

# Coalition Clean Baltic

2009-05-22

## **CCB statement on the Nord Stream Gas Pipeline ESPOO EIA report and Proposals for requirements to mitigate environmental impact of the gas pipeline**

CCB has the following comments:

### **General remarks**

This statement on the EIA report for the Baltic Gas Pipeline Espoo consultation process is based on the documents presented by Nord Stream in March 2009.

We appreciate the openness Nord Stream has shown during the process. The EIA has increased the knowledge of some bottom areas of the Baltic Sea, which hopefully will be of use for the environmental science in the future. The openness on the project in Russia is still lagging behind, where information on many aspects of the project has not been available for the public, including access to the final version of national EIA, detailed information on arguments and conclusion about low environmental impact of the project,

Some results on the environmental impact assessment of the project are not justified, which allows for taking into account unjustified speculations as the basis for possible impact of the project. This is especially true for the claimed “precautionary approach” of the EIA, which crucially require the utilization of worst case assumptions in cases of uncertainty. Instead, Nord Stream tries to predict impacts in these uncertain cases on the basis of being likely to occur in the eyes of Nord Stream’s consultants who, as it is implicit in those cases, simply do not know what is going to happen. This clearly does not meet the requirements of an EIA and is especially poor performance in the context of Nord Stream’s own stipulation of an aspired precautionary approach.

The EIA presented by Nord Stream is insufficient and needs to be revised and updated. The EIA is missing fundamental information (e.g. content of hazardous substances in the seabed under 5 cm depth), where excavation works are planned. The time table is far too strict, as we see it as necessary to complement with more studies on many aspects related to the

environmental impact of the construction of the pipeline. Additionally, there is little information on what is going to happen in case of unexpected delays in construction works, both concerning the planned alternative schedule for the continuation of works in these cases, as well as the environmental impacts that would then have to be expected.

According to permit application to the Finnish government another type of technique will be used for the pipeline in parts of the Gulf of Finland. Instead of an anchoring technique, Nord Stream will use a dynamically positioned ship. The environmental impacts if this technique is not described in the EIA. If this technique is better for the environment, the assessment for impacts using this technique should have been included for the whole pipe line.

Some critical areas, where substantial impact on the marine environment can be expected by the construction, are the coastal and shallow sea areas where the gas pipeline is planned to start and end. These sea-areas need special attention in the ESPOO permit process, and strong requirements for mitigation measures must be applied here. The *coastal and sea areas between Gogland and Portovaya Bay and the sea-areas in and nearby Greifswalder Bodden and east of Rügen island* are areas where adverse environmental impact of the gas pipeline construction can be expected. The *whole sea area of Gulf of Finland* is also very sensitive and critical because of several changes in sea-bottom and the special bathymetric conditions.

## **Emissions from the sea-bed under construction works**

### Resuspension of sea-bed sediments

When ploughing the sea-bed to a depth of 70 cm before laying of the pipeline, suspended material will be brought up into the water and later precipitated back to bottom areas. Areas sensitive to be covered with new sediment are e.g. hard-bottoms, sea-grass (eel-grass) meadows.

To protect and control if areas sensitive bottom-areas will be covered by new sediments, the biological status of all areas with hard-bottoms, sea-grass (eel-grass) meadows within 2-3 km from the planned pipeline must be properly monitored before the construction works starts, and controlled and monitored after the construction is finalised, to investigate the impact. Sensitive bottom areas that have been substantially impacted by new sediments, must be compensated by the Nord Stream (e.g. setting up an Environmental Fund for environmental measures for the Baltic Sea marine ecosystem)

Shallow sea-bottoms, down to 20 m depth, with hard-bottoms and sea-grass (eel-grass) meadows within 2-3 km from the pipeline, must be protected from sediments under the construction period. This means that construction works only can be allowed when the hydro- and metrological conditions can guarantee that the sediments cannot be transported to sensitive sea-bottoms. *An independant controller, appointed by the Espoo signatory countries* involved and paid by the Nord Stream, must decide when conditions allow for construction works.

The statement of EIA report that the project will have little impact on movement of bottom sediments in the Gulf of Finland and on increased turbidity - is not convincing. It is based on

the research made near the Bornholm Island in Denmark, which has shown that bottom sediments will not be moved for more than one kilometer.

In some parts of the Gulf of Finland, water transparency is already reduced down to 20-60 cm, and the number of fish in coastal waters near the coast of the Vyborg Bay of Leningrad Oblast has been reduced dramatically. The spreading of suspended matter from detached bottom sediments in the Gulf of Finland covers dozens of kilometers due to strong flow of the Neva river. (It is visible from the airplane and satellite images of the Finnish Gulf waters where the mud traces from the St. Petersburg reaches as far as Vyborg).

This impact must be researched more specifically for the Gulf of Finland conditions, also taking into consideration the background turbidity from other sources, and real water currents of the area.

#### Hazardous substances – PAHs, dioxins

In the Gulf of Finland there are a lot of hazardous chemicals buried in the sediment (also in other parts of the Baltic Sea), specially cadmium, mercury, lead, PAHs, dioxins, TBT and DDT. High concentrations of such substances can be foreseen to be released as a consequence of the pipeline construction.

The dioxin content in Baltic herring and salmon are already intolerably high. The estuary of Kymijoki river in the eastern Gulf of Finland is one of the most contaminated sea areas in the world by dioxins. Any additional emissions are therefore to be regarded as a major further deterioration of an already overly impacted ecosystem.

In the Gulf of Finland the contents of As, Cd, Cr, Cu and Zn in the sediment are so high that permission from the Finnish authorities is needed to dump drenched material into sea. Thus it is alarming that the total amount of sediments translocated / transferred amounts to 13.500 tonnes (alternative route C16). At least some portion of this load will be carried by waves to other areas, which will have subsequent impacts on biota, and a part of the harmful substances (only in some cases estimated more precisely in the EIA) will be remobilized into the food chain and persist there for unknown periods.

Requirements should be set up so the company has to investigate the content of hazardous substances in all bottom-areas with potential high toxic concentrations.

Highly contaminated sediments (to be defined) must be brought up on land, and handled in an environmental safe way.

#### Eutrophication – emission of nutrients

Seabed intervention work will induce a significant increase of nitrogen and phosphorus levels in the Baltic for several years. Stating the expected 1% increase of nitrogen and 2.3% of phosphorus from seabed intervention works in the Baltic proper as "*not significant*" demonstrates little awareness for the critical situation of the Baltic Sea area. The amount of potentially remobilized P by the pipeline works in 4 years corresponds to 1/3 of the annual amount of P released into the Baltic Sea by all states (12.000t). Nord Stream completely ignores eutrophication as the major problem of the Baltic Sea. Huge efforts and costs are required for removing nutrients from the basin for compensating a comparable increase through the pipeline. More than 70% of the nitrogen input in the Baltic catchment area comes

from diffuse sources that can only be reduced by measures covering wide areas. A substantial reduction (even if only aiming at 1%) thus requires very demanding actions and induces considerable expenses.

The duration of the increase of 10 years (N) or 5 years (P) is also not negligible. It clearly shows that many of the so-called "*short-term*" impacts on the ecosystem are in fact quite persistent and that the resilience of the ecosystem to buffer and compensate has strict limitations.

The assigned impact significance of the eutrophication effect in the EIA of "*not significant*" must absolutely be lifted to a higher category.

Requirements for compensation of the increased nutrient concentrations in the Baltic Sea by the pipeline construction must be set. Compensation measures must be made by Nord Stream via reduction of point or non-point source nutrient pollution to the Baltic Sea corresponding to the nutrient increase caused by the pipeline construction works.

(The Nord Stream contribution will also have to be added to the nutrient loading and commitments for nutrient reduction in the HELCOM Baltic Sea Action Plan.)

### **Explosives and other munition**

In case of explosions of ammunitions (accidentally or intended) there is a harmful influence on marine mammals and fish to be expected. In a circle of several kilometres radius around the detonation serious injuries of gas filled organs of animals are likely to occur.

CCB asked in our request for studies for the EIA. "The risks for marine mammals and fishes through detonations of dumped ammunitions have to be analysed and measurements to minimise the injuries (e.g. gas bubble curtains) have to be discussed. Nord Stream has to present a convincing security concept how they want to protect the marine environment against the harmful effects of possible explosions." This has not been fulfilled so far, leaving a significant gap in the documents.

The construction of the pipeline will require the removal of explosives in Danish, Swedish, Finnish and probably Russian waters (the latter to a completely unknown extent!). Possibly, the removal of dumped munitions may also be necessary in Germany. The most important mine fields were observed in the Gulf of Finland. In Finnish waters alone, 31 active and highly explosive mines were detected along the planned route of the pipeline by Nord Stream. *The only planned way to deal with ammunition is to blast it. Any alternatives, possibly more environment-friendly methods that could be an option at least in shallower waters, are neither presented nor even discussed.*

Alternative methods of dealing with undersea munitions with a reduced noise transmission are constantly being investigated and improved. These methods are suitable at least for shallower water areas. The installation of bubble curtains, pingers to scare away marine mammals or the disposal or blasting of munitions on land is possible not in all cases, but this has to be decided as the case arises. Sometimes it is also possible to direct a part of the noise into the sediment instead of the water body. As Nord Stream only states that munitions are to be removed by explosions, CCB doubts that all possible mitigation measures have been evaluated. It has to be taken into account that more munitions than already discovered might have to be removed along the route, and this might well be the case in shallow water areas. But we also do not find any data on mitigation (or why it should not be possible in this concrete case) concerning

the known locations of explosives. Nord Stream's performance is especially inadequate in Russian waters, where the EIA does not even provide information about the approximate extent of the problem, i.e. the number of explosives and their location. It can under no circumstances be tolerated that blasting will start just here in only a few weeks time (as voiced by Nord Stream elsewhere) under totally unclear conditions.

Detailed plans must be developed for all sites with explosives, thoroughly evaluating the concrete situation at the site. Action plans and a thorough evaluation of alternative methods of munition removal in every specific case must be added to the EIA assessment. We especially emphasize that this is crucial also for all blasting activities in Russian waters and that an immediate beginning of those actions is therefore absolutely unthinkable. Prior to all blastings, adequate compensation measures to secure stocks of marine mammals (especially harbour porpoises) and other affected animals have to be presented. Just like all other compensation demands, they have to be developed on the basis of worst case assumptions.

CCB demands setting up of clear procedures for dealing with explosives munition, before the gas pipeline construction starts. The principle should be to bring as much as possible of the dumped munition on land.

We also point out that setting up of clear procedures for dealing with chemical munition, before the gas pipeline construction starts, is a central requirement for preventing possible severe impacts on man and environment.

According to the EIA all munitions should be blasted because of security reasons. We would like to see other methods for removing munitions described, since blasting can harm both fish and marine mammals.

We are also of the opinion that according to the precautionary principle all barrels with unknown, possibly hazardous, content shall be removed before the pipeline is allowed to be built.

### **Natura 2000 areas and important nature conservation areas**

Finland is planning to designate two new offshore Natura 2000 areas -Länsileton alue (FI0400001) and Luodematalat (FI0400002) -to protect reefs (1170) in the Eastern Gulf of Finland south of Kotka and Pyhtää. These two areas are candidates to be designated also as BSPA-areas under the HELCOM umbrella. Finnish government is also planning to designate a new offshore Natura 2000 area (FI0100106) to protect reefs southeast of Kallbådgrund.

During spring 2009 the Finnish Ministry for Environment have presented amendments to the Natura 2000 network, including four off shore areas. As soon as decisions about these areas have been made, amendment to the EIA should be made. We recommend that the analysis on potential impact on the new planned marine Natura 2000 areas should be made before decision is taken.

In German waters, six Natura 2000 areas are directly crossed by the pipe, severely disturbed and modified through construction works and therefore heavily impacted. The Espoo report neither addresses the main problems that are occurring, nor does it give an adequate assessment - the summarizing classification of the impacts as "*not significant*" is simply

ridiculous, given the uncertainty and vagueness in the report and the obvious heavy impacts along a stretch of many kilometres of the pipeline, e.g. on bird populations.

Nord Stream does not provide mitigation or compensation measures for the damaged ecological functions and values in the area, so a further deterioration is inevitable. CCB sees no legal basis for this and must thus state that the construction of the pipeline in the area cannot be legally realized under the circumstances outlined in the Espoo report.

Russia is planning to establish a new Ingermanland nature reserve (islands and marine area) in the Gulf of Finland extremely close to the pipe-line route. It is a part of the Green Belt of Fennoscandia – the complex of existing and planned protected areas in the Northern Europe, which was proposed to be listed among the UNESCO World Heritage Sites as early as in the mid-90-ies. To minimise impact to this area the route of pipeline North of Gogland island is less dangerous, and should be selected.

It is also important to take into consideration the results of integrated investigations/assessment which was done by Nord Stream in 2008 to further optimize the route in order to minimize environmental impact (Nord Stream presented results of investigations to representatives of Russian NGOs at an information meeting in St.-Petersburg 9 February 2009). Russian NGOs has given their support to the Northern route of Gogland for the pipelines as the preferred options according to the ecological, socio-economic and technical criteria sets.

## **Biodiversity**

### **Fish**

#### *Migrating fish species close to Portovaya Bay, Gulf of Finland*

The Fisheries department of the South-Eastern Finnish TE-central, Kouvola, has made studies and reports on Sea-trout in the Gulf of Finland, to present ways for sustainable management of this natural resource. Many wild sea-trout populations are weak and threatened. Sea-trout transboundary rivers with Russia-Finland, with river-mouths in Vyborg Bay, has been described. Close to Portovaya Bay in Russia, where the gas pipeline is planned to start, you find sea-trout populations in nearby rivers, such as Vaalimaanjoki, Urpalanjoki, Santajoki and more rivers northwards towards Vyborg. During the migration period for adult sea-trout migration in to the river, and the period for out-migration of smolts from the river, pipeline construction works must not be allowed on latitudes north of the Malyy Fiskar island (outside Portovaya Bay) to protect important sea-trout and salmon populations in the area. The whole sea area west of Malyy Fiskar island is classified as sites with high concentration of young sea-trout. The season with high protection needs can be from June, October, November. (Impact on sea-trout populations in this area is not only a Russian internal issue. It is a bilateral task for Finland-Russia, and an international issue for the Baltic Sea biodiversity, as

this fish species migrate to other parts of the Baltic Sea and constitute an important part of the Baltic Sea ecosystem).

Fish and fisheries values in the whole Northern Russian Gulf of Finland have been described in the Nature Conservation Atlas of the Russian Part of the Gulf of Finland, published by Baltic Fund for Nature St Petersburg, [www.bfn.org.ru](http://www.bfn.org.ru).

Section 8.7.5 in EIA describes values on fish species in the area where the pipeline is planned to start. Surprisingly sea-trout and other important fish species in the surroundings where the pipeline is planned to start is not even mentioned in the EIA. The EIA-consultants have obviously not been looking for relevant information sources.

Serga river, 3 km west of Portovaya bay, is classified as spawning river for salmon, sea trout, whitefish and smelt (for smelt also spawning near-shore areas to Portovaya Bay) (see e.g. Nature Conservation Atlas of the Russian Part of the Gulf of Finland, published by Baltic Fund for Nature St Petersburg, [www.bfn.org.ru](http://www.bfn.org.ru)).

The EIA describes e.g. fish species as white fish and river lamprey. Lamprey is a key species in the ecosystem and the Baltic population of river lamprey is of global importance and sensitive for human activities. River lamprey is also listed in annexes for the EC Habitat directive.

Value/sensitivity for anadromous fish species (lamprey, Baltic salmon) in the EIA, has been assessed highly sensitive for the months of June, August (migration of river lamprey into rivers), September, October and November (Box 8.7 in the EIA). The sensitive period for sea-trout must be added.

#### *Fish species in Greifswalder Bodden*

This area has many different fish species, both freshwater and marine species. The whole lagoon is seen as a very important spawning- and breeding area for fish species. Different species of lamprey, salmon and asp (Aspius), including the EU Habitat directive, can also be found in the area. The EIA evaluate the period May-November as sensitive for migrating fish species and the period April – June as sensitive for freshwater fish species.

Our proposal is that construction of the pipeline in this area shall not be allowed in the period April - October in Greifswalder Bodden.

#### **Birds**

The north-eastern Gulf of Finland is a very important region for migrating bird species, and is classified as an area of international importance. The area is described in the EIA, figure 8.29. The most important period with the highest concentration of birds is in springtime, the month of May.

To protect migrating bird species in north-east Gulf of Finland no construction works to be allowed from 15 April – 1 June, in the area between Portovaya Bay and Gogland island.

The whole region around the landfall in Germany, inside and outside Greifswalder Bodden, has a superior importance for various migration, resting, overwintering and also breeding birds. Conflicts with construction and maintenance works on the pipeline are inevitable, and it is a severe gap of the EIA, that these are not addressed. We also point out that the material provided in the national German EIA is inadequate and largely wrong (especially the assessment).

The assessment of the impacts on birds have to be largely refined especially in both areas of wider vicinity around the landfall (RU, FI, DE), and extensive mitigation and compensation will be inevitable.

## Seals

There is very vulnerable Ringed Seal populations in the Russian Gulf of Finland (Vyborg Bay), approx. 150 seals, and in northern Gulf of Finland shores and archipelago area in Finland. The mating period for the Russian Gulf of Finland ringed seal is from the middle of February until middle of March, and the moulting period (changing of fur) is in April until early May (see EIA 8.7.7)

To protect the very sensitive Vyborg Bay ringed seal population no construction works to be allowed 1 February – 15 May, in the area between Portovaya Bay and Gogland island.

## **Environmental impact on the Baltic Sea ecosystem of the planned gas pipeline on Russian land territories around the Vyborg Bay and Leningrad oblast**

The pipeline is planned to enter the Baltic Sea in Portovaya Bay and will accordingly cross 7 rivers coming from North-West via Finland to the Vyborg Bay.

In these river ecosystems we find Baltic Sea ecosystem species, using the river ecosystem for a part of its lifecycle, for spawning and breeding, and living the rest of the life-cycle in the Baltic Sea waters. Such species are e.g. Baltic salmon, Baltic sea-trout, Baltic whitefish (*Coregonus*) and river Lamprey (*Lampetra*).

The impact from the land construction of the pipeline on Russian land territories are most relevant to bring up and handle within the Espoo convention case, because such land construction can have adverse impact on Baltic Sea marine species and ecosystem.

\* The EIA shall describe the location of the gas pipeline on Russian land territories from St Petersburg region to Portovaya Bay on detailed maps, and also describe the crossing of rivers to the Baltic Sea, possible changes of the river beds, and proposals for actions to avoid any impact on Baltic Sea river migrating species in such rivers.

Of special interest are the rivers on the Northern shores of the Russian Gulf of Finland, which have documented natural values e.g. for migrating fish species, and the upper tributaries of the Luga river, the most important wild Baltic salmon river in Baltic Russia, South and South-West of St Petersburg where the gas pipeline may cross the Luga river system.

## Security and accidents

Security requirements are necessary e.g. if there will be a break of the pipeline.

Legally binding requirements must be set up that will guarantee service to repair the pipeline, e.g. in case of a break of the pipeline, in all areas of the Baltic Sea, within 8 hours. Nord

Stream must guarantee agreements with insurance/service companies that will fulfil such requirements.

### **Monitoring the environmental impact under the construction phase**

Since the project is unique for the Baltic Sea, both in scope and technique used, the monitoring of the construction phase and the operational phase is vital.

To protect and control if sensitive bottom-areas will be covered by new sediments, the biological status of all areas with hard-bottoms, sea-grass (eel-grass) meadows within 2-3 km from the planned pipeline must be properly monitored before the construction works starts, and controlled again after the construction is finalised.

Shallow sea-bottoms, down to 20 m depth, with hard-bottoms and sea-grass (eel-grass) meadows within 2-3 km from the pipeline, must be protected from sediments under the construction period. This means that construction works only can be allowed when the hydro- and metrological conditions can guarantee that the sediments cannot be transported to nearby sensitive sea-bottoms. An independant controller, appointed by the Espoo signatory countries involved and paid by the Nord Stream, decides when conditions allow for construction works.

Baltic governments involved in Espoo convention case must set up a clear procedure for appointment of an independent controller, to control the environmental impact of the pipeline construction. The controller must be a person/company that have strong credibility with the public in the Baltic region.

Baltic governments involved in Espoo convention case must set up a clear procedure to agree on the range of environmental monitoring programmes needed for the pipeline project. It must also be secured that all information from the monitoring activities will be available for the public in the Baltic Sea region.

### **Compensation mechanisms**

Baltic governments under the Espoo convention must set up very clear and concrete mechanisms for compensation measures to be made by Nord Stream.

This means to set up clear and legally binding procedures for a compensation mechanism for destroyed sea-bottom biotopes under the construction period of the pipeline. This means focusing on e.g. rich benthic communities, feeding and resting grounds of offshore birds and healthy stocks of marine mammals, especially harbour porpoise. Consequentially, on-land measures are usually not suitable to compensate the natural losses in the marine environment.

Sensitive bottom areas that have been substantially impacted by resuspended bottom sediments from the construction works, must be compensated by the Nord Stream (see proposals earlier in the section “Resuspension of sea-bed sediments”).

Requirements for compensation of the increased nutrient concentrations in the Baltic Sea caused by the pipeline construction must be set. Compensation measures must be made by Nord Stream via reduction of point or non-point source nutrient pollution to the Baltic Sea corresponding to the nutrient increase caused by the pipeline construction works.

## **Liability - responsibility**

Baltic governments under the Espoo convention must require that Nord Stream will **establish a *liability fund* with regard to the prevention and compensation/remedying of environmental damage** which may occur during the construction, exploitation and decommissioning phase of the project.

The financial resources in the Liability Fund must cover the worst case scenarios for potential environmental impact.

Nord Stream does not explain how they will compensate for the environmental damage of the gas pipeline construction. Some of the impact can be compensated for by additional measures (e.g. increased nutrient concentration in the Baltic Sea). Others, like destroyed hard-bottoms and sea-grass meadows may not be possible to compensate for via measures in the Baltic Sea. So it is quite obvious that the only way for the Nord Stream company to compensate for many damages is to allocate financial resources to be used for environmental measures for the Baltic Sea marine ecosystem.

Such a fund cannot be ruled either by the company or by governments. Best way is probably to set up a **Public Baltic Sea Environmental Fund** steered by representatives from Nord Stream, Baltic governments and Baltic NGOs. The board of such fund should decide how financial resources, allocated by Nord Stream, in the best way can be used to mitigate for environmental damages of the gas pipeline project.

## **Decommissioning of the pipeline**

Removal of the gas pipeline after its life-span of 30-50 years.

All constructions in the Baltic Sea Region in waters and on land shall always be removed after its life-span.

\* Nord Stream must present the estimated costs for removal of the construction after 30-50 years, and establish a reserve fund, with a “removal fee” included in the gas tariff system, to be constructed under the operation period to guarantee a future removal and restoration of the area.

## **Proposals for requirements to mitigate environmental impact**

Signatory parties of the ESPOO convention, involved in the permission process for the Nord Stream gas pipeline, should set up clear and concrete requirements for Nord Stream, to accept the construction of the planned Baltic gas pipeline.

We have the following proposals:

- According to the precautionary principle all barrels with unknown, possibly hazardous, content, e.g. mercury/toxic substances, in the planned pipeline corridor shall be removed, and brought up on land and handled in an appropriate way, before the pipeline is allowed to be built.

- Description of the technique and environmental impact of using “dynamically positioned ship”, to put out the pipeline. The environmental impacts if this technique is not described in the EIA. If this technique is better for the environment, the assessment for impacts using this technique should have been included for the whole pipe line.

- Set up clear seasonal limits when the construction of the gaspipeline cannot be accepted, to mitigate impact on birds, fish, ringed seal etc. Different limits must be set up in different areas of the pipeline corridor. E.g. migration period for salmonids, in Portovaya and Vyborg Bay; whooper swan/barnacle goose migration periods in Russian Gulf of Finland,

-Requirements that pipeline construction works must not be allowed *on latitudes north of the Malyy Fiskar island (outside Portovaya Bay)*(see EIA map FC-17) during migration period for returning adult sea-trout and salmon,( and 3 weeks before and after such period as a precautionary approach) , and during the smolt out-migration period (and 3 weeks before and after such period) to protect important salmonid populations in the area. Construction works shall not be allowed for the highly sensitive periods for anadromous fish species for the months June, September, October and November. The sensitive period for sea-trout and salmon must be added.

- To protect the very sensitive Vyborg Bay ringed seal population no construction works to be allowed 1 February – 15 May, in the area between Portovaya Bay and Gogland island.

- To protect migrating bird species in north-east Gulf of Finland no construction works to be allowed from 15 April – 1 June, in the area between Portovaya Bay and Gogland island.

- To protect fish species in the Greifswalder Bodden and nearby areas set up requirements so that construction of the pipeline in this area shall not be allowed in the period April - October in Greifswalder Bodden.

- If time-limits for no construction works in the permit will be violated by Nord Stream compensation fees/financing shall automatically enter into force, in accordance with the rules and levels for financial compensation that has been set up in the permit for Nord Stream.

- Levels for financial compensation shall be set up in the permit for Nord Stream if time-limits for the construction works in certain sea-areas will be violated (performed by the company, outside the time-limits for no construction works), that have been decided in the permit to protect species and ecosystem values

- To set up clear and legally binding procedures for a compensation mechanism for destroyed sea-bottom biotopes under the construction period of the pipeline.

To protect and control if areas sensitive bottom-areas will be covered by new sediments, the biological status of all areas with hard-bottoms, sea-grass (eel-grass) meadows within 2-3 km from the planned pipeline must be properly monitored before the construction works starts, and controlled after the construction is finalised. Sensitive bottom areas that have been substantially impacted by new sediments, must be compensated by the Nord Stream.

- Requirements must be set up so the company has to investigate the content of hazardous substances in all bottom-areas with potential high toxic concentrations.

Highly contaminated sediments (levels to be defined) must be brought up on land, and handled in an environmental safe way.

- Requirements for compensation of the increased nutrient concentrations in the Baltic Sea by the pipeline construction must be set. Compensation measures must be made as reduction of point or non-point source nutrient pollution to the Baltic Sea corresponding to the increase caused by the pipeline construction works.

(The Nord Stream contribution will have to be added to the commitments for nutrient reduction in the HELCOM Baltic Sea Action Plan.)

-Detailed plans must be developed for all sites with explosives.

Action plans and a thorough evaluation of alternative methods of munition removal in every specific case must be added to the EIA assessment.

-Require setting up of clear procedures for dealing with explosives munition, before the gas pipeline construction starts.

-Require setting up of clear procedures for dealing with chemical munition, before the gas pipeline construction starts.

- Legally binding requirements must be set up that will guarantee service, e.g. in case of a break of the pipeline, in all areas of the Baltic Sea, within 8 hours. Nord Stream must guarantee agreements with insurance/service companies that will fulfil such requirements.

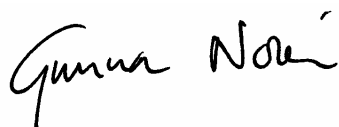
- Baltic governments involved in Espoo convention case must set up a clear procedure for appointment of an independent controller, to control the environmental impact of the pipeline construction. The controller must be a person/company that have strong credibility with the public in the Baltic region

-Baltic governments involved in Espoo convention case must set up a clear procedure to agree on the range of environmental monitoring programmes needed for the pipeline project.

It must also be secured that all information from the monitoring activities will be available for the public in the Baltic Sea region.

- Requirement to set up a **Public Baltic Sea Environmental Fund**. The board of such fund should decide how financial resources, allocated by Nord Stream, in the best way can be used to mitigate for environmental damages of the gas pipeline project.

On behalf of Coalition Clean Baltic



Gunnar Norén  
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