project planning, in addition to the various impacts it will have at its individual stages (construction, operation and decommissioning) is certain to have a significant impact on underwater noise and its propagation by the detonation of the munitions abandoned on the Baltic sea bottom. These is also the risk of the loss of integrity of chemical warfare agent containers sunk in the waters of the Baltic Sea, which can be carried over large distances by marine currents and wave movements. The consequences of any breakdowns of the completed gas pipeline occurring in the course of its operation are also difficult to quantify, as well as adverse impacts on the marine ecosystem.

For this reason, monitoring during the individual stages will be indispensable and absolutely vital, in order to assess the hazards and the need for additional mitigation measures required in connection with the implementation of the Nord Stream 2 gas pipeline.

(Signature stamp:
pp. Head of Administration
Krystyna Damszel-Podsiadły
Manager,
Department of Agriculture and Environmental Protection
Gdańsk Regional Environmental Protection Directorate
80-748 Gdańsk, Ul. Chmielna 54/57
Tel. (058) 683 68 00, Fax (058) 683 68...
Manager
Certified true copy of the original
Katarzyna Szopińska
2017-06-60
Date, signature, official positon

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I.K.Z

HEAD OF LĘBORK DISTRICT ADMINISTRATION

WOO

OS.033.6.2017.ML Lębork, 18.05.2017

(Rectangular stamp:
Gdańsk Regional Environmental Protection Directorate
Date received/sent: 2017-05-23
No. 3677....Signature:.....)

In response to your letter No. RDOŚ-Gd-WOO.442.1.2017.KSZ.2. of 20.04.2017 (received on 26.04.2017) concerning the Nord Stream 2 Gas Pipeline Project, I am writing to advise that our Office has not taken up a stance in this matter. The assessment forming the subject of the Nord Stream Espoo Report 2 April 2017 demonstrated that the Nord Stream 2 project will not have any significant transboundary impact either at the regional or the global level, while potential impacts will fall within the range of avoidable to minor.

This being the case, the Lębork District Administration does not wish to comment on the above project.

Files

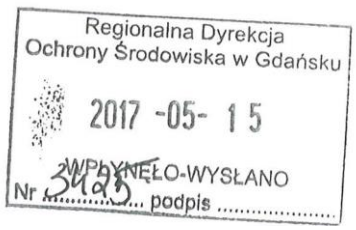
(Signature stamp:
Violetta Kurlewicz-Zajączkowska,
Manager, Environmental Protection Department)

(Rectangular stamp:
Gdańsk Regional Environmental Protection Directorate
80-748 Gdańsk, Ul. Chmielna 54/57
Tel. (058) 683 68 00, Fax (058) 683 68...
Manager
Certified true copy of the original
Katarzyna Szopińska
2017-06-60
.....
Date, signature, official positon

PUCK CITY COUNCIL
WASTE MANAGEMENT AND ENVIRONMENTAL PROTECITON DEPARTMENT

RGOiŚ.604.5.2017.AP

Puck, 08.05.2017



Gdańsk Regional Environmental Protection Directorate
ul. Chmielna 54/57
80- 748 Gdańsk

(Rectangular stamp:
Gdańsk Regional Environmental Protection Directorate
Date received/sent: 2017-05-15
No. 3425....Signature:.....)

In response to your letter No. RDOŚ-Gd-WOO.442.1.2017.KSZ.2 of 20.04.2017 (received by our office on 26.04.2017) the Head of Puck City Council wishes to advise that the Council has no comments on the proposed Nord Stream 2 gas Pipeline Project.

(Signature stamp:
Hanna Pruchniewska,
Head of Puck City Council)

(Rectangular stamp:
Gdańsk Regional Environmental Protection Directorate
80-748 Gdańsk, Ul. Chmielna 54/57
Tel. (058) 683 68 00, Fax (058) 683 68...
Manager
Certified true copy of the original
Katarzyna Szopińska
2017-06-60
.....
Date, signature, official positon

Distribution
1. Addresssee
2. Files

ul. 1- go Maja 13, 84-100 Puck
teł.: (58) 673-05-25, fax (58) 673-05-33
e-mail: gok@miasto.puck.pl. www.miastopuck.pl

0145023

Słupsk 24 May 2017

(Rectangular stamp:
Gdańsk Regional Environmental Protection Directorate
Date received/sent:
No. .....Signature:.....)

0145023
Słupsk Maritime Office
Al. Sienkiewicza 18 76-200 Słupsk
Tel./Fax (0- prefix-59 842-84-06 – 08
dyrektor@umsl.gov.pl
sekretariat@umsl.gov.pl
www.umsl.gov.pl
iow@umsl.gov.pl

Mr Krzysztof Lissowski,
Managing Director,
General Directorate of Environmental Protection
Ul. Wawelska 52/54
00-922 Warsaw

Re: Opinion on Nord Stream 2 Espoo Report

OW-B5-270/15/17/ds

In response to the letter received from the Managing Director of the Gdańsk Directorate of Environmental Protection, No. DOOŚ-tos. 442.12.2013.JA.41 of 21.04.2017, enclosed please find the position of the Słupsk Maritime Office on the issue.

Concerning the proposed expansion of the Nord Stream 2 gas pipeline, the suggestions to be analysed as part of the transboundary impact assessment, contained in the Słupsk Maritime Office opinion dated 06.06.2013 (letter to the Gdańsk Directorate of Environmental Protection, No. SM 500/066/13) were taken into account.

In particular, the Espoo Report analyses the effect and extent of impacts such as collision with sunken weapons and munitions and the possibility of explosion, underwater noise levels during the construction stage and the movement of bottom sediments. Due to the location of the gas pipeline and its distance from the Polish sea areas, impact on those areas falls outside the limits discussed in the Report.

In light of the above, we are not proposing to comment on the Report.

The Słupsk Maritime Office opinion dated 2013 raised the issue of the absence of a regulated boundary between the exclusive economic zones EEZ Denmark and EEZ Poland (south of Bornholm). We stand by our view about the need for an international treaty concerning that boundary, between Denmark and Poland, which will make it possible to analyse the extent of the environmental impact on Polish marine areas, and to undertake environmental monitoring.

At the same time, we would like to confirm our wish to participate in the meeting on the transboundary impact of Nord Stream 2, to be held on 13 June 2017 in the Szczecin Maritime Office.

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(Rectangular stamp:
Gdańsk Regional Environmental Protection Directorate
80-748 Gdańsk, Ul. Chmielna 54/57
Tel. (058) 683 68 00, Fax (058) 683 68...
Manager
Certified true copy of the original
Katarzyna Szopińska
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GDYNIA MARITIME OFFICE

www.umgdy.gov.pl

(Rectangular stamp:
Gdańsk Regional Environemtanl Protection Directorate
Date received/sent: 2017-05-29
Signature:.....)

INZ1.1-AC-8103-49/17

Gdynia, 24.05.2017

General Environmental Protection Directorate
ul. Wawelska 52/54
00-922 Warsaw

Re: Expansion of the **Nord Stream** gas pipeline

In response to your letter No. **DOOŚ-tos.442.12.2013.JA.41** of 21.04.2017 concerning the above matter, the Director of the Gdynia Maritime Office wishes to advise that the documentation submitted to this Office does take into account the scope of the report specified in our letter INZ/ZP-8316/49/13 of 7 June 2013 (enclosed).

Since it follows from the Report that the expansion of the Nord Stream gas pipeline is not expected to have an adverse impact on Polish maritime areas, the Director of the Gdynia Maritime Office sees no grounds for its participation in transboundary consultations with individual countries, which would take the form of meetings.

However, we would like to take the opportunity to submit the following comments on the documentation submitted to us:

1. Section 0.10 of the Nord Stream 2 Espoo Report entitled “Maritime Spatial Planning” contains no information about Directive 2014/89/EU of the European Parliament and of the Council of 23 July 2014 establishing a framework for maritime spatial planning;
2. Bearing in mind the progress of work on maritime spatial planning achieved by some Baltic countries (including Germany and Sweden), the statement that that “no official plans have been adopted to date” (Section. 3.4.4. of the Espoo Report) needs to be expanded and clarified.
3. In the “Atlas Espoo. Nord Stream 2”, the map entitled “Existing and proposed wind farms” (p. 86) includes “reserved areas” of the Polish territorial waters. However, Article 23 Paragraph la of the Law on the Republic of Poland Maritime Areas and on Marine Administration of 21 March 1991 forbids the installation and operation of wind farms in marine internal and territorial waters.

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(Rectangular stamp:
Gdańsk Regional Environmental Protection Directorate
80-748 Gdańsk, Ul. Chmielna 54/57
Tel. (058) 683 68 00, Fax (058) 683 68 0...

(Signature stamp:
pp. Director, Gdynia Maritime Office
Jacek Osmólski M. Eng.
Chief Inspector,
Development and Spatial Management
Inspectorate

WOO/WOC

GDYNIA MARITIME OFFICE

www.umgdy.gov.pl

INZ/ZP-8316/49/13 Gdynia, 7.06.2013

General Environmental Protection Directorate
ul. Wawelska 52/54
00-922 Warsaw

Re: Expansion of the **Nord Stream** gas pipeline

In response to your letter No. **DOOŚ-tos.442.12.2013.JA3** of 25.04.2013 concerning the above matter, it is the view of the Director of the Gdynia Maritime Office that the Report on the environmental impact of the **Nord Stream** gas pipeline should include:

1. Analysis of the hazards represented by sunken munitions, including direct threats to human life and health and to marine organisms; the impact of the dispersion of pollutants through the body of water and the sediments on Polish maritime areas;
2. The impact of the operations on shipping safety; threats arising from the possibility of shipping collisions during measurements, construction, maintenance and dismantling of the gas pipeline; the impact of any shipping collisions and the associated oil spills on Polish maritime areas;
3. Threats associated with the decommissioning of the gas pipeline;
4. The impact of the construction and operation of the gas pipeline on the fishery resources of Polish maritime areas.

(Rectangular stamp:
Gdańsk Regional Environmental Protection Directorate
80-748 Gdańsk, Ul. Chmielna 54/57
Tel. (058) 683 68 00, Fax (058) 683
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1. Gdańsk Regional Environmental Protection Directorate, ul. Chmielna 54/57, 80-748 Gdańsk (in connection with Letter No.**RDOŚ-Gd-WOO-442.1.2013.ER.2**)
2. Environmental Protection Inspectorate (IOŚ-MS-780/13)
3. INZ files

am/letters2013/Espoo/ro7. Nord Stream constr. Scope of forecast

ul. Chrzanowskiego 10, 81-338 Gdynia ☎ 58 355 34 37
fax: 58 661 66 97

Gdańsk Regional Water Authority

RZGW w Gdańsku

WOO

ZGPW/072-4/1/2017/MP

Gdansk, 22.05.2017

Gdańsk Regional Environmental Protection Directorate
ul. Chmielna 54/57
80-748 Gdańsk

Regionalna Dyrekcja
Ochrony Środowiska w Gdańsku

2017 -05- 25

WPŁYNĘŁO / WYSŁANO
Nr 3744 podpis .....

(Rectangular stamp:
Gdańsk Regional Environmental Protection Directorate
Date received/sent: 2017-05-25
No. 3744...Signature:.....)

Re: Nord Stream 2 Gas Pipeline Project

In response to your letter No. RDOŚ-Gd-WOO.442.1.2017.KSZ.2. of 20.04.2017, the Director of the Gdańsk Regional Water Authority wishes to set out his position as follows.

It follows from the ESPOO Nord Stream 2 Report (April 2017) that the route of the pipeline and its identified potential transboundary impacts will bypass the Republic of Poland territorial waters and its Exclusive Economic Zone.

The part of Section 15.4.2.6. of the Report dealing with the potential transboundary environmental impacts states that no potential transboundary impacts have been identified for Poland, and that the adopted project solutions rule out negative impacts on those waters, due to the location of the gas pipeline.

In my view, the analyses should pay special attention to the environmental impact of such a major project and explicitly name the authority responsible for environmental oversight, including monitoring during the construction and operation stages. It would be worthwhile to add information on the method of responding to information on undesirable breakdowns and environmental changes as they occur.

In view of the nature and scale of the project, provision should also be made for the verification of the final monitoring programme, developed in accordance with the requirements of the different parties, to be implemented during the construction and operation of the gas pipeline.

Henryk Jurczak
Deputy Director
(Rectangular stamp:
Gdańsk Regional Environmental Protection Directorate
80-748 Gdańsk, Ul. Chmielna 54/57
Tel. (058) 683 68 00, Fax (058) 683 68...
Manager
Certified true copy of the original
Katarzyna Szopińska
2017-06-60.....
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Distribution:

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Regionalna Dyrekcja
Ochrony Środowiska w Gdańsku
2017 -05- 23
WPŁYNĘŁO-WYSŁANO
Nr 3671 podpis .....

WOO

Gdynia, 19.05.2017

OGa/OC- 22/DO232 /2017

(Rectangular stamp:
Gdańsk Regional Environmental Protection Directorate
Date received/sent: 2017-05-23
No. 3671...Signature:.....)

Gdańsk Environmental Protection Directorate
80-748 Gdańsk
ul. Chmielna 54/57

Re: Comments on Nord Stream 2 gas pipeline project

In response to your letter No. RDOŚ-Gd-WOO.442.1.2017.KSZ.2 of 20 April 2017, I enclose (Annex 1) comments on the Nord Stream 2 gas pipeline project prepared on the basis of the documentation available in Polish.

I wish also to advise that our Department did not participate in the scoping procedure and did not submit any comments.

(Signature stamp:

Krzysztof Lubomirski
Deputy Director, Marine Department,
Institute of Metrology and Water Management)

(Rectangular stamp:
Gdańsk Regional Environmental Protection Directorate
80-748 Gdańsk, Ul. Chmielna 54/57
Tel. (058) 683 68 00, Fax (058) 683 68...
Manager
Certified true copy of the original
Katarzyna Szopińska
2017-06-60.....
Date, signature, official positon

INSTITUTE OF METROLOGY AND WATER MANAGEMENT
State Research Institute
01-673 Warszawa ul. Podleśna 61
Gdynia marine Department, ul. Waszyngtona 42, 81-342 GDYNIA
Switchboard: (+48) 58-62-88-100, fax: (+48) 58-62-88-163, e-mail: Sekretariat.Gdynia@imgw.pl
A/c: Bank Zachodni WBK S.A. XIV, Warsaw Branch, No 94 1090 1014 0000 0001 2047 1950
Regon: 000080507-00089, NIP: 525-000-88-09

Comments

It follows from the project description that the most significant threats to the Baltic environment will arise from the construction (building) works during the pipe laying process, due to the impact on the marine environment of the harmful substances released from the sediments. The threats will arise during sea bed levelling, dredging, trenching and backfilling, particularly in the area of the pipeline's landfall in the Bay of Pomerania.

These works will lead to impingement of the structure of the bottom sediment, where the seabed conditions are virtually permanently anaerobic or display a high level of oxygen deficit. Bottom sediment contains many reductive (deoxygenating) substances at high concentrations, and the construction works may result in their additional release, thus leading to a local deterioration of the oxygen status of the benthic zone and the water depths.

Sediment in this part of the Baltic also contains a large quantity of hazardous organic substances (e.g. persistent organic pollutants, including PCBs, PAH, etc.) as well as heavy metals. Impingement of bottom deposits causes these substances to be released into the water, and this release should be carefully monitored. In the event of impingement of bottom deposits in the area of the Bornholm Basin and the release of hazardous substances from them, a real threat will arise for the bottom-dwelling fauna of the Słupsk Furrow (located in its entirety in the Polish Economic Zone, due to the fact that the benthic current system found in this area assists the transport of waters from the Bornholm Basin via the Słupsk Furrow to the east.

At this point, it is important to emphasise that the benthic zone fauna of this area includes valuable, and now very rare for the Baltic, species of glacial epoch survivors, which could become extinct. Also the transport of water masses containing large quantities of reductive substances and of suspended solids to the Słupsk Furrow will create the danger of a reduction in benthic zone water oxygenation and hazards for bottom-dwelling organisms.

Similar risks exist also for the Bay of Pomerania, of which it is said that the impact of the transport of suspended solids for a distance of approximately 20 km does not constitute a risk of transboundary transport of the pollutants. It should be noted that this range is similar to the distance between the Polish marine waters and the construction site.

It is our view that the hazards associated with chemical and conventional munitions dumps have been presented in a satisfactory manner. We must hope that the relevant safeguards will be put in place as required.

(Rectangular stamp:
Gdańsk Regional Environmental Protection Directorate
80-748 Gdańsk, Ul. Chmielna 54/57
Tel. (058) 683 68 00, Fax (058) 683 68...
Manager
Certified true copy of the original
Katarzyna Szopińska
2017-06-60.....
Date, signature, official positon)

At the same time, it is difficult to express an opinion on the results of the assessment presented in the Report, due to the lack of particulars concerning the modelling of the transport of pollutants and suspended solids, in particular as it concerns the transboundary impact of the project. The document does not specify the assumptions used in modelling, or provide the results of verification or an assessment of the accuracy of simulation. Statements of the type of “insignificant or slight impact” can form no basis for an opinion on the correctness of the analyses.

(Rectangular stamp:
Gdańsk Regional Environmental Protection Directorate
80-748 Gdańsk, Ul. Chmielna 54/57
Tel. (058) 683 68 00, Fax (058) 683 68...
Manager
Certified true copy of the original
Katarzyna Szopińska
2017-06-60.....
Date, signature, official positon)

REGIONAL DIRECTORATE FOR ENVIRONMENTAL PROTECTION IN OLSZTYN

WSTE.442.1.2017.GK.4

Olsztyn, 30/05/2017

General Directorate for
Environment Protection
Department of
Environmental Impact
Assessment
Warsaw

Further to letter ref DOOŚ-tos.442.12.2013.JA.40 dated 12 April 2017 regarding the transboundary environment impact assessment for the planned **Nord Stream 2 gas pipeline** project (the project formerly known as Nord Stream gas pipeline development), please be advised that the Regional Director for Environment Protection in Olsztyn has considered the documentation enclosed with the letter referred to above sent to the General Directorate for Environment Protection including: Nord Stream 2 ESPOO Report - April 2017 (two volumes of documentation: text and cartographic files) and offers no comments or proposals regarding the said documentation.

The report presents the study results of seabed sediment, marine flora and fauna and birds in the areas identified as ecologically sensitive. The impact of the planned project on Natura 2000 areas was assessed. Effective methods of the disposal of any ammunition found in the path of the pipeline were described. The Report sets out methods of handling waste generated during the project implementation. The Report analyses suggest no trans-boundary impacts resulting from normal operation of the pipeline.

Furthermore, pursuant to Art. 119 of the Act dated 3 October 2008 on disclosure of information regarding the environment and its protection, social participation in environmental protection and environmental impact assessments (Journal of Laws 2016, Item 353 as amended), the Regional Director for Environmental Protection in Olsztyn has announced the procedure and made the presented documents available for inspection. Information on the course of this procedure and any comments and proposals by members of the public relating to the project in question shall be passed on upon termination of the procedure with the involvement of the public.

Agata Mozdzierz
REGIONAL DIRECTOR FOR ENVIRONMENT PROTECTION
in Olsztyn

SZCZECIN MARITIME OFFICE

Pl. Batorego 4, 70-207 Szczecin

tel.: +48 91 4342474, fax: +48 91 4344656, e-mail:
sekretariat@ums.gov.pl

Ref.No.: GPG-I-070/9/5/17 Szczecin, 24 May 2017
Your letter No. : DOOs-tos.442.12.2013.JA.41
Dated: 21 April 2017

(Rectangular stamp:
General Directorate
of Environmental Protection
OFFICE
Date received: 2017-06-27
Reg. No. 11792.....Signature.....)

(Rectangular stamp:
General Directorate
of Environmental Protection
SECRETARIAT
Date received: 2017-06-28
Reg. No.2568.....Signature.....)

Mr Krzysztof Lissowski,
Managing Director,
General Directorate of Environmental Protection
Ul. Wawelska 52/54
00-922 Warsaw

Re: Opinion on Nord Stream 2 Espoo Report

In response to your letter of 21 April 2017 (No.DOOs-tos.442.12.2013.JA.41) on the Nord Stream 2 Espoo Report, made available to us under the Environmental Impact Assessment Procedure, please find below the position of the Director of the Szczecin Maritime Office.

The document was analysed on the basis of the list of issues submitted to the Developer, set out in the letter from the General Directorate of Environmental Protection dated 18.06.2013. It must be remembered that the document was prepared for the needs of the Nord Stream 2 project on the basis of Article 4 of the Convention of the United Nations Economic Commission for Europe (UNECE) on Environmental Impact Assessments in a transboundary context (the Espoo (EIA) Convention), Directive 2011/192/EU of the European Parliament and of the Council on the assessment of the effects of certain public and private projects on the environment (Directive 2011/192/EU) and on national regulations implementing the requirements of the Espoo Convention and the EISA directive in Finland, Sweden, Denmark and Germany, and therefore does not necessarily correspond to the Polish approach to the above issues in every respect and must comply with our interests. On the other hand, it cannot ignore the arguments raised in the scoping discussion.

In spite of the fact that the principles applicable in Poland are generally speaking the same, such an important and geographically significant project cannot be reduced to an operation with virtually no adverse impacts on the marine environment.

1. Option analysis and justification of investment

In their Environmental Impact Assessment the developers analysed five alternative pipeline routes. Three main criteria were used in the Assessment: environmental, socio-economic and technical. All

options were based on the construction of a completely offshore gas pipeline, with the exception of the last one, which included a small onshore section (via Uznam Island).

Needless to say, the zero (do nothing) option was rejected. The justification of its rejection was not completely apt, since the onshore alternative has always been available, and the environmental impact would certainly have been positive, and not, as emphasised by the authors of the EIA, (without analysing this option) "neither positive nor negative". In addition, the assertion that the construction and operation of an offshore gas pipeline would involve solely temporary, local or minor environmental impacts, is not absolutely correct.

The expectations of the Polish side concerning an analysis of the onshore option have not been met. The document limits itself to the statement that the implementation of the onshore option would be associated with technical and operating difficulties (the need to install booster pump stations along the route), the need to make additional investments, the expected need for change of use, including housing development etc. Most probably, attempts were never made to plot the actual route, so that it is hard to speak of an analysis of any specific option. Undoubtedly implementation of the onshore option would be financially more expensive, though rolling costs, taking into account environmental values, accessibility for maintenance and repair purposes and a range of other factors have of necessity not been checked.

Generally speaking, the authors of the document do not address the validity of the project, regarding it as obvious, since it will bring about socio-economic benefits, e.g. an increase of the number of jobs or of other revenues, which would not be generated if the project were not implemented.

2. Environmentally significant project impact factors, including all project stages

With respect to the issue of the impact of the project at the stage of its decommissioning, raised by the Directorate General of Environmental Protection in its presentation, the authors of the document state that a decision on the selected decommissioning technology has not yet been made. They therefore devote a separate paragraph of the document to describing the theoretically possible technical decommissioning options, treating the offshore and onshore sections separately and providing a greatly simplified description of the impact of each of the options. In summary they state that the option they found most convincing was leaving the pipelines on the seabed, alternatively cutting them into sections and raising them to the surface. The decision is intended to be preceded by a set of analyses based on principles similar to those used in selecting the location of the project.

3. Constraints on and safety of shipping, and the risk of collision

The document devotes a few sentences to the safety of shipping and the risk of shipping collision, reducing any risks to collisions between ships and the equipment servicing the project.

In this context, the EIA raises the issue of the organisation and implementation of communication and navigation systems, promising the development of assistance and other auxiliary procedures.

Much more space is devoted to risk assessment, which describes both the methodology and environmental hazards which could be associated with the pipeline construction and operation stage.

This concerns shipping collisions and oil spills during the construction stage, the spread of the oil spill on the surface of the sea and its impact on the natural environment and tourism, the risk associated with the presence of conventional and chemical munitions and the environmental impact of their destruction. The document also deals with the risk of gas release during operation, describing its causes, extent and potential effects together with the consequences of gas ignition.

A separate issue concerns the restrictions on shipping. In the area of interest to the Polish side Nord Stream 2 intersects the northern (shipping lane 20) and western approaches to the Polish ports of Szczecin and Świnoujście in the Bay of Pomerania.

Based on the Nord Stream 2 risk assessment, the gas pipelines can be laid on the seabed where the water depth is 17.0 m or more, without requiring additional protection. At shallower depths, the gas pipeline will be laid in a trench designed to "protect the gas pipeline from impacts (mainly by ships and anchors)".

1. According to the ESPOO Report (p. 458), in the northern approach area water depths vary from 18.0 m to 18.1 m – in this area the gas pipelines are laid on the seabed. Consequently, their outside diameter of 1.5 m provides a water column at least 16.0 m high above the gas pipelines, in an area where clearing dredging takes place from time to time, and which thus requires the provision of a safety margin. The Report then states that analysis of AIS data from ships sailing along the northern approach to the ports of Szczecin and Świnoujście specifies a maximum draft of 12.9 m, which is wrong, since on the one hand depths in some sections of the approach are currently too shallow for such large vessels while on the other hand the Polish side intends in the future to increase the depth of this approach to 17.0 m to allow vessels with a draft of up to 15 m to access the port of Świnoujście.

The above depths do not allow unrestricted navigation along this route at a time when increased traffic is expected precisely on this approach. The Polish side understands the notation of unrestricted navigation to be assigned to ships with the maximum draft of 15 m for passage into the Baltic, i.e. ships able to sail the Danish straits.

Theoretically, larger ships may also sail the Baltic region, treating it as a closed basin (without entering the North Sea or sailing further out), but leaving such situations aside even today ships with a draft of 15.0 m will require minimum depths of 17.0 m, which, assuming a tolerance of 0.5 m which is the current allowance for clearance dredging, means that the top of the pipe together with its casing should be sunk to a depth of at least 17.5 m from the surface of the sea.

2. According to the Report, "in the area of the western approach, water depths vary from 15 to 16 m. AIS data suggest that ships sailing through the western approach have a maximum draft of 13.5 m. In this area, the risk assessment specifies the seabed outwashing depth. Trenching for the purposes of NSP2 in this section assumes a placing depth of 0.5 m and consequently the water depth will remain unchanged".

It does not follow from the above that the location depth (0.5 m) relates to the top of the pipeline including the casing. Consequently, there is no guarantee that the Polish side's expectations will be met, or even that the current accessibility of the ports of Szczecin and Świnoujście via the western approach will be maintained. The Polish side expects a clear and well-defined statement of the pipeline's depth of location based on a specification of the ordinate of the top of pipe together with its concrete casing + backfill layer if used.

In the case of both routes, a clear specification of their width is also essential. Due to their location in the open seas and the likelihood of ships having to pass one another, including in storm conditions, and the possibility of accidents, channel width at this point should be at least 3 Mm. This means that the length of a gas pipeline laid at that depth should also be 3 Mm.

The description of trenching contains the information that the spoils created by the plough will be left behind in spoil banks (up to 4 m high) on the seabed in the immediate vicinity of the pipeline. With time, the action of currents in the vicinity of the seabed will result in partial natural filling of the trench. In areas requiring active protection, forced or artificial backfilling will become necessary.

It should be obvious that any soil banks created by dredging at the western approaches could reduce natural depths, so that the Report should state unequivocally that at intersections with navigation routes (of a specified width) the spoils will not be deposited in this way.

In view of the above, the Report's conclusion that "It can therefore be said that it will not have any impact on ship movements caused by the presence of the gas pipeline on the seabed" is untrue.

A separate issue is the assertion that "All HELCOM member states except Poland have agreed to obtain data (from the DMA for the needs of NSP2). Consequently, the graphs on the shipping traffic maps contained in the Atlas (SH-01-Espoo-SH-07- Espoo), do not currently include data collected by base stations fitted with AIS in Poland".

It is not clear whether this information is based on fact and, in this context, where the authors of the document obtained the figures for the draft of ships sailing along the Szczecin and Świnoujście fairways (western and southern), when the table of water depths along the NSP2/204 route shows that this area, classified as part of German waters, is "The shallowest area in comparison with other routes. The pipeline would enter an area with a water depth of 20 m before reaching the shallow area of the Bay of Greisfwald, containing the landfall site", with the text containing references to AIS data for ships operating in those areas.

The data quoted in the document, and consequently the resultant calculations, suffer from a significant defect, which consists in very rough rounding off of the figures (up or down, depending on the requirements), which must also in the subsequent interpretation lead to the conclusions expected by the Developer.

The project authors' approach to the pipeline colliding with shipping routes is illustrated by the statement that "Some shipping routes intersecting the route of the HSP pipeline run through shallow waters..." It follows from the above that the routes collide with the pipeline, and not vice versa, which is an unacceptable approach, bearing in mind that the primary function of the Baltic Sea in this area is the shipping function.

However, whichever way you look at it, the PPP-01-Espoo map which shows the cumulative impact of planned and existing projects does not take the approaches to the Świnoujście - Szczecin port complex into account.

Consequently, leaving aside the threat to the safety of navigation represented by the proposed gas pipeline, the authors of the Report also completely ignore the problem of environmental hazards which could result from a collision between a ship and a too shallowly laid gas pipeline. Any number of potential emergency situations can be considered here, from loss of integrity of the pipeline with no damage to the vessel (resulting only in the escape of a considerable quantity of methane to atmosphere) to damage both to the gas pipeline and to the ship, which in extreme but not

unimaginable circumstances could result in the ignition of the gas flowing from the pipeline, a fire and the sinking of the ship with all the resulting consequences.

These scenarios should be considered, any potentially adverse environmental consequences assessed and remedial action proposed. It is self-evident that the simplest remedial action would be to lay the pipeline at a sufficient depth to make collisions of ships with a maximum draft for the Baltic Sea (15-15.5 m) with the pipeline physically impossible.

4. Analysis of the incidence of potential emergency situations and their environmental impacts

The incidence of potential emergency situations is described above. Their consequences and environmental impacts will be discussed below.

5. Hazards associated with sunken chemicals and munitions

Considerable attention has been paid to these issues, indicating possible methods of their elimination and the environmental consequences of the various operations. Major areas of their occurrence have been identified, actions proposed and their impacts discussed. However, we cannot agree with the view of the Report's authors, that operations intended to open these areas to the project will not give rise to any difficulties, and that the environmental impacts of the individual operations will be less than insignificant, and even if they do occur, they will be limited to impact on a few individuals within a population or their duration will be so short-lasting that their consequences will be imperceptible.

The effects of the works, even if excellently well prepared and using the best technologies, will not guarantee total environmental safety, and harmful substances released even during exceptionally short operations will decompose over a very long period of time, and have an extremely harmful impact on their near and far environment over considerable periods of time.

6. Description of the project's impact on the Baltic flora and fauna, including birds and marine mammals

In assessing the environmental impacts of project implementation, it was decided to adopt the principle of mitigation of adverse effects rather than focusing on their elimination.

The fact that the principle of mitigation was adopted at the very start of the project has meant that the Developer did not on principle intend to avoid negative environmental consequences, but would instead simply minimise them, which within the context of a health, safety and environment as well as social issues management system would make the management of safety dependent largely on the integrity of the project assets and of the reputation of Nord Stream 2. This seems not to guarantee fully objective selection, assuming the aim to be cost minimization.

The issue of the Company's reputation should work to the advantage of environmental protection solutions adopted by it; however, awareness of the fact that the company is most likely an entity involved in just this single project does not give certainty on this issue.

Analysing the individual components of the environment which had undergone an environmental impact assessment and are described in the EIA, we can state unequivocally that both in the case of the offshore and the onshore part of the project the vast majority of the impacts has been assessed as avoidable or at most minor.

This is not surprising, since the authors of the document, applying the principle of scale and describing any local outcomes against a global background (e.g. as in the case of the assessment of the impact of the project on global climate) easily demonstrated that the project will have a minor or even avoidable impact.

The principles of assessment of investment projects applicable in all European Union Countries are generally the same, but judging objectively, it will not be possible to reduce such a large and significant project to one with almost no negative consequences for the marine environment.

All the difficulties assessed in the document are reduced to "minor". Important habitats, even if they are located along the route of the gas pipeline, would not be threatened, because some species occur too high up in the water depths for the turbidity to reach them, while others would occur too low down, and since in any case light can barely reach them, any deterioration in water transparency would not be of any very great importance, while excessive noise and vibration levels would be short-lived. Generally speaking, all difficulties would be avoidable, and if they could not be eliminated, the population would apparently be able to withstand them, because it so happens that in that particular location we are dealing with only a few individuals.

It can of course be assumed that this is the result of perfect routing of the gas pipeline, but speaking objectively, along a route of this length inserted into an existing biological system this is simply impossible over its entire length.

It is only right to note that the authors have attempted to address all the issues raised in the Polish side's address, as set out in the General Directorate of Environmental Protection letter of 18.06.2013 (Ref. No. DOOs-tos.442.12.2013.JA), but the analyses end on each occasion with the statement that there will be no adverse impacts, they will be avoidable, and in the worst case only minor.

It is therefore hard to expect any other than a positive outcome, especially in the context of the expected socio-economic effects and of the "integrity of project assets".

7. Sediment disturbance and potential pollutant release

These issues were raised both at the stage of analysis of the individual phenomena and of the assessment of their cumulative impact. The conclusions of the discussion reduce the issues to the level of insignificant or short-lived, affecting fragments of the populations too small to have any significance and to require remedial action.

8. Cumulative impact

To arrive at an assessment of cumulative impact, the project was divided into sections, which were described in terms of their location and the operations undertaken within the section. Next, the potential cumulative impacts of these operations were assessed in terms of their noise levels, pollutant emissions to atmosphere, the stage of construction or operation and disturbances to traffic and onshore and offshore safety.

In the latter case, the analysis included sediment release into the water column and changes to the seabed profile, as well as pollutants released by the pipeline anodes during its operation.

9. Preventive and minimizing measures

Assessment of the project's environmental impact is based on the principle of mitigating adverse impacts, instead of focusing on their elimination.

The fact that the principle of mitigation was adopted at the very start of the project has meant that the Developer did not on principle intend to avoid negative environmental consequences, but would instead simply minimise them, which within the context of a health, safety and environment as well as social issues management system would make the management of safety dependent largely on the integrity of project assets and of the reputation of Nord Stream 2. The latter should work in favour of the proposed solutions, but the awareness that the company is most likely a single project entity does not give any certainty in this matter.

10. Monitoring

The monitoring section has been appropriately treated in the document. All project components requiring monitoring are to be monitored with the required frequency.

11. Fishery restrictions

The document describes fishing as one of the components of the impact on the socio-economic environment. It points to six potential sources of impacts on commercial fishing activity. The effects of these impacts on the welfare of fish raised during the project implementation stage are, according to the authors, avoidable.

Similarly, difficulties in the movement of fishing trawlers and cutters and the destruction of fishing gear during the construction of the pipeline, due to the fact that the fish shoals will avoid the construction areas because of the noise and other factors, so that no fishing will take place in them, are also classified as involving avoidable effects. Any subsequent inspection or maintenance of the pipeline will not be of great significance due to the limited duration of the operations (once or twice a year), so that in spite of the major importance of fishing, the impact on commercial fishing activity associated with the presence of servicing vessels has also been classified as avoidable, due to its insignificant level and low sensitivity.

The transboundary assessment of selected regional and global components of the environment in terms of its relationship to commercial fishing has been reduced to a description of the exclusion zones around vessels during pipeline construction and operation and of the presence of pipeline structures on the seabed. Generally speaking, it has been reduced to a statement that it will be possible for fishing to continue without interruption, if not in one specific location then in another, and that although the pipeline laid on the seabed may represent a hazard to specified fishing gear nevertheless the fishermen, aware of this fact, could bypass the pipeline areas.

Summary

The section devoted to transboundary impacts does not address the Polish side's proposals at all. In the "Summary of potential transboundary impacts" table (table 15-7) the column assigned to Poland does not note any impacts arising out of project implementation.

The Report was clearly written from the developer's point of view, because it does not simply restrict itself to limiting the occurrence of specific impacts, but also downplays their effects, proposing only minor streamlining action or even proposing to take no action at all.

In practice, since Polish territorial waters are located a considerable distance from the final gas pipeline route, the Polish arguments will not be taken into account by the designers.

However, there are two issues which are of basic importance from our point of view. They are:

- Our ability to build the Baltic Pipe gas pipeline and
- Ensuring appropriate access to the Polish sea ports (Świnoujście and Szczecin).

With respect to the gas pipeline, while it is true that in the section describing its baseline environmental status the document does refer to the existence, alongside the two existing Nord Stream legs, of only one proposed gas pipeline – the BalticConnector, in another section it does point out that unlike the NSP, the NSP2 crossing with other existing and proposed pipelines will be designed and agreed with the relevant operators. As an example, the section quotes the Baltic Pipe gas pipeline.

Building this gas pipeline as well as a wind farm in the Polish EEZ has not been taken into account in the cumulative impacts section, since, as the document's authors say "the process of planning these projects is not as yet sufficiently advanced to enable us to predict the effects of their implementation".

However, there are still no guarantees of interest to the Polish side that NSP2 will have no adverse impact on navigation, especially navigation involving ships with maximum draft for passage into the Baltic, above all in terms of the collision of the project with the approach routes to the ports of Świnoujście and further to Szczecin.

There is also no information about the methods of compensation for the losses suffered by Polish fishermen engaged in fishing activities in various areas of the Baltic, including the areas of the proposed NSP2 investment projects, because those areas have been excluded from operation and also because of the decrease in the fish population due to restrictions on breeding and living conditions and to any potential damage or loss of fishing gear in the traditional fishing grounds, or to the need to replace those grounds with others.

The Polish side must strongly insist on these two issues during the further stages of the transboundary procedure.

pp. Director, Szczecin Maritime Office
Zbigniew Piętka M.Eng.
Deputy Technical Director

Distribution:

1) The Addressee
2) Department of Maritime Economy, Ministry of Maritime Economy and Inland Navigation
   Ul. Nowy Świat 6/12, 02-400 Warsaw
3) GPG – Files

MC/DU

Slupsk, 24 May 2017

DOOŚ

P.P. Aleksandra
30.05.2017

Generalna Dyrekcja Ochrony Środowiska
SEKRETARIAT
Generalnego Dyrektora Ochrony Środowiska
WPŁYNĘŁO 2017 -05- 30
Nr z rejestru 2817 Podpis

014023
Urząd Morski
(Maritime Office) in Slupsk
Al . Sienkiewicza 18, 76-200 Słupsk
tel./fax: 0-prefix-59 842 84 06 - 08
dyrektor@umsl.gov.pl
sekretariat@umsl.gov.ul
www.umsl.gov.pl
iow@,umsl.gov.pl

Generalna Dyrekcja Ochrony Środowiska
SEKRETARIAT
Departamentu Ocen Oddziaływania na Środowisko
WPŁYNĘŁO 2017 -05- 30
Nr z rejestru 2586 Podpis

Mr
Krzysztof Lissowski
Director General for
Environment Protection
ul. Wawelska 52/54
00-922 Warsaw

OW-B5-270/15/17/ds

Re: Opinion regarding the documentation 'Assessment of the environmental impact by the Nord Stream 2 Pipeline project'

Further to the letter to the Director General for Environmental Protection (GDOŚ) in Gdansk, ref. DOOŚ-tos. 442.12.2013.JA.41 dated 21/04/2017, please find below the position of the Maritime Office in Slupsk in this matter.

The suggestions have been taken into account regarding the planned development of the Nord Stream 2 gas pipeline, to be examined as part of the assessment of trans-boundary impact, included in the opinion of the Maritime Office in Slupsk dated 06/06/2013 (letter to the GDOŚ, ref. SM 500/066/13).

In particular, the Espoo Report analyses impacts and their ranges, such as: exposure to dumped weapons and munitions, risk of explosion, underwater noise generated during construction and movement of benthic sediments. Due to the gas pipeline location and its distance from Polish territorial waters, the ranges discussed in the report are irrelevant to any impact on those waters.

Therefore, we have no comments to make on this report.

The 2013 opinion of the Maritime Office in Slupsk referred to raises the issue of the absence of a defined boundary between the Danish and Polish EEZs (south of Bornholm). We maintain our position that an international agreement on this boundary should be entered into between Denmark and Poland, as this would allow an analysis of the ranges of environmental impacts in Polish territorial waters and environmental monitoring.

We also confirm our readiness to participate in the planned meeting regarding the trans-boundary impact of Nord Stream 2 to be held on 13 June 2017 at the Maritime Office in Szczecin.

Deputy Director/Technical Director
Maritime Office in Slupsk

Distribution:
1. The addressee
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URZĄD MORSKI W GDYNI

www.umgdy.gov.pl

INZ1.1-AC-8103-49/17

Gdynia, 24/05/2017

General Directorate for Environmental Protection ul. Wawelska 52/54

00-922 Warsaw

Re: Development of the **Nord Stream** pipeline.

Further to your letter ref. **DOOŚ-tos.442.12.2013.JA.41** dated 21/04/2017 in the specified matter, the Director of the Maritime Office in Gdynia is pleased to advise that the provided documentation matches the scope of the report set out in letter ref. INZ/ZP-8316/49/13 of 7 June 2013 sent by this Office (enclosed).

Given that the Report anticipates no negative impact on Polish sea waters by the development of Nord Stream pipeline, the Director of the Maritime Office in Gdynia does not deem necessary his participation in trans-boundary consultation meetings with individual countries.

We take the opportunity to present the comments below on the documentation presented:

1. In the 'Espoo Report. Nord Stream 2', section 0.10 'Marine Spatial Planning' contains no information on European Directive 2014/89/EU of 23 July 2014 setting out the framework for marine spatial planning.
2. Considering the progress stage in works on the maritime spatial development plans in some Baltic countries (e.g. Germany, Sweden), the information that 'no official plans have been yet approved' (s. 3.4.4. of the Espoo Report) requires to be amended and clarified.
3. In 'Atlas Espoo. Nord Stream 2', 'reserved areas' in Polish territorial waters have been indicated on the map 'Existing and planned wind farms' (p. 86). Article 23(1a) of the Act dated 21 March 1991 on Polish maritime territories and administration, prohibits building and operating wind farms in maritime internal waters and territorial waters.

ul. Chrzanowskiego 10, 81-538 Gdynia ☎ 58 355 34 37
fax: 58 661 66 97

For and on behalf of the DIRECTOR
OF THE MARITIME OFFICE IN GDYNIA
Jacek Kosmolski
Senior Inspector
Inspectorate for Spatial Development

Distribution:

1. the Addressee
2. Regionalna Dyrekcja Ochrony Środowiska (Regional Direction for Environmental Protection) in Gdańsk, ul. Chmielna 54/57; 80-748 Gdańsk (regarding letter ref. **RDOŚ-Gd-WOO-442.1.2017.KSZ.2 dated 20/04/2017)**
3. Ministerstwo Gospodarki Morskiej i Żeglugi Śródlądowej (Ministry of Maritime Economy and Inland Shipping), Departament Gospodarki Morskiej (Maritime Economy Department), ul. Nowy Świat 6/12; 00-400 Warszawa
4. IOŚ (internal)
5. INZ (to file)

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ul. Chrzanowskiego 10, 81-538 Gdynia ☎ 58 355 34 37
fax: 58 661 66 97

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INZ/ZP-8316/49/13 Gdynia, 7/06/2013

Generalna Dyrekcja Ochrony Środowiska
(General Direction for Environmental Protection)
ul Wawelska 52/54
00-922 Warsaw

Re: Development of the **Nord Stream** gas pipeline.

Further to your letter ref. **DOOŚ-tos.442.12.2013.JA3** dated 25/04/2013 in the matter referred to above, in the opinion of the Director of the Maritime Office in Gdynia the report on environmental impacts by the Nord Stream gas pipeline should address the following issues:

1. An analysis of risks related to the dumped ammunition, including direct risks to health and the lives of humans and marine organisms; the impact on Polish territorial waters of spreading contaminants in mid-water and sediments;
2. The impact of works under way on the safety of shipping; the risks related to the possible collision of vessels during the measurement, construction, maintenance and disassembly of the gas pipeline; the impact on Polish territorial waters of possible collision between vessels and related oil spillages;
3. The risks related to the decommissioning of the gas pipeline;
4. The impact of the construction and operation of the gas pipeline on fishery stocks in Polish territorial waters.

For and on behalf of the DIRECTOR
OF THE MARITIME OFFICE IN GDYNIA
Jacek Kosmolski
Senior Inspector
Inspectorate for Spatial Development

CC

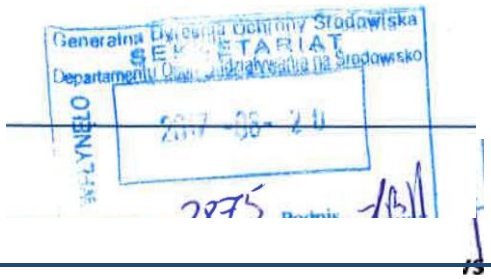
1. Regionalna Dyrekcja Ochrony Środowiska w Gdańsku; ul. Chmielna 54/57; 80-748 Gdańsk (regarding letter ref. **RDOŚ-Gd-WOO-442.1.2013.ER.2)**
2. IOŚ (lOŚi- MS-780/ 13)
3. INZ (to file)

am/pisma2013/Espoo/rozbud. Nord Stream_zakres prognozy

ul. Chrzanowskiego 10, 81-538 Gdynia ☎ 58 355 34 37
fax: 58 661 66 97

Instytut Morski w Gdańsku
Maritime Institute in Gdańsk
Długi Targ 41/42
80-830 Gdańsk, Poland
tel. +48 58 3011641
fax +48 58 3013513
NIP: 583-000-35-79
im@im.gda.pl, www.im.gda.pl

DOOŚ



DN36.17

Gdansk, 12 June 2017

Mr. Krysztof Lissowski
General Director for Environmental Protection (GDOŚ)
ul. Wawelska 52/54, 00-922
Warsaw

Dear Mr Lissowski

Further to your letter ref. DOOŚ-tos.442.12.2013.JA.41 dated 21 April 2017, The Maritime Institute in Gdansk hereby advises that having considered the provided documents it upholds its opinion regarding the assessment of the environmental impact from the Nord Stream 2 gas pipeline, previously presented in our letter to the General Director for Environmental Protection, ref. DN19.13 dated 13 May 2013.

The gas pipeline routes are located over 20km outside the Economic Exclusive Zone of Poland and therefore no direct impact of the construction or operation will be felt in our zone. The construction of the gas pipeline will not have any unpredictable impact on the Baltic Sea environment. Major concerns are caused by the absence of assurances regarding the location (embedding) of the gas pipeline in the Świnoujście area at a depth that would allow the use of vessels of 16m maximum draft, the situation which should already be taken into account. A further difficulty is the requirement to enable the Nord Stream 2 to safely cross other gas pipelines, those existing and planned in the next few years.

Yours sincerely,

Dr. Kazimierz Szefler
DIRECTOR
Maritime Institute in Gdansk

DOOŚ

Y. Adamowicz 2017.VI.5

ZARZĄD MORSKICH PORTÓW SZCZECIN I ŚWINOUJŚCIE SPÓŁKA AKCYJNA
ul. Bytomska 7, 70-603 Szczecin; tel. (+48) 91 430 82 20; fax (+48) 91 462 48 42
e-mail: info@port.szczecin.pl; www.port.szczecin.pl

Szczecin, 30 May 2017
UOS-14/9/2017

Mr Krzysztof Lissowski
General Director for Environmental Protection
ul. Wawelska 52/54, 00-922 Warsaw

Further to your letter of 21/04/2017, ref. DOOŚ-tos.442.12.2013.JA.41, having considered the documentation known as the Espoo Report prepared in relation to the Nord Stream 2 project, Zarząd Morskich Portów Szczecin i Świnoujście S.A. (Port Management Szczecin & Świnoujście, ZMPSiŚ SA) submits the following comments on the documentation of the German party:

1) The Report covers inadequately the trans-boundary social and economic impact of the projects [sic] in relation to shipping traffic at the crossing of the Nord Stream 2 gas pipeline with the approach lanes to the ports Szczecin and Świnoujście.
In 2013 the Polish party submitted its comments with letter DOOŚ-tos.442.12.2013.JA dated 18/06/2013 on the scoping documentation, in which the necessity was raised to plan the gas pipeline project in a manner that would allow the safe entry of vessels to the Polish sea ports. The necessity of ensuring water depth of 17.5 m across the entire crossing of the pipeline along the northern approach lane to the ports of Szczecin and Świnoujście was raised in the opinions provided by ZMPSiŚ SA, the Maritime Office in Szczecin and the collective opinion presented by the Zachodniopomorskie Region, all of the above were attached as enclosures to the said letter.
Regrettably, in spite of the comments provided at the time and the issue raised at the meeting in Straslund *[sic]* on 26/06/2013, the matter was ignored, which is confirmed by the absence of any mention in both the Espoo Report and Enclosure 1 to that report ”Issues raised by NSP2 stakeholders and responses” as well as table 16-3 *’Measures to mitigate potential impact on social and economic environment elements (including cultural heritage)”.*

Having analysed an extract from the the national report prepared for the purposes of the German national procedure (which contains brief information on the pipeline location at the crossing with the approach lanes to the Polish ports of Szczecin and Świnoujście) we conclude that its basic and disqualifying error is the assumption that the draft of vessels will stay the same as of those currently entering the ports in Szczecin and Świnoujście and ignoring the development plans of the port of Świnoujście.
“The Development Strategy for the Sea Ports of Szczecin and Świnoujście by 2027" plans the extension of the internal port in Świnoujście and creation of a container hub type terminal serving the largest container ships that can enter the Baltic Sea. These plans require the construction of a new northern approach to the port of Świnoujście with technical depth of 17.0m. The strategy was adopted by the Company Management with its Resolution No 9 dated 20/05/2014 and following a positive expert opinion provided by ZMPSiŚ S.A. Supervisory Board it was approved by the Ordinary General Shareholder Meeting with its Resolution No 25/2014 dated 26/06/2014 (the State Treasury is the main shareholder). With its Resolution No 5 dated 13/06/2016 ZMPSiŚ S.A. Supervisory Board approved the continuation of works on the container terminal in Świnoujście. The updates of government documents currently under way: ”Development Programme for

Sąd Rejonowy Szczecin-Centrum w Szczecinie, XIII Wydział Gospodarczy Krajowego Rejestru Sądowego; KRS 0000033768;
Kapitał zakładowy: 15 326 050,00 PLN; Kapitał wpłacony: 15 326 050,00 PLN; NIP 955-18-89-161; konto: Bank PEKA0 SA III/0 Szczecin, nr 28124038261111000044030937

Polish Sea Ports by 2020 (including development options by 2030)" and the updated ”Strategy for Transport Development by 2020 (including development options by 2030)" have adopted development measures with the purpose of improving access to and development of the port in Świnoujście. Both documents will be adopted and approved at government level.
Accordingly, the Nord Stream 2 pipe laying at its crossing point along the northern approach lane to Świnoujście **must be embedded, where the sea depth is less than 19.0m.** This represents the sum of the maximum vessel (container ship) draft of 15.4m, a 2.0m safe clearance over the pipeline (as set out by the German party) and 1.5m pipeline diameter.

Otherwise the laying of the Nord Stream 2 would block the development of the port in Świnoujście and result in huge losses to the Polish economy. Therefore the claim is incorrect as it is presented in the documentation that the construction, type of construction and operation of the Nord Stream 2 gas pipeline would result in no hindrance to shipping traffic on approach to the Polish ports of Szczecin and Świnoujście.

2) The Espoo Report is insufficient and superficial in its coverage of the issue of environmental impact on the decommissioning of the pipeline. The Report leaves without consideration the option of the physical removal of the pipeline at the crossing point with the approach lanes to the ports of Szczecin and Świnoujście. The necessity to examine this issue was raised at the evaluation stage of the scoping documentation. At that time, in its position referred to in clause 1 ZMPSiŚ S.A. highlighted the necessity to consider in the Report the issue of the physical removal of the pipeline at the crossing point with the approach lanes, taking into account the projected 50-year period of operation and depth restrictions hindering the development of the Polish ports due to the laying of the NSP2 and the existing NSP1. This matter was also not discussed in the enclosure to the report *‘Issues raised by NSP2 stakeholders and responses’.*

3) The Report's coverage of the cumulative impact of the project and existing Nord Stream 1 pipelines in the event of the pipeline breakdown following an explosion was too general and inadequate. This was raised in the ZMPSiŚ S.A. Position referred to in clause 1 at the evaluation stage of the scoping documentation. The report has provided an overview of the issue without taking into consideration the cumulative impact of Nord Stream 1 and Nord Stream 2 of an explosion caused by a collision or other occurrence, e.g. terrorist actions. The Report provides no information on the range of impact by such cumulative risk.

4) The Report identifies no sufficient mitigation measures against underwater noise affecting fish caused by disposal of ammunition. The Report asserts that if the detonation of munition in situ would be required, mitigation measures would be implemented as agreed with authorities with the purpose of avoiding or reducing potential impacts on fish, diving sea birds and marine mammals. The Report only lists measures in relation to sea birds and marine mammals, mainly seals. No such measures have been put in place for fish. Therefore we believe that the proposed mitigating measures are not adequate to the noise impacts on fish caused by the detonation of munition in situ - table 16-2. *Measures with potential impact on elements of the marine biological environment.* Furthermore, in table 16-3 *Measures to mitigate potential impacts on social and economic environment elements (including cultural heritage)*, one measure to mitigate impacts of contaminant release to the water as a result of pipe laying and interference in the seabed is to amend the local route in order to avoid interaction. Such information leads to the conclusion that, at this stage, the Nord Stream 2 route is still unknown and all risks related to the laying of the pipeline have not been properly identified, and therefore no appropriate analysis of environment impacts related with those risks has taken place.

Zarząd Morskich Portów Szczecin i Świnoujście S.A. is of the opinion that, due to the concerns and deficiencies highlighted above the Espoo Report cannot serve as a basis for further action. Acceptance of the Report in its present form would have to be deemed inconsistent with the broadly defined factual and legal interest of the Management of the Sea Ports Szczecin and Świnoujście and the other Polish sea ports.

Zarząd Morskich Portów Szczecin i Świnoujście S.A. wishes to point out that its legal interest in both

presenting its own position in this procedure and active participation derives from the regulations contained in the Act on Ports and Harbours dated 20 December 1996 and the provisions of the Company's Articles of Association.

Zarząd Morskich Portów Szczecin i Świnoujście S.A. is an entity founded pursuant to the Act on Ports and Harbours dated 20 December 1996, and the object of the Company, in accordance with Art. 7 of the Act and the provisions of the Company's Articles of Association consists of management of real estate and port infrastructure, forecasting, programming and planning port development; construction, extension, maintenance and modernisation of port infrastructure, real estate acquisition for the purposes of port development; rendering of services related to the use of port infrastructure, ensuring access to port reception facilities of waste from vessels for recycling or disposal. The Company is interested in all matters that, directly or indirectly, affect its rights and obligations and the objectives it pursues. Any risks of the infringement of the above entitles the Company to take action with the view of eliminating or minimising these risks.

Please note that safeguarding legal interest means the interest based on or protected by the law. Legal interest can be individual, specific, valid and objectively verifiable. Legal interest is the equivalent of a legally protected interest and its existence can be confirmed by facts which constitute premises for the application of specific regulation of substantive law.

It is accepted that in substantive law, the legal basis of legal interest can be provided by, inter alia, provisions regulating the manner of exercising the ownership of real estate and of the undisturbed enjoyment of benefits from that ownership. The owner may, within the limits set out by legislation and social norms, to the exclusion of other persons, benefit from property in accordance with its intended social and economic use, in particular the owner may enjoy usufruct and other income. Within the same limits the owner may dispose of property.

Based on the above it is to be assumed that legal interest can be proven by entities holding title to real estate located in the area impacted by the planned project. The impact may occur even when it remains within the accepted environmental norms. Of the essence is only the existence of the project impact in the space covered by the ownership title to the adjacent real estate.

Considering therefore that the ports of Świnoujście and Szczecin managed by the Company remain within the range of impact by the Nord Stream 2 gas pipeline, the construction of which will directly affect their operation, any actions undertaken by the Company to protect the implementation of its legal and statutory functions must be deemed based on its legal interest.

ZMPSiŚ S.A. Wishes to attend the meeting in Straslund *[sic]*, provisionally scheduled for 21/07/2017.

Dr. inż. Jacek Cichocki
DEPUTY CHAIRMAN for Development Issues

Dariusz Slaboszewski
CHAIRMAN OF THE BOARD

CC:

1) Ministerstwo Gospodarki Morskiej i Żeglugi Śródlądowej (Ministry of Maritime Economy and Inland Shipping), ul. Nowy Świat 6/12, 00-400 Warsaw

2) Regionalna Dyrekcja Ochrony Środowiska (Regional Directorate for Environmental Protection) in Szczecin ul. Firlika 20, 71-637 Szczecin

CC
1. RR
2. UOS-aa

ZARZĄD MORSKICH PORTOW SZCZECIN I ŚWINOUJŚCIE SPÓŁKA AKCYJNA

ul. Bytomska 7, 70-603 Szczecin; tel. (+48) 91 430 82 20; fax (+48) 91 462 48 42
e-mail; info@port.szczecin.pl; www.port.szczecin.pl

Szczecin, 29/06/2017
UOS-14/9/2017

Mr
Krzysztof Ossowski
Generalny Dyrektor Ochrony Środowiska (General Director for Environmental Protection)
ul. Wawelska 52/54, 00-922 Warsaw

Further to your information dated 22/06/2017 regarding the attendance at trans-boundary consultations under Art. 5 of the Espoo Convention, Zarząd Morskich Portów Szczecin i Świnoujście S.A. (The Management for Sea Ports Szczecin and Świnoujście, ZMPSiŚ S.A.) hereby indicates its wish to attend such intergovernmental meetings.

Considering that the construction of the Nord Stream 2 gas pipeline in the proposed form across the shipping lanes on the approach to the ports of Szczecin and Świnoujście will have direct impact for their operation, the intention of ZMPSiŚ S.A. is to actively participate in discussions regarding this issue as well as the issue of the elimination of any negative impact by the Nord Stream 2 on the development of the port of Świnoujście and the issue of averting huge losses for the Polish economy which may result therefrom.

Dr. inż. Jacek Cichocki
DEPUTY CHAIRMAN for Development Issues

CC:

1) Ministerstwo Gospodarki Morskiej i Żeglugi Śródlądowej (Ministry of Maritime Economy and Inland Shipping), ul. Nowy Świat 6/12, 00-400 Warsaw

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MINISTRY OF MARITIME ECONOMY
AND INLAND NAVIGATION
DEPARTMENT OF FISHERIES
[*stamps of the General Directorate for Environmental Protection*]

Warsaw, 31 May 2017

Mr Krzysztof Lissowski
General Director for Environmental Protection

ul. Wawelska 52/54 00-922 Warsaw

Dear Sir,

In response to the letter Ref: DOOŚ-tos. 442. 12.2013.JA41 regarding a new planned project – the second Nord Stream 2 pipeline, I hereby present the Department of Fisheries' opinion in this regard:

Following an analysis of the EIA document, the "Espoo Report", where it has been concluded, with respect to Chapter 0.8.3 Impact on socio-economic environment – Commercial fisheries, that the presence of pipeline structures on the seabed may result in the loss of fish habitats, reduction in catch or damage to fishing gear, which is categorised as having low impact on the project scale, we hereby request that the said activity be categorised as having significant impact due to the spawning areas of cod, herring and sprat, fish migrations routes to feeding areas and fish nursery areas, and limitations in the activity of the fishing fleet. In our opinion the documentation is missing a description of the status and classification of seabed spawning areas along the pipeline route, a description of the status of the spawning areas of pelagic and benthic fish along the pipeline route, the assessment of the project impact (among others: changes in physico-chemical water parameters, high degree of noise emissions up to 180 dB) on fish travels, spawning efficiency or mortality of fish. Moreover, the report also lacks an assessment of the impact of suspended sediment falling on fish ore. For the above reasons, we hereby request that the data be supplemented. Chapter 9.9.5.2 Fisheries along NSP2 indicates areas around Bornholm (ICES 38G5 and 39G50 squares in the Western Baltic) as being the most important fishing zones for Polish and Danish fishermen. The report requires supplementation with regards to a social aspect of the project in the context of fishermen operating in that region, for whom the implementation of the investment will mean difficulties in fishing activities, which will, in turn, diminish their economic effectiveness. However, the analysed documentation does not take into account the need to financially compensate the fishermen. It shall be expected that the fishing industry will demand compensation in regard to documented losses.

In conclusion, it should be noted that due to the worsening condition of the fish resources in the Baltic Sea, the cod in particular, the "0" option, i.e. the land route, should be considered.

Yours sincerely,

[*stamp of Director of Department*
Janusz Wrona]
[*handwritten signature*]

Supplementation

to the letter of the Department of Fisheries of 31 May 2017 (ref: DR.RM.433.14.2017 MW), with regard to fisheries and protection of fish resources in view of the construction of the second Nord Stream pipeline (Nord Stream 2), taking into account the fishing industry's opinion.

The fishing industry drew attention to environmental aspects of the proposed investment, including possible difficulties for pelagic and benthic fish breeding, herring and cod in particular. Attention should be given to the fact that the Pomeranian Bay is a natural spawning ground for pelagic fish. At the same time, the Nord Stream 2 pipeline will cut the only active spawning ground for eastern Baltic Sea cod in the Baltic Sea.

Moreover, both the construction and operation phase of the NS2 may impact feeding (feeding grounds), habitats and migrations of fish. In this respect the high probability of benthos "backfilling" during construction works connected with NS2 must be pointed out. Being at the bottom of the food pyramid, benthos has a significant impact on all organisms on the subsequent stages of the food chain. Limitation of the amount of benthos (which may occur) will cause automatic damage to the subsequent links of the food chain. The presence of the pipeline structures on the seabed may also result in impediments to fish migration, and in turn, to catch reduction.

In 2004, the International Maritime Organisation described the Baltic Sea as a particularly sensitive marine area. An average depth of the Baltic Sea is only 54 meters. Water recovery time is about 30 years. In consequence, the release of chemicals, from dumped munitions or fossil fuels spills, to the Baltic Sea will probably be more harmful than, for example, to the Atlantic Ocean or the North Sea. All foreign substances getting to the Baltic Sea stay there for many years posing a great environmental threat. In reference to the above, mobilisation of seabed contaminants will contribute to the spread of contaminants. Chemical munitions (sulphur mustard and other chemical warfare agents) dumped after the WWII constitute a significant contamination of the Baltic Sea. NS2 is going to be constructed in the munitions dumping areas, where the technical condition of the munitions (or barrels containing the sulphur mustard) is not the best. Therefore, it is highly probable that poisonous chemical warfare agents will accidentally "leak" even at the smallest attempt of conducting seabed intervention works. A disturbance of corroded munitions will speed up the process of poisonous substances release to marine environment causing an increase in their concentrations in this ecosystem. Live organisms which will have direct contact with the poisonous substances will suffer the most (but not exclusively). There is concern that various contamination will occur, with the effects being felt for several subsequent decades. Due to sea currents and wavy motion, etc. - under unfavourable circumstances - the above mentioned damages, explosions, etc. may result in a threat for also people's health and lives.

The said presence of pipeline structures on the seabed is also significant, and will result in substantial impediments to fishing activities - through both the need to keep extra caution while fishing in the vicinity of NS1 and NS 2 (thus limitation of fishing area) and an increased probability of damage or loss of fishing gear. The above will definitely have direct impact on the economic viability of catches, and despite a multimillion fleet upgrade investment, it may not bring the expected results. It should be emphasised that the Baltic Sea and its use for fishing not only is a place of work and source of income for many fishermen and their families but also constitutes a branch of economy which generates further businesses and employment (storage buildings for fishing gear, shipyards, etc.). Also, frequently ignored and underestimated is the sea angling which has become greatly popular in Poland in the last several years.

According to the opinion of the fishing industry, the calculations of the concentrations and contents of substance and contaminant sediments emerged from the NS2 construction works do not take into account the changes of depth. Moreover, there is no indication of or explanation regarding impact of contaminated substances, which will or may be released as a result of detonation or pipe-laying

activities on the Baltic seabed, on the environment, and in particular on species fished. In addition, it has not been determined where exactly the detonations will be carried out and which areas will be impacted.

Therefore, the fishing industry requests that detailed, fair, impartial studies be conducted in this regard, with the aim to determine whether any threats or impediments actually exist and to what extent, and whether and what actual impact they will have on the possibility to conduct business activity (in particular fishing activity) in the Baltic Sea and its economic viability (what in result should lead to conclusion whether the construction and operation of NS2 is environmentally safe, with no or negligent impact on the environment and other activities conducted in the Baltic Sea, and whether option "0" would not in the end be the best solution, that is construction of the pipeline via land route). Results of research presented in the documentation are mostly outdated and often refer to the period from before the construction of the first Nord Steam pipeline. Also, complete transparency is necessary, especially with regard to the used methodology of studies and their results.

It is also necessary to conduct post investment monitoring with relation to the Nord Stream 1. It could answer many questions regarding the impact of the pipeline on the marine environment, including, among other things, issues of noise emissions during gas transfer and its impact on marine organisms, creating new sea habitats or limiting access to the existing ones, impediments to sea organisms migrations etc. We would also like to be able to place an observer during the implementation of the investment, which will enable us to check, for example, how far the sediments spread during the pipe-laying activities or to measure the level of the noise.

In the context of the above issues, obtaining response to the following questions should be regarded as important:

1. What are the threats for the Baltic Sea resources in the event of an accident (pipeline damage, its depressurisation and substance spill), in particular with regard to:
   a) the impact on live organisms (fish, plankton it feeds on, water plants etc.),
   b) the duration of accident effects or substance release (time of the recovery of the environment to the condition before the accident and possibility to exploit resources).
2. Laying the new pipeline parallel to the existing one:
   a) what would be the width of a spread (distance between the pipelines and their protection zone) that is to be created and excluded from fishing activities. Are shape files available, which would allow to mark this zone on a map as part of the V-track system,
   b) what would be the width of a spread (distance between the pipelines and their protection zone) that is to be excluded or limited with regard to shipping activities - anchorage prohibited,
   c) in the case of trawl catch, who is to cover costs connected with the need to avoid obstacles in the form of the pipelines and the protected zone excluded from fishing (lifting of nets, additional "empty" cost generating ship travels).
3. Construction of the pipelines and necessary gas transfer infrastructure:
   a) what will be the scope of underwater trenches and backfills (including bedrock placement), what impact will conducted works and created constructs have on the existing ecosystem and subsequent biological life (including, which is very important, the migration of fish species), what impact will the works connected with the anticipated complete pipelines trenching into the seabed (removal of excavated material and backfilling) or post-lay trenching have on the ecosystem, what is the length of the hardening of the seabed within the zone of seabed structure intervention works (increased amount of seabed sediments - have studies been conducted on the purity of seabed materials which are safe when lying on surface but dangerous when forming suspended sediment following the disturbance of their structure,
   b) what is the estimated duration of pipe-laying and building of infrastructure agreed with other

users running business activities (and temporary broadening of protection zones with exclusion of shipping activity).

At the same time, the fishing industry hereby presents its main expectations:

a) creating of multinational and interdisciplinary independent expert body that will perform an ongoing assessment of the NS1 and NS2 impact on the environment, the Baltic Sea in particular, and compare and put together the results of analyses and recommend solutions dedicated to environmental protection;
b) conducting of research based on UPDATED information received from proper institutions (eg. Fisheries Monitoring Centre) in specific countries the impact on which is assessed (particularly with regards to used fishing gear or fishing techniques);
c) in connection with point a - creating of a fund (with clearly defined funding principles) which will be responsible for designing and implementing of environmentally friendly solutions, particularly those recommended by the expert body referred to in point a;
d) creating of a fund that will secure means for current and future damages (compensation) for fishermen and persons running business activities with the use of the Baltic Sea resources with respect to: probable damages, limitations in fishing activities, decrease in the economic viability of activities conducted with the use of the Baltic Sea resources etc., caused by the construction and operation of NS2;
e) consideration of the possibility to change the NS2 route so that it avoids the Bornholm Deep, an area of great importance from the fishing industry's point of view;
f) ensuring direct communication between the NS2 Consortium and other entities (bodies) created in connection with the NS1 and NS2 implementation with representatives of the fishing industry, so a direct dialogue and easy exchange of opinions, statements and expectations etc. are possible;
g) immediate start of talks by the representatives of the Consortium created for the design, construction and operation of the NS2 with the fishing industry with regards to the compensation of losses (currently and in the future) connected with the construction and operation of NS2.

[stamps and signatures]

MINISTRY OF
MARITIME
ECONOMY
AND INLAND SHIPPING

DEPARTMEN
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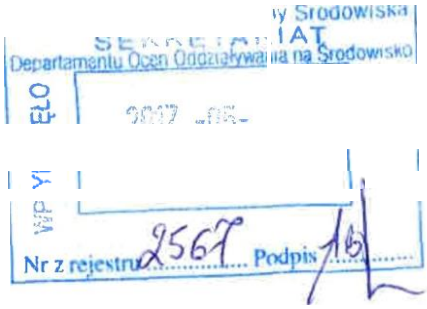
ECONOMY



Warszawa, 26 maja 2017 r.

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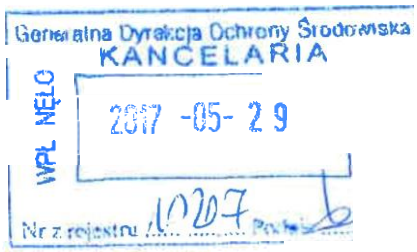
Warsaw, 26 May 2017



Mr Krzysztof Lissowski
General Director for
Environmental Protection

Szanowny Panie Dyrektorze,

Dear Sir,

Further to your letter dated 24 April 2017 ref. DOOŚ-tos. 442.12.2013.JA.41, the Department of Maritime Economy (MGMiZŚ) hereby presents its comments regarding documentation referred to as the Espoo Report including information on the environmental impact of the entire project.

Having analysed the said report, the Department´s position is as follows:

- Despite previous comments in 2013 the documentation still contains no detailed analysis of the collision risks for maximum draught vessels at the crossing of the gas pipeline with shipping lanes leading to the port of Świnoujście, no detailed bathymetric data on water depths in those locations, even though such details have been provided for other areas, e.g. German offshore.

- Alongside detailed seabed surveys of the 1.0Mm wide strip at the crossing of the projected route for new Nord Stream pipelines with the northern and western approach fairways to the Świnoujście sea port, the documentation should contain vertical cross sections of the pipeline laid on the seabed at the strip covering the crossing of the projected route for new Nord Stream pipelines with the northern and western approach fairways to the Świnoujście sea port. This will eliminate doubts regarding the pipeline layout that already arose when interpreting the Polish version of the document regarding the pipeline layout (on the seabed and covered with a layer of excavated material or embedded in the seabed under a layer of excavated material);

- The documentation covers risks related to the disassembly of the pipeline after the decommissioning is too general and insufficiently precise, leaving it open until decision is made at a time yet to be specified;

- On page 53 of the document (“A generally comprehensible non-technical summary of the report on the environmental impact along the section from the maritime boundary of the German EEZ to the onshore landfall area") the assumption is made that the under-keel clearance) should be 2m. Poland maintains the previous position that the under-keel clearance should be at least 2.5m. Also, no information is provided on how the calculation was made on the basis of which the 2m clearance was deemed sufficient;

- The documentation leaves out of consideration the issue of the impact of the project on the social

and economic development potential for the sea port in Świnoujście and Szczecin and the safety/security in the western and northern approach fairways to the Świnoujście sea port. The depth indicated in the document on page 53 of 16.5m over the gas pipeline laid in the area of the northern approach (where approx. 2.5m under-keel clearance must be allowed) would restrict the access to the port of Świnoujście. This would block the development plans for the ports of Szczecin and Świnoujście, in particular in relation to the construction of a deep water terminal. Consequently the gas pipeline needs to be sunken to ensure 17.5m depth at the crossing of the northern route to the port of Świnoujście;

- Information on page 53 indicating the water depth in the area of the northern approach (shipping lane 20) of between 18.0 and 18.1m is not explicitly confirmed by the remaining documents. The documents contain no reference to a possible unaided shift on the seabed resulting from natural processes mainly related to the settlement of its elements, which may result in the change of bathymetric parameters over the installation and in particular pose risks to the safe operation of the gas pipeline.

MGMiZŚ also requests that comments on the Report for the GDOŚ referred to above are taken into account in the Polish position by the maritime office and particularly the Szczecin Maritime Office.

Yours faithfully,

Katarzyna Krzywda, Director,

Department of Maritime Economy

/Signed by a safe electronic signature verified
with the assistence
of a valid qualified certificate/

DEPUTY GENERAL INSPECTOR FOR ENVIRONMENTAL PROTECTION

DOOŚ

Roman Jaworski

Warsaw, 14 June 2017

DM/0701-03/01/17/MK

Mr
Krzysztof Lissowski
General Director
for Environment Protection

Dear Minister,

Further to your letter DOOŚ—tos.442.12.2013.JA.41 dated 21 April 2017, the Department of Environmental Monitoring and Information hereby submits its position to be included in the documentation regarding the reports on the environmental impact of the planned construction of the Nord Stream II gas pipeline (NSP2), disclosed to the public in April 2017.

1. No reference is made to Clause 6. (Description of the effect of the project on Baltic fauna and flora including marine birds and mammals) within the scope of the impact on Natura 2000 area PLB990001, the Slupsk Shoal. The assessment of the impact within this scope is of a trans-boundary nature and of interest to Poland.

2. Sub-section 8.2 Identification of project - receptor interaction, table 8.1 Project interactions with physical and chemical receptors. No 'impact of underwater noise from the pipeline' on the physical quality of the sea water has been identified as required by Directive 2008/56/EC dated 17 June 2008, setting out the framework of the EC actions within marine environment policy (the marine strategy framework directive) and European Commission Decision 2010/477/EU, amended Decision 2017/848/UE dated 17 May 2017 *on the methodological criteria and standards regarding good condition* of marine environment. The measurement of noise as a physical parameter is conducted in a water matrix. The assessment of the impact within this scope is of a trans-boundary nature and of interest to Poland.

3. Sub-section 8.2 Identification of project - receptor interaction, Table 8.2 Project interactions with biological receptors. No effect has been identified of the pressure factor 'Introduction of non-indigenous species (ballast or other pathways)' on plankton, benthic fauna and flora and fish, but merely on the broadly defined biological diversity understood as an ecosystem. In fact, this pressure also affects the individual trophic chain elements of the group of biological elements *[sic]*. The assessment of the impact within this scope is of a trans-boundary nature and of interest to Poland.

4. 8.3.3 Release of sediment-related contaminants to the water column; it is requested that substances are included that are present in Baltic sediments i.e. polychlorinated biphenyls PCB and

organochlorine pesticides HCB, DDT, HCH.

5. 8.3.5 Release of contaminants from anodes Examination of heavy metals in water is pointless. A reliable matrix for the examination of heavy metals is provided by biota or sediment, for example in the vicinity of a pipeline.

6. Table 9-1. Environmental surveys alongside the preferred NSP2 route carried out in 2015 – 2016 in the five PoOs. Only in the sea waters of Russia and Germany has he complete survey been carried out. A trans-boundary assessment conducted on the basis of an incomplete monitoring of physical and chemical indicators and biological elements is an unreliable assessment.

7. 9.2.1.5 Contaminants and biogenic elements in benthic sediments. Sediments in Russian waters. Countries signatory to the Helsinki Convention are bound by, inter alia, the norms defined at the EU level (Directive 2013/39/EU) and by threshold values defined by HELGOM in the description of indicators, known as core indicators. Only the description of sediment contamination in Swedish and Danish waters directly relates to the established international EAC standards. Nevertheless, the Report makes the assessment of the content difficult due to the absence of accurate reference to the standards. The assessment of the impact within this scope is of a trans-boundary nature and of interest to Poland.

9. The proposed monitoring of indicators for the quality of marine environment is of a very general nature. It cannot be seen as a monitoring programme. It merely gives a general review of the elements to be monitored and in which country before the construction begins, during the construction and when it is completed. No location was given for the stations to carry out monitoring and no frequency of surveys throughout the year for each indicator. Monitoring parameters do not meet indicator standards for marine environment assessments adopted by HELCOM and the EU Directive. Underwater noise should be monitored in all countries, not only in Finnish waters. The quality of water and benthic sediments as well as the condition of benthic flora and fauna should be surveyed following the construction in all territorial waters and not only those of Russia. The proposed monitoring programme does not meet the obligations undertaken in autumn 2016 meeting with the developer.

10. The trans-boundary impact related to the laying of the pipeline and its subsequent operation in respect of the disturbance of the seabed surface in the coastal waters of the Pomeranian Bight has not been covered in the Report. Due to the dynamics of these waters, i.e. the prevailing currents alongside the southern Baltic coast from west to east, and the wave action, material is shifted from the seabed surface to Polish waters. This may lead to the increase of suspended sedimentation and deterioration of water quality indicators.

11. The report includes information that in German waters the developer carried out no dedicated marine development survey for organic contaminants, biogenic salts, TOC, plankton. In relation to defining characteristics for the listed indicators it can be assumed that the data was obtained from the regular monitoring, performed by the Federal Republic of Germany in German waters under HELGOM. Appropriate for an environmental impact assessment would be designated stations involved with the monitoring of the impact on the marine environment in German waters.

12. The Report presents a lower level impact in German waters than in Russian waters. No modelling of the following elements has been carried out in German waters: ammunition disposal, rock placement, vibration piling, pipeline operation, noise impact on marine mammals and fish. No noise modelling in German waters for the purposes of the assessment of the environmental impact by NSP2 (a list of companies and experts performing the modelling contains table 1—1 of the Report) may be due to the fact of such surveys were performed in 2011—-2012, i.e. significantly earlier than the environmental impact assessment. When modelling noise based on data obtained at a different time than data acquired for modelling in the other countries (e.g. Russia) there is a risk that results obtained will be less reliable due to, for example, an increased shipping traffic. No thresholds/impacts of noise on fish have been set for German waters (table 10-36). Furthermore, no assessment has been carried out on national and trans-boundary levels for the grey seal in German waters (table 10-43).

13. In Annexe 2 to the Espoo Report on protected species under the Birds Directive, no consideration is given to bird species also present in Polish territorial waters. We request that, in the annexe (Region column) the following species that are potentially endangered in Polish waters be taken into account: European herring Gull (Larus argentatus), mew gull (Larus canus), great black-backed gull (Larus marinus), black-headed gull (Larus ridibundus), great crested grebe (Podiceps cristatus), horned grebe Podiceps auritus), cormorant (Phalacrocorax carbo), razorbill (alca torda), common eider (Somateria mollissima), red-throated diver (Gavia stellata), common murre (Uria aalge), greylag goose (Anser anser), bean goose (Anser fabalis), tufted duck (Aythya fuligula), gadwall (Anas strepera), common goldeneye (Bucephala clangula), goosander (Mergus merganser).

Yours sincerely,

Mgr Inż. Roman Jaworski
DEPUTY GENERAL INSPECTOR
FOR ENVIRONMENTAL PROTECTION

MORSKI
INSTYTUT
RYBACKI
PAŃSTWOWY
INSTYTUT
BADAWCZY

Marine Fisheries Institute - National Research
ul. ąta 1
81-332 Gdynia

tel. +48 587 350 23
fax: +48 587 350
e-mail: sekrdn@mir.gdynia.pl
www.mir.gdynia.pl

DOOŚ

Generalna Dyrekcja Ochrony Środowiska
SEKRETARIAT
Departamentu Ocen Oddziaływania na Środowisko
WPŁYNĘŁO
2017 -05- 25
Nr z rejestru 2486 Podp.

Generalna Dyrekcja Ochrony Środowiska
SEKRETARIAT
Generalnego Dyrektora Ochrony Środowiska
WPŁYNĘŁO
2017 05- 25
Nr z rejestru 2771 Podpis

NB- 1481/35/2017

Gdynia, 12/05/2017

P. J. Adamowicz
25.05.2017

Mr Krzysztof Lissowski
General Director for Environmental Protection
Wawelska 52/54
00-922 WARSAW

Further to your letter ref. DOOŚ-tos.442.12.2013.JA.41 dated 21/04/2017 the Marine Fisheries Institute - National Research Institute (MIR-PIB) hereby presents its position:

1. Having considered the provided Polish version of the Espoo Report (electronic version) we offer no comments regarding the relevant documentation.
2. At the scoping stage MIR-PIB did not present any comments.
3. MIR-PIB representatives (2 persons) will attend the trans-boundary consultations of parties of origin in the planned meeting in Warsaw in June 2017.

Dr. Iwona Psuty
DEPUTY DIRECTOR
FOR SCIENTIFIC MATTERS

CC

1. Regional Director
   for Environmental Protection in Gdańsk
   ul. Chmielna 54/57, 80-748 Gdańsk
2. joanna.adamowicz@gdos.gov.pl

Marine Fisheries Institute - National Research Institute
Research Station in Świnoujscie
Ploc Slowiański 1
72-000 Świnoujście

tel.: +48 91 32 12 05
fox: +48 91 32 13 087
www.mir.gdynia.pl

Morski Instytut Rybocki - Pońtwowy Instytuł Bodowczy
(Marine Fisheries Institute - National Research Institute)
Zakład Sortowania i Oznaczania Planktonu (Plankton
Sorting and Identification Centre) in Szczecin ul.
Kozimierza Królewicza 4-E
71-510 Szczecin

tel +48 91 451 44 03
fox +48 91 422 72 03
e-moil: zdop@mir.gdynia.pl
www.mir.gdynia.pl

MIR-PIB Gdynia Aquarium
Al. Jana Powla II I 8
-345 Gdynia

tel. +48 587 320 01
fax: +48 587 320 0 11

e-mail okworium@mir.gdynia.pl
www.akwarium.gdynia.pl

DOOŚ

INSTYTUT OCEANOLOGII
POLSKIEJ AKADEMII NAUK

R.J. Adamus wg 9.06.2017

IO/NCh/845/17

Generalna Dyrekcja Ochrony Środowiska
Departament Ocen Oddziaływania na Środowisko
WPŁYNĘŁO 2017 -06- 01
Nr z rejestru 2607 Podpis

Generalna Dyrekcja Ochrony Środowiska
SEKRETARIAT
Generalnego Dyrektora Ochrony Środowiska
WPŁYNĘŁO 2017 -06- 01
Nr z rejestru 2854 Podpis

Sopot, 29.05.2017

Szanowny Pan
Krzysztof Lissowski
Generalny Dyrektor Ochrony Środowiska
Mr. Krzysztof Lissowski
General Director for Environmental Protection
The General Directorate for Environmental Protection
Department of Environmental Impact Assessments
ul. Wawelska 52/54
00-922 Warsaw

Further to your letter DOOŚ-tos. 442.12.2013.JA.41 dated 21/04/2017 please find attached our comments on the disclosed documentation relating to the planned extension of the Nordstream pipeline. These comments are based on the ESPOO Report provided and the enclosed maps.

1. Baltic benthic sediments have an increased content of heavy and trace metals as well as persistent organic contaminants. In section 8.3.3, the ESPOO Report discusses the release of sediment-related contaminants to the water column. The modelling was performed for Finnish and Russian waters and only covered the disposal of munitions. Please note that the release of sediments to the water column discussed in section 8.3.2 will not be limited to dredging works as the Report suggests. The finest sediment fractions related to as much as up to 90% of contaminants are subject to resuspension at current speeds from 5cm/s, while the pipeline laying may locally lead to major disturbances. Models used in the project appear to take into account movements of finest suspended matter only to a limited degree. As it has been observed, the movement of fine suspended matter may have occurred (in a number of resuspension and sedimentation cycles) at much longer distances — evidence has been found of contaminant movement from the Pomeranian Bight to the Gdańsk Deep. Given the very long pipeline route, the contaminant release across the Baltic may reach a high magnitude, which may lead to trans-boundary impacts. It is requested that detailed estimates are calculated of contaminant release and movement alongside the pipeline section within the southern Baltic Sea, especially in regions defined as class 3 for mercury in Swedish waters and in deep Danish waters where BAC levels for metals have been exceeded.

Powstańców Warszawy 55
81-712 Sopot
P.O. Box 148
tel. (+48 58) 73 11 600
tel. (+48 58) 73 11 720
fax (+48 58) 551 21 30
NIP 585-10-04-839
Region 000632467
office@iopan.gda.pl
hkp://www.Iopan.gda.pl
IO PAN
SOPOT

2. Measuring metal concentrations, their content in the silt fraction of sediment should be considered as it is this fraction which may be moved across boundaries, in particular in the German zone.
3. Particular attention should be paid to resuspension of sediments contaminated with the decomposition products of chemical weapons in the Bornholm area.
4. Conventional munitions may also constitute the source of substances toxic for the marine environment, both metals mercury or lead and toxic products of the decomposition of explosives. The munitions discussed in section 9.13.1.3 was detected with the use of sonar and magnetometric data, or also with a sub-bottom profiler? *[sic]* The pipeline laying will also have an impact on objects covered with layers of sediments.
5. Chemical munitions — section 9.14.1 indicated that the analysis of the issue of the dumped chemical munitions is limited to Danish waters. The HELCOM MUNI (BSEP 142) report indicates that also Adlergrund has been a dumping site, therefore this area also should be discussed. As for the dumping site in Swedish waters, 9km away from the planned gas pipeline, despite the long distance, it is known from the previous surveys and the accidents involving fishermen in the Bornholm area, chemical weapons were dumped with little precision, and the movement of contaminated sediments may occur over long distances. Mathematical models used in the CHEMSEA project have estimated that distance to be even up to 30km. Therefore, both the potential existence of objects and sediment contamination with BST decomposition products in the vicinity of the dumping site should be considered. 9.14.2.2 discussed geophysical surveys consisting of sonar imaging of the sediment surface. Due to a low density of surface sediments in this area, the existence of objects embedded immediately under the seabed should also be considered and this would require the application of other hydro-acoustic methods with the purpose of supplementing the reconnaissance.
6. Chemical warfare agents - the latest FOI research suggests that poorly soluble products of mustard gas decomposition, cyclical products such as 1.4 Ditian and derivatives, may in certain conditions create soluble salts, therefore their higher concentrations in water cannot be excluded. Furthermore, decomposition products Clark I have been found in both pore waters in sediments (CHEMSEA and MODUM surveys) and in organisms (VERIFIN survey in the Skagerrak dumping site). For this reason, excluding risks to the marine environment seems premature.
7. Section 9.14.2.2. (table 9-41) of the ESPOO Report W-PE-EIA-POF-REP-805-040100PO Nord Stream 2 - April 2017, presents the finding of combat chemical substances and products of their decomposition in benthic sediments sampled in the Bornholm Basin. In total, sediments have been analysed for 14 chemical compounds, including:
   - 4 CWAs in primary form (Yperite, Adamsite, Triphenylarsine, a-chloroacetophenone),
   - 3 compounds produced as a result of the decomposition of Yperite,
   - 1 compound produced as a result of the decomposition of Adamsite,
   - 2 compounds produced as a result of the decomposition of Clark l/ Clark II
   - 3 compounds produced as a result of the decomposition of Triphenylarsine,
   - 1 compound produced as a result of the decomposition of Arsine oil,
8. The table below presents a list of 26 compounds, the concentrations of which in benthic sediments in the munition dumping sites have been examined during the projects CHEMSEA (Chemical Munition Search and Assessment, #069 Interreg Baltic Sea Region Programme 2007-2013) and MODUM (Towards the Monitoring of Dumped Munition Threat, NATO Science for Peace and Security) in 2012-2016.
9. Considering the success rate in detecting CWAs in the previous projects, the broadening of the range of chemical analyses can be expected to be beneficial for the monitoring of the areas adjacent to chemical warfare dumping sites, both in the vicinity of the Bornholm Basin and around Gotland. Particular consideration should be

given to the coverage of a higher number of compounds being the products of Yperite decomposition (especially compounds identified in the table with numbers 5, 6, 8, 13), and also Lewisite derivatives (compounds identified in the table with numbers 23 and 25).

Table 1. The list of chemical compounds analysed in samples in benthic sediments in the dumping sites of chemical warfare within CHEMSEA and MODUM projects

Lp	związek chemiczny	BST/BŚCh	Liczba wykryć	Zakres stężeń [ng/g s.m.]
1	Sulphur mustard	Mustard gas	1	
2	Thiodiglycol (TDG)	Derivatives and decomposition products of mustard gas		
3	Bis(2-siloxyethyl)sulfide			
4	Thiodiglycol sulfoxide			
5	Bis(2-siloxyethyl)sulfoxide			200-610
6	1,4-Dithiane		4	0.5-45
7	1,4-Dithiane oxide			
8	1,4-Oxathiane		7	0.3-
9	1,4,5-Oxadithiepane		53	120
10	1,2,5-Trithiepane		18	2.6-24
11	1,7-Dioxa-4,10-dithiacyclododecane			
12	Thiodiglycolic acid (TDGA)			
13	Bis(trimethylsilyl)2,2'-thiodiacetate		2	530-550
14	5,10-Dihydrophenoarsazin-10-ol 10oxide	Adamsite derivatives	13	2.5-1
15	10-(propylthio)-5,10-dihydrophenarsazinine			
16	Diphenylarsinic acid	Clark derivatives	15	0.8-1 700
17	Diphenylpropylthioarsine	Clark II Oil	25	13-900
18	Triphenylarsine (TPA)	derivatives	16	0.7-1 200
19	Triphenylarsine oxide	of Arsine oil		3.5-590
20	Phenylarsonic acid	Derivatives of Phenyldichloroarsine	4	19-1 300
21	Dipropyl phenyarsonodithioite	and Arsine oil	×	3.2-480
	a-Chloroacetophenone (CN)	Chloroacetophenone	2	7-7.5
	2-Chlorovlnylarsonic acid	Lewisite derivatives I	3	65-110
	Dipropyl(2-chlorovinyl) arsonodithioite			
	Bis(2-chlorovinyl)arsinic acid	Lewisite II	1	3.9

10. Release of contaminants. The assumption is made that only a small part (approx. 10%) of contaminants will desorb in the course of resuspension. However, a significant number of scientific publications make the assumption that some metals (e.g. mercury), which are present in sediments in immobile forms, may as a result of resuspension become subject to transformations leading to their increased bioavailability — has this been taken into account and does not this add another aspect in the release of contaminants?
11. The pipe-laying process involves trenching. The munitions located at the edge of the trench may remain untouched, but over time they may slide down the slope created and cause damage and leakage. An analysis of such leakage can be only carried out when the (precise) position is known. Information on the course of the pipeline allows a statistical analysis of the currents and this would provide a picture of movements of potential leakage.
12. The gas transported in the pipeline does not travel silently. No data exists which would allow a rough assessment of such noise. The absence of data does not mean this has no environmental impact. A survey should be conducted during the operation which would allow the range of such noise to establish. This would allow the measurement of the environmental impact.

Summing up, we can say that the current version of the report has taken into account a large number of comments presented at the scoping meeting (Antragskonferenz) in Stralsund on 26/06/2013, nevertheless the issues discussed above require some clarification.

Yours sincerely,

Prof. Dr. Inż. Janusz Pempkowiak
HEAD OF THE INSTITUTE

Pomorze Zachodnie

Szczecin, 23 May 2017

WOŚ.III.7632.1.2013.ZK

Generalna Dyrekcja Ochrony Środowiska KANCELARIA WPŁYNĘŁO 2017 -05- 29 L. 0189 Nr z rejestru

Generalna Dyrekcja Ochrony Środowiska SEKRETARIAT Departamentu Ocen Oddziaływania na Środowisko WPŁYNĘŁO 2017 -05- 30 Nr z rejestru 574 Podpis

Pan Krzysztof Lisowski

Mr Krzysztof Lisowski
General Director for Environmental Protection

Dear Sir,

Further to your letter dated 21 April 2017 ref. DOOŚ-tos.442.12.2013.JA.41 regarding the trans-boundary procedures re the development of the Nord Stream gas pipeline and the Environmental Impact Report made available to the public for the purpose of social consultation/assessment I hereby uphold my concerns reported in the letter dated 14 June 2013 regarding potential risks of seismic activity.

Also the comment referring to the location of both planned pipelines remains valid. The implementation as proposed may restrict access to the port of Świnoujście. Based on AIS data (automatic identification system), the Espoo Report estimates the maximum depth at the northern approach to the ports of Szczecin and Świnoujście at 12.9m and 13.5m at the western lane. In the northern approach zone the pipelines are to be laid at the depth of 18.0 to 18.1m while in the northern approach zone, with the depths of 15.0 to 16.0m they would be embedded 0.5m under seabed. The Espoo Report concludes that such arrangement would not affect the shipping traffic. The German EIA report prepared for the purposes of the national procedure to obtain a permit to carry out the project in Germany, sets out the reference depth 13.5m for deep draft vessels at the approach lanes to Szczecin and Świnoujście and the keel clearance at a constant value of 2.0m.

Taking into account the plans of port development in Świnoujście the maximum vessel draft assumed is 15.0m (the maximum in the Baltic Sea) including 2.5m reserve allowance. This comment was already raised in June 2013, and the need highlighted to ensure the depth of 17.5m in the water lanes over the upper edge of the pipeline or over the seabed following the embedding of the pipes. However, the parameters assumed in the disclosed documents could seriously affect the ability of the port in Świnoujście to handle such vessels.

Yours sincerely,

Mariusz Adamski
DIRECTOR
Department for Environmental Protection

CC:
Regional Director for Environmental Protection in Szczecin

Zachodniopomorskie Regional Governor's Office (Urząd Marszałkowski), Department for Environmental Protection

Address:
ul. Starzyńskiego 3-4, 70-506 Szczecin
tel.: (+48 91) 44 10 200,
fax: (+48 91) 48 92 141
srodowisko@wzp.pl

Postal address:
Urząd Marszałkowski Województwa
Zachodniopomorskiego ul. Korsarzy 34, 70-540 Szczecin
www.wzp.pl

DOOŚ

Warszawa, dnia 5 czerwca 2017 r.

Ministerstwo
Spraw Zagranicznych
Sekretarz Stanu
Ministry of Foreign Affairs
State Secretary
Konrad Szymański

Generalna Dyrekcja Dyr...
Departamentu Ocen Odd...
WPŁYNĘŁO 2017 - 06 08
Nr z rejestru 272 Podpis

DEUE.2431.4.2017 / 2 /251

Generalna Dyrekcja Ochrony Środowiska
SEKRETARIAT
Generalnego Dyrektora Ochrony Środowiska
WPŁYNĘŁO 2017 -06- 07
Nr z rejestru 3084 Podpis

Warsaw, 5 June 2017

Mr Krzysztof Lissowski
General Director for Environmental Protection

Dear Sir,

Further to your letter dated 21 April 2017 (ref. DOOŚ-tos.442.12.2013.JA.41) regarding the disclosure of the Report / assessment of the environmental impact for the Nord Stream 2 gas pipeline (hereinafter: the Report) to be submitted for assessment under the Convention on environmental impact assessments in a trans-boundary context (known as the Espoo Convention), please find below the comments of the Ministry of Foreign Affairs (MSZ) to the Report.

The MSZ is of the opinion that the Report fails to justify the project which significantly interferes in the environment of the Baltic Sea; no comprehensive analysis has been carried out of alternative ways of achieving the objectives of the project; and no comprehensive analysis has been carried out of alternative gas pipeline routes, as provided in Article 5(a) and in Annexe II(b) to the Espoo Convention.

The authors of the Report point out that the objective of the project is a response to the anticipated increased demand for gas imported to the EU in the next few years due to the anticipated decline in the domestic EU gas production. In this context, the Report should be amended to provide the sources of the forecasts cited and a comparative analysis by a range of analytical institutes of the forecast dynamics of demand for imported gas to the EU, including the forecasts of changes in efficiency of gas use in the EU and the dynamics of increased use of LNG re-gasification terminals already available in the EU and which are currently only used to a small extent of their capacity. This is necessary to obtain a reliable picture of the anticipated developments in the EU gas market from the perspective of

Al. J. Ch. Szucha 23
00-580 Warszawa
Tel. +48 22 523 73 52
Fax +48 22 523 7353
Konrad.Szymanski@msz.gov.pl

the purposefulness of this project.

Should such assumption of additional gas demand in the EU market gain credibility, the Report should be amended by an analysis of the level of utilisation of the existing infrastructure which enables the transportation of gas from Russia to the EU and in particular the operating gas pipelines: Brotherhood, Yamal and Nord Stream, and a comparison of free capacities in the already existing transmission infrastructure for Russian gas to the EU with the planned Nord Stream 2 capacity. According to the available data on the utilisation levels of the said gas pipelines, their free capacities clearly exceed the 55m sqm per annum projected for the Nord Stream 2. Therefore, the objective declared by the project initiators, i.e. the supply of additional volumes of gas from Russia to the EU can be achieved without building a new transmission infrastructure and consequently with no further interference in the environment.

The Report has not only failed to justify the construction of additional infrastructure, it provided no analysis of alternative overland routes of the gas pipeline, while only stating in general terms (Clause 5.3) that the experience from planning processes of similar projects within the last coupłe of years suggested that overland routes affect people and environment to a higher extent than offshore gas pipelines. This conclusion without performing analyses of impacts from specific overland and offshore routes is unfounded. Therefore, the MSZ is of the opinion that the Report should be amended to include an analysis of a range of variants of overland routes, which in light of the experience of the implementation of numerous such projects should be deemed a realistic alternative.

The Report should also include an analysis of what is known as the zero alternative, which is limited to the conclusion that the withdrawal from the implementation of the Nord Stream 2 project would neither cause short-term negative environmental impact from the gas pipeline construction nor positive long-term social and economic impact of its construction and operation. Both this part of the Report and the part dealing with the impacts of the project on social and economic aspects fails to mention the effect of the construction costs and of the operation of additional infrastructure on gas prices in the EU, which would have to absorb the costs of building additional infrastructure. Without consideration of this aspect, the assessment is incomplete of: project implementation impact of social and economic aspects, an analysis of the zero alternative as well as the comprehensive assessment of the effect of the project on people and environment.

Yours sincerely,

Al. J. Ch. Szucha 23
00-580 Warszawa
Tel. +48 22 523 73 52
Fax +48 22 523 7353
Konrad.Szymanski@msz.gov.pl

MINISTRY OF ENERGY
Undersecretary of state
Michał Kurtyka

Warsaw, 2 June 2017

IK:

Mr Krzysztof Lissowski
General Director of
Environmental Protection

Dear Sir,

As a response to the letter of 21 April current year regarding a meeting of 12 May current year in General Directorate for Environmental Protection, I would like to share comments of ministry of energy regarding environmental influence assessment in relation to the planned construction of Nord Stream 2 pipeline.

The investor did not prove that there is economic reason behind construction of additional pipes for Nord Stream 2 pipeline. The need to build it should allegedly prove increasing demand gap, which is an effect of decreasing EU natural gas extraction. The data presented by the investor shows that demand for natural gas in 2035 will be lower by 2 billion in comparison to the current use. Even if Nord Stream 2 A.G. scenario may be true and extraction decrease in UE will amount to 50%, meaning 74 billion m^3 each year (which seems unlikely), additional import gap will amount to 73 billion m^3 each year. Existing transmission power, which may be used to transfer Russian gas to EU have total transmission power of 228 billion m^3 (124 billion m^3 using Ukraine system, 16 billion m^3 using Blue Stream and 55 billion m^3 using Nord Stream 1). Meanwhile, Russian natural gas imported to EU in 2016 amounted to 146 billion m^3. This means that output is underused by 82 billion m^3. As a result, the whole expected demand gap may be fixed with Russian gas transferred with current output. At the same time it seems unrealistic to believe that the projected natural gas deficit would be fixed only with Russian natural gas, especially when you consider the decreasing natural gas prices, which are a result of technology development and improvement of economics of natural gas extraction using unconventional deposits. Then it is reasonable to expect that the oversupply in relation to the output will persist at least until 2035.

To sum it up, ministry of energy does not require additional output of Nord Stream 2 pipeline, which means that there is no need to risk costs and environment.

Meanwhile, one may note that the investor also references risks regarding natural gas supply North Africa and Caspian Sea regions among others. In reality it was Gazprom that caused EU natural gas supply disruptions, since it aimed to achieve non-business goals, as seen in 2006, 2009 and 2014.

Apart from the fact mentioned above, it is worth to note that alternatives in the investment

implementation meaning onshore pipeline, which is environmentally less risky, were not analysed

The lack of analysis of onshore alternatives, in conjunction with the fact that there is no demand for additional output, shows that Nord Stream 2 is a politically motivated project, which aims to exclude transit states and to increase Central and Eastern Europe natural gas dependency. This means that there is no need to risk costs and environment in regards of the project implementation.

Sincerely yours,

Michał Kurtyka
Under-Secretary of State
e-signed 103759.284684.195110

MINISTER OF ENERGY

Krzysztof Tchorzewski

Warsaw, 23 June 2017

DRO.I.522.8.2017

IK: 103789

[stamp: General Directorate for Environmental Protection

OFFICE

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Mr

Krzysztof Lissowski

General Director of Environmental Protection

Dear Sir,

In addition to opinion of the Ministry of Energy of 2 June 2017 in regards to report concerning environmental influence of Nord Stream 2 pipeline in transboundary context, the document presented below contains additional comments and the ministry applies for them to be taken into account as final Polish opinion regarding report mentioned above.

Firstly I would like to reference *Espoo Convention regarding environmental influence assessment in transboundary context of 25 February 1991 (from here on Espoo Convention) (requirements regarding scope of documentation, level of details and comparison of results of commissioned studies among others),* as a basis of environmental influence in transboundary context, as well as *Directive 2011/92/UE of the European Parliament and of the Council regarding environmental influence of some private and public enterprises (from here on Environmental Directive*), which are crucial for reliable and astute potential environmental and social influence assessment for a planned investment. In the light of **section 2, item 6** of Espoo Convention "*a party of origin will ensure (...), that the public opinion of affected party will have a chance to take part in the procedures* (environmental assessment - author's footnote), ***the same way*** *as the public opinion of party of origin".* Keeping in mind the fact that section 4, item 2 of Espoo Convention provides Polish public opinion with consultations, which are carried out according to the submitted report, the requirement is not going to be fulfilled. This is a result of the information in submitted documentation, which suggest that the information may be completed during domestic environmental influence assessment:

- *"It is worth noting that although criteria used to indicate influence in Espoo Report and individual environmental reports from Russia, Finland, Sweden, Denmark and Germany are fundamentally the same despite minor differences i.e. in domestic requirements.* ***In some cases this may cause some differences in results presented in the following Espoo Report and domestic environmental reports"*** (ch. 7.5.3, p. 142/143 of the report);
- *The design is continuously being optimised, and as such, the final design will deviate to some degree from the design which formed the basis of the modelling. This is why input data used for modelling (i.e. the scope of investment works)* ***may be different than the newest technical data found in domestic environmental reports.*** *However, the analysed scenarios are considered representative of the scenarios that will ultimately be implemented.***"** (ch. 10.1.2.1, p. 312 of the report);
- *"During the following report development (and Finnish environmental documentation) there was no detailed information regarding location and the nature of ammunition on the sea floor. After acquiring*

*detailed information regarding the observed ammunition (location and characteristics) designed for removal according to the requirements of Habitats Directive for "Kallbådan island and waters "**the appropriate assessment will be carried out for Natura 2000***" (ch. 10.6.6, p. 404/405 of the report);

- *"Two Neolithic archaeological sites were identified during baseline surveys in the Russian landfall area (...). Based on a preliminary assessment, the importance of the two sites located in the Project area is rated as medium. **Archaeological finds are still assessed by domestic institutions. After its conclusion the importance will be clarified***" (ch. 10.10.4.1, 485/486 of the report);
- *"The following chapter contains descriptions of projects identified and assessed in relation to cumulated influence domestic environmental assessments. Projects identified in domestic environmental assessments, but not considered in influence assessment were also not included in Espoo Report"* (ch. 14.1, p. 559 of the report).

Besides notification regarding possible major transgression of **section 2, item 6** of the Espoo Convention, shortcomings and inaccuracies in analysed documentation in regards of avoiding, mitigation and monitoring of transboundary influence may be cause of other transgressions in relation to the regulations of the legal act. Firstly, it is worth referencing that **section 4, item 1** along with **appendix II,** which requires **„***environmental influence assessment documentation, which is to be presented to the appropriate institution of a party of origin to contain at least* (...) ***description of the proposed activity*** (...), description of realistic variants (i.e. ***location****), if applicable* (...), ***description of potential influence*** (...), **description of *mitigation means***, harmful environmental influence (...), description of ***monitoring*** *programme", if applicable. However, in the documentation submitted by the* applicant there is information, that:

- *"**the final pipeline route is not yet decided, since the route is still being optimized**"* (ch. 9.9.2.1, p. 262 of the report);
- *„After studies and analysis required for objects of cultural heritage protection are completed* (ODK - author's footnote) *before and during the construction stage and during monitoring stage after construction are complete, they will be discussed with individual authorities of each state and implemented, if necessary. It is expected that such means will include the following, as stated in Chapter 16 Mitigation means: **Local NSP2 route alternation in order to avoid ODK*** (objects of cultural heritage - author's footnote) *(...). **These means will be adjusted** in order to meet the additional requirements related to consultations involving appropriate institutions*(ch. 10.9.2.1, p. 449 of the report);
- *"**Route planning will take the presence of ammunition on the sea floor into account,** and where possible, the pipeline will be re-routed around ammunition to avoid any influence associated with its clearing"* (ch. 16.2, p. 635 of the report);
- *"According to arrangements wit appropriate institutions, if it is necessary to clear ammunition with detonation in situ, **there will be mitigation means in place, which will reduce the potential influence on fishes, diving sea birds and sea mammals***" (ch. 16.2, p. 636 of the report);
- *„Moreover, in case of potential influence on seals during breeding stage, appropriate environmental institution will notified and **complementary influence assessment will be completed and additional mitigation means will be used"*** (ch. 16.2, p. 636 of the report);
- „*Final exclusion zone* (created for protection of objects of cultural heritage - author's footnote) *will be*

*discussed with appropriate institutions **after final route is accepted** and type of installation watercrafts is confirmed"* (ch. 16.3, p. 641 of the report);

- *"Specific approach to final monitoring programme, including procedures, places / period of monitoring, **will be determined in agreement with appropriate authorities and appointed institutions**" (ch. 18.1, p. 660 of the report);*
- „Because *of the fact that **the technical design for project will be subject to further alterations**, calculations carried out for sea floor surfaces for rock embankments are subject for doubts, and because of that all assumptions in relation **to the size of surface needed for the investment are only an estimation**. Size of the surface was estimated based on the current project design and experience from NSP"* (ch. 19.2.1, p. 673-674 of the report).

Not only does the cited part of the report indicate that the public opinion of the affected parties is not provided with the complete information, which will be shared with parties of origin during domestic environmental influence assessments. It also confirms the fact that creators of Espoo Report did not possess sufficiently detailed data in regards to **the pipeline route,** its **technical specifications, ammunition location,** which mat pose a threat to protected mammals, **archaeological sites,** which may be at risk of influence, **mitigation means** or **negative environmental influence monitoring,** and **other projects, which may contribute to the influence** of the pipeline, in order to provide proper implementation of **section 4, item 2** of the Espoo Convention. According to the Convention "*The party of origin should provide the affected party (...) documentation regarding environmental influence assessment. The involved parties will make sure that the documentation is shared with institutions and public opinion of affected party (...) and that the comments are shared with the appropriate institution of state of origin (...) **before final decision regarding the project is made.*** It is safe to assume that the documentation, which contains final data regarding characteristics and technical specification of the project, its influence and mitigation means and **which will also be used to make the final decision regarding the investment,** should be a basis for comments and opinion submitted by the society and institutions of affected parties. If the decision should be made based on the newer and more recent documentation than the one used during analysis by the affected parties, the opinion will be in *contradiction to **section 6, item 1** of the Espoo Convention. The highlighted problem matters in context of **section 5** of the Espoo Convention, which requires "*the party of origin to immediately start *consultations with affected party* in regards to potential transboundary influence of the planned project and ***influence mitigation and exclusion means***. The consultations may concern: (...) *available negative transboundary influence mitigation means and monitoring (...) of the means in use."* It seems that one of the most significant requirements of proper consultations as required by section 5 of the Espoo Convention is to share binding and precise information regarding negative transboundary influence mitigation and exclusion means. However, since **the analysed report shows that the aforementioned means will be altered later during investment stage, they should also be covered during consultations that are part of environmental influence assessment in transboundary context.**

Another component which was analysed as a part of the Espoo Report shared by Nord Stream 2 A.G. concerns the requirements and practices compliance of the report in regards to the implementation of requirements of the Directive 92/43/EWG of the Council of 21 May 1992 *concerning natural habitat and native fauna and flora conservation* (i.e. the Habitat Directive) and Directive 2009/147/WE of the European

Parliament and of the Council of 30 October 2009 *concerning wildfowl* (i.e. the Bird Directive). The transgressions against the Espoo Convention mentioned above related to the inappropriate documentation in regards to environmental influence are also applicable to the European regulations. The risk concerns especially section 7, item 2 *(the sharing of environmental influence assessment documentation with the affected parties*), section 7, item 3 (*participation of society and appropriate institutions of the affected party)* and section 7, item 4 (*transboundary consultations)* of the Environmental Directive. In context of the transgressions identified above, the one which seems to be the most important is the one concerning **section** 5 and **Appendix** IV of the directive regarding the minimal scope of the environmental influence report, which is also applied during transboundary environmental influence assessment of section 2, item 6 and section 6, item 3 of the Directive. These require the documentation to contain the following:

- *"the **location** description for the project*" *(section la of the Appendix IV of the Environmental Directive);*
- *"estimated type and amount of residue and emission (such as water, air, soil and subsoil pollutants, **noise**, vibration (...)" (sections 1 d of Appendix IV of the Environmental Directive);*
- *"description of elements of section 3, item 1, which may be affected by the influence of project: (...) biological diversity (i.e. fauna and flora), (...) material objects, **cultural heritage**, including architectural and archaeological aspects, and landscape*" *(section 4 of the Appendix IV of the Environmental Directive);*
- *„description of probable environmental influence, which among others is a result of: (...) pollution emission, **noise**, vibration (...) risks for human health, **cultural heritage** or for environment (...)"* and *„**cumulation** of other results of implemented or authorised projects (...)" (section 5 – c, d and e of the Appendix IV of the Environmental Directive);*
- *"description of provided means of preventive, mitigation and, if possible, balancing and* ***monitoring,*** if possible, for any projected significant environmental influence" *(section 5 – c and d of the Appendix IV of the Environmental Directive);*

Since, as shown above, **the Nord Stream 2 documentation lacks information as specified, as they will be altered and detailed later according to the appropriate procedures, environmental influence assessment in transboundary context seems to be premature,** also when considering proper implementation of the Environmental Directive.

The matter of compatibility of the Nord Stream 2 documentation with *the Habitat Directive*, requires a comment, along with *the Bird Directive.* In this context, it seems that there are four major concerns. First of all, according to the map in Espoo Atlas *(Natura 2000 and Russian conservation areas in the Baltic Sea region)* the analysed pipeline interferes with **the planned** (expansion) area in Sweden, south of Gotland. This seems to be confirmed by the following excerpt of the report: *"Swedish areas designated as OSO/SCI SE0330380: Hoburg and Norra Midsjóbanken shoals were proposed as the areas (presence of porpoises, birds and habitats) by the Swedish authorities in December 2016 /3I3/. The area intersects with NSP2 and was covered in an additional assessment for Natura 2000, which showed no significant influence on the area. The assessment report was submitted, as a part of supplement of application, separately to Swedish authorities in February 2017 7314/*(ch. 10.6.6, p. 405 of the report). In this context it is necessary to reference the verdict of the European Court of Justice regarding case C-117/03, which showed that "*section 4, item 5 of the 92/43 Directive regarding*

conservation of natural habitats and wild flora and fauna is to be interpreted in the way that the protective means of section 6, item 2-4 of the report are to be used only i regards to the areas, which according to section4, item 2, paragraph 3 of the directive, would be included in the register by the Commission, according to the procedure included in section 21 of the Directive, as am area of significant importance for the Community. As a result, the means are not applied to an area which is not included in a domestic register submitted to the Commission according to section 4, item 1 of the Directive". *This means that if the conservation areas of Hoburg i Nona Midsjóbanken shoals are planned,* ***it is necessary to stop „*separate and additional Natura 2000 assessment", *mentioned in the report, until they are included* in *the register of areas of significant importance for the Community.*** *The counter-action would interfere with the regulations of the Habitat Directive, confirmed in the verdict of the European Court of Justice* - „When it comes to areas which qualified as areas of significant importance for the community included in the domestic registers submitted to the Commission, especially those of priority importance natural habitats or species of such an importance, Member States are required, according to the 92/43/EWG Directive and the protection aim of the Directive„ **to take domestic action, which will conserve the ecological importance of these areas**.*" This is a result of the fact that, until the area status is confirmed along with documentation concerning the subjects of the conservation, no action that may affect its state is to be taken. Only after the natural resources are accepted (*the state, number, representativeness, collocation*) it is possible to conduct the full Natura 2000 assessment.*

Secondly, the creators of the report identified **a possibility of negative influence on the conserved species** of one of Finnish Natura 2000 areas. *„For safety reasons, it has been assumed that the influence on the Natura 2000 areas, which are populated by seals, which are designated species* ***is related to the risk of PTS*** *(permanent threshold shift - author's footnote)* in each individual of the species. It is assumed that, on a population level, grey seals vulnerability is minor, since its population is increasing and it has good habitual status (section 10.6.4.2). Based on the approach (according to the documentation – section 10.6.4.2) ***it is not possible to exclude moderate influence on the area of Natura 2000 in terms of permanent hearing loss in these species of animal****" (ch. 10.6.6, p. 404 of the report). Based on the quoted verdict, it seems reasonable to apply the section 6, item 4 of the Habitat Directive. According to it*, if despite the negative influence assessment of the area and ***lack of alternatives***, plan or project has to be implemented (...), Member States are to use all available ***mitigation means*** to conserve general integrity of the Natura 2000". *As a result, the implementation of the projects is dependant on the fulfilment of the requirements, of which the key one is* **to demonstrate the lack of alternatives.** Meanwhile, part of the report regarding pipeline route variants on Finnish section (i.e. ch. 5.4.3, ch. 10.6.6 of the report) shows no attempts to avoid influence on mammals, which are subject to the conservation area and no necessity of implementation of such harmful alternative. At this point, while abiding to the verdict of the European Court of Justice, there is a need to highlight that this seems to be a serious transgression against regulations of the Habitat Directive. „***Implementation such as construction of a highway, which crosses over Castro Verde conservation area, despite a negative assessment of environmental influence and lack of alternatives*** *for the route,* ***made Portuguese Republic violate commitments of section 6, item 4 of the Directive****"* (Court verdict in C-239/04 case). As a result, same allegations can be made against sections of the pipeline, which interfere with Natura 2000 areas (i.e. DE 1649401, DE 1747402, DE 1747301), designated in German economic zone and territorial sea, extending over to Polish sea area. As was the case of the Finnish section, also the part regarding Federal Republic of Germany (ch. 5.4.6) shows no possibility/lack

of possibility to implement less interfering variant. Although, there were 4 variants analysed, 2 of them (*Vierow i Uznam)* were discarded as they were influencing natural habitat (reefs) and birds habitat, but the landing point in Lubmin and discard of the less biologically harmful Mukran seems to be unreasonable. According to the creators of the report, the last variant was discarded *"because it would require construction of much longer onshore section, which would influence protected areas and private areas."* (ch.. 5.4.6, p. 78 of the report). However, they failed to mention that the Nord Stream II landing point of Prorer Wiek **would help to avoid interfering with two Natura 2000 areas (DE1747402 and DE1747301), IBA area, bird horn area and seal and porpoise territory** (Espoo Atlas).

Thirdly, Espoo Atlas map analysis shows that pipeline implementation will result in **spatial collisions** concerning porpoise and grey seal, which populate Swedish, Danish and German waters included in **Appendix II** (porpoise and seal) and **IV** (porpoise) **of the Habitat Directive.** Additionally, the route interferes with habitats and populations of **wintering,** migrating and breeding birds, which populate the Pomeranian Bay **and *Important Bird and Biodiversity Area* (IBA)** designated in sea areas of Federal Republic of Germany and Denmark. Unfortunately, according to the data in ch. 5.4.4. 5.4.5 and 5.4.6 of the report, referenced circumstances did not convince the authors to analyse another, less interfering pipeline route. This seems problematic, because it may contradict the biodiversity conservation regulations of the Community. Above all, it seems that implementation of the pipeline project will threaten the primary objective of the Habitat Directive stated in **section 2, item 1 and 2**, respectively: *"contribution to biodiversity development **through conservation of natural habitat and fauna and flora** on the European territory of the Member States*" and "*maintaining and recreation , proper natural habitats and subject species of the Community*". The regulation was developed, among others, through species conservation system of section 12.1.a, b, c, d of the Habitat Directive, which in case of such species as porpoise, **prohibits *„killing (...), deliberate disturbance,*** *especially during breeding, rearing, winter sleep and migration, deliberate destruction (...)* and ***degeneration or destruction of breeding or resting areas***". Moreover, the implementation of the pipeline project variant will breach regulations of section 3, item and section 4, item 4 of the Bird Directive, which state that: *..member states **use all necessary means to protect,, conserve and recreate** the sufficient diversity and area of natural habitat for all species of birds"* and *„.take appropriate action to **avoid pollution and natural habitat degeneration** or any disturbance, that may affect birds,* both in relation to conservation other areas. A prohibition register of section 5 of the Bird Directive will make it possible to implement these regulations, as follows: *"deliberate **killing**", "deliberate **destruction** or **degeneration** of their habitat"* and *„deliberate **startling** of the birds during breeding and rearing season".* Besides possible transgressions against the regulations, which are a result of rash pipeline route, there are also problems regarding mitigation means, which simply stipulate transgressions against regulations concerning biodiversity conservation: *„According to arrangements with appropriate authorities, AHDs (devices imitating seal cry) will be placed prior to detonation **to scare** and **startle** seals and porpoises from the detonation area. To cover the area several AHDs will be used in appropriate arrays, if required.*" (ch. 16.2, p. 635 of the report). Meanwhile, for unreasonable reasons, some protective means, such as temporary limitation of implementation of the project, reduction of light emission, application of water turbidity reduction devices, limitation of floor occupation or its reclamation is limited to German sea areas, while it was shown above, protected species are present also in waters under jurisdiction of other authorities (ch. 16.2, p. 637 - 639 of the report). However „*protection of species, for which special areas have been designated has to be **total***"

(verdict of the European Court of Justice in C-75/01 case).

Fourthly, the part of the Espoo Report concerning identification of negative species and habitat influence seems unreliable. First of all, it seems unreasonable that the authors of the report assumed that ***the only areas of Natura 2000, which may be significantly affected by NSP2 project , are areas designated because of sea mammals population (...) and submarine noise influence****, generated by ammunition removal (i.e.. limited to the Gulf of Finland* (ch. 10.6.6, p. 404 of the report). It is worth mentioning that, other areas of Natura 2000: OSO DE 1552401. OSO DE 1649401, SCI DE 1749302, OSO DE 1747402, SCI DE 1747301, crossed over by the pipeline and most influenced, were designated because of the natural habitat conservation (i.e. shoals and reefs), fishes and birds. Unfortunately **the Espoo report does not contain any information concerning the biological composition, places of occurrence of subjects, size and state of the population,** as well as **type of habitat.** One of the recommendations of the Espoo report indicates inadequate study regarding conservation subjects: *„In case of reefs (LRT 1170) in SCI the* ***primary structure of reef will be studied****, marked on maps, and recreated after pipeline excavation is concealed* (ch. 16.2, p. 639 of the report). Meanwhile, in light of the referenced information, as well as Appendix II of the European Commission document entitled *Assessment of the plans and projects significantly affecting Natura 2000 area, methodology guidelines of "Section 6(3) and (4) of the 92/43/EWG Habitat Directive* **identification of pipeline influence should be proceeded with biological inventory for the area.** It should cover *„as many types of habitats and taxonomic groups as possible for the area. Data of inventory should form an objective basis for the assessment process. Sampling methods should be* ***repeatable*** *and, in most cases, should allow to take* ***quantitative data****. "* Meanwhile "***detailed register of species of plants and animals*** *will be needed if the description analysis or the inventory indicates* ***occurrence*** *of species, populations or gatherings included in the Bird or Habitat Directives or habitats for these species"* (ch.2.2, p. 57 of the publication).

The aforementioned requirement is compliant to the verdict of the European Court of Justice, which requires the implementation of the project that may influence the subjects of Natura 2000 conservation to be made only **on the basis of objective prerequisites** and **the best available scientific knowledge** (verdicts of the C-127/02, C-6/04, C-239/02 and C-241/08 case). While the report does not meet the values, since it ***"does not show specific results of studies in writing, which may indicate that there were no detailed ornithological studies carried out"*** (verdict for the C- 418/04 case). Meanwhile, according to the Court, the said documentation "*should allow for deeper analysis on the establishment for conservation of the area (...) especially in terms of the priority natural habitat and species conservation"* (verdict for the C- 441/03 case) and cannot feature *loopholes and lack of overall, precise and final observations and conclusions, which may put an end to reasonable doubts regarding influence of planned works on the conservation areas*" (verdict for the C-304/05 case). The concerns seem reasonable, especially since the destruction of species and habitats of Natura 2000 is projected by the authors of the Espoo Report. If this was not the case, the authors would not force the conservation recommendations for indication of sailing routes, among others, *„****in order to avoid unnecessary disturbance for birds****"* (ch. 16.2, p. 636 of the report) or dates of construction works *"****in order to avoid the influence on herring spawning season and resting of sea birds*** (ch. 16.2, p. 636 of the report). Also they would not reserve the right for *„the process of route optimization to* ***minimize influence on reefs****, which were identified as type 1170 biotope (...) and type 1110 and 1160 biotope"* (ch. 16.2, p. 637 of the report).

Despite the identified circumstances, the assumption that the negative noise influence on sea mammals

will be present only in the Gulf of The Finland seems unreasonable for yet another reason. As noticed, outside the Finnish (5) and Estonian (1) areas (fig. 10.48. p. 406 of the report), **seals and porpoises are subject to the conservation of the 2 areas of Federal Republic of Germany** (SCI DE1749302 i SCI DEI 747301) crossed over by the pipeline, as well as **8 other, slightly more remote areas in Sweden, Denmark, Federal Republic of Germany and Poland** (SOO PLFI990002). Although it was decided that *„the influence on the species and habitat will present regardless of distance from NSP2* (the pipeline - author's footnote)" (figure 10.48, p. 406 of the report). It seems unreliable because of the lack of or unreasonably vague information in regards to sunk ammunition along the pipeline route. As noted by the creators of the report, it is the most dangerous hazard for sea mammals and it seems that the location of the ammunition removal and of the emitters (i.e. detonation) should be fully identified as a part of environmental influence assessment. Meanwhile, the report shows that **there were no such studies regarding Finnish and German sea areas:**

- *„Since there were no such geophysical studies conducted yet in Finland **to determine the presence of ammunition, its presence was determined on the basis of NSP implementation***." (ch. 9.13.1.2, p. 304 of the report);
- *"Nord Stream 2 AG has closely followed the latest development in ordnance detection in recent years in similar projects in the area surrounding the NSP2 route. When selecting the surveying and salvage company, it can thus be ensured that the **works for ordnance detection can be carried out according to the current state of the art.**"* (ch. 9.13.1.5, p. 305 of the report);
- *"The risk (...) will be reduced through geophysical studies prior to placement in order to identify non-detonated ammunition in final NSP2 route"* (ch. 10.9.2.1, p. 449 of the report).

Because of that, input data used for projections regarding range and scale of the noise resulting from removal of ammunition is unreasonable. "*Location and amount of ammunition for modelling was chosen on the basis of **estimated** density of ammunition occurrence found along the NSP2 route and distance from conservation areas*" (ch. 10.1.2.2, p. 314 of the report). As creators of the documentation noted, this may change along with the progress of the administration procedures, designing or data gathered during new studies:

- *"The modelling results shown are based on the construction scenarios at the time when modelling was carried out. **The design is continuously being optimised,**, and as such, the final design will **deviate** to some degree from the design which formed the basis of the modelling. Because of that input data used for modelling (i.e. regarding intervention works) may deviate from the newest technical data presented in domestic environmental documentation*" (ch. 10.1.2.1, p. 312 of the report);
- *Modelling for the Espoo Report **is based on the initial technical design** based on very conservative (cautious) assumptions, but the Russian environmental documentation **will include modelling based on the final design solutions**, according to the Russian legislation regarding environmental protection*" (ch. 10.1.2.2, p. 317/318 of the report).

Moreover, in Appendix 3 of the Espoo Report, par regarding submarine noise as a result of ammunition removal (ch. 2.2.3, p. 55-59 of the report) **the choice for 4 detonation sites for Finnish EEZ and for which the submarine noise propagation was modelled is not clearly described along the Nord Stream 2 route.** If these sites are not clearly identified on the basis of the study *(unexploded ammunition found).* **it is methodologically reasonable to carry out modelling in the points, which are located the closest to areas/vulnerable receptors.** In case of grey seal and pusa.

This approach to environmental influence assessment reflects the worst possible scenario for influence meaning that it shows the full potential scenario for results and range of the influence. This type of action provides information regarding minimization actions for eventual influence regarding endangered conservation subjects in order to reduce it down to reasonable *(range)* results. Otherwise, as in the case of the approach in the Espoo Report, the lack of realistic influence range is evident. Presented results for modelling in the graphic form (Fig. 2-21 or 2-22, among others) **may make the recipient think that the areas of grey seal and/or pusa conservation, are entirely safe** during construction stage of NS2 pipeline.

The information regarding **the lack of submarine noise propagation modelling for ammunition removal in Sweden, Denmark and Federal Republic of Germany** also seems concerning and incomprehensible (fig. 10-6, p. 320 of the report). **It seems that, the creators felt that the lack of appropriate data, justified the statement that porpoises and seals conserved in 10 areas of Natura 2000 in Sweden, Denmark, Federal Republic of Germany, Poland and Estonia will not be affected.** This seems even more probable since the influence on the conservation subjects for the Natura 2000 areas was indicated/analysed only for Finland, for which this type of modelling was carried out. What is interesting, if the assumption that the indicated acoustic influence on porpoise and seal (up to 26 km for mid level and up to 44 km for top level - fig. 10-7 and 10-8. p. 320 of the report) is more or less universal is made, this means that **undoubtedly it will include porpoise conservation are SOO PLH 990002 in the Pomeranian bay,** where allegedly *„the influence on the species or habitat will not be present because of the distance of NSP2*" (ch. 10.6.6, p. 409 of the report). The part of the Espoo Report regarding transboundary influence on Poland also shows that the risk of pipeline implementation noise for Polish population of porpoise was marginalized. *„Although there is a risk for precipitate release for water column (and related pollutants / sedimentation) and for noise related to the sea floor interference, the large distance between these actions and Polish EEZ boundary means **that there were no transboundary influence identified.**.*" (ch. 15.4.2.6, p. 619 of the report) **The assessment does not reflect** the **full spectrum of possible influence. In case of unexploded ammunition and the need to detonate it** in *situ* near Polish EEZ boundary, **it is possible to encounter influence (*submarine noise propagation, re-suspense, slime),* which may affect Polish Pomeranian bay OSO/ SOO Pomeranian bay SOO, where the subject of conservation** is porpoise, especially vulnerable to acoustic influence. Additionally, it is worth noting that the concerns and doubts will also relate to the remaining and aforementioned Natura 2000 areas.

I would also like to reference issues related to the spatial planning in sea area, which are regulated, among others, by the Directive 2014/89/UE of the European Parliament and of the Council of 23 July 2014, *established framework for spatial planning for sea areas.* While referencing potential cumulated influence of Nord Stream 2 and other planned projects for Baltic region, there is a need to include study plans and documentation relating to spatial planning for sea areas in Espoo report. Currently all actions taken for project implementation and planning in Baltic region should consider both environmental and socio-economic results – as stated in recommendations and good practice guidelines included in Principles for Sea Spatial Planning[12], in documents for BaltSeaPlan[3] and recommendations of Directive 2014/89/UE of the European Parliament and of the Council of 23 July 2014 *regulating framework of sea area spatial planning* (from now on the Sea Directive). It is worth noting that according to the Directive, spatial plans for sea areas should be designed *as*

[1] *http://www.helcom.fi/helcon-at-work/groups/helcom-vasab-matitime-spatial-planning-working-group*
[2] *http://www.vsab.org/index.php/documents*
[3] *http://www.baltseaplan.eu/*

soon as possible, no later than on 31 March 2021."

There are study works regarding development or alternation of the existing plans for sea areas spatial planning in all European Union Member States of Baltic region – for example: *Determinants for spatial planning for Polish sea areas study with spatial analysis (Marine Institute, 2015): Raumordnungsplan jur die deutsche ausschliessliche Wirtschaftszone (AWZ) in der Ostsee (BSH, 2009).* These documents cover economic intentions and environmental actions included in plans of the Baltic States.

In this context, it seems that **the route of the Nord Stream 2 pipeline should be confronted with and analysed in relation to medium-term and long-term actions planned for the Baltic Sea.** In this regard, potential cumulated influence should be considered and the possibility of implementation of these actions should be assessed in order to guarantee safe gas transfer using submarine infrastructure, which also guarantees conservation of proper environmental quality. Lack of such analysis during Nord Stream 2 planning, even using existing study and analytical documents shared by the Baltic States, may mean that **the pipeline route will force specific planning actions, which contradict sustainable development rule or ecological and economic interests of individual states.** In order to avoid this, a decision to consider common discussion with subjects responsible for development plans for Baltic area should be made, as well as development of potential negative environmental and economic influence minimization methods. This would give them **a basis for consideration of identified environmental circumstances in their planning documentation,** which, on one hand, would guarantee safe operation of the transmission infrastructure and, on the other hand, would probe to be an efficient approach to environmental issues. Besides, clear clarification in the Espoo Report regarding limitations of spatial use dependant of the pipeline mileage would also be **clear signal for potential business entities, which want to implement investment intents for Baltic Sea in proximity of the existing pipeline.**

Unfortunately, creators of the Espoo Report do not share the logic of the argument and presented risks. They ignored sea planning context, in which results of pipeline implementation should be analysed. Chapter 1 1 regarding sea strategy planning **lacks references to detailed planning documents authorised or in development in the Baltic states** and related arrangements. Additionally, table 15-3 (p. 591 of the report) includes part concerning spatial planning that contains unauthorized statement that: *"Other significant transboundary influences, which may potentially influence compliance to EU directives are not expected. NSP2 will not provide the Baltic EU States with prospect of reaching GES for MSFD and RWD descriptors. Moreover, NSP2 will not provide any SP or SN with prospect of achieving goals detailed in BSAP."* As mentioned before, **analysis in the Espoo Report in relation to the European framework documents will not give a definite answer for environmental goals achievement** for states, which are parties of origin or affected parties. This type of goals *(time in which recommended indicators and parameters are achieved, among others)* is specified in domestic documents of EU Member States. From the viewpoint of methodology, creators of the documentation should reference **regulations, which implement these directives and strategies in domestic documents concerning spatial planning for sea areas or for development plans_(**/7/**;.** *"Set of properties typical for good environmental condition of sea waters", GIOŚ 2014).* Only this type of analysis will make it possible to decide if the planned Nord Stream 2 pipeline will affect designated environmental and economic goals in individual Baltic states, as well as the scope. Therefore, a statement of lack of influence is unfounded. This also makes it impossible to agree with the statement in table 15-3 (p. 590 of the report): *„NSP2 presence on the sea floor may limit future development of sea floor infrastructure. However, NSP2 will not prevent any*

construction works – consultations regarding works at distance of 300-500 m to NSP2 would be required in order to reach an agreement in relation to the technical methods and precautions. It is estimated that the NSP2 pipeline will not prevent any future project, but it will have to be taken into consideration during planning stage for future projects, which will be constructed at distance of 300-500m to NSP2. To sum it up, regional transboundary influence on existing and planned infrastructure on NSP2 will be negligible." This entry **may lead to contradictory conclusions,** that, on one hand, **the influence is negligible and would not affect investment plans for the Baltic sea,** and on the other hand, the location of Nord Stream 2 **would bring limitations in relation to the need for consultations each time,** if the planned operation will be in distance of 300-500m from the pipeline route. One should point out, that the scope of eventual limitations for aggregate / energy resources exploitation near the pipeline is unclear. For example, chapter 10.9.6 of the Espoo Report concerning natural resources extraction does not give any information on **the need to exclude safety buffer from eventual operation along the submarine infrastructure** in order to guarantee its stability, and in turn safe exploitation. Meanwhile, even on the Espoo Report stage, **there should be safety distance for pipeline axis,** which should be respected during planning operations in Baltic Sea. Moreover, the creators of the Espoo Report **did not consider** cumulation of limitations **in relation to the fact that, in case of transmission infrastructure,** Nord Stream ***en bloc*** there are 4 submarine pipes with substantial spacing. **As a result,** latitudinally there is a zone strip of limited use in the Baltic Sea (3-4 km), which will require any actions near it to be discussed with the transmission network operator. **Unfortunately, the Espoo Report does not give precise technical and environmental conditions regarding possible implementation of projects near the** zone strip of several kilometres width. Moreover, it does not **outline time frame for such alignment process** with Nord Stream I and 2 AG.

Ministry of Energy considers issues related to the eventual cumulated influence on the existing and planned Baltic Sea infrastructure to be significant issue. In this context, there is also a need to discuss issues concerning sailing routes and potential limitation in the Baltic Sea port development. Espoo Report contains numerous **inconsistencies and incompatibility issues concerning the cumulation of influences in relation to the intersections with submarine transmission infrastructure.** This relates especially to such important projects as the planned Baltic pipeline, which has been mentioned as a project of common interest among European Union Member States (EU PCI[4]), which is expected to improve internal European energy market. The Espoo Report vaguely references the fact, mentioning in chapter 6.6.7 (p. 112 of the report), that: *"Variant route of the pipeline intersects existing and planned energy and telecommunications cables, two existing pipes of NSP, and **potential future Baltic Pipe and BalticConnector pipelines**".*

Chapter 10.9.8.2 (p. 463 of the report) mentions that: *"...Nord Stream 2 AG along with respective owners of submarine cables and pipelines will prepare and will comply to agreements regarding intersections and/or approaching NSP2 (Nord Stream 2* - author's footnote). *These agreements will include the intersection methods and precautionary measures required for construction works on a case by case basis. As a result of this influence on existing and planned infrastructure in regards to the presence of pipelines and related structures will be local, long-term and low intensity. Therefore, the influence is deemed negligible*" - the statement is **too general.** In terms of methodology used in environmental analysis **there is a flaw regarding**

[4] *Commission Delegated Regulation (EU) 2016/89 of 18 November 20/5 amending Regulation (EU) No 347/20/3 of the European Parliament and of the Council as regards the Union Ust of projects of common interest*

environmental influence assessment on the basis of *non-existent agreements and alignments,* *without mentioning local circumstances in sea environment. Because of that, the lack of shore parameters* (recommended technical solutions, minimal geotechnical parameters, preferred *and compatible solutions for submarine structures in relation to Nod Stream 2)* **seems unfounded to,** *a priori* **carry out quantification of the influence.**

Similar entry is found in chapter 13.3.2 (p. 547 of the report): *"Other interferences that may derive from surveys and construction of nearby/crossing installations foreseen to be installed once NSP2 is in operation are considered to be negligible, as they will be addressed in relation to cooperation of project teams at the design stage.*." - similarly to the previous evaluation **the assessment of environmental influence on the basis of yet unknown project arrangements is methodologically unauthorized.** At this time, it is only possible to state, that actions taken during designing will aim to minimize potential operational risk, and subsequently to improve environmental safety. Meanwhile, even the Espoo Report **should contain technical and environmental specification, which should be applied to project in order to achieve the designated sea environment goals.**

Analysis of chapter 14.6, which details a project excluded from further assessment, leads to similar conclusion. It contains a statement that: *"Cable crossings will not cause cumulative impacts on any environmental receptors."* (p. 583 of the report). Is was assumed that such assessment was analysed by the creators of the Espoo Report in detail. However, **there is no information regarding the fact that analysis included cumulated influence of intersections of pipelines and cables** *(especially energy cables***), which may influence cathodic anti-corrosion coating.** It should be supplemented with an assessment of adequacy and effectiveness of used cathodic protection in electromagnetic field.

In conclusion, the Espoo Report should contain **a list of shore circumstances, which may determine intersections or the of lack of intersections** *(for example statement of minimal depth for navigation: safe thickness of layers separating the two infrastructures).* This type **of statement for parameters will provide a safety guarantee for transmission infrastructure exploitation, and as a result of maintaining proper sea environment condition in the intersection location.** It should be noted that the statement of such limitations, as well as preventive means is possible **regardless of the fact that the intersection locations were not marked by other pipeline subjects.** It is also recommended, as a part of the Espoo Report stage that locations for *(sections of the pipeline marked on the map)* **for the Nord Stream 2, which should not be altered with construction works i.e. intersections.** It is because **the creator of the Espoo Report should possess full range of marine environmental study results** *(geotechnical, geophysical, hydrotechnical and geochemical studies),* which may **clearly implicate limitations regarding sea infrastructure** *(for example low-bearing soils, potential liquidation of precipitate under additional load, traces of chemical weapons and influence of the re-suspension, cathodic anti-corrosion coating effectiveness).* In order not to significantly limit other possible forms of operation in the Baltic Sea, as well as to give a prior consideration to planning and designing process of all identifiable limitations for potential intersections/crosscuts of Nord Stream 2 infrastructure by other subjects, such an information should be included in the Espoo Report. Otherwise, **the lack of such information referencing the pipeline route may result in long-term process of option statement for linear projects which may intersect Nord Stream 2,** which contradicts the implemented idea of prior consideration of socio-economic actions while taking into account sea environment circumstances and its effective

conservation.

Meanwhile, it is also worth mentioning that the creators of the Espoo Report showed **inconsistency in influence analysis approach, including cumulated influence of submarine infrastructure intersections.** On the one hand, the mention *insignificant and negligible actions* (as mentioned above). *On the other hand however, the Espo Report contains an entry in chapter 14.3: "*It is worth mentioning that the domestic environmental reports showed that the Baltic Pipe a submarine pipeline connecting Denmark and Poland) and marine wind farms in Danish and Polish *EEZ* ***may result in the cumulation of influence. The process of planning of the aforementioned projects is not as advanced as to make it possible to estimate the influence of its implementation. Because of this, there were no assessments on the domestic stage for the cumulation of influence of these projects and NSP2"*** **(p. 562 of the report). The fragments may draw a conclusion that this type of assessment is not possible, which in turn** makes **the** analysis prepared by the creators of the Espoo Report contradictory and unreasonable in terms of the influence analysis. **It seems that this confirms the fact that there is a need for the Espoo Report to include all identified environmental, technical and construction circumstances, which will influence the safety of other submarine infrastructure intersections.**

It also seems, that the creators of the report did not consider all possible and publicly available source materials, which describe the status of preparation and planning in relation to the:

- project of "*Baltic Pipe*" *(including decision for arranging and maintaining submarine pipeline under the sea are of Poland and its administration of 21 March 1991 (Journal of Laws 2016.2145)*[5] *along with available documentation for planning/designing*[6]*);*
- *available documentation, including the route for "*Baltic *Connector"*

As such **argument given by the creators of the Espoo Report concerning low-level of implementation of the planned pipelines** in the Baltic Sea, **is not consistent with the facts, including the availability of appropriate materials.** In this regard the creators of the Espoo Report should consider much broader and detailed data query with significant involvement of the interested parties, including subjects implementing projects stated above, as well as appropriate public institutions of states, which plan to implement them.

Finally, I would like to reference nature studies conducted for Nord Stream 2 and use of archival data, especially its integrity, adequacy in the investment intent, which may in turn affect the possibility to prepare applications for potential influence on Baltic fauna and flora, as well as maintaining the proper condition of habitat.

Chapter 10.9.5.2 (p.458 of the report) includes an entry stating that: "*NSP2 intersects with sailing routes in shallow water (depth of less than 20 m) only in German waters (fig. 9-31), whereas NSP2 intersects north (sailing route no. 20) and west approach routes for ports of Szczecin and Świnoujście. According to the risk assessment for Nord Stream 2 pipeline, the pipelines may be arranged in waters of depth of 17 m and deeper, with no additional protection. In the area of the north port approach route the depth of water is 18-18.1 m and the pipeline is to be placed on the sea floor. Outer diameter of the pipeline is 1.5 m which reduces*

[5] *The 1/12/09 decision of the minister of infrastructure of 17.12.2009 stating location and maintenance of the Baltic Pipe in Polish EEZ (sign. GBmb/076/930558/80/11/09) The decision of Maritime Office in Szczecin* of *08.01.2010 to confirm arrangement and maintenance the submarine pipeline in the Polish sea: Baltic Pipe (sign.: GPG I — 61222/1-11/09)*

[6] *DONG Naturgas a/s 2001 Baltic Pipe, Offshore Pipeline. Environmental Impact assessment*

the water column above the pipeline to 16.6 m. AIS data analysis of watercrafts navigating approach routes for ports of Szczecin and Świnoujście did in fact produce the max. immersion of 12.9 m" - **it seems that not all navigation data was analysed as a part of the Espoo Report,** since in prior entries (ch. 9.9.4. p. 268 of the report) there is a statement, that the AIS data of Polish navigation routes was not used: "*All Member States of IIELCOM except for Poland agreed to share this data of DMA with NSP2. Thus, the charts for watercraft traffic the Atlas (SH-01-Espoo-SH-08-Espoo) currently exclude the data collected from AIS base stations in Poland. "*

On this basis it is safe to assume that the Espoo Report **did not consider navigation routes of Poland and their intersections with Nord Stream 2,** meaning that **there is no information on** water depth of navigation routes, which may cause difficulties for more immersed watercrafts. **One should note, that the arrangement of the pipeline may permanently restrain the development of ports of Szczecin/ Świnoujście, which in turn would permanently limit the immersion of the watercrafts using these ports. Therefore, the statement that: *"It is safe to assume that the presence of the pipeline structure on the sea floor will not in any way affect the navigation*." (p. 458 of the report) - is true only in respect to the current navigation for the route and** does not consider any potential port development plans (***the lack of references to the ports harbouring watercrafts of more immersion).***

It is worth to note that the part of the Espoo Report for Nord Stream2 pipeline **concerning nature studies is too vague.** It contains **minor descriptions of study methodology of individual components of environment,** as well as limited results of these studies along with the applicable standards. Although the Espoo Report contains a statement that *"the studies were conducted in various ranges, the reader is referred to the original documents in order to get acquainted with methodology descriptions, study goals, analysed time frame and basic assumptions."* (ch. 9.1, p. 158 of the report), but they were not named or indicated. Additionally, in case a reader does not know Russian, Finnish, Swedish, Danish or German the possibility to find the desired information is limited or impossible.

According to the content of the documentation *"a number of environmental field surveys have been conducted to ensure a solid basis for the baseline description and the subsequent environmental impact assessment"* (ch. 9.1, p. 157 of the report), but the content was not expanded upon. According to the information in table 9-1 (ch. p. 158 of the report) **the studies along the route of NS2 were conducted in 2015-2016 in five states of origin (RU, FI, SE, DK, DE), but their scope varied.** The range of omissions regarding studies:

- in Finland: turbidity, solid particles, chemical warfare currents, plankton, flora (*higher plants and macrophytes*), fishes, birds and sea mammals;
- in Sweden: turbidity, solid particles, organic pollution currents, biogenic elements, general organic carbon, chemical weapons, plankton, flora (*higher plants and macrophytes),* fishes, birds and sea mammals;
- in Denmark: turbidity, solid particles, currents, organic pollution, biogenic elements, general organic carbon, chemical weapons, plankton, flora (*higher plants and macrophytes),* fishes, birds and sea mammals;
- in Germany: turbidity, solid particles, currents, organic pollution, biogenic elements, general organic carbon, chemical weapons, plankton;

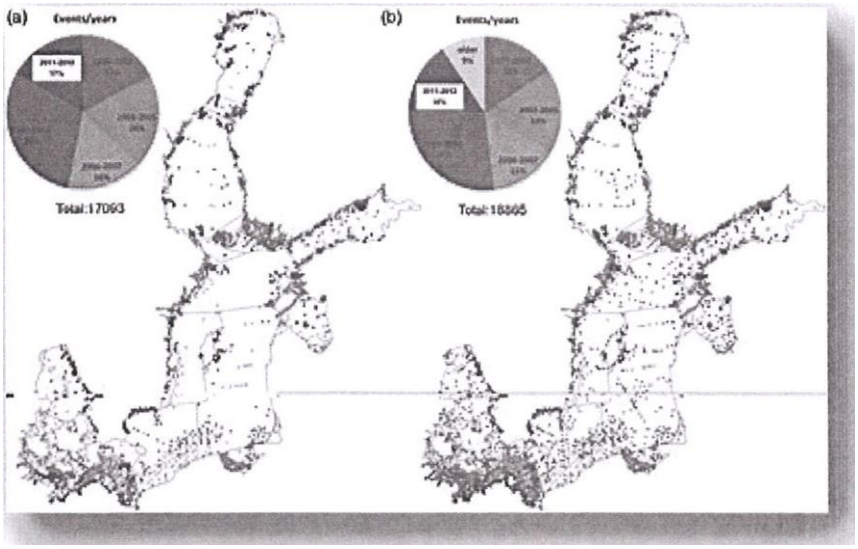
- the results of these studies can hardly pass as sufficient to conduct honest analysis of environmental influence, including influence in transboundary context. Additionally, none of the states considered bats migrating over the Baltic Sea.

The base data collection in relation to the issues above should be considered desirable in context of recommendations and experiences regarding means and scope of studies, amount and quality analysis, as well as the need to implement proper environmental conservation for sea waters included in legal acts and professional publications, such as:

- Directive 2008/56/WE of 17 June 2008 *which establishes action framework for marine environmental policy*;
- Directive 2009/147/WE of 30 November 2009 *regarding conservation of wild birds*;
- Directive 2000/60/WE of 23 October 2000 *which establishes action framework for marine policy***;**
- Directive 92/43/EWG of 21 May 1992 *regarding natural habitat and wild fauna and flora conservation*;
- *Manual for Marine Monitoring in the COMBINE Programme of HELCOM*, Helcom 2015;
- *Guidelines for coordinated cost - effective future monitoring of marine wintering birds,* Helcom 2015;
- *Guidelines for SEAL abundance monitoring in the HELCOM area,* Helcom 2014;
- *Waterborne Pollution Load Guidelines*, Helcom 2006.

The creators of the Espoo Report included section regarding marine environment elements present in the Baltic Sea, which in references numerous publications and studies. However, it is worth to note **that these studies were conducted relatively long ago, and they were concerned with nature circumstances study for location of NS2. And** therefore:

1. **Phytoplankton study** - references **results** from **2012;** (ch. 9.6.1.1, p. 195 of the report), with additional lack of taxonomic structure, population and biomass of phytoplankton.
2. **Zooplankton study**- references **publication** from **2010;** (ch. 9.6.1.2, p. 197 of the report), with the additional lack of the information regarding taxonomic structure, population and biomass of mezozooplankton.
3. **Phytobenthos study**- references **results from 2010;** (ch. 9.6.2.1, p. 198), with additional lack of the information regarding taxonomic composition and biomass.
4. **Macrozoobenthos study**- references publication from 2016. (ch. 9.6.2.2, p. 199 of the report) which used **data from 2000-2013,** although presumably small portion of the sections illustrating sampling points along the NS2 route *(figure below).* Additionally, the taxonomic composition population and biomass of individual taxons in not known.



Source: https://academic.oup.eom/icesjms/article/73/4/l 1 %/2458890/The-Baltic-Sea-scale-inventory-of-benthic- faunal

5. **Ichtyofauna study**- references **cod and herring studies from 2011,** for sprat and salmon it references data of Russian section (ch. 9.6.3, p. 206 of the report), although there is no information regarding taxonomic structure, population and biomass of fish in relation to the fishing tools, fishing efficiency indicators, location and density of fish species present in the study area, size, age and gender structure and maturity of gonads, filling the fish stomachs with feed.

6. **Avifauna study**

- **Russian coastal zone** - aerofotogrametria was carried out **in April-May 2016** (ch. 9.6.5.2, p. 219 of the report), although it does not state the population of individual nesting and resting species *(bird population shown on diagrams*);
- **German waters study** - study was carried out in **September 2015-August 2016** (ch. 9.6.5.2, p. 221 of the report) for the greater part of the route in Pomeranian bay;
- **German coastal zone** - references studies concerning area between German EEZ border and landing location **from 2017,** however it lacks detailed descriptions.

7. **Sea mammal study**

- **Porpoises study**- references the **results of SAMBAH project** from **2010,** although for the greater part of the Baltic Sea it lacks data on their presence (ch. 9.6.4.1, p. 208-210 of the report);
- **Harbor seal study** - references **elaboration** from **2016,** (ch. 9.6.4.2, p. 210 of the report), although it lacks information regarding the population and location in relation to the pipeline;
- **Grey seal study** - references **data from 2016 for the Russian section of the pipeline** and collected in BALSAM project (*HELGOM*), implemented in 2013-2015 (ch. 9.6.4.4, p. 212-213 of the report).

8. **Hydrochemical study**

- Temperature - according to the studies from **2000-2015** (ch. 9.2.2.3, p. 173 of the report);
- Oxygen circumstances - according to the studies from **2012-2015** (ch. 9.2.2.4, p. 174 of the report);
- Salinity-according to the data from **2000-2015** (ch. 9.2.2.1, p. 170 of the report);
- Chlorophyll content - according to the data from **2012.** (ch. 9.6.1.1, p. 196 of the report);
- Nutrients - data from **2000-2015** (ch. 9.2.2.5, p. 176 of the report);
- heavy metals - according to data from **2006** and **1993-2005** (ch. 9.2.2.6. p. 177 of the report);

- WWA - references data from **1994-1998** (ch. 9.2.2.7, p. 1 78 the report);
- PCB - references data from **1994-1998** (ch. 9.2.2.7, p. 178 of the report);
  - Mineral oil index - concentration of petroleum references data from **1994-1998** (ch. *9.22.1,* p. 178 of the report),

- although there is no reference to the organic carbon concentration or pH.

9. Geochemical study

- of organic carbon, metals, polycyclic aromatic hydrocarbons *(W W A),* nitrogen, phosphorus, polychlorinated biphenyls (*PCB*), hexachlorobenzene (*HCB*), hexachlorocyclohexan *(HCTT totality),* chlordane content, DDT content, concentration of organotins (TBT, DBT, MBT) - concentration references **studies** from **2015 and 2016** *(Appendix 4)*

- although it lack data on granulation, loss on roasting *(LOT)* and mineral oil content.

Among all these information **there is no detailed data from 2015-2016 nature studies,** mentioned in chapter 9.1, (p. 158 of the Espoo Report).

Additionally, the Espoo Atlas which includes geographical maps for biological, chemical and physical parameters in the Baltic Sea along the planned submarine pipeline does not contain current and full information. For example:

1. chlorophyll distribution on the water surface **references 2004-2012 period**(PE-01- Espoo, PE-02-Espoo, p. 35-36);
2. distribution of the floor flora is stated as estimated on the basis of **model from 2013** (BE-01-Espoo, p. 38);
3. it lack data on porpoise presence (MA-01-Espoo, p. 41) in the great part of the Baltic Sea;
4. wintering, resting and feeding areas for migratory birds references **study from 2010** (. E3I-02-Espoo, p. **44);**
5. location of spawning ground of herring and sprat is based on the **data** from 2012 (FI-01-Espoo, p. 40)

- which makes **the materials unreliable in the context of population mobility or dynamic, among others.**

While considering the above, it is worth noting that there are also additional issues, such as:

1. Figure 9-22 (p. 209 of the report) uses similarly sized visual symbols for various populations *(presence of porpoises in second each day)* for the same map. Such data presentation may result **in false perception and assessment of two individual sub-population of porpoise in the Baltic Sea.** Symbols should be standardized for shared numerical interval;
2. **The lack of standardized comparative data for the Baltic Sea fishing** - fig. 9-39 (p. 272 of the report) contains Polish data from 2009- 2013 and 2010-2014 data for other Member States;
3. Chapter 9.9.8.2 „*Pipelines*" (p. 279 of the report), **does not contain information on the "Baltic Pipe"** - although other sections reference the project. Lack of information regarding intersections with other submarine pipelines circumstances;
4. Chapter 9.13 references MU-02-Espoo of the Atlas. After cartographic analysis of the document is seems **that** "*priority area (of the project*" **in context of the ammunition presence should include the whole section adjacent to the chemical weapon submergence east of Bornholm;**

5. Chapter 9.14.2.3 contains a comparison of result of geochemical study for Nord Stream 2 and previous studies. On this basis, it was assumed that: "*The amount of samples containing BSCh was higher than during NSP2 study (2015)* in *comparison to NSP study (2008-2012)"* (p. 309 of the report); It seems that **referenced reason for the decision to change study methodology and increase in the detection / accuracy of methods is a possible explanation, although it is not the only explanation,** that would justify the noted increase of the number of samples containing chemical weapon traces *(BSCh).* **it is possible that sea conditions indicate major release of the substances** during interval between the sampling dates. In light of the gathered data of seem that **the inference does not fully consider all possibilities and as a result the data should be confirmed and checked during additional studies;**
6. In case of dispersion modelling and re-sedimentation of precipitate (ch. 10.1.2, p. 314-317 of the report) **it is recommended to also state maximum/average distance of the pipeline route axis as potential range of influence.** The results for surface occurrence for the precipitate (*turbidity*), do not reflect the nature and range of the influence and its potential influence on the affected parties.
7. Chapter 10.1.3.2 (p. 320-321 of the report) contains **various threshold values for noise (TTS and PTS) for various actions during the pipeline arrangement (***removal of ammunition and rock material arrangement).* It seems that the vulnerability of the individual receptors (groups of organisms) should be the same, no matter what the source of the similar noise volume is. In case of differences presented in the Espoo Report (also fig. 10-39), there is a need to **consider broader comment in the document;**
8. Figure 10-20 (p. 344 of the report) and chapter 1.2.3.2 (p. 344 of the report) contain a statement that: "*Although part of the emissions of air pollutants and GHGs from vessels eventually may extend across national borders, they will be before that take place be diluted to a degree where it will not be detectable above the background levels. Therefore, no transboundary impacts are anticipated*.." It seems that such an **assessment would not match the observable influence.** It seems that there is a possibility that **the release of gases in atmosphere** *(especially near boundaries*), **may result in influence, that transpires state boundaries.** It is worth noting that this transboundary influence will be relatively small and not far reaching. However, it is impossible to agree with the statement that it will have „*no*" influence;
9. Chapter 14.3.5 (p. 572 of the report) describes potential cumulated influence of the Nord Stream 2 and sand and gravel extraction from the sea in Midsjö southern shoal on Polish EEZ (Poland) and references PP-01 -Espoo map of the Atlas. However, the map also represents this action only in Swedish EEZ - it needs to be corrected.
10. Parts of the Espoo Report may raise doubt in terms of the translation quality in regards to Polish version i.e. lack of adjunct in sentence 10.13.1.1. (p. 503 of the report). *In order to evaluate the possibility of the block being moved by currents and waves, there was /326/7327*/."; or in chapter 15.4.2.6 (p. 619 of the report) concerning evaluation of the potential transboundary environmental influence in Poland there is the following wording: *"Lithuania shares EEZ borders with Germany, Denmark and Sweden..."*. It is recommended to ensure the quality monitoring of the translation.

Yours *faithfully,*

Michał Kurtyka
under-secretary of state
document contains e-signature

CC:

Mr Piotr Naimski, Procurator of Strategic Energy Infrastructure

24/06/2017

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MINISTRY OF ENERGY
Department of Petroleum and Gas

Warsaw, 28 June 2017

DRO.I.522.8.2017
IK: 110464
[Stamp: General Directorate for Environmental Protection
OFFICE
Submitted 2017-06-29
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Mrs
Katarzyna Twardowska
Deputy Director of the Environmental Assessment Department
General Directorate for Environmental Protection

Dear Mrs Director,

in relation to the previous correspondence of the ministry of energy (letters of 2 and 23 June 2017, in case of DRO.1.522.8.2017) regarding environmental influence report for Nord Stream 2 report for environmental influence assessment in transboundary context, I am sending you the list of questions concerning the planned project in environmental context. Please include this in the final Polish opinion regarding the project, while also highlighting that Poland expects reliable and substantive reply, which will leave no room for interpretation.

These questions are derivative of numerous omissions in terms of information, which were not considered in the investment documentation, as well as lack of response to the questions directed to the investor during scoping stage and during Nord Stream 2 information meetings: in Warsaw – 2016 and in Szczecin – 2017:

1. Is Nord Stream 2 AG company willing to publish the feasibility study from 2012. Is it willing to indicate which recommendations were implemented during designing stage of the pipeline development?
2. What EU procedures and international regulations were applied for selection of material and service suppliers for designing and construction stage of the pipeline?
3. Is Nord Stream 2 AG company willing to publish tender documentation and assessment of the received offers, also in the context of areas analysed in the Espoo Report?
4. How does the Espoo Report apply environmental and IFC standards?
5. Why was Finnish bay selected as the optimal rote for the pipeline despite the *North Transgas* study (1995- 2000)?
6. To what extent were the conclusions of North Transgas study reflected in the presented Nord Stream 2 project design?
7. To what extent was the environmental dynamics i.e. changes in environmental factors, considered in reference to the North Transgas study in relation to the Nord Stream 2 development?

8. Why do descriptions and maps presented in the context of Swedish, Danish and German offshore routes lack reference to the scientific query (for example CHEMSEA) in relation to the chemical weapons, confining to the statements of presence or its lack concerning chemical weapons presence in the area?
9. Does rejection of the onshore route in Mukran, which was caused by the tourism on Rugia, intersection of this variant with military area, reefs and bird conservation areas, doubt the location of the pipe storage in the city, which will result in related watercraft traffic, which in turn will result in consideration given to exclude this variant conservation subjects?
10. If the Mukran onshore variant was rejected, because of the potential influence on the private areas, why was Rugia indicated to be the location of obligatory environmental compensation actions?
11. Why is there no decision regarding excavation and non-excavation variant for Russia, while also considering the minimization of environmental interference, as in case of onshore pipeline i Germany in relation to the conservation of large woodland areas (micro-tunnel as a non-excavation solution)?
12. Does the environmental value of the Kurgaldzinskiy nature reserve, which is a location for the onshore route in the Russian Federation, indicate that the excavation method is to be chosen, despite much longer distance that in case of Germany?
13. Does the lack of shore crossing method in Russia, in relation to the current analysis, is not a way to exclude this issue form public consultation in order to implement the solution favouring economic aspect, instead of environmental aspect?
14. The decision regarding the watercraft used to arrange the pipeline is related to variables, which concern the environmental aspect and technical data for areas of pipeline location. Since the issue was mentioned to be an open matter in Espoo Report, there is a question regarding the incompetence of technical data regarding the pipeline construction, which in turn will affect the environmental influence assessment?
15. Were there any random situations, dangers or environmental damages present during the arrangement of the Nord Stream 1 pipeline?
16. What specific criteria and requirements for the sea and land transportation were basis for decision regarding location of load coating and storage industrial plants in terms of the environmental influence?
17. Which quarries will delver rocks for the pipeline foundation, if necessary?
18. What is the estimated emission of exhaust gases for trucks, which will transport the rock material to anchored watercrafts?
19. Why was the Espoo Report created before all necessary marine studies were carried out

i.e. nature studies and marine ecosystem influence, geophysical, geotechnical, hydrotechnical studies and studies regarding the presence of chemical weapons and ammunition on the Baltic Sea floor?

20. Does Nord Stream 2 company consider speculative variant preparation for the pipeline route, without scouting the sea floor in this aspect to be unreliable and premature in relation to the influence assessment consultation?
21. Does the investor intends to use sub-bottom profiler to efficiently and non-invasively scout the area of the pipeline location for ammunition?
22. Does the inclusion of avoidance of ammunition through route alternations among methods of mitigation means will not cause the decisions to be arbitrary and unreliable in terms of the environmental influence?
23. What are the proposed methods for transporting ammunition, what tools will be used and what contractors will be involved? What standards and procedures should this comply to? What procedures will the pipeline arrangement comply to? Will this make the engineering units cease work? How will this affect the natural environment?
24. What is the effectiveness of air bubble curtain noise compensation used for detonation of chemical weapons?
25. What technology will be used in relation to this, since studies (CHEMSEA, among others) indicate that this method of compensation is ineffective?
26. What is the maximum possible alternation in terms of the route of the pipeline in case of chemical weapons presence in the Swedish waters? How will in this situation the requirement of the environmental influence assessment fulfilled in terms of alternative route and how will this be shared with the public? Does this suggest faster, yet less reliable, variant preparation for the route, almost ad hoc, during pipeline arrangement stage?
27. What will be the results of acoustic repellent use for the marine fauna? What technology will be used?
28. Are there any sources/ evaluations of ammunition removal stage in regards to the Nord Stream 1 pipeline?
29. The Epsoo Report includes information that the removal of ammunition in Finnish bay will not affect vitality and functioning of porpoises. Does the same evaluation apply to other areas, where ammunition may be present identified during study? I.e. is the investor willing to conduct assessment regarding safety of porpoise population and other populations in case other areas of ammunition presence will be identified?
30. What criterion was used to assess the influence of the mitigation means for ammunition presence on species of the Baltic Sea, since the presence of such areas is an open matter

in the Espoo Report?

31. Does this mean that additional studies of the sea floor for ammunition presence do not require assessment of nearby areas in relation to conserved species population?
32. How is it possible that despite scientific documents (the CHEMSEA report) the Espoo Report contains the statement that the knowledge of chemical weapons influence (BSCh) is minor?
33. In details, how will the sea floor be affected during initial and the following excavation works and arrangement of rocks or gravel?
34. Will this action be safe in terms of phosphate and nitrate ingress from soil to sea water?
35. Why does the Espoo Report lack estimation regarding the deterioration of the Baltic sea water, as a result of works involving sea floor interference and its results for fauna and flora?
36. Will the planned expansion of anaerobic zone and addition of biologically active substances to water during the pressure test result in rapid deterioration of the Baltic Sea?
37. Does the *Thünen Institute of Fishing Ecology* report concerning increase of cancer incidence as a result of chemical weapon contamination in the Baltic Sea indicate that the Espoo Report should be revised in regards to the influence of dispersion of precipitates on fish population of the Baltic Sea?
38. Why does the analysis exclude biogenic pollutants and elements influence on fauna and flora assessment? The Espoo Report does not contain a reasonable argumentation for the alleged omissions regarding such influence.
39. Why does the analysis regarding movement of the precipitates according to the currents not include the possibility that the ammunition and chemical weapons in the Baltic Sea may be moved?
40. Why does the Espoo Report not contain information on possible creation of underwater ditches in coastal areas as a result of changes in sea floor profile?
41. Will draining the sea water that initially fills the pipeline back to the sea, where it is allegedly supposed to dilute, pollute sea water, considering that it will contain sodium bisulphate? The estimation seems unreasonable.
42. What is the convergence interval for assumptions in regards to estimation of submarine noise range?
43. What is the convergence interval for assumptions in regards to estimation of the scale of precipitate dispersion?
44. What is the risk of vulnerability comparison in terms of incentives of various species of animals, since the lack of information may cause significant damages to the populations

of these species?

45. Will the release of zinc and other metals from anodes during the pipeline exploitation stage mean that the general concentration of these metals in the water will increase?
46. In detail, what mitigation means will be used to conserve any potential settlements of the Stone Age?
47. Why does the Espoo Report not contain the route of the pipeline in regards to other planned Baltic Sea projects along with appropriate analysis?
48. Why does the Espoo Report not reference any port development plans of the Baltic States? Representatives of Szczecin-Świnoujście port are concerned that the pipeline infrastructure may interfere with plans regarding excavation works for the west approach route, which are required if the port plans to develop deep water and mass terminals.
49. Why was there no study regarding noise propagation in relation to the detonation of ammunition present in the Pomeranian bay, despite similar study in the Finnish bay?
50. What is the estimation regarding random events such as unsealing or explosion of the pipeline? Risk is identified as "minor", but is still present. This means that there is need to develop preventive and corrective means in regards to unwanted events (for example gas leak) and environmental degradation?
51. In reality, we are discussing four pipelines in case of Nord Stream 1 and Nord Stream 2 with two subsequent subjects, which will manage the pipeline, latitudinally at 1200 km along the Baltic Sea there is a section of three kilometres (width) which will require consultations with the two operators in order to develop the planned intersection with the Baltic Pipe infrastructure? What is the estimated timing for such consultations regarding intersection?

Poland also applies for the presentation of documentation regarding interaction between Nord Stream 1 and Nord Stream 2 pipelines, including information regarding types of analysis and risk assessments, as well as results of these studies. Especially, in regards of the risk and dangers related to negative interaction with each other and its environmental influence?

Yours *faithfully*,

Paweł Pikus

Deputy Director of the Department

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